

FINANCING SOUTHERN AGRICULTURE

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Agriculture has played a major part in the nation's economic growth in recent decades. Farm employment has declined substantially, releasing a large number of workers to other sectors. Farm output has continued, however, to expand rapidly. New capital inputs per farm have been a major contributor to rising agricultural efficiency. Capital inputs increasingly have been made through the use of credit in recent years.

Credit costs and the efficiency of credit flows into agriculture are thus important factors contributing to progress in both the farm and nonfarm sector. It is to these costs and flows that this discussion is directed.

Nationally, farm employment declined from 10.3 million workers in 1930 to less than 4 million in 1967. The decline, which averaged 2.6 per cent per year during the 37 year period, accelerated to 4.6 per cent after 1960. Reflecting both sizable gains in total employment and reduced farm employment, farm as a per cent of total declined from 22.7 per cent in 1930 to 5.2 per cent in 1967.

In contrast to reduced labor inputs, the physical volume of farm output has increased sharply. Production rose from 60 per cent of the 1957-59 average in 1930 to 118 per cent in 1967. Thus, in 1967 the nation's farms produced almost double the 1930 level. In current dollars, farm products marketed more than quadrupled during the period, rising from \$9.0 billion to \$42.5 billion. The retail value of farm products rose at a still higher rate, with food, beverage, and tobacco sales increasing from \$19.4 billion in 1930 to \$115.4 billion in 1966, a sixfold gain.

As a result of these gains in productivity, a relatively small per cent of the nation's labor force is used to meet farm product demands. Of the major industrial nations for which data are provided by the Organization for Economic Cooperation and Development, the United States has the lowest per cent of workers directly employed in agriculture. Farm employment in the 1960's ranged from 6.1 per cent of the labor force in the U. S. to 74.5 per cent in Turkey.

In Western Europe, one of the most highly developed areas outside the U. S., about 20 per cent was engaged in agriculture. Nevertheless, output still failed to meet the area's demand for food and fiber. A sizable portion of farm products

consumed had to be imported. In the relatively underdeveloped areas such as Africa, India, and Latin America, which combined account for about three fourths of the world's population, more than half the work force is usually engaged in producing food. Thus, while people in the United States are living in a land of abundance, much of the world is still subject to the Malthusian laws of scarcity.

Contributing to our efficiency gains in agriculture have been numerous scientific developments that have provided new technology on a wide front. Mechanization technology has made possible large multirow cultivating and harvesting equipment and other labor-saving machines which have greatly expanded the optimal size of farms. Improved methods of plant and animal breeding have increased the productivity of crops and livestock. New chemicals, including insecticides, fungicides, herbicides, and fertilizers have enabled producers to greatly increase output per acre and reduce labor per unit of production.

These gains involved major changes in the structure of agriculture. In addition to the sharp decline in farm employment, corresponding decreases occurred in the number of farms. On the other hand, capital inputs have increased sharply. The value of all farm assets rose from \$52.9 billion in 1940 to \$269.4 billion in 1967. Although part of the increase represents price inflation,

sizable new capital inputs have been made. Acres in farms rose 7 per cent and capitalization of land, through soil improvement, drainage and other means, has increased substantially. The number of cattle on farms rose from 68 million in 1940 to 108 million in 1967. Tractors, including garden tractors, rose from 1.5 to 5.6 million during the period.

Although farm technology has contributed to the rising capitalization of the industry, it has had a greater impact on capital readjustments within agriculture. In 1940 farm assets represented an average of \$8,331 invested in each of the 6.3 million farms. By 1967 the number of farms had been halved, while capital per farm had increased tenfold to \$85,654. These capital adjustments within the industry, coupled with new capital inputs, have greatly increased farm demands for outside funds.

Outside credit has never played a major role in financing agriculture, as most farms have largely been financed internally. Much of the physical capital such 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 family savings.

Since 1948 credit used by farmers has not exceeded 17 per cent of total farm assets, and in the 6 years prior to 1954 was less than 10 per cent of total farm assets. In comparison, credit used by manufacturing establishments, on the basis of book value, never fell below 28 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, when 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, debt-to-asset ratios in both industries have risen steadily. However, the ratio in agriculture rose at a greater rate than in manufacturing, and in 1967 the debt-to-asset ratio in manufacturing was only 2.4 times that in agriculture. Thus, internal financing of agriculture has declined substantially relative to total capital since 1948, and credit has played an increasing role in capital accumulation.

Sources of Farm Credit

With the rising volume of debt, farm credit sources have also changed. The change, however, has been gradual rather than revolutionary. It is when we view changes over the past half century that major contrasts appear. Significant changes have

occurred in both the number of competitor groups in the business and the relative portion of credit supplied by each.

Mortgage Lenders

Prior to the 1900's most farm mortgage credit was supplied by individuals and other noninstitutional sources. Since the turn of the century, a relative decline has occurred in farm mortgage credit supplied by noninstitutional lenders. Conversely, the per cent supplied by institutional lenders has consistently increased. For example, in 1910 institutional lenders supplied only 25 per cent of the nation's outstanding farm mortgage credit, while in 1967 the proportion supplied by financial institutions had increased to 60 per cent. Despite the increased use of land contracts, which tend to increase seller-financed farm transfers, the per cent of such debt held by institutions has remained stable since 1960.

Only two major institutional lender groups, commercial and savings banks, and life insurance companies, were in the farm mortgage credit business in 1910. With the creation of the Federal Land Banks in 1916 a third major credit supplier entered the field. And in the 1930's the Farmers Home Administration (Farm Security Administration) was created to finance high-risk farm mortgages with government assistance. The land bank system and the Farmers' Home Administration provided farmers with additional pipelines to the nation's financial centers.

Over the years, the financial institutions have supplied an increasing proportion of the total farm mortgage credit. The Federal Land Banks and life insurance companies, with better pipelines to financial markets, have supplied relatively larger portions than commercial banks which rely primarily on local funds and are often short of funds for, or reluctant to commit funds to, long-term mortgage loans.

The share held by the land banks rose steadily from the date of their organization through the 1920's. With substantial government assistance they undertook emergency mortgage financing in the mid-1930's, and their share rose rapidly. After the liquidation of these loans in the 1940's and early 1950's, the land banks' share again increased and accounted for 21 per cent of the total in 1967. The share held by life insurance companies rose from 12 per cent in 1910 to 22 per cent in 1967, and that held by commercial and savings banks rose from 13 to 14 per cent of the total during the period.

Non-Mortgage Lenders

Non-real estate farm credit supply groups have also increased since 1910. Even to a greater extent than mortgage lenders, this group was dominated by local suppliers well into this century. Local banks, dealers, merchants, and other local sources were almost the only suppliers of such credit prior to the beginning of credit extension

by the Federal Intermediate Credit Banks and the emergency crop and feed loans in the mid-1920's. In the mid-1930's the Production Credit System entered the short-term farm credit market and have since become a major source of such loans. Like the land bank system, the PCA's are tied to the nation's financial markets.

It is generally believed that merchants, dealers, and other noninstitutional lenders held at least 50 per cent of all non-real estate farm credit prior to the 1940's. Since early 1940, however, the position of this group has declined, and by early 1967 it accounted for only 41 per cent.

This relative decline in merchant and dealer credit occurred despite greater access to financial markets. Merchants and dealers who extend credit to farmers must, in turn, be financed. Prior to the development of large agribusiness industries, most of this financing was probably done at local banks. In recent years, however, manufacturers who sell machinery, fertilizer, and other products to farmers through merchants and dealers have provided a sizable portion of this financing. These manufacturers in turn obtain funds through retained earnings, by selling debt and equity instruments to the public and by borrowing directly from large city banks. Merchants and dealers thus provide farmers with another pipeline to financial markets.

Commercial banks have been the largest single institutional supplier of non-real estate farm credit throughout the period since 1910. It is generally believed that banks supplied about 50 per cent of such credit until the 1930's when the PCA's began operations. Following this additional competition, the per cent held by both banks and nonreporting creditors declined. The banks' per cent fell sharply in the 1930's, picked up somewhat in the 1940's, held about steady in the 1950's, and has declined somewhat since 1960. They now hold 40 per cent of the total and PCA's hold 14 per cent.

Total Credit

A combination of mortgage and non-real estate farm credit further points up the changes in farm credit supplies. On the basis of estimates for merchant and dealer credit, which probably underestimate the amount of such credit in the earlier years, noninstitutional credit to farmers has declined relative to the total -- from 63.7 per cent in 1910 to 40.9 per cent in 1967. This relative decline has been fairly consistent, except for a few years immediately following World War II when the public had an abundance of liquid assets, and since 1960, a period of rapid expansion in the contract selling of real estate which tends to enhance seller financing.

Farm credit in the southern states has generally increased more rapidly than in the nation. In eight states centered in the southern Mississippi Valley,^{1/} total farm debt has increased fivefold since 1940, slightly above the national rate of gain. The move toward financial institutions as sources of farm credit has also been faster in the South than for the nation as a whole. Financial agencies probably supplied about the same per cent of non-real estate farm credit in the area as in the nation last year. However, financial agencies supplied a somewhat larger per cent of all real estate farm credit here than nationally. Insurance companies have made especially large gains in the South since 1940. From 15 per cent of the total farm real estate debt held at that time, their share rose to 28.4 per cent in 1967. This was 6 per cent above the share of farm real estate debt held nationally by insurance companies.

Impact of Market Changes on Efficiency

The impact on credit costs of changes in the market structure of farm credit agencies is difficult to measure. Also, the question remains unanswered of whether farmers obtain credit on a parity with the nonfarm economy. Direct measures of

^{1/} Includes: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Tennessee, and Texas.

interest rates are not conclusive because of wide variations in risks, and lending and collection costs. Nevertheless, actual rate comparisons are not unfavorable to farmers. Farm credit outstanding by banks in mid-1966 was at lower average rates than 1966 yields on all bank loans. Also, Federal Land Bank rates on farm mortgages were below most nonfarm rates.

Rising Efficiency in Channeling Funds

The large increase in farm credit and the relatively small advance in interest rates point to rising efficiency in gathering and channeling funds into agriculture. Since 1945 total farm credit outstanding has increased almost sixfold, rising from \$7.6 billion to \$44.5 billion. Interest rates, rates charged farmers, rose at a relatively slow pace. For example, prime commercial loan rates rose from 1.5 per cent in 1947 to 5.7 per cent in 1966, an increase of 275 per cent. Average rates on all bank loans rose about 90 per cent during the period, and on FHA new home mortgages, 50 per cent. In comparison, farm mortgage rates by FLB's rose only 46 per cent, and PCA rates advanced only 28 per cent. Commercial bank rates on non-real estate loans to farmers increased 12 per cent, while bank rates on farm real estate loans rose 29 per cent.

Return on Assets

Another measure of the efficiency of credit flows into agriculture is the rate of return on farm assets. A credit-starved agriculture would suggest high returns and low market prices on productive assets.

Returns on current market value of productive assets in agriculture, however, are relatively low, and market prices of assets relatively high. Since 1959 the rate of return on farm assets has averaged only about 5 per cent. This is less than the average return on book value of assets in any of the 61 major industries listed in Standard and Poor's Industry Surveys.

Productivity Measures

Another measure of the efficiency of credit flows into agriculture is the efficiency of the industry itself. Inefficient resource flows into agriculture would tend to reduce the performance of the industry. In terms of productivity over time and productivity relative to that in other nations, however, farming is quite efficient.

The farm credit market may be summarized as follows:

1. Farm credit, like farming itself, is becoming more commercial and less dependent on relative, friend, neighbor, and merchant relationships. Financial institutions currently supply more than 60 per cent of the total, and their portion has generally

increased over the years, with the exception of a short period following World War II when the noninstitutional group had excessive quantities of loanable funds.

2. With the entry of more financial institutions into the farm credit business and the relative decline of nonfinancial institution lending, farm credit suppliers have become less personal. This tends toward greater efficiency in the industry. Credit and credit purchased resources tend to flow to the more efficient users as determined by the impersonal officials of the financial agencies. Those users, in turn provide the greatest returns to capital and can more readily repay debts.

3. The closer ties of farm credit to financial markets, as represented by life insurance companies, the Farm Credit Administration, large agribusiness corporations supplying credit through dealers, and to a lesser extent commercial banks, through the correspondent banking system, assures a more reliable supply of farm credit. With such ties, credit at some price will probably be available to any farmer in the absence of legal restrictions, provided he meets the lender's usual credit requirements. The same sources of funds, however, reflect relatively wide interest rate fluctuations, and credit agencies which rely on them must ultimately reflect such rate changes in loans to farmers.

4. With the increase in competition for farm credit business, credit flows to agriculture are apparently quite efficient. Rates charged farmers have not increased since 1947 as much as other rates. The return on farm assets is relatively low, suggesting an adequate supply of credit for capital purchases. Farm production in the U. S. is efficient compared with farm production in other countries. This would indicate relatively efficient flows of all resources into farming, including credit, an important factor in the organization of efficient farm units. Despite the increased efficiency of credit flows to agriculture, rates charged farmers have risen with generally rising rates in other sectors of the economy.

Now that farm credit is closely tied to the nation's financial markets, factors which determine the cost of loan funds nationally also determine the cost of credit to farmers. Such factors work in about the same manner as those which determine the price of any other commodity or service. They affect both the supply and demand for credit. On the supply side we have the savings of individuals and corporations and credit creation through monetary actions by the central bank. On the demand side we have the credit demands of business, consumers, and government.

The supply and demand for credit caused sharp rises in interest rates during recent years. Since mid-1965 rates on most securities have increased about 1.5 percentage points. Rates paid

by the Farm Credit Banks on bond and debenture sales have followed this general upward trend. Rates paid by commercial banks on time deposits have likewise increased. These agencies must in turn charge higher rates to their customers. Some of the increase has been absorbed by smaller margins. Most of the financial agencies, however, have operated over the years quite efficiently, and such absorptions can only be continued for a limited time and for limited amounts. All borrowers must eventually feel the impact of the higher cost of funds.

We are all interested in the cause of this sharp rise in the cost of funds to financial agencies during the past three years. In explanation, I shall again look at the supply and demand forces relative to loan funds. Supplies of funds flowing into the market continued to increase at a high rate during the period. Savings expanded both in absolute amount and relative to total personal income. Credit created through monetary action rose at a higher rate than in the three prior years 1962-65 when rates were relatively stable. Apparently the reason for the rapid increase is the very high rate of gain in demand for credit.

Indicative of some of the major increases in demand for loan funds are the following data:

1. During the three years ending in 1967 business loans at banks rose \$9.3 billion per year. In comparison, such loans

rose only \$4.1 billion per year during the prior three years.

2. New security issues for financing business rose \$3.6 billion per year, more than ten times the rate during the earlier period.

3. Net Government debt rose \$7.4 billion per year compared with an increase of \$5.8 billion per year in the earlier period.

4. Consumer loans rose at a rate of \$3.5 billion compared with an earlier increase of \$2.8 billion per year.

5. Farm credit rose at a rate of \$3.6 billion compared with an earlier rate of \$2.9 billion.

All of these credit increases were made despite the sharp increase in interest rates, thus pointing to a sharp increase in demand for credit.

As indicated, this sharp rise in demand for loan funds developed in both the Government and private sectors. The rise in Government demand is based primarily on political decisions rather than market forces. Through the political process we decided to increase expenditures both for military and welfare purposes at faster rates than tax intake rose.

In the private sector, however, the rising demand for loan funds reflects the excessive demand for goods and services

which has been generated by overly expansive monetary and fiscal policies.

Fiscal policy became somewhat expansive in the first half of the 1960 decade and more expansive as the decade progressed. Over the period 1961 to 1965, prior to the Vietnam buildup, these expenditures increased at an average 8.5 per cent annual rate. Greater spending since 1966 has caused the Treasury to borrow a larger volume of funds from the public. The Government's high-employment budget, a measure of fiscal stimulation, has been in deficit at an annual rate of about \$11 billion in the last three quarters, compared with an average surplus of \$8.2 billion in the pre-Vietnam, 1961-65 period.

Monetary policy has tended to follow the course of fiscal policy, becoming more expansive over the course of the 1960's. Between 1961 and 1965 the nation's money stock grew at an average annual rate of 3.2 per cent. In marked contrast, since January of 1967 the monetary stock has risen at a 7 per cent rate, the fastest growth over any 18-month period since World War II.

Paralleling these expansive government influences has been a growth in total demand for goods and services far exceeding the rate of output and resulting in substantial price inflation. Since the second quarter of last year expenditures on goods and services have risen at the annual rate of 9 per cent. In contrast, output has increased at a 5 per cent rate, and prices measured by the GNP price deflator have risen at a 4 per cent rate.

This sharp increase in spending has been accompanied by a rise in private demand for credit. Business and individual demands for credit reflect both the expanding levels of economic activity and inflationary expectations. An expanding economy requires credit for larger inventories, greater plant capacity, and equipment. Expectations of further price inflation point to the possibility that debts created currently can be repaid with cheaper dollars at some future date. Thus individual investors and business can see opportunities for both rising returns and capital gains with the use of borrowed funds.

Expected price increases also have an impact on savings which flow through financial agencies into loans. With prices rising 4 per cent per year, savers must get more than 4 per cent interest to have the same purchasing power at the end of the year as at the beginning, after payment of income tax. I am convinced that most savers attempt to get a real return on their savings.

Thus if stated rates do not reflect a real rate of interest above the zero level, part of the funds which normally flow through financial agencies are likely to be diverted into other assets such as equities, land, or bonds.

A solution to the problem of high interest rates thus lies in greater price stability which involves less expansive fiscal and monetary policies. We need policies which will reduce total demand for goods and services. Once we have obtained reduced price expectations, lower interest rates should follow. Until price stability is in view, however, I would expect savers to demand a rate which will provide a real return on their savings. I would also anticipate the demands for funds by borrowers to reflect the expectation of higher nominal earnings, capital gains and the opportunity of paying back loans with cheaper dollars.

Apparently the Federal budget is moving toward a less expansive posture. That should be an improvement. A less expansive monetary policy would be another step in the right direction.