We are indeed fortunate to live in a nation and an age in which the production of food and fiber requires such a small portion of the total labor force. Only 5 per cent of the nation's labor force was employed on farms in 1966 compared with 21 per cent in 1930. The number of farm workers declined from 10.3 million in 1930 to 4.0 million in 1966. This decline was possible because of a great increase in productivity per worker. In 1930 one farm worker was able to produce sufficient farm products for himself and 9 other persons. In 1966 one farm worker produced sufficient food and fiber for himself and 39 other persons.

We might take a brief look at agriculture in the United States compared with agriculture in the rest of the world to see how well we have performed relative to other nations. Of the major industrial nations for which data are provided by the OECD (Organization for Economic Cooperation and Development), the United States in recent years had the lowest per cent of workers employed directly in agriculture. Employment on farms ranged from 5 per cent of the labor force in the United States to 75 per cent in Turkey. More than 50 per cent of the world population lives in countries where three-fourths of the people are engaged directly in agricultural occupations. In Western Europe, one of the more highly developed areas
of the world outside the United States, about 20 per cent of the labor force is engaged in agriculture and these nations still fail to produce sufficient food and fiber to meet the demands of the population. As a result a sizeable portion of their farm product needs must be imported.

Contributing to these gains in efficiency in the United States have been major changes in the use of productive resources. Last November I had the opportunity of participating in the National Agricultural Credit Conference in which one presentation was entitled, "Can the Country Bank Survive?" The speaker concluded that there is no clear-cut answer to this question, largely because of the great changes in agriculture. Changes in some communities have been so great during the past three decades that they have totally altered the economic profile of the area and left doubts as to its economic vitality. I do not share the pessimism implied in that speech. I believe that many changes in rural communities are for the better. For example, one change which I like is the rapid nonfarm employment growth in traditionally rural areas. The November 1967 Monthly Review of the Federal Reserve Bank of Atlanta points out that nonfarm employment outside the eighteen major metropolitan areas of the Sixth Federal Reserve District rose at a faster rate than similar employment in the major centers. Furthermore, manufacturing employment outside these major metropolitan areas rose at substantially higher rates than within the large centers.

To me, this growth of nonfarm employment opportunities in the smaller cities and towns is a desirable change. When surplus workers in agriculture can gain profitable employment in nearby towns and cities,
both the welfare of the individuals concerned and the welfare of the nation is enhanced. There is growing evidence that as nonfarm employment opportunities develop in rural communities that have been depleted of labor resources by the rural exodus to the cities, some skilled workers return to the rural environment of their youth.

The incentive of higher returns causes workers to move from farm to nonfarm jobs. If higher returns are to be made in nonfarm jobs, the market for labor places a higher value on services there and nonfarm products sell for more money. This production of a larger volume of goods and services results in higher total output and greater welfare per person. Furthermore, this process of labor movement from farm to nonfarm pursuits does not damage rural communities if the workers continue to live in the community. To the contrary, it appears that the larger incomes resulting from the change in occupation will be reflected in greater community income and welfare.

With the reduction in farm labor, agriculture has been reorganized into fewer but larger farms. The number of farms declined from 6.3 million in 1940 to 3.1 million in 1967. Average size of farms rose from 167 to 359 acres during the period.

Along with the changing structure of agriculture our concept of the farmer is also changing. Once looked upon as one of the lesser-trained members of society who perhaps could do nothing except farm, the commercial farmer of the future will probably be viewed as a successful businessman of
the community. Whether he is owner-operator, hired manager or tenant, in order to gain control of the assets necessary for efficient farming, he must have the qualifications of an accountant, be familiar with technical agriculture, and know some commercial law and finance in addition to having the usual liberal arts requirements of a trained man.

It is perhaps because of our past image of the farmer as the least successful member of our community that we have in the past tended to measure his success by the rung on the agricultural ladder which he attained. We have never, however, looked upon other help such as the store manager, the bank official, or the factory manager in this manner. We have viewed these men as successful in the community even though they did not attain ownership of the firm for which they worked. I predict that our farm operator will similarly be considered a success whether he works in a professional capacity as hired farm manager, as stockholder and manager, as owner with a perpetual debt, or happens to be one of the few like the late Henry Ford the First who operates his farm free of debt. It is possible and probable that all these operators can earn sizeable net incomes and become leaders in their respective communities.

The agricultural industry has now become highly commercialized and specialized. Purchased inputs such as machinery, chemicals, seed and breeding animals now constitute about three-fourths of total farm costs. Operator and unpaid family labor is now a relatively minor cost item. Production for home use has become insignificant as most farm operations have become fully oriented toward supplying the commercial market. Agriculture has thus become an industry composed of a large number of commercial enterprises
operating at relatively small margins of profit. Its financial structure is
typical of other medium-size businesses. Sizeable losses can no longer be
absorbed in reduced returns to labor. Farmers can now go bankrupt.

With these changes in the structure of farming, capital and credit
have become increasingly important. From an average investment of $8,000
per farm in 1940, assets per farm increased more than tenfold to $86,000 in
1967. Furthermore, the $86,000 investment per farm is the average for all
farms including part-time units. In 1966 almost 50 per cent of all farms had
product sales of less than $2,500, and operators of these farms had off-farm
income in excess of four times their net farm incomes. We cannot realistically
call these part-time units farms. If we exclude part-time farms from the total,
assets per farm probably approach $150,000. For example, small to medium-
size grain farms (180-259 acres) on better soils in Northern Illinois, cooperating
with the Illinois Farm Bureau Farm Management Service, had a capital
investment of $171,000 per farm in 1966. The 61 large cooperating farms in
the same area had an average capital investment of $557,000 per farm.

The large capitalization necessary for efficient farming units is
producing major changes in our traditional concepts of farming and the
farmer. To demonstrate the type of change that we are likely to have, assume
that a typical farmer operates only an average-size commercial farm with total
assets of $150,000. Further assume that he has four children, one of whom

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I/ Summary of Illinois Farm Business Records, University of Illinois,
College of Agriculture Circular 970.
would like to succeed his father as operator of the home farm. How can the transfer from father to son be handled? Despite the substantial inheritance of $37,500 per child, once taxes are paid the prospective operator cannot borrow enough on the assets to pay off the other three heirs. Second mortgages might be used for settling the estate. However, the debt involved totaling in excess of $112,500 is a sizeable amount for repayment within the productive life of the average individual. At the rate of 6 per cent, interest amortized on a 30-year basis, the interest and principal would account for over $7,000 annually. This added to normal family living expenses, taxes and other overhead, adds up to a sizeable load.

It appears to me that most commercial farms cannot pass on to the current operators' heirs under the same ownership pattern that exists today. Thus, one of the first breaks that I see in our traditional concept of farming is in the ownership pattern. In the past, we have envisioned in the agricultural ladder an opportunity for all farm operators to ultimately become debt-free owners of efficient farms. It is unlikely that this ladder will be able to operate for future generations. As indicated earlier, savings in excess of $100,000 are necessary for typical farm boys to become debt-free owners at current prices. Furthermore, the optimum size of farms continues to rise. Within another ten years, it is likely to require more than $200,000 to become a debt-free owner of an efficient farm. We are thus approaching in agriculture the problem that Henry Ford was confronted with when time came to turn over the Ford Motor Company to his heirs. Agriculture, like the Ford Motor Company, is being
forced into a different ownership pattern. Fewer and fewer farms can be inherited in the traditional pattern of one of the heirs simply buying outright the interest of the other heirs.

Fortunately, our universities are already pointing out possible solutions to this dilemma.

One suggested route for agriculture is the formation of small family-type corporations. Each heir to the farm, rather than requiring payment in cash, would accept equity shares in the enterprise. The operator would thus be part-owner and part hired manager. This arrangement, however, is little different from the public corporation in which the chief executive officer is a sizeable stockholder. Furthermore, once incorporation is accomplished, the farm is only one step away from a typical publicly-owned corporation. Once stock is sold by the heirs to non-family purchasers, the farm becomes a public corporation.

Perpetual debt is another possible solution to the farm capital problem. This route would involve the sale of long-term debt instruments as bonds, mortgages, and debentures backed by the farm assets and annual returns from operations. The farm would take on the appearance of a modern corporation where large perpetual debts are routine. New owners would assume all debt upon taking title to the farm as mortgage debt is currently assumed by purchasers.

Another change underway is the development of closer ties between agriculture and the food processing and marketing industries. Although not directly related to the farm capital problem, such arrangements offer opportunities
for the capitalization of agriculture through the corporate food processor or farm supply industry route. Examples of these arrangements may be found in both livestock and crop farms. Poultry and egg operations have in many instances been closely allied to the feed industry. The financing supplied broiler producers by the feed industry has apparently been quite substantial. In many cases the producer has become essentially a hired manager. Other ties include the feed industry and beef fattening and hog feeding operations, beef fattening and meat packing operations, vegetable producing and processing operations. All these arrangements are likely to involve financing and perhaps some voice in the management of the farming portion of the operation. These trends toward integrating the farm and nonfarm sectors of the food industry are likely to continue as fewer producers are found in each line of farm production and as agriculture becomes more specialized.

The country bank is vitally concerned with these changes in agriculture. The larger commercial farms have greatly increased the role of credit. Credit has, over the years, played a relatively minor role in financing our agricultural plant. Most farms have largely been financed internally. Much of the physical capital as land clearing, drainage, fencing, and building was produced on the farm by the farm family. Only in the past few decades has a large portion of farm capital been acquired through off-farm purchases, and many of such costs were covered by savings of the farm family.

Since 1943 credit used by farmers has not exceeded 17 per cent of total farm assets, and in the 6 years prior to 1954 the volume of farm credit outstanding was less than 10 per cent of total farm assets. In comparison,
credit used by manufacturing establishments has accounted for a much greater portion of total assets. During the period 1948 to 1967, inclusive, total liabilities of all manufacturing corporations, excluding newspapers, on the basis of book value never fell below 23 per cent of total assets. Furthermore, in 1967 debt exceeded 40 per cent of the assets of these firms.

Although the spread in debt-to-asset ratios of farms and manufacturing firms remains quite wide, it has declined steadily since 1948. At that time, debts totaling 31.2 per cent of assets in manufacturing were 4.3 times the per cent of debts to assets in agriculture. Since then, the per cent of debts to assets in both industries has risen steadily. However, the per cent in agriculture rose at a faster rate than in manufacturing, and in 1967 the per cent of debts to assets in manufacturing was only 2.4 times that in agriculture. Agriculture is thus beginning to use credit in a manner similar to the manufacturing sector.

Prior to the Great Depression of the 1930's banks were the only institutional lenders of importance in the short-term farm credit field. In the late 1930's the Production Credit Associations and the Farmers' Home Administration (Farm Security Administration) had begun to supply substantial quantities of short-term credit to farmers. As a result of this increased competition the commercial banks' share of all short-term farm credit by institutional lenders declined in the late 1930's and early 1940's. Following World War II, commercial banks were in a highly liquid condition and eager to acquire additional loans. As a result their holdings of short-term
farm loans rose rapidly. By 1952 the banks' share had increased to 76.8 per cent of the $6.1 billion outstanding to reporting lenders. The share of short-term farm loans held by banks turned down, however, in 1952, and the relative decline continued through 1967.

Looking at rates of growth during the past ten years, banks have more than doubled their short-term farm credit outstanding, while the growth of such credit held by the PCA's has more than tripled. In dollar amount, however, such holdings by banks continued to increase faster, rising $4.4 billion compared with a gain of $1.9 billion for PCA's. These data all point to the fact that PCA's are rapidly becoming a major competitor to banks in supplying non-real estate credit to farmers.

Commercial banks have historically held only a small portion of the farm real estate debt. At the beginning of 1967 all operating banks held only 14 per cent of all farm mortgage credit, a slightly smaller per cent than 10 years earlier.

Let's take a look at some reasons why the banks' share of farm credit has declined. It is quite obvious from the data that a number of banks are about "leaned up," given the set of conditions under which they are currently operating. A Federal Reserve System survey of bank credit to agriculture in mid-1965 indicated that 39 per cent of all farm banks in the nation had loan-to-deposit ratios in excess of 60 per cent, and 10 per cent of such banks had loan-to-deposit ratios exceeding 70 per cent. Given the legal requirements for guaranteeing certain public accounts and the need for day-to-day liquidity, it is apparent that a substantial number of farm banks,
especially those with 70 per cent loan-to-deposit ratios, are short of liquid assets.

Further confirming the "loaned up" thesis is the fact that one-sixth of all farm banks in the nation reported difficulty in meeting farm financing requests from their own resources. About one-eighth of all banks in the Eighth Federal Reserve District similarly reported difficulty in meeting farm credit requests.

In the absence of a nationwide banking system we attempt to take care of these local fund shortage and overline problems through correspondent banking. Individual overline requests have probably been handled through the banking system with greater efficiency than over-all local liquidity shortages.

Most large correspondent banks indicate an eagerness to participate with their customers in handling overline demands of farmers. However, the over-all liquidity shortage problem is apparently more difficult to solve. Loanable funds and debt instruments do not move through the banking system as freely as we would like. Federal funds, certificates of deposit, and other instruments move quite freely among the larger banks and provide an opportunity for liquidity adjustments. Federal funds also move quite rapidly from the smaller to the larger banks. However, it is the smaller banks in the areas which are chronically short on credit that may have difficulty in financing farm credit demands. Nevertheless, I believe that more cooperation within the banking system toward the solution of this problem would be profitable.
In addition to correspondent banks, a number of country banks have made use of the Farm Credit Banks for distributing funds to rural areas. The Federal Intermediate Credit Banks were originally designed for this purpose. These banks already have the corporate organization, the capital, and the trained farm credit specialists to do the job. I understand that they currently discount for about 70 commercial banks and commercial bank affiliates. It appears to me that in them we have an ideal arrangement for channeling loanable funds from the money market centers to the rural credit-deficit areas. More recently, however, I hear that the Intermediate Credit Bank System is reluctant to take on the discounting for large numbers of commercial banks. I understand that they would prefer that the commercial banks set up their own agricultural discount system. I believe that the setting up of a new credit discount system for rural banks would be a second-best alternative. In fact, it would probably weaken the present farm credit discount system. According to my estimates, commercial banks hold about 60 per cent of all outstanding FICS debentures. Commercial banks thus represent the source of the major portion of Intermediate Credit Bank funds. If a new system is set up designed primarily for commercial banks, it seems likely that the current system will have greater difficulty selling its debt instruments to commercial banks.

I thoroughly agree with those who argue for some type of bank discount system for rural banks in credit-deficit areas. I would also suggest that an early solution be obtained to this problem of whether a new system is organized or whether full cooperation is obtained with the
In conclusion, we have a very efficient agricultural industry in the United States. Apparently, farmers are receiving credit at competitive rates. Commercial banks, however, have declined somewhat from their earlier position as the predominant supplier of farm credit. Several factors may have restrained the rate of bank credit growth to farmers. Some banks located in rural communities may have chronic shortages of loanable funds. In such cases, outside assistance is highly desirable. I believe that the best solution lies in fully utilizing existing institutions. However, if total cooperation cannot be achieved, other farm credit discount facilities may be necessary.