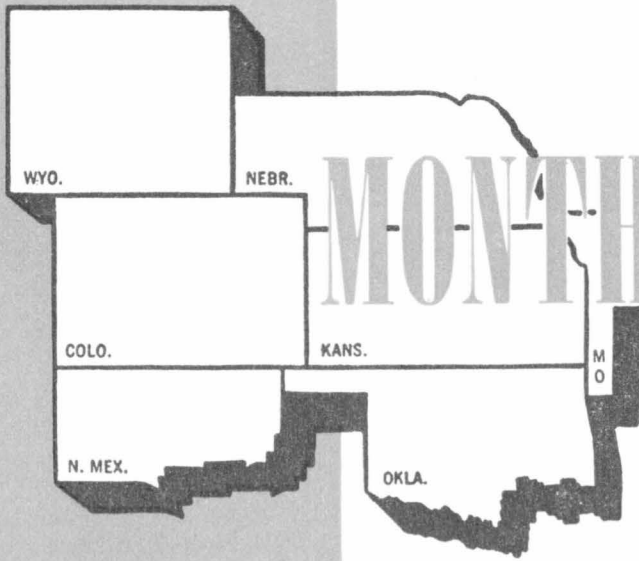


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The Changing American Economy

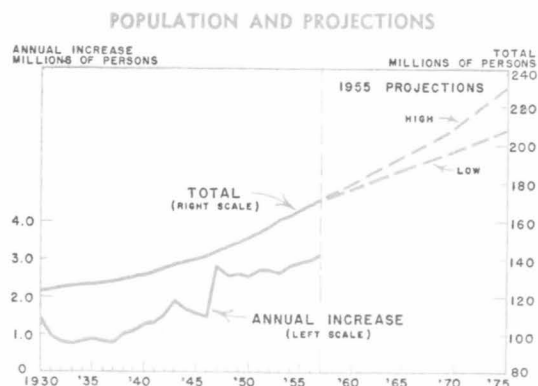
THE ABILITY OF THE Nation's economy to expand, to provide increasing numbers of jobs, and to raise real incomes has been demonstrated again and again during the past decade. Likewise, the economy has shown facility in adjusting to large changes in the pattern of demand, although adjustments have been difficult for some industries and for some areas.

As the Nation's current boom has extended into a plateau, questions have arisen which are related in part to long-term trends in the economy. For example, the lack of growth in manufacturing employment during the last year may be placed in perspective by comparing the relative rates of growth in manufacturing and other employment through a longer period of time. In such a study, increased productivity in manufacturing and other goods-producing industries has a major role. Much attention also has been given to the role of service expenditures in boosting the total gross national product in recent years. This raises the broader question of how outlays for various products—durable and non-durable goods, services, and construction—have grown during the last two to three decades. Finally, underlying all economic developments during the postwar years has been rapid population growth. These population developments are so significant, as a matter of fact, that an account of changes in the American economy may very well begin with them.

The New Population Outlook

The most unexpected development, perhaps, in recent times has been taking place during the last few years. Each year since 1953, more than 4 million babies have been born in the United States. These are record highs! Yet, record low levels reasonably could have been expected as a consequence of the substantial drop in the birth rate in the 1930's.

Reflecting that decline, the number of women reaching marriageable age and the number of marriages have declined. The record level of births, however, has been sustained by the fact that a larger portion of the adult population is married and the total married population has had a larger number of children. A marked increase has occurred in the annual rate of third, fourth, and fifth births.



SOURCE: U. S. Bureau of the Census.

During the postwar period, the high birth rate and increased life expectancy—plus net immigration — have produced an annual increase in total population of about 1.7 per cent, more than twice the rate of the prewar decade. As a consequence of this vigorous growth, the population outlook for the Nation has been altered completely and the age composition of the population is changing materially.

Before World War II and shortly thereafter, population experts agreed that rapid population growth in the United States was a thing of the past. They foresaw a stationary or declining population. Although the number of marriages and births increased during the war years from the lows of the 1930's, the higher rates were generally considered wartime phenomena. Reasoning that the well-established trends of earlier years would reassert themselves, the U. S. Bureau of the Census in 1946 forecast a population of 153 million in 1960. In a most dramatic fashion, the magnitude of the population upsurge of the last decade is indicated by comparing that forecast with the U. S. total of 171.2 million on July 1 of this year. Thus, in 1957, the Nation's population exceeds by 18 million the figure projected a little more than 10 years ago for 1960.

Recognizing the uncertainty introduced by the continued divergence of postwar birth rates from the prewar trend, the U. S. Bureau of the Census in 1950 demonstrated that a wide range of forecasts was possible. Actual population growth from 1950 to 1957 has corresponded quite closely to the highest of the projections which assumed continuation of the 1948 birth rates.

In its latest series of projections, made in 1955, the Census Bureau looked ahead two decades. By 1965, it is probable that the U. S. population will range from 186 million to 193 million, depending upon which of four birth rate assumptions is selected. In 1975,

total population may be as low as 207 million or as high as 228 million. This means that, during these two decades, average population growth may range from 2 million to 3 million persons a year. Even the lowest of these averages would be quite large when compared with the mid-1930's, when the increase was about 800,000 per year and when the expected annual gain during the following decade was 900,000.

Changes in the age composition of the population are about as striking as those in size. The number of persons aged 20-64, the group from which the labor force is largely drawn, has risen slowly in recent years. This reflects the unusually small additions to the young adult groups following the low birth rate 20 years earlier. As a result, the proportion of the population in working age groups is declining.

In contrast, the number of persons under 20 years old is increasing rapidly, due to the high birth rates of recent years. The percentage of the total population under 20 also is increasing now, after declining for many decades. At the same time, the proportion of the population 65 years and over has grown steadily.

Looking ahead, these trends may be expected to continue for some time. The percentage of the population under 20 years of age may increase from 36 per cent in 1955 to 40 per cent in 1975, while the proportion in the 20-64 age group may drop from 55 per cent to 51 per cent. This assumes the continuation of population growth at the highest of the Census projections.

Great significance must necessarily be attached to the relationship of population and long-run economic development. The rate of population growth and changes in its composition have pronounced effects upon the demand for consumption goods and investment and upon the labor force. Not only is the total market for goods and services en-

larged by rapid population growth, but also the structure of demand is modified. Perhaps the clearest example of structural change in recent years is the soaring demand for schools and teachers generated by record numbers of youngsters. (A more extensive treatment of population and demand relationships is contained in the *Monthly Review* of this Bank for November 1955.)

The interpretation of population trends, however, requires careful analysis. For example, the size of the labor force is unpredictably influenced by the decisions of individuals to seek, or not to seek, employment. Thus, in spite of the fact that the number of young men and women reaching working age was lower in the postwar decade than in the 1930's and early 1940's, the labor force increased by about 9.5 million persons between 1946 and last year. This was accomplished primarily as a result of the extraordinary increase in the number of middle-aged and older women who have taken employment.

Future labor force growth will reflect not only the size and composition of the population, but also the general level of economic activity and the structure of demand. For example, the increased participation in the labor force by women during recent years reflects general prosperity and growth in the number of service-producing jobs to be filled.

Changing Patterns of Employment

The way in which our rapidly growing population is earning its livelihood is undergoing substantial change. Most fundamental is the gradual but persistent shift in employment from goods-producing to service and distribution industries. The latter segment includes all activities concerned with buying, selling, finance, transportation, communications, services, and teaching and other government activities. To the goods-producing segment are assigned mining, agriculture,

PATTERNS IN U. S. EMPLOYMENT

	Per Cent Change 1929-1956	Employment 1956 (In thousands)
Goods-Producing Industries		
Manufacturing.....	+61	16,905
Agriculture.....	-37	8,030
Contract construction.....	+100	2,993
Mining.....	-24	816
Total.....	+11	28,744
Service and Distribution Industries		
Trade.....	+76	11,292
Government.....	+134	7,178
Service and miscellaneous.....	+99	6,231
Transportation and public utilities.....	+6	4,157
Finance, insurance, real estate.....	+61	2,306
Total.....	+74	31,164

SOURCE: U. S. Bureau of Labor Statistics and U. S. Department of Agriculture.

manufacturing, and construction.

Two major trends are contributing materially to the broad change in composition. First, among nonfarm activities, growth in the service and distribution segment has been more rapid than in the goods-producing industries. Second, the long-time decline in agricultural employment has steadily reduced the contribution which farming—the production of food, feed, and fiber—makes to goods-producing employment.

In nonfarm activities, the long-term increase in service, government, and trade employment has made a significant contribution to the rapid growth of service and distribution employment. Since 1929, growth in these divisions has accounted for nearly three fifths of the increase in the volume of nonfarm employment. In 1956, the three divisions represented nearly one half of total nonfarm employment, compared with 40 per cent in 1929 and a little more than one third in 1919.

Government employment, expanded by one and one third times between 1929 and 1956, has shown the greatest growth. Last year, about one out of every nine civilian workers was employed by government. About two thirds were in state and local government; the other third were Federal employees. The

rapid expansion in the school-age population has been a major factor in the growth of state and local employment; but in the school systems, as in other public activities, the demand for more and better services also has contributed substantially to the increase. At the Federal Government level, civilian employment in defense agencies, which has increased by more than 1 million since 1929, has accounted for the largest portion of the gain. Although employment in nondefense Federal agencies has been relatively stable since World War II, it also is substantially higher than at the beginning of the 1930's.

In the goods-producing segment of the economy, several significant changes have occurred. Some of the most important of these are in manufacturing, largest of the major industry divisions. Growth in durable goods industries has been more rapid than in the nondurable components. Between 1939 and 1956, employment in hard goods industries gained 110 per cent, compared with 31 per cent in soft goods. As a consequence, the proportion of total manufacturing employment engaged in durable goods production increased from 46 per cent to 58 per cent during the period.

The most pronounced increases in durable goods employment have been concentrated in three industries — machinery, electrical machinery, and transportation equipment (primarily automobiles and aircraft). Last year, more than one out of every four factory workers was in these three industries. Among the soft goods industries, textiles, apparel, and food were largely responsible for the slower rate of growth. Employment in textile manufacturing, once the leading source of factory employment, actually declined between 1939 and 1956.

Significantly, however, an increasing number and proportion of manufacturing employees are engaged in nonproduction activities. Since 1947, such functions have accounted

for three fourths of the total increase in manufacturing employment. Last year, 22 per cent of all employees in manufacturing firms were engaged in nonproduction activities.

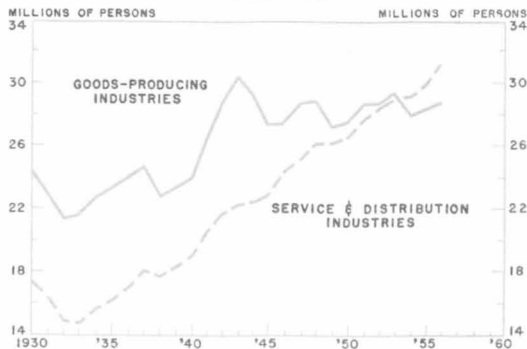
Several factors are associated with the increase of nonproduction workers. Very significant is the expansion in research and development. During the past decade, manufacturing firms have made huge investments for new plant and equipment and for research and development work. This has increased the number of scientists, engineers, technical workers, and company construction employees. Second, these developments have resulted in increased labor productivity and total output has expanded substantially with a relatively small increase in production worker employment. Finally, the expansion in overhead activities—such as retirement programs, labor relations, and employee counseling—has added many new jobs in professional, clerical, and administrative functions.

In addition to agriculture, another major goods-producing industry—mining—has been characterized by declining employment. In both, the contraction has a rather long history. Since 1929, the reduction in mining employment has amounted to about one fourth. Within the over-all decline during the last decade and a half, divergent trends are apparent. While employment in anthracite and bituminous coal mining declined, petroleum and gas operations grew, reflecting changes in the use and demand for fuels. At the same time, employment increased in nonmetallic mining and declined in metal mining.

In agriculture, employment has been declining since World War I. The shift from farming was strong during the late 1930's and during World War II. In the postwar decade, a rapidly expanding nonfarm economy has provided the climate for continued decline in farm employment at a rate about equal to that of the prewar period. By 1956, only 10 per cent of the Nation's 65 million employed

persons were in agriculture. A little more than 25 years ago—in 1929, when total U. S. employment was less than three fourths the current level—the farm proportion was about 22 per cent.

THE SHIFT TO SERVICE AND DISTRIBUTION INDUSTRIES



SOURCE: U. S. Bureau of Labor Statistics and U. S. Department of Agriculture.

As a result of these major developments, employment in goods-producing industries has increased by only about one tenth since 1929. On the other hand, employment in service activities, paced by expansions in government, services, and trade, is now about three fourths greater than in 1929. In 1954, the number of persons engaged in service production surpassed the number in goods production for the first time. Since then, the differential has widened.

The Role of Productivity

Key element in the evolution of the Nation's employment pattern is productivity. While employment in goods-producing industries has increased rather slowly, total output has recorded dramatic gains. In manufacturing, for example, production worker employment increased 56 per cent between 1929 and 1956, but factory output jumped by one and one half times. In agriculture, while the number of workers fell 37 per cent between 1929 and last year, total output increased by more than one half. Over the same period, mining em-

ployment declined 24 per cent and total output increased 90 per cent.

During the postwar period 1947 to 1956, the Bureau of Labor Statistics estimates that productivity of factory production workers rose 36 per cent. This made possible an increase of 44 per cent in factory output with only a 3 per cent gain in employment of production workers. Thus, major advances in productivity have made possible substantial gains in the total output of goods with small gains in employment, thereby freeing an increasing proportion of the labor force for employment in service and distribution industries.

Of major importance in the long-run growth of productivity are technological advances and investment in productive facilities. In manufacturing, for example, industrial technology has resulted in constantly improved machinery, equipment, methods, and plant organization. After World War I, mass-production techniques began to spread throughout American industry. Later, the production requirements of World War II brought many new technological developments into the production process, such as specialized machines, material handling equipment, and new materials. During the years immediately after the war, these developments were improved and more widely adopted throughout industry. More recently, great attention has been given to that field of industrial technology known as automation. To maintain the dynamic character of technology, research and development activities have been greatly expanded since World War II.

The large-scale investment in new plant and equipment since World War II has provided a broad basis for productivity growth. In manufacturing alone, more than \$100 billion has been invested in plant and equipment. This has resulted in major additions to the Nation's industrial capacity and in greater output per manhour.

Shifts in the Composition of National Product

Of all the changes in the pattern of national purchases, one of the most pronounced is the enlarged share of durable goods. It has averaged more than 20 per cent of gross national product during the last decade compared with less than 18 per cent in 1929. On the other hand, the share of nondurable goods in total national output, after reaching a peak in the early postwar years, is currently below the 1929 proportion. In real terms, services were somewhat higher in relation to total output in 1956 than in 1929, while construction is lower. This is based on a new breakdown of GNP recently prepared by the U. S. Department of Commerce.

In the durable goods market, all major purchaser groups — consumers, government, business, and foreign buyers—have contributed to the postwar growth. Increased government purchases have been the most important factor in the expansion. The key element has been the national defense program, which has resulted in a demand for military items, as well as for a variety of civilian-type producers' durable goods.

The strong private demand for producers' durables has accompanied the high levels of postwar business investment. Compared with 1929, demand for some types of equipment has soared and their shares of the total have increased. Included in this group are electrical machinery, agricultural machinery and tractors, office machinery, construction machinery, and trucks. On the other hand, expenditures for passenger cars, ships, and railroad equipment have accounted for smaller shares of producers' durable equipment outlays than in 1929.

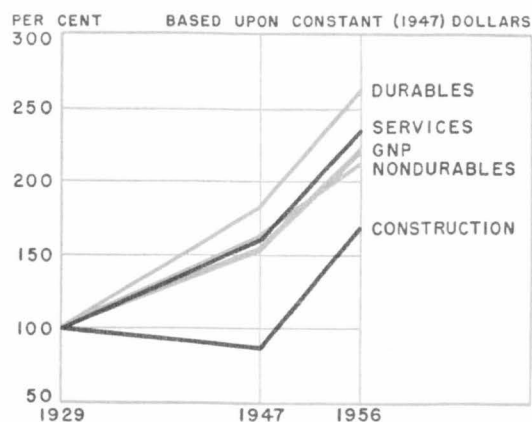
Among consumer durable goods, postwar demand has been strongest for such items as autos and accessories, household appliances, and radios and TV sets. The share of consumer durable goods expenditures for furniture and household furnishings has fallen.

Supporting the demand for consumer durables has been increased per capita real income, the shift in income distribution in favor of middle-income classes, and the increased use of consumer credit.

Nondurable goods production constitutes about a third of total gross national product. This share is somewhat smaller than in 1929. While consumers predominate in the market for soft goods, their share has declined, and the role of government has expanded. Spending trends for nondurable consumer commodities in recent years have been similar to longer-term movements. Expenditures for clothing and shoes have declined relatively, while the share for gasoline and oil has grown. Food expenditures account for about half of consumer nondurable goods outlays; the proportion has not changed much during the last decade or since 1929. The share going for meals away from home has risen, however.

In the service market, consumers currently account for about two thirds of the total and government for the remainder. Included in the service category are purchases from business and purchases of labor services by final users. Most of the government outlay, for

TRENDS IN PRODUCT GROWTH
1947 and 1956 relative to 1929



SOURCE: U. S. Department of Commerce.

example, reflects payments to civilian and military employees.

Although current dollar expenditures for services during the postwar period have risen rapidly, in real terms the expansion has been less pronounced. As a matter of fact, measured in constant dollars, the postwar share of services has been relatively stable but slightly higher than the 1929 proportion. For personal services, in real terms, the share is practically unchanged from the immediate postwar years and still less than the 1929 percentage. Thus, only government purchases of services have shown a distinct increase.

Among the major service items purchased by consumers, several shifts have occurred. Outlays for housing and household operations, which comprise about half of consumer expenditures for services, have increased rapidly and now command a larger share than in 1929. No significant change has occurred in the proportion of total personal service outlays spent for medical care. The shares of consumer service expenditures for purchased transportation and recreation have declined as the public has favored durable goods substitutes—private autos and television.

Price increases also have played an important part in the postwar rise in construction expenditures. In current dollar terms, construction outlays rose more rapidly than gross national product during the postwar period and in 1956 contributed a larger share to the total than in 1929. Since construction

costs have risen more than prices in general, however, the postwar increase in construction is scaled down in real terms. Measured in this way, the 1956 proportion continued to be less than in 1929, as it has throughout the postwar years.

In brief, the highlights conveyed by these developments are the shift in the output composition of the economy toward durable goods and the increased role of government as a purchaser of goods and services. While consumers and business contributed to the growth of durables, government provided the major expansion. Government purchases of other products also have increased since 1929. As a consequence, the total government share of real GNP nearly doubled, increasing from 9 per cent in 1929 to about 18 per cent in 1956. This increase is due entirely to Federal Government purchases, since state and local purchases have risen less rapidly than the gross national product.

Conclusion

These developments in population, employment, productivity, and output outline some of the major changes in the American economy over the last two to three decades. They hold important implications for the current level, as well as the future course, of economic activity. The more completely they are understood, the more intelligently individuals, business, and government can plan their policies and actions.



Agriculture

in a changing economy

THE FARM ECONOMY in America is in a state of rapid transition. Within a relatively short span of time, farming has changed from an almost self-sustaining occupation viewed largely as a way of life, to a business enterprise that frequently is highly specialized. Concurrently, much of the philosophy pertaining to the use of natural resources in agriculture also has changed. Until well into the 20th century, public and private attitudes were influenced significantly by the desire to settle a large area of public domain. Under these conditions, exploitation of natural resources not only was condoned but frequently was encouraged. Only in the past few decades has emphasis shifted toward conservation of natural resources.

Development of the Nation's economy also has resulted in a more rapid rate of growth in the nonagricultural sector as compared with the agricultural sector of the economy. In a rapidly growing and progressive economy, the agricultural sector usually becomes relatively less important as the economy expands. Improved technology enables a smaller proportion of the total resources to be used in producing the agricultural commodities that are needed. As a result, a larger proportion of total resources is released for the production of goods and services needed to satisfy the nonagricultural wants of man. Thus, a decline in the relative importance of agriculture in an economy may be the direct result of a rapid rate of growth in general economic activity that has been stimulated by improved techniques.

Developments that have enabled fewer farmers to increase output at a rapid rate also have encouraged specialization. Increased specialization in agriculture has caused marketing, purchasing, and mobility problems to become much more significant for farmers. These and other changes have influenced historical, cultural, scientific, and social values, and much interest has been stimulated in agriculture's position in the economy. Furthermore, such developments frequently result in differing viewpoints and in misunderstanding. Thus, reviewing some of the significant aspects of agriculture in a changing economy seems appropriate. An improved understanding of agriculture's position should be helpful in devising better interpretations of the problems confronting the industry.

Demand for Farm Products in a Dynamic Economy

Changing incomes and population growth have influenced both the composition of demand and total demand for agricultural products. Higher incomes have been influential in causing substantial increases in the per capita demand for such products as meats, eggs, and certain types of fruits and vegetables. As individuals increased their consumption of these products, they used less of such products as cereals, potatoes, and apples.

Total demand for farm products also has increased sharply with the improved economic environment in recent years. Although increased population has been partly responsible, there are indications that high consum-

er incomes have been an even greater stimulant to domestic demand. From the mid-1930's to mid-1956, while agricultural output was increasing about 70 per cent, the domestic population was increasing about 32 per cent. Since farm exports—generally less than 10 per cent of total agricultural output—have not varied substantially, it is obvious that supplies of farm products increased significantly on a per capita basis during this period.

Despite the sharp increase in per capita supplies of agricultural products, the average index of prices received by farmers in 1956 was more than three and one half times higher than the low levels that prevailed on an average during 1932, and about two and one fifth times higher than the somewhat less depressed levels that prevailed on an average from 1934 through 1936. It is granted that demand for agricultural products was depressed in the early and mid-1930's, and that the value of the dollar has declined substantially since. However, the relatively higher level of prices prevailing in 1956, despite the significant increase in per capita supplies of agricultural products, indicates that a favorable consumer purchasing power was of substantial importance in bringing about an improved demand for agricultural products.

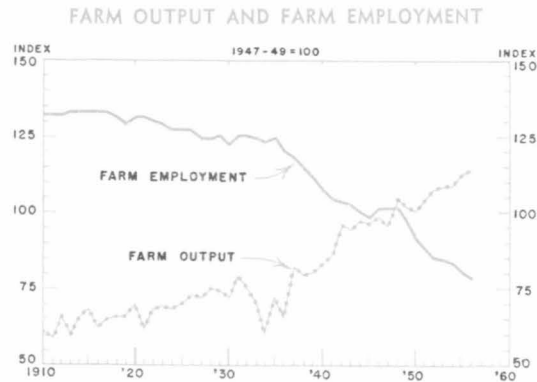
In the mid-1930's, consumers were spending almost \$18 billion annually for food and tobacco products. In 1956, expenditures for these products were almost five times as high on an annual basis as they were in the mid-1930's. In fact, consumer expenditures for food and tobacco products increased somewhat more rapidly during this period than did total personal consumption expenditures. The share of consumers' food and tobacco expenditures going to farmers decreased, however, since cash receipts from farm marketings only increased about four times during the period from the mid-1930's to 1956. This declining proportion of food and tobacco expenditures received by farmers is at least

partly explained by the fact that consumers have been increasing the relative amount of services that they have been buying with their foods. A continued growth in population and maintenance of a high level of employment will be helpful in maintaining the demand for agricultural products. Although farm cash receipts have not increased as rapidly as have consumer expenditures for food and tobacco products, they have increased sharply enough to indicate that demand for farm products has remained strong. Thus, it appears that the major problems confronting farmers currently must be attributed at least partly to the difficulties prevailing in the supply sector of the market.

Supply of Farm Products in a Dynamic Economy

Technological developments have influenced the farm economy substantially in recent years. Today, about 35 per cent fewer farmers are producing about 70 per cent more agricultural products as compared with the period of two decades ago. These figures indicate that changing techniques in agricultural production have resulted in increasing output and in differing resource requirements.

Farm output increased rather steadily at an average annual rate of about 1½ per cent from 1910 to 1931, dropped sharply from 1931 to 1934, and has increased steadily at an average annual rate of more than 3 per cent since the mid-1930's. The sharp drop from 1931 to 1934 can be attributed largely to the severe drought conditions of that period combined with a lack of incentive to offset the influences of drought because of the extremely depressed level of farm prices that prevailed during the early 1930's. The sharp increase in output since the mid-1930's can be explained to a large extent by the rapid surge of technological innovations in agriculture which was encouraged by the strong demand that prevailed throughout most of this period.



SOURCE: U. S. Department of Agriculture.

This strong demand, combined with a scarcity of resources because of competition from the nonagricultural sectors of the economy, also caused a shifting in the resource requirements of agriculture. Labor tended to become scarce relative to capital and land. With wage rates increasing relative to capital and land costs on a per-unit-of-output basis, pressures were created that resulted in a rapid rate of substitution of capital for labor. In the last two decades, wage rates have gone up more than twice as fast as have the prices for other goods and services that farmers buy. The number of farm employees has declined sharply during this same period. The quantity of land used for agricultural purposes has remained about the same.

In the early part of the century, farm employment remained almost stable, with only a slight decline between 1910 and 1935. Since 1935, the rate of decline has been much more rapid. It is of interest to note that this sharp rate of decline in farm employment occurred during the same period that farm output was increasing at a rapid rate. While this sharp decrease was occurring in farm employment, total employment increased from 42 million in the mid-1930's to 65 million in 1956. Thus, farm employment has declined much more sharply relative to total employment than the absolute figures on farm employment would

indicate. In the mid-1930's, farm employment accounted for almost a third of total employment, but by 1956, it accounted for only about one tenth of total employment. Gross national product, measured in constant dollars, increased about 160 per cent, with an increase of 55 per cent in total employment during the period. Agricultural output increased about 70 per cent, with a decrease of more than 35 per cent in farm employment.

Many of the problems confronting the agricultural industry are outgrowths of adjustments that have been brought about by the impact of technological developments on total supplies of agricultural products and on resource allocation. Rapid displacement of farm employees has created a surplus labor situation on many farms, and immobility of surplus labor resources on these farms has made the resultant adjustments painful and slow.

To a large extent, it has been the substitution of capital for labor that has enabled such a rapid displacement of farm employment to occur during the technological surge of the past two decades. If total production expenses are used as an indicator of capital consumption on the farm, the dollar value of capital used in 1956 was about four and one half times as large as the annual volume used in the mid-1930's. About half of the increase in total production expenses since the mid-1930's has been accounted for by higher prices paid by farmers for goods and services. The remaining half is accounted for by the use of a larger physical quantity.

The quantity of land used for agricultural production has not varied significantly with the rapid changes that have been occurring in the economy. The number of crop acres harvested has fluctuated between 300 and 370 million acres since 1910. The variations have been erratic and have displayed no particular trend. Land used for other agricultural purposes also has varied somewhat erratically. This would indicate that the major

impact of recent technological developments on resource allocation in agriculture has been on labor and capital requirements.

Farm Income Relative to National Income

From an economic viewpoint, income change is of major significance in any effort to measure agriculture's position in a changing economy. Although there are numerous methods for measuring farm income, realized net farm income will be emphasized in this analysis. This measure is used because realized net income is available for family living and investment purposes after production expenses have been paid and, therefore, is reasonably comparable to the national income concept.

Although agriculture has been a growing industry insofar as output and capital investment are concerned, it has been a declining industry if measured in terms of employment. Furthermore, as the Nation has developed and new sectors have been added to the economy, total agricultural output has not increased as rapidly as total national output.

Realized net farm income, measured in dollars, has grown along with agricultural output. It should be pointed out, however, that in spite of a rather stable rate of increase in agricultural output in recent years, prices received by farmers have fluctuated widely. These widely fluctuating prices have caused the rate of increase in realized net farm income to be highly unstable. Realized net farm income increased from \$3.8 billion in 1910 to \$9.3 billion in 1919; declined to \$1.9 billion by 1932; increased to \$17.2 billion by 1947; and dropped to \$11.7 billion by 1956. In addition to these longer trends, there were sharp year-to-year variations. The high degree of instability in farm income during the past half century probably has aroused more concern among farm people than has the average absolute level of farm income.

Although farm income has been following

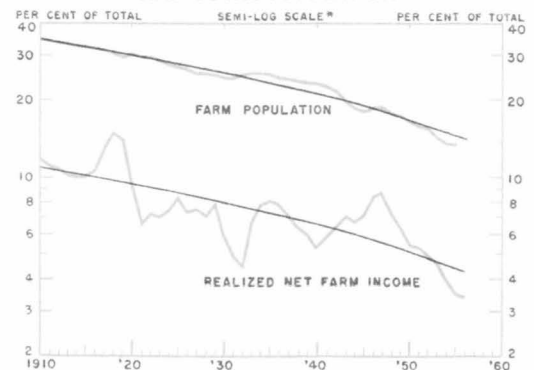
an upward trend in spite of its instability during the last half century, it has been declining in importance relative to total national income. This is explained by the fact that total national income has been increasing at a more rapid rate than has farm income. The chart on page 14 indicates that realized net farm income accounted for more than 10 per cent of total national income in the period from 1910 to 1920. Recently, realized net farm income has accounted for less than 5 per cent of total national income—with the 1956 figure of 3.4 per cent the lowest for the last half century. With total national income increasing at a more stable rate than realized net farm income, much of the fluctuation apparent in the chart can be attributed to variability in realized net farm income.

For comparative purposes, the changing relative importance of the Nation's farm population also is plotted on the accompanying chart. The data are plotted on a semi-logarithmic vertical scale so the slopes of the trend lines for each series plotted represent equal rates of change. Comparison of the slope of the trend lines for the two series provides an indicator of farm income change relative to farm population change.¹

The trend lines in the chart indicate that the relative changes in farm income and farm population have been about the same on an average during the last half century. Stated in another way, farm income in relation to total national income on an average during the last half century has been declining at about the same rate as has farm population in relation to total population. Thus, the relative income position of farm people on an average has neither improved nor deteriorated

¹The two trend lines were computed as straight regression lines on an absolute scale by use of the least squares method and were then plotted on the semi-log chart. Although a curvilinear trend line probably would provide a better fit for the relative income line over the whole period, the straight line on an absolute scale provided a more logical fit for the more recent years. Use of the curvilinear line would indicate a more favorable farm income to farm population comparison for the more recent years than prevails by use of the straight line.

REALIZED NET FARM INCOME AND FARM POPULATION AS A PER CENT OF TOTAL NATIONAL INCOME AND TOTAL POPULATION



*On a semi-logarithmic graph, equal slopes indicate equal rates of change.
SOURCE: U. S. Department of Agriculture and U. S. Department of Commerce.

significantly since 1910. It has been the instability in farm income that has created much of the difficulty in the agricultural sector.

For example, the relative income status of farm people has fallen sharply in the last decade. Farm population relative to total population also has dropped, but at a substantially less rapid rate than has relative farm income. Thus, the relative income status of farm people, which was extremely favorable in the years of strong demand during the immediate post-World War II adjustment period, has declined sharply and is relatively unfavorable at present.

It also should be noted that both farm income in relation to total national income and farm population in relation to total population have dropped below the trend lines in recent years. This indicates that the rate at which farm population and farm income have been declining in relative importance has accelerated as the agricultural industry has been passing through the adjustments brought about by wartime abnormalities and the rapid acceptance of technological innovations. The recent period of adjustment in agriculture has been particularly difficult because labor shortages and strong demand for agricultural products during the war caused farmers to

adopt innovations rapidly. Increased efficiency and favorable prices tended to encourage people to remain in the agricultural industry. At the present time, however, farmers are continuing to adopt new techniques at a rapid rate in order to increase their efficiency. Yet, use of these new technological developments has resulted in the creation of surplus labor resources in the industry and in record levels of output.

Implications for the Economy

Changes such as those discussed in the previous sections have a substantial influence on the general economy and, particularly, on the economies of rural areas. To the extent that these changes continue in the future, they have certain implications insofar as the general economy is concerned.

The adjustments that have been occurring in agriculture have resulted in the need for fewer people and more capital in the industry. The best available information indicates that these adjustments have not run their course. Thus, the migration from farm to city that has been in progress for several decades can be expected to continue if alternative employment opportunities are available in the nonagricultural sectors of the economy. Continuation of this adjustment would result in an additional decline in farm population, and in the release of employees from agriculture for other types of employment. In this type of adjustment, problems of mobility usually are complex. Some members of the farm population may not want to leave the farm or they may be unable to find acceptable non-agricultural employment.

This type of adjustment also will result in a continued increase in the amount of capital needed to farm. Thus, the problems of capital acquisition for individuals desiring to farm very likely will become more complex in the future. No attempt will be made to trace the effects of this type of adjustment through the

various phases of the economy. It is apparent, however, that the problems created have a substantial impact on various phases of economic activity and must be considered in any analysis of the farming industry in a changing economy.

Economic development also results in the agricultural industry becoming a more interdependent part of total economic activity. Farmers become more dependent upon other sectors of the economy for their markets and new industries established to supply farm markets become dependent upon farmers for their markets. Furthermore, as specialization increases and more processing of agricultural products becomes necessary, many transportation and manufacturing concerns become more closely related to agriculture. Although it appears at times that farming is becoming a relatively insignificant part of total economic activity, actually it is only losing its unique identity in a complex and highly interdependent economy.

As more capital is used in agriculture and surplus labor resources are shifted into other industries where labor productivity is higher, total productivity for the economy will increase. Since levels of living from an economic viewpoint are determined by consumption of goods and services, it is apparent that a higher output of appropriate physical goods and services should improve levels of living for the economy as a whole. If the complex problems created by the transition occurring in the economy can be solved satisfactorily, both the farm and nonfarm sectors of the economy will benefit. It must not be forgotten, however, that the transition problems are real and can be quite severe in important segments of the economy.

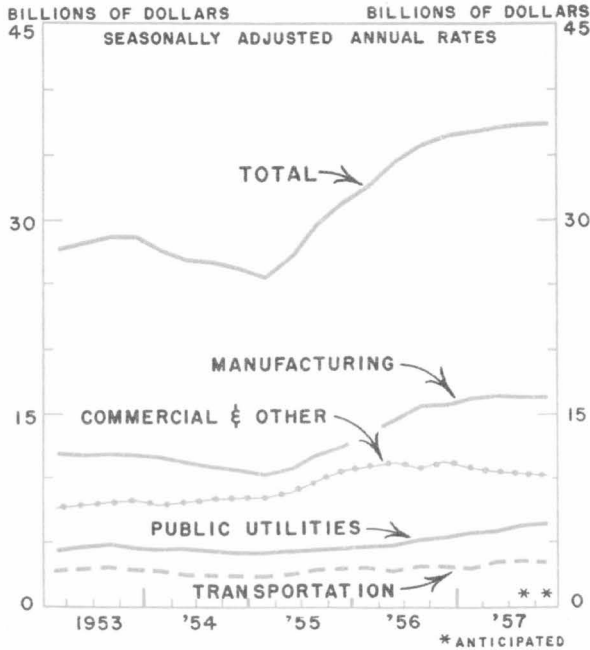
Finally, the problems confronting farmers change rapidly and take on many of the aspects of problems confronting other types of business as agriculture becomes a more highly integrated part of the general economy. In

order to operate a farm profitably today, the farmer must be efficient at production, purchasing, and selling. To produce efficiently, he frequently must be familiar with such diverse fields as biology, zoology, pathology, chemistry, physics, engineering, and management. His business problems also become much more complicated and frequently are closely related to the technical problems. In some instances, adequate solutions cannot be found for the business problems without an understanding of the technical problems.

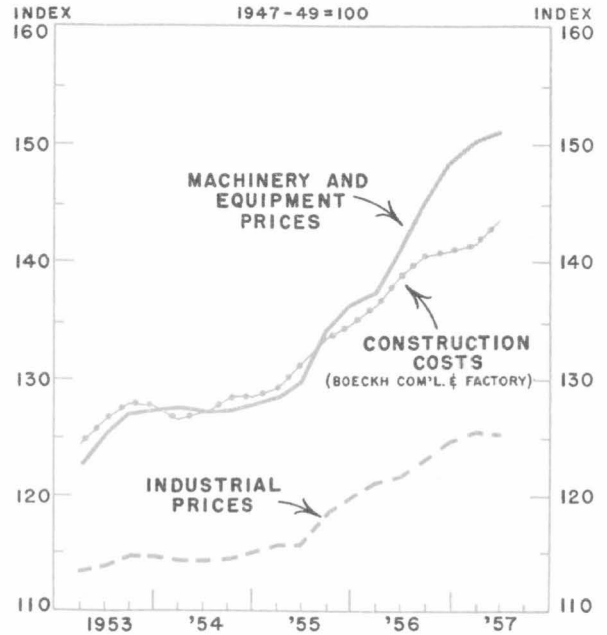
The decisions as to what resources to use and in what combination to use them become much more complicated. Such decisions hinge upon knowing the productivity of the various combinations of resources that can be used for producing a given agricultural product and the relative costs of the numerous resources that are available. These problems have become so complex in agriculture that experiments are being conducted on the feasibility of using electrical computers to help find the most efficient solutions. After the decision has been made as to what resources to use, the modern farmer usually must be in a position to vary the timing of his operations or the actual kinds and amounts of resources used as physical or economic conditions change. For example, if a decision has been made to feed corn when it is selling at \$2.40 per hundredweight and grain sorghum is selling at \$2.30, this decision may be varied if the spread between the two feed grains should increase substantially.

Many other examples could be used to illustrate the increasing complexity of the modern-day economy. Use of such examples, however, would merely confirm that the modern economy is highly productive and complex. Although the first impact of an economy in transition probably was felt most keenly in the nonagricultural sectors of the economy, in recent decades its influence on agriculture has been great.

PLANT AND EQUIPMENT EXPENDITURES



CONSTRUCTION COSTS AND EQUIPMENT PRICES



BANKING IN THE TENTH DISTRICT

District and States	Loans				Deposits			
	Reserve City Member Banks		Country Member Banks		Reserve City Member Banks		Country Member Banks	
	July 1957	Aug. 1956	July 1957	Aug. 1956	July 1957	Aug. 1956	July 1957	Aug. 1956
	Aug. 1957 Percentage Change From							
	July 1957	Aug. 1956	July 1957	Aug. 1956	July 1957	Aug. 1956	July 1957	Aug. 1956
Tenth F.R. Dist.	†	+1	†	+2	-2	-1	†	+1
Colorado	-1	+3	-3	+2	-2	-1	+1	+4
Kansas	+2	†	†	-6	-3	†	-1	-1
Missouri*	+1	†	†	+5	-2	-2	†	+2
Nebraska	+1	-4	+3	+4	-1	†	+1	-1
New Mexico*	**	**	†	+8	**	**	+7	+4
Oklahoma*	+1	+4	†	+1	-2	†	-1	+1
Wyoming	**	**	+1	+11	**	**	+3	+3

*Tenth District portion only.
†Less than 0.5 per cent.

**No reserve cities in this state.

PRICE INDEXES, UNITED STATES

Index	Aug. 1957	July 1957	Aug. 1956
Consumer Price Index (1947-49=100)	121.0	120.8	116.8
Wholesale Price Index (1947-49=100)	118.3	118.2r	114.7
Prices Rec'd by Farmers (1910-14=100)	248	247	236r
Prices Paid by Farmers (1910-14=100)	295	295	287r

r Revised.

TENTH DISTRICT BUSINESS INDICATORS

District and Principal Metropolitan Areas	Value of Check Payments		Value of Department Store Sales		*Value of Residential Building Permits	
	Aug.	Year to date	Aug.	Year to date	Aug.	Year to date
	Percentage change—1957 from 1956					
Tenth F.R. Dist.	+6	+6	+2	0	+2	-4
Denver	+2	+7	+2	+1	-31	-10
Wichita	+11	+8	+4	+3	-14	-6
Kansas City	+6	+5	+1†	-2‡	-20‡	-15‡
Omaha	+2	+1	+7	+3	-4	-13
Okla. City	0	+2	-1	-3	+28	-7
Tulsa	+7	+10	0	+2	+25	-37

*City only. †Kansas City, Mo., only. ‡Kansas City, Mo., and Kans.