Impact of the War on the Financial Structure of Agriculture

Bureau of Agricultural Economics
United States Department of Agriculture

MISCELLANEOUS PUBLICATION No. 567

Miscellaneous Publication No. 567

ACKNOWLEDGMENTS

The project for developing materials for this report has been organized in the office of the Chief of the Bureau of Agricultural Economics under the leadership of Bushrod W. Allin.

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The general reader may be satisfied merely with the Summary which appears at the outset. Others will obtain a rather complete story in the Introduction, Part 1 through page 31, and Part 2. For the person desirous of examining detailed data and methods, Part 1, pages 32 to 125 and the Appendix will offer further opportunity for study.

This report was originally issued in processed form in September 1944. A brief printed summary was issued under the title, "Wartime Changes in the Financial Structure of Agriculture," Miscellaneous Publication 558, February 1945.

Washington, D. C. Issued August 1945

FOREWORD

The publication which follows is an attempt to measure the impact of World War II on the financial structure of agriculture in the United States. A 30-billion-dollar increase in the equities of all owners of farms and all tenant farmers during the current war has seemingly placed agriculture in a strong financial position. Moreover, about 12 billion dollars of cash and other liquid intangible assets owned by farmers on Jan. 1, 1944 give agriculture as a whole an added flexibility for meeting post-war adjustments.

But it must be remembered that a major part of the increase in equities is the result of higher prices and higher valuation of farm real estate. Equities in the future will be influenced greatly by the future level of prices as well as by the amount of debt that farmers incur and the uses that they make of their accumulated war bonds, bank deposits, and currency. How farmers spend or use their wartime accumulations of cash resources may well influence the financial welfare of farm families for the next two or three decades.

An understanding of the many and diverse effects of the war on agriculture and rural people is necessary to the success of any effort directed in the future toward making and keeping agriculture a healthy segment of our national economy. It is hoped that the data presented and analyzed in this report will contribute to that end.

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GENERAL SUMMARY

War has a profound effect upon agriculture, just as it has on other basic industries. The stimulus of wartime demand for foods and fibers increases the flow of funds into and out of agriculture, thereby affecting the amount and distribution of farmers' assets and liabilities. Through price disturbances, war affects the financial structure of the farm business by changing the values of such assets as livestock and crop inventories and real estate, and particularly by altering the relation of assets to debts.

During and immediately after the period of the first World War farmers in the United States experienced a boom, accompanied by considerable speculation in land and general inflation in commodity prices. After the war they encountered the collapse of prices and consequent distress, the results of which persisted through most of the 1920's and early thirties. Of course the physical assets of farmers did not change greatly, but price and equity relationships were violently disrupted. A balance sheet struck during the boom would have shown a seemingly easy and liquid position despite a rapidly mounting volume of debt. After the deflation had set in a similar balance sheet would have shown that liquidity had mostly disappeared and that a huge volume of debt had remained. This debt became a heavy financial burden with the receding tide of commodity prices and farm-asset values.

Such a balance sheet at any given time presents an interesting still picture of the financial structure of agriculture. It reveals that complex of property rights under which agriculture's assets are administered and its earnings in part are distributed. Needless to say, this pattern of the financial set-up influences the whole conduct of the farm business: The stability of ownership of land and equipment, the efficiency of production, and to a large degree the income from land and the distribution of this income.

The financial structure thus becomes a matter of interest not only to farmers but to the whole community, especially to those who sell goods to farmers and to all those agencies whose broad purpose is to promote a balanced economy within the country.

So far during this war, agriculture has again felt mainly the stimulating influences of wartime buying of foods and fibers and of the huge expansion of credit incident to the financing of a great war—even though modified by certain brakes and restraints set up by the system of price control. On the whole, this is the period of stimulus and expansion which usually occurs while a war is in full blast. It seems timely, therefore, to draw up a list of assets and equities now, in order to see clearly what significant changes may have developed so far in the country's farm business as a whole as a result of the pressure of the second World War, and what the current tendencies may indicate for the future.

The so-called balance sheet (table 1) is an attempt to show, for the last 4 years, the principal changes that have occurred in the financial position of the farm business, considered as one large industry. A more complete discussion of the individual items found in this tabulation is given in other sections of this publication. In this summary, only brief allusion is made to these various items.

A word of caution should be said to those who would draw conclusions for special areas or individual cases from the consolidated balance sheet. In a country as vast and as diversified in type of farming as the United States, financial changes are not entirely uniform either among the different areas or among individuals. Therefore, although the consolidated balance sheet (table 1) and income statements (tables 2 and 3) which follow are true in general, they do not reveal differences in circumstances of States or regions or of individual farmers. The same qualification applies to the description of effects of individual actions and of national policies on the financial structure.

Economic Forces—World War II vs. World War I

Many observers expected economic developments in this war to be much as they were in World War I. In some respects the economic forces have been the same and have brought similar trends. In other instances there have been substantial differences. Farm real estate values have not yet reached the high levels of the corresponding periods of the other war, notwithstanding the same rate of increase. Debts of agriculture as a whole are declining this time whereas during the first war they rose sharply. Within the last 4 years, farmers' reserves of cash, or

its equivalent, have increased to the largest figure in our history. Likewise, inventory values of crops and livestock have expanded rapidly and are now generally larger than those on hand 25 years ago. In the present period growing conditions have been especially favorable and the upswing in the livestock cycle has been longer. These factors have helped to swell the inventories of tangible assets other than real estate.

Coincident with record incomes during this war farmers have been restricted in their expenditures by a national economic policy that has used more drastic curbs than were attempted in the other war. These dual circumstances have resulted in an accumulation of cash which has been retained by the farmers as reserves in the form of currency, bank deposits, and Government bonds. This high net income has made possible a reduction in farm debts.

Land prices started to rise from a lower level this time and much of the rise so far has been in the nature of a recovery. Also, the disposal of the large real estate holdings of credit agencies which they had acquired during the depression has had a stabilizing influence on prices.

A changed attitude on the part of farmers, creditors, and the Government has also played its part in shaping things differently in this war. Before World War I agriculture had enjoyed about two decades of slowly rising prices and moderate prosperity. Many thought that the high prices of both land and farm products which developed during that war would continue. That optimism stimulated overexpansion and considerable speculation, which meant heavy debt. But what happened after the collapse of prices in 1921 brought about a great change in the attitude of most prospective buyers toward the future of land and commodity prices. The whole experience had a sobering effect and has proved to be a real restraint on overexpansion in this recent period.

With respect to the future, little can be said with assurance, in the face of financial forces as stupendous as are being set in motion by this war. Agriculture could not escape the effects of inflation, should there be any such violent episodes as occurred during and after the last war. Already the bidding for land has driven values up at a rate (although not yet in dollar amount) comparable with that of the other war period. Forces are present which might develop an ill-advised boom. Rising prices for certain farm products have induced considerable expansion in those lines, probably accompanied in some cases by a volume of new indebtedness which might become difficult to repay if prices for farm products should fall suddenly. Over and over it is made apparent

that a major part of the improvement really consists of a mark-up of inventories at higher prices. It should be strongly emphasized that any large body of debt built up again as was done in the other wartime land boom might be disastrous if prices should suddenly decline.

In general, the farm business as a whole, despite its wartime stimulation, appears to reflect reasonably conservative management so far in this war period. Although agriculture reflects much the same expansive influence as it did during the other war, so far no evidence of such a large use of borrowed money has appeared this time. On the contrary, farmers are using their increased incomes to pay their debts and to put their business in a generally stronger condition. But all of the circumstances now ruling the situation serve to remind us that the impact of modern war upon all basic industries is far reaching; that the forces of financial inflation have by no means run their course; that post-war readjustments historically are on the down side; and that the great disaster which overtook many farmers as well as other business men after the last war was a result of their overextended debt situation which could not withstand the fall of prices and incomes.

Owners' Equities Increased 30 Billion Dollars in 4 Years

It appears that agriculture in the United States, as measured by the dollar value of its physical goods, grew from a 49-billion-dollar industry to a 70-billion-dollar industry during the 4 years ended January 1, 1944. If certain intangibles owned by farmers are added, such as cash, deposits, and United States savings bonds, agriculture could be rated as a 54-billion-dollar industry in 1940 and an 83-billion-dollar industry in 1944.

During these 4 years the equities of all owners of farm land and of all tenant farmers in this vast industry appear to have increased nearly 30 billion dollars, whereas the holdings of mortgagees and other lenders to agriculture were reduced half a billion or more.

Thus, on the whole, the financial position of the farm business has strengthened during the war years. Although many farmers have not done so well as the group, presumably others have fared better.

Rise in Prices Chief Factor in Increase of Owners' Equities

A rise in prices has been the chief factor in the increase of assets and in the increase in owners' equities.

The farm physical plant has increased to a limited extent only

during these 4 years. This increase has been greatest in livestock; some has occurred in crop inventory but virtually none in land, buildings, and machinery.

In contrast, the *valuations* of tangible farm assets have increased sharply. The prices used in this valuation are estimated to have increased as follows during the 4-year period: Land, 36 percent; meat animals, 85 percent; crops, 126 percent; farm machinery and motor vehicles, 24 percent.

Higher prices account for about 19.7 billion dollars of the 21.1-billion-dollar increase in the valuation of tangible farm assets. The difference between these two figures—1.4 billion dollars—represents an increase in physical working capital. At the same time that tangible asset valuations were thus increasing, intangible assets represented by United States savings bonds, cash, bank deposits, and warehouse receipts also increased some 8 billion dollars. These increases in assets, totaling 29.1 billion dollars, together with a 500- to 800-million-dollar debt reduction, gave proprietors an interest in agriculture on January 1, 1944 that was nearly 30 billion dollars larger than on January 1, 1940.

Various commonly used financial yardsticks show the strengthened condition of the farm business. For example, the ratio of quick assets to known non-real-estate debt was 2.4 to 1 at the beginning of 1940 but had risen to 5.3 to 1 at the beginning of 1944. Livestock values alone exceeded such debts in the ratio of 2.6 to 1 on January 1, 1940 but 4 years later livestock exceeded non-real-estate debt by 4 to 1. The ratio of real estate valuation to mortgage debt rose from 5.1 to 1 on January 1, 1940 to 8.1 to 1 on January 1, 1944.

Many farmers could easily pay their near-term obligations out of quick assets or from a portion of their other working capital. Their more distant obligations are also moderate, relative to the fixed assets pledged as security.

It is important that farmers comprehend the nature of the changes in these assets and equities. Some of the wartime accumulation of savings bonds and cash should be regarded as a reserve fund to replace worn-out or obsolete farm plant and equipment. These accumulations will permit needed adjustments in farming programs in keeping with future demand for farm products. Cautious proprietors will consider the possibility that the 19.7-billion-dollar increase in tangible farm assets resulting purely from price advances may be ephemeral. It can disappear as quickly as it came. If ownership of the assets remains the same and if no new debts are incurred, the increases in valuations and their disappearance will be without benefit or harm.

Income to Operators Increased by More Than 7 Billion Dollars

Of course a vital item in judging the financial worth of any business is its income statement. The 4-year income statement (table 2) may be viewed as the record of production and marketing transactions that have affected the balance sheet within that period. To a large extent it ignores capital transactions or any asset write-ups that are due merely to price changes.

For purposes of comparison table 3 shows like data during the first World War.

The income statement reflects directly how war has stimulated the flow of funds into and out of agriculture. From 1940 to 1943 cash farm income, from products sold and from Government payments, rose from 9.1 billion dollars to nearly 19.9 billions, an increase of 119 percent. Moreover, during those years gross farm income increased faster than production costs, excluding labor. As a result, returns to labor and investment increased from about 6.5 billion dollars in 1940 to 15.8 billions in 1943. The final net return to farm operators and their families, from farm operations plus Government payments, increased from about 4.8 billion dollars in 1940 to 12.4 billions in 1943.

The increase in income was due in part to greater output but in large measure it was due to higher prices. Production, as measured by volume of farm marketings and home consumption, increased 17 percent during the period, whereas prices received for farm products rose 92 percent (1910-14 = 100). Over and over, this phenomenon of rising prices in wartime manifests its effects upon the farm business. Probably in no other industry are the economic consequences of a radically altered price level more far reaching.

It is apparent that this income has had its origin chiefly in an enlarged demand for farm products from our own civilian population with its increased buying power, plus the buying for military needs and lend-lease.

Real Estate Is the Farmer's Principal Asset

Real estate is by far the farmer's most valuable single asset. The total value of farm land and buildings rose from 33.6 billion dollars in 1940 (census figure) to an estimated 45.6 billions in 1944. The area of land in use has remained relatively unchanged.

Real estate values had been stable through the 5-year period 1937-41 at about 85 percent of the 1912-14 average and 16 percent above the 1933 low. Then a stronger current of demand be-

gan to run through the land market. Prices began to rise rapidly from the latter part of 1941. During 1942 they rose about 10 percent and in the year ended March 1944 about 15 percent.

The whole rise in farm real estate values during the 4 years ended March 1944 amounted to 36 percent. This was the same percentage rise as occurred during a like period of the first World War; that is, in the 4 years after March 1915. However, the average level of values in this more recent period is only about four-fifths as high as it was in 1915-19. There is less of what may be called pure speculation this time, especially by nonfarmers. People have learned that land prices can and do go down as well as up. Recently the bulk of the farm buying has been by farmers. Surveys made by the Bureau of Agricultural Economics indicate that about two-thirds of all farms bought during the last few years have been bought by farmers for actual operation by themselves.

The question of land values deserves more than ordinary attention now, both because of the sharp rise which has occurred so far in the war years and because of the serious possibility of a "boom" which might bring on another disaster, among overextended buyers, such as happened when prices collapsed after World War I. The present rise has not been uniform all over the country. In some sections there has been little boosting of prices; in others something like a genuine boom already is under way.

Non-Real-Estate Physical Inventories on Farms

Next in importance to farm real estate in the balance sheet of agriculture is the inventory of other physical assets. Such inventories on farms were estimated at 14.9 billion dollars as of January 1, 1940 and 24 billion dollars as of January 1, 1944, an increase of over 9 billion dollars or about 60 percent. The various types of assets included under this classification showed the following percentage increases during the 4-year period: Livestock, 86; crops, 139; machinery and motor vehicles, 34; and household equipment, 10.

Intangible Assets Have Increased Also

Largest item in the category of intangible assets as of the beginning of 1944 is 9.7 billion dollars of bank deposits and currency owned by farm operators. This figure has more than doubled since Pearl Harbor.

Warehouse receipts worth about half a billion are estimated as held by farmers on January 1, 1944.

It is believed that farmer holdings of United States savings bonds amounted to approximately 2.4 billion dollars by 1944.

Farmers held a financial interest in cooperative organizations valued at about 660 million dollars shortly before this war began. Other intangibles held by farmers for which no estimate has been made are probably small.

Such, in summary, are the principal elements on the asset side of the farm balance sheet, both tangible and intangible. The effect of the war so far has been to enlarge these assets, in some measure by an increase of actual physical property, but in much greater measure by raising the values of the property already owned.

Liabilities Have Decreased Somewhat

Turning now to the liabilities, the largest item of debt is that secured by farm mortgages.

The farm-mortgage situation is clearly in better shape than it was during the first World War period. So far, this war has not brought forth any such wave of speculative buying of land chiefly on credit as occurred before.

During the first World War—the 4 years ended January 1, 1919—the total mortgage debt *increased* more than 2,100 million dollars. But this time, in the 4 years ended January 1, 1944, the debt *decreased* approximately 952 million dollars. At the beginning of 1919 the total outstanding farm-mortgage debt amounted to 7,137 million dollars, whereas at the beginning of 1944 it was only 5,635 million dollars.

The debt this time not only is smaller but it rests upon more farms than it did before. Somewhat less than 44 percent of all owner-operated farms are mortgaged now, whereas probably something under 41 percent were then. In other words, as the average mortgage per farm is smaller now and as interest rates are much lower, the burden of debt may be regarded as definitely easier to carry now than it was during the other war period.

With respect to this important liability, the farm business of the country—as matters stand so far—is in decidedly better condition this time to withstand any post-war shocks.

Farmers have a variety of other debts standing against them—open accounts, installment accounts, loans evidenced by unsecured notes, and loans secured by chattel mortgages. Data are lacking to make very precise estimates on this class of debts but it appears probable that the total is around 3.5 billion dollars or nearly two-thirds as much as the outstanding real estate debt. The total of loans extended to farmers by banks and other institutions, outstanding on January 1, 1944, is estimated to have been 2.4

billion dollars. One sizable portion of this debt was the 700 million dollars owed by farmers on nonrecourse notes in connection with activities of the Commodity Credit Corporation. The non-real-estate debt outstanding to other Government agencies totaled 750 million dollars. Excluding nonrecourse notes, local commercial banks held 907 million dollars (a decline from about 1,100 million dollars on January 1, 1942). The largest volume of non-real-estate loans to farmers other than Commodity Credit Corporation loans has been in the Corn Belt and Great Plains regions.

In World War I, when there were no federally sponsored short-term credit agencies, commercial banks held most of this type of debt of farmers. In July 1918, farmer indebtedness to commercial banks was 2½ billion dollars. During that war, farmers' non-real-estate debts expanded rapidly. From the spring of 1914 to July 1918, short-term debts to commercial banks increased 56 percent. After the end of the war non-real-estate debt rose even more rapidly. On January 1, 1921 the amount outstanding was nearly 2½ times as great as at the beginning of the war.

So far during this war ample credit has been available to most farmers for their production needs. Notwithstanding the large funds available in country banks and from the Government, and the fact that production costs have risen materially, total non-real-estate debt outstanding to selected institutions, excluding Commodity Credit Corporation loans, increased from 1,498 million dollars at the beginning of 1940 to 1,654 millions on January 1, 1944—an increase of only 10 percent. The fact is that incomes and savings have so improved that much of the operating expenses of agriculture can be financed without borrowing money.

Whether this favorable situation will continue depends mainly upon the trend in the future of income in relation to costs of production. Even in this present comparatively easy credit situation, farmers who have large loans may possibly face an element of danger if a crop failure or a sudden drop in prices should occur before these loans are repaid.

The Post-War View

It is impossible to foretell with certainty what the general economic conditions will be in the immediate post-war period. Yet they will have a profound effect on what farmers do and on what changes occur on the consolidated balance sheet of agriculture.

If the immediate post-war period should be one of confusion, unemployment, and depression there is little doubt that farm

income would suffer a reduction despite such price-support legislation as is now provided for that period. Should this reduction take place, the balance sheet of agriculture would reflect the change. It would be reasonable to expect shrinkage of greater or lesser degree in all farm assets and probably some increase in debt. The nature and degree of changes in assets and debts would depend on the severity of the decline in the demand and prices for farm goods and upon the duration or prospects of duration of the consequent lower farm income.

On the other hand, if the immediate post-war period is one of high industrial activity and sustained high farm income, farmers may be inclined to overlook impending readjustments that will be necessary as wartime demand and price supports, which were extended into the immediate post-war period, expire. This attitude may lead to further expansion of agricultural facilities after the fighting ceases, accompanied by rising physical inventories, rising debt, and falling cash assets. In a situation of this kind a land boom and a feverish reaching for manufactured goods at excessive prices could easily develop.

Forces which tend to generate a land boom are now numerous and strong: farm income is high; interest rates are low; general requirements as to payments are relatively easy; rising values are a stimulant in themselves; holders have larger equities, which often encourage them to buy additional tracts; and farmers have in hand more purchasing power than formerly. Moreover, returning veterans who avail themselves of credit provisions of recent legislation may become a significant factor in the land market. A land boom would, of course, materially affect the financial structure of the industry as a whole.

Injudicious buying of new goods and equipment at excessively high prices could also cause extensive change in the farm financial structure. This buying could be done with cash balances built up during the war years. What gives point to this possibility is the very large accumulation of unfilled needs which will be evident when the fighting stops. To make postponed improvements on houses, barns, fences, etc., and maintain their current condition otherwise, annual expenditures of 650 million dollars would appear to be necessary for several years. Wartime wear and tear or rising costs may greatly increase this amount. Then substantial sums are needed for modernization. Expenditures for farm machinery will also be large. Filling the needs for motor vehicles alone at the end of 1944 might call for well toward a billion dollars. Large sums must be spent for household equipment and furnishings, particularly for electrical appliances. Surveys and

data procured in other ways indicate that of the total buying that farmers have in mind for the 2 immediate post-war years, 7 to 8 percent will be for household goods.

In short, the stage will be set for a possible aggressive program of farm spending immediately after the war. To the extent that such expenditure adds to the effective operation of farms the financial structure will be further strengthened. But to the extent that farmers reach for goods that are excessively high in price and that may prove to be inappropriate for later post-war needs they will reduce the liquidity of their financial position without making compensating gains in adjustment to post-war conditions.

FLEXIBILITY OF FARMERS' FINANCES MAY AID LATER POST-WAR ADJUSTMENTS

The rapid growth of quick assets—deposits, currency, and Government bonds—and the reduction in debt have added an unusual element of flexibility to the farmer's financial position. Certainly this gain in flexibility will facilitate many of the readjustments that may have to be faced in the post-war period. At no time since World War I have farmers as a whole been so well prepared financially to make such changes as may become desirable in their methods or in types of farming.

The readjustments that farmers will face in the later post-war period will be due in part to conversion (made necessary by differences in war and peacetime demands) which was postponed in the immediate post-war period; but in part they will be due to maladjustments of longer standing which the war did not create and which peace will not correct but rather accentuate.

Those who during the war turned to heavy production of crops like edible dry beans, rice, hemp, soybeans, and peanuts, probably will face some readjustments. The second type of shift is that which may face some growers of great staples like wheat and cotton. They may have to shift into other types of farming as well as make changes to accomplish lower costs of production. Whether such readjustments can be made readily will depend somewhat upon how successfully these farmers have retained the liquid assets they built up during the war.

This whole question of flexibility in the conduct of farm operations—an advantage derived particularly from the accumulation of liquid assets during this war period—is one that will have a considerable bearing upon farm income and the financial structure in future years. The ability to respond easily to changed conditions is important to the financial welfare of the farm business and when resources can be readily directed to the production of

goods that are most in demand the whole Nation benefits. We may well be entering a new period of profound changes in markets for agricultural products. It is important not only to individual farmers but to the whole national economy that farm resources be conserved so that these post-war problems may be met successfully.

CONSTRUCTIVE NATIONAL POLICIES ARE NEEDED

No amount of adjustment by individual farmers short of reducing the volume of resources and labor utilized in farming will maintain a prosperous agriculture unless, with the help of judicious national policies, we are able to develop peacetime markets that have a greater power of absorption than existed before the war. The maintenance of a favorable demand for farm products in general will be dependent upon (a) achieving a high level of domestic purchasing power based on full industrial employment, and (b) the development of a substantial volume of international trade.

The ability of the domestic market to take agricultural products at profitable prices under wartime conditions has astonished many. If it is possible to maintain full industrial employment and to shift growers of some of our surplus crops into other agricultural lines, a very large part of what the present agricultural establishment can produce will be bought at home at favorable prices.

Two essential conditions for the expansion of our foreign trade are (1) a policy of reducing or removing present barriers against a large variety of imports, and (2) a policy of assistance to the warring and occupied countries through long-term credits and the provision of the capital goods to rebuild as speedily as possible their war-devastated production systems. Each, in its own way, would provide purchasing power to potential foreign buyers of our products. The lack of such purchasing power in the form of dollar exchange has been a major cause of the unsatisfactory status of our export trade in recent years.

Unforeseen technological changes and world industrial developments could cause farm income to move to an unsatisfactory level despite the application of these policies. If so, agriculture would contract. The consequences of this to the balance sheet would depend upon the circumstances under which the contraction takes place.

INTRODUCTION

Purpose and Scope

The study reported in this publication was undertaken to determine the nature and extent of wartime changes in the financial structure of agriculture, to interpret the economic significance of these changes, and to explore some possible developments of the post-war period that will be affected by these changes and that in turn will affect the financial structure of agriculture.

The timeliness of such a study is emphasized by developments in agriculture during the first World War. The year 1920 marked the close of a period of unprecedented prosperity for farmers in the United States. Before war began in Europe, in 1914, our farmers had enjoyed a series of good years. The beginning of the war brought a temporary recession, followed by a period of great prosperity which continued until the general collapse of 1920. Thereafter the condition of agriculture was recognized as among the most serious problems confronting the Nation.

What had happened during World War I and immediately thereafter to impair the ability of agriculture, during the 1920's, to prosper like most other segments of the economy? The physical assets that form the material basis for agricultural production were not seriously impaired. A comparison of the physical assets of farmers in the United States shortly before 1920 with such assets shortly thereafter would have revealed only minor changes. These alone could not account for the collapse in agricultural prosperity nor for agriculture's failure to revive after 1921 to the same degree as most other segments of the national economy. The fateful change had occurred not in the quantity or quality of the physical assets, but in price relationships and in the financial structure of agriculture. In the price collapse of 1920-21, prices received by farmers fell on the average much more than did the prices paid by farmers. The index of prices received for farm products in 1920 stood at 211 (August 1909-July 1914 = 100). By 1921 it had receded to 124, registering a fall of 41.2 percent. During the same period the index of prices paid by farmers for commodities, interest, and taxes receded from 202 to 165. This was a fall of only 18.3 percent.

Such extensive and unequal recessions in the price structure sharply reduced the earning power of farm assets and therefore the values of such assets. Meanwhile no significant change had occurred in the farm debt which had expanded rapidly during and immediately following the war. Consequently a comparison of

balance sheets—either of individual farmers or of agriculture as a whole—struck before and after 1920 would reveal startling changes.

Such balance sheets would show changes in values of physical assets and of debts and owner equities of sufficient magnitude to explain why most indebted owners could not operate their farms as efficiently nor conserve their land and buildings in a way called for either by their own interest or that of the Nation. The change in financial structure which rendered farms debt-ridden and which seriously reduced owner equities or wiped them out completely tied the owners' hands. It drove them to such methods of operation as might stave off complete loss of control, or methods that would save them a chance to work out of the perilous condition in which they were caught. These methods of farming, with emphasis on immediate results and with disregard of future consequences, were detrimental to agriculture and were undesirable from the viewpoint of the national economy. But they were dictated by the change in financial conditions which grew out of World War I and which, in addition to bringing hard times to farmers, transformed agriculture from a pillar of strength in the national economy to an element of weakness.

General Wartime Developments Significant to Agriculture's Financial Structure

Certain economic developments are associated with modern war. Total war is accompanied by enormously expanded governmental expenditures, taxes, and loans. A large degree of Government intervention develops in the price-and-profit mechanism which in times of peace largely controls the production and distribution of goods. In wartime this semiautomatic mechanism is supplemented by Government agencies that ration supplies and fix prices.

Among these accompaniments of modern war, the huge governmental expenditures for military purposes are of major importance. Their importance is due in part to their immediate effect upon the economy, and in part to their influence on the nature, size, and scope of the taxes, debt, and Government controls mentioned above. So enormous have these expenditures become that even where taxes are raised to the highest point believed politically practicable they, together with all the voluntary individual and institutional savings, do not always suffice to cover the expenses. Every major belligerent, including the United States, has found it expedient to augment the funds drawn from taxpayers and savers with funds derived by borrowing from its

commercial banking system.[1] The tremendous Government expenditures made possible by the combined use of these means are among the most important financial facts of wartime.

The effects on agriculture of wartime Government expenditures are complex, but they manifest themselves mainly in price changes and tend to focus in cash farm income. Two types of present wartime governmental expenditures influence the prices received by farmers, the volume of marketings, and the farm income. The first of these is direct governmental buying of farm products for military use, for distribution to allied countries, and for supporting farm prices at levels high enough to induce farmers to produce a volume sufficient for all purposes believed essential to the war. The second type consists of outlays for industrial products. The intense industrial activity induced by governmental spending for industrial war products makes heavy demands on agricultural raw materials like cotton, and, by generating large pay rolls, is responsible for increased demand for raw materials entering into the manufacture of commodities bought by industrial workers, as well as for foodstuffs directly consumed by them. Thus, whether governmental agencies buy farm commodities or industrial products, the demand for farm commodities is thereby increased. The prices farmers receive, the volume of their marketings, and their gross cash income are all influenced by the total expenditures of Government in prosecuting the war.

Hardly less pronounced are the effects of wartime Government spending on the farmers' cost of production. The huge demands made by the war on basic industries like those which produce chemicals, lumber, and steel inevitably have repercussions in the quantities and prices of fertilizers and equipment that farmers buy. Moreover, in wartime both industry and Government become keen competitors of agriculture for labor as well as for materials. Thus most expenses of production are pressed upward with the result that farmers' net income is modified by changes in these as well as by changes in gross cash income.

Changes in demand and prices received and paid by farmers not only affect net farm income, but also exert a strong influence, directly and indirectly, on both the form and the value of important farm assets. Because the war-induced changes in demand and prices received and paid by farmers are not uniform for all commodities, such changes often invite and sometimes compel shifts in types of products and modifications in methods of production. Where this is true, farm assets may undergo marked change in

[1] This may not accurately describe Russian borrowing, the exact details of which are not made public. But certain known developments like expansion of demand deposits and note issues indicate that the Russians may be financing their war effort in part by borrowing directly or indirectly from the Gosbank.

form as well as in value. Moreover, the primary effects of war on the prices received and paid by farmers have secondary effects on the value of land and durable farm capital.

As has been shown, the huge wartime expenditures of Government have far-reaching effects on both farm assets and income. It remains to suggest how wartime expansion of taxes, loans, and Government regulation influence the financial condition of farmers. These factors determine in large measure how net farm income is disposed of. Tax payments, payments for savings bonds, for industrial goods that may be available, and for land, may absorb important fractions of farmers' wartime net income. These payments, together with debt reduction, are mutually related. They, along with bank deposits and currency holdings, represent possible uses for the same funds. How much of the farm income is devoted to each is chiefly determined by the factors associated with the war. War taxes, sales of United States savings bonds, and availability of industrial goods each influence the disposition of net income. Therefore, they, like governmental expenditures, have far-reaching effects on the financial structure of agriculture.

Nature of Financial Structure of Agriculture

Broadly conceived, agriculture is one of the major segments of our economic life. In detail, it consists of many thousands of individual units or "farms" that differ greatly in size, in value, and in type of farming. Each is composed of land and other forms of producers' goods subject to property rights which affect its operation and determine the distribution of its income. Although farms provide agricultural products for home use and living quarters for farm families, as a rule they are organized primarily for the production and sale of farm goods. Thus farms disclose the characteristics of business enterprise and their economic structure and operations can be set forth in accounting terms and by accounting methods.

If the assets and the equities pertaining to individual farms throughout the country are presented collectively, the result is a balance sheet for the entire industry. A balance sheet for the entire agricultural industry may be drawn up by ascertaining and recording the various items of wealth in use in farm operations throughout the country and by ascertaining and recording the obligations and equities arising from the ownership of this wealth. Viewed as *going concerns,* farms may be considered to possess the ordinary agricultural assets and certain assets that are not used in farming. Many intangibles are of this latter type. Cash on

hand or in the bank and investments in United States savings bonds and in cooperative marketing or financing activities are conveniently catalogued as assets of agricultural concerns, even though some part of such assets is not held for use in agricultural operations. Income produced by such intangible assets is of a nonoperating character. Such income is received by farmers but is not produced by farming.

Many of the items required in a consolidated balance sheet have for many years been the subject of governmental enumeration and estimate. In a few cases new series were required. That the figures in the consolidated comparative balance sheet reported in this study are of very unequal quality is clear when it is remembered that some represent reasonably accurate tabulations; others are estimates of greater or lesser plausibility; still others represent nothing better than informed guesses. Not only are existing data subject to a considerable margin of error, but the utilization of existing data sometimes involves a compromise with strictly logical procedure. It is also true that this over-all balance sheet conceals many dissimilar individual financial conditions.

The fundamental contribution of such an over-all balance sheet is that it classifies and lists the items of wealth in use or immediately available for use in agriculture in appropriate and meaningful ways, and indicates the obligations and equities that arise out of the ownership of such wealth. In so doing, it portrays the complex of property rights under which the physical assets of agriculture are administered and which in part determine the distribution of farm earnings. The balance sheet of agriculture is a still picture of agriculture's financial structure. It represents the financial condition as of a given date. Nevertheless the balance sheet is subject to constant and continuing change. Virtually every operation and transaction of the industry alters some part of it. Every change in market values of the physical assets affects it. Thus the financial structure of agriculture is highly mutable, changing under the influence of agricultural operations and prices while reciprocally exercising a large influence over the very factors to which it yields. Ordinarily, changes in the financial structure are of an order that neither interfere with the effective operation of farms nor give rise to other special problems associated with the volume and disposition of farm income. It is when values are changing sharply or when farm income flows abnormally that changes of far-reaching consequence both to agriculture and to the entire economy occur. Such disturbances are particularly likely to arise in wartime.

Significance of the Financial Structure of Agriculture

Before proceeding with a discussion of the broader relationships of the financial structure to farming and to the economy as a whole it is well to examine an assumption, frequently made in this report, that there is close similarity in the trends of items in the consolidated balance sheet of agriculture and in corresponding items of individual farms. Such an assumption is made, for instance, in the many cases in which the economic behavior of individual farmers is related to trends observed in the consolidated balance sheet. Doubts arise because in most transactions farmers act not as groups but as individuals. They are guided not by the relation of items in an over-all balance sheet for the industry but by their individual financial conditions. This gives special point to the question, are the trends observable in consecutive consolidated balance sheets representative of trends in financial conditions of individual farms?

There is good reason to believe that changes appearing among the items of the consolidated balance sheet are widely prevalent in individual cases. In the first place the primary influence that worked change to the financial structure of agriculture—increased farm income—was widely present because its origin was the war-induced increase in demand for most farm products. This increase in demand benefited in some degree large farmers and small, rich farmers and poor, and the incompetent along with the competent. Rising prices of farm products bestow rewards indiscriminately among farmers who produce for sale.

In the second place, there is good reason to believe that the changes appearing in the consolidated balance sheet are widely prevalent among individual farmers because the trends revealed by the consolidated balance sheet are found to be present in all or nearly all of the 48 States. Moreover, the same trends appear in areas that specialize in widely different types of farming. It seems safe, therefore, to conclude that the consolidated balance sheet represents a widespread condition among individuals and that trends revealed in it have their counterparts in the financial condition of a large proportion of the individual farmers.

Broadly speaking, the financial structure of agriculture is significant because of its influence on the efficiency of agricultural production; because of its bearing on stability of ownership of farms and equipment; and because it reflects the expectation of future farm income and determines in large part its distribution. These fields of influence are not unrelated, and this will appear as each is briefly described.

Efficiency in agricultural production requires that farmers be

able to adopt new types of farming, new methods, and new equipment when any of these promise better results. Such flexibility and adaptability in farming are desirable at all times, but they are exceptionally important in times of war and post-war readjustments when shifts in demand for farm products and in costs of production are likely to be of exceptional extent and rapidity. Such flexibility and adaptability require a relatively free hand on the part of farmers in making the necessary changes in operation and equipment. This freedom is present only when the financial structure is such that farmers are in a position to spend their own liquid resources, or funds they may borrow, on operations and equipment that do not yield an immediate return.

In these particulars, farmers will be decisively influenced by the financial structure of their enterprises. That is, they will be influenced by the relation of debt obligations to their equities in the physical assets of their farms. Those who have relatively large debts and thin equities will be compelled to forego outlays which will not yield immediate results, however promising these investments may be for future years. On the other hand, farm owners or operators who have a favorable relationship between debts and their equities are in a position to invest their own liquid capital in new equipment and enterprise and to employ additional sums which they can borrow because of their excellent financial condition.

Thus the financial structure will largely determine the extent to which farmers are able to adjust to new conditions and to adopt the most effective methods of production.

The financial structure of agriculture also influences farmers' inclinations to make such improvements through its relation to stability of ownership of farm facilities. Where ownership is unstable because of a precarious financial structure, farmers will hesitate to make desirable improvements. Instead they will mine the soil, allow buildings and fences to fall into disrepair, and otherwise will fail to restore deteriorating property. If ownership is precarious, there is small incentive to conserve and improve these basic agricultural assets.

On the other hand, if the financial structure is favorable—if owner equities are large and danger of loss of farms is small—farmers have an incentive to conserve the productive power of their physical assets and to make improvements generally which will pay for themselves over a period of years in higher yields and lower costs. This applies equally to assets like machinery and livestock and to farm real estate. And because the influence extends to these non-real-estate assets the financial condition of

tenants as well as of landowning farmers is an important factor affecting the management of farms and the efficiency of agricultural production.

Finally, the financial structure of agriculture is highly significant because it reflects the expectation of future farm income and largely determines its distribution. This is a matter of much broader interest than is suggested by the obvious divisions of national income between farm and nonfarm groups and between owners of farm facilities and their creditors. The volume and distribution of farm income is also of vital interest to those who sell industrial goods to farmers and to those who, through public or private agencies, are attempting to establish a balance of buying power between the several major segments of the national economy.

These related interests are bound to experience far-reaching effects from changes in the distribution of income resulting from changes in the price structure and from shifts in the equities in farms. Shrinkage of the farm market may occasionally be the cause of industrial unemployment and distress. Such shrinkage may result either from reduction of farm income or from a change in distribution of that income between farmers and their creditors. It is a well-established fact that the disposition of income by these groups is often in different channels. To the extent that this is true any changes in the financial structure which reflect changes in farm income or which alter the division of that income between farmers and their creditors would be accompanied by shifts in purchasing power which in turn would be reflected in changes of activity in other segments of the Nation's economy. Thus the financial structure of agriculture is one of the influential factors that determine industrial employment and the prosperity of cities. It is a decisive factor in national well-being.

Part 1.—Changes in the Financial Structure of Agriculture, 1940-44

The Balance Sheet

Agriculture in the United States, as measured in financial terms with respect to the physical goods used in production, ostensibly changed from a 49-billion to a 70-billion-dollar industry during the 4-year period ended January 1, 1944. The inclusion of selected intangibles owned by farmers such as cash, deposits, and United States savings bonds would permit the rating of agriculture as a

TABLE 1.—*Consolidated comparative balance sheet of farms of the United States, 1940-44*[1]

Item	Jan. 1, 1940	Jan. 1, 1941	Jan. 1, 1942	Jan. 1, 1943	Jan. 1, 1944	Net change 1940-44	
	Million dollars	*Million dollars*	*Million dollars*	*Million dollars*	*Million dollars*	*Percent*	*Million dollars*
Asset items							
Tangibles:							
Real estate [2]	33,642	34,026	36,611	39,963	45,592	+36	+11,950
Non-real-estate:							
Livestock	5,132	5,320	7,042	9,541	9,526	+86	+4,394
Machinery and motor vehicles	3,135	3,319	3,959	4,157	4,198	+34	+1,063
Crops [3]	2,339	2,493	3,409	4,576	5,595	+139	+3,256
Household equipment	4,275	4,338	4,513	4,620	4,699	+10	+424
Intangibles:							
Currency and deposits	4,030	4,478	5,462	7,362	9,663	+140	+5,633
United States savings bonds	230	331	486	1,143	2,390	+939	+2,160
Warehouse receipts	323	470	394	490	513	+59	+190
Other (in co-ops) [4]	660	660	660	660	660	±	±
Total assets	53,766	55,435	62,536	72,512	82,836	+54	+29,070
Equity items							
Liabilities:							
Real estate mortgages	6,586	6,534	6,484	6,117	5,635	−14	[5] −951
Non-real-estate debt:							
To principal institutions [6]	1,940	2,233	2,331	2,512	2,360	+22	+420
To others [7]	1,455	1,675	1,748	1,464	1,180	−19	−275
Proprietors' equities:							
Farmers' equity in non-real estate [8]	16,729	17,501	21,846	28,573	33,704	+101	+16,975
Landowners' equity in real estate	27,056	27,492	30,127	33,846	39,957	+48	+12,901
Total equities	53,766	55,435	62,536	72,512	82,836	+54	+29,070

[1] All figures are estimated, the margin of error varying with the items.
[2] Estimated as of April 1.
[3] Crops stored in unbonded warehouses escape inclusion either in inventory or in warehouse receipts. Likewise commodities in bonded warehouses not covered by a CCC loan agreement escape the estimate.
[4] Data for 1936-38.
[5] Because of rounding of figures this difference is 1 million dollars less than a figure which appears in the text.
[6] Gross; includes debt underwritten by CCC.
[7] These figures are believed to be reasonable but they lack supporting evidence.
[8] Including intangibles.

54-billion-dollar industry in 1940 and as an 83-billion-dollar industry in 1944 (table 1). During these 4 years the equities of all farm landowners and of tenant farmers in this vast industry appear to have increased nearly 30 billion dollars whereas the equities or rights of lenders were reduced 500 million dollars or more. This reduction brought about a considerable decrease in contractual financial charges.

These figures indicate that on the whole agriculture is at least temporarily in a strong financial condition. However, it is presumed that many individual farmers have fared less well than the group. Furthermore, most of the increases in dollar figures are merely the reflection of price advances and the resulting higher valuations placed on inventories.

Our agriculture, as measured in physical rather than in financial terms, is an industry of only moderately larger size than before the war. The physical plant employed in agriculture has increased only to a limited extent during the 4-year period. The

only important exception is with respect to the livestock inventory which increased significantly. Harvested crops on hand also increased somewhat. Land, buildings, home equipment, and machinery and motor vehicles seem to have remained nearly constant, although depletion, depreciation, and obsolescence are ever-present factors tending to impair the physical condition of the plant.

The 83 billion dollars of assets attributed to agriculture on January 1, 1944 are only in part owned free and clear by proprietors. The equities or valuations of the rights of all parties having an interest in the 83-billion-dollar business are divided several ways. The principal division of the equities shown on the balance sheet is that between the "liabilities" of the proprietors and the "equities" of the proprietors. The liabilities of the proprietors are the valuations of the rights or equities various creditors hold in the farming business. The liabilities are subdivided into real estate mortgages and non-real-estate debts. The latter are further divided into the debts the proprietors owe principal institutions (banks and Government-sponsored agencies) and debts to others (merchants, equipment dealers, finance companies, professional persons, and others). The non-real-estate debt to principal institutions is known to within a very small margin of error but the non-real-estate debt to others has not yet been the subject of a careful estimate. For the purpose of the balance sheet the assumption is made that the non-real-estate debt to others was in an amount equivalent to three-fourths of the non-real-estate debt to institutions on January 1, 1940, 1941, and 1942. The ratio is assumed to have declined from three-fourths as of January 1, 1942 to one-half by January 1, 1944.

The equity of proprietors is the sum of the valuations placed on the rights of (a) all farm landowners, including landlords not on farms, and (b) all tenant operators. From the fact that the proprietary non-real-estate debt "to others" than principal financial institutions has been entered in the balance sheet on the basis of an assumption rather than on the basis of an estimate, it follows that the equity of proprietors is partly assumed, although mostly estimated from reasonably reliable data. The proprietary equities in real estate may be estimated by subtracting outstanding mortgage debt from real estate valuations. The estimated proprietary equities in non-real-estate assets include a higher margin of error. Nevertheless, total proprietary equities may be estimated within certain limits. For January 1, 1944 they probably are about 74 billion dollars.

The equities of proprietors are estimated to have increased about 30 billion dollars during the 4-year period ended January

1, 1944. This increase is due in part to a reduction of debt but more largely to an increase in assets. The net indebtedness of tenant farmers and landowners to mortgagees and other known lenders has decreased 533 million dollars. In fact, real estate mortgage debt decreased 952 million dollars but this reduction was partially offset by the 419-million-dollar increase in non-real-estate debt to principal institutions.[2] The other non-real-estate debts for which estimates are unavailable may reasonably be assumed to have decreased 275 million dollars during the period. About 8 billion dollars of the increase in owner equities is a reflection of increases in the intangible assets—cash, bank deposits, United States savings bonds, and warehouse receipts. Another 1.4 billion dollars represents increases in physical working capital on farms. The remainder is merely the consequence of evaluating given assets in higher prices.

It is thus evident that although the balance sheet reports assets in financial terms, both changes in physical quantities and changes in prices of the physical goods affect the valuations reported. To isolate valuation changes caused by variations in physical quantities alone as is done here, the valuations for the several dates are expressed in constant prices. The expression of valuations in constant prices is accomplished by dividing the valuation on a given date by the ratio of (a) prices on the given date to (b) prices on January 1, 1940.

By using this method it is estimated that increases in price account for about 19.7 billion dollars of the 21.1-billion-dollar increase in the valuation of tangible farm assets. The influence of price changes on the valuations of tangible farm assets from 1940 to 1944 is evident in each class of such assets. The prices used in the valuation of assets employed in agriculture are estimated to have increased as follows: Land, 36 percent; meat animals, 85 percent; crops, 126 percent; farm machinery and motor vehicles, 24 percent.

All of the 12-billion-dollar increase in real estate valuation resulted from a rise in real estate prices. The valuation rose 36 percent and quoted prices increased 36 percent.

Some 7.7 billion dollars of the 9.1 billion increase in the valuation of non-real-estate tangible assets resulted from a rise in price quotations. Of the 9.1-billion-dollar increase in the valuation of tangible non-real-estate items, 4,394 million dollars represents an increase in livestock. Were livestock worth the same per

[2] The non-real-estate debt to principal institutions includes farmers' nonrecourse notes subject to a repurchase agreement by the Commodity Credit Corporation. Such nonrecourse notes are secured by agricultural commodities under an agreement of the CCC to accept the commodities in payment of the loan. Excluding such CCC nonrecourse paper, farmers' non-real-estate obligations to principal known lenders increased only 157 million dollars during the 4-year period under survey.

head in 1944 as in 1940, the livestock inventory of 1944 would be valued at 5,812 million dollars as compared with the 9,526-million-dollar valuation in 1944 prices. The increased valuation attributable largely to price differences was 3,714 million dollars or 85 percent of the total increase in livestock values.

An estimated 3,256 million of the 9.1-billion-dollar increase in the valuation of non-real-estate items occurred in the case of harvested crops stored on farms. Most of the increase in crop valuation apparently resulted from price changes, the increase in farm storage having been small.

Increased valuations of machinery and motor vehicles of 1,063 million dollars and of household equipment of 424 million dollars cannot be clearly divided into price and quantity elements. A substantial increase in the physical quantity of nonmotor machinery seems to have occurred. Though not fully reflected in existing data, passenger cars may have depreciated less than usual because of gasoline rationing, but much wear and tear on other equipment must have resulted from heavy farm-production schedules.

At present, even after allowing for the price influence on larger valuations, the over-all financial position of agriculture is favorable. The ratio of quick assets (currency and deposits and Government bonds) to that portion of the non-real-estate debt owed to principal institutions was 5.1 to 1 on January 1, 1944 as compared with 2.2 to 1 on January 1, 1940. Livestock values alone exceeded such debts in the ratio of 4 to 1 on January 1, 1944 as compared with a ratio of 2.6 to 1 on January 1, 1940. The ratio would be 2.5 to 1 were 1944 livestock priced at the 1940 level. But in the latter event probably the level of loans would be lower. Of less significance, in view of the difficulty of quickly disposing of real estate *en masse*, is the fact that the ratio of real estate valuations to mortgage debt was 8.1 to 1 on January 1, 1944 as compared with 5.1 to 1 on January 1, 1940.

Agriculture thus appears to have a firm financial structure at the present time. Whatever may be said by way of qualification, the fact remains that the interrelationship of asset and equity items is such that it is reasonable to assume that, by and large, farms are now in a position to pay near-term obligations out of quick assets or from a portion of other working capital. More distant obligations are moderate relative to the fixed assets that are pledged as security.

The Income Statement

The analysis thus far has been expressed in terms of a balance sheet. Changes in the financial structure can be better under-

TABLE 2.—*Consolidated income statement for farms of the United States, 1940-43*[1]

Item No.	Item	1940		1941		1942		1943	
		Million dollars		*Million dollars*		*Million dollars*		*Million dollars*	
	Gross income from agriculture:								
1	Cash receipts from farm marketings	8,340		11,157		15,374		19,252	
2	Value of products retained on farms for home consumption	1,232		1,399		1,686		2,027	
3	Rental value of farm homes	624	10,196	657	13,213	717	17,777	787	22,066
	Nonlabor production costs:								
4	Feed bought	820		1,086		1,641		2,262	
5	Livestock (except horses and mules) bought	461		574		766		732	
6	Fertilizer and lime bought	260		295		350		425	
7	Vehicle operation	568		631		706		724	
8	Depreciation and maintenance	1,093		1,232		1,367		1,442	
9	Interest on non-real-estate debt [2]	235		250		220		218	
10	Other operating expenses	649		682		850		985	
11	Taxes on real estate and tangible personalty	446	−4,532	452	−5,202	451	−6,351	448	−7,236
12	Adjustment for changes in inventory [3]		+82		+299		+862		+260
13	Net income from agriculture not including Government payments		5,746		8,310		12,288		15,090
14	Government payments [4]		+766		+586		+697		+672
15	Total net return to labor and investment		6,512		8,896		12,985		15,762
	Return to labor:								
16	Hired labor (cash and perquisites)	1,000		1,197		1,566		1,933	
17	Farm family labor								
18	Operators' labor								
	Net return to investment in farming:								
	Return to capital—								
19	Net return to landlords not on farms [5]	390		584		889		1,125	
20	Mortgage interest	296		294		287		271	
21	Capital return to operators								
	Return to management—								
22	Enterprisers' profit and loss								
23	Total to operators [6]	4,826		6,821		10,243		12,433	
	Total net return to labor and investment		6,512		8,896		12,985		15,762

[1] The margin of error varies from item to item.

[2] Includes an allowance for interest on one important unknown debt element.

[3] Market value, in terms of prices at the end of the year, of the increase or decrease in the quantities of crops on farms for sale or of numbers of livestock, whether or not for sale.

[4] Includes some payments that are comparable to certain returns included in item 1. Thus advances under CCC guaranteed loans are in item 1, whereas consumers' price subsidies to dairy and other farmers are included in item 14.

[5] After subtraction of taxes, estimated mortgage interest and other expenses paid by such landlords.

[6] Includes adjustment for changes in inventory. Difference between item 15 and the sum of items 16, 19, and 20. The distribution of item 23 to the respective shares belonging under items 17, 18, 21, and 22 has not been determined.

stood by reference also to income. The consolidated income statement (table 2) is a coordinate tool needed for interpretation of the balance sheet. The income statement may be viewed as the historical record in financial terms of production and marketing transactions that have affected the balance sheet during a given period. The income statement ignores capital transactions or valuation change of asset items resulting merely from price change. The balance sheet is cross-sectional but the income statement is longitudinal in its perspective. The income statement has the advantage of measuring the financial effectiveness of the assets engaged in agriculture. It indicates relative trends of expenses and returns. Such trends help to explain past changes in the financial structure of agriculture and to provide some basis for predicting possible future changes.

TABLE 3.—*Consolidated income statement for farms of the United States, 1915 and 1918*[1]

Item No.	Item	1915		1918	
		Million dollars		*Million dollars*	
	Gross income from agriculture:				
1	Cash receipts from farm marketings	6,403		13,461	
2	Value of products retained on farms for home consumption	1,131		2,153	
3	Rental value of farm homes	434		618	
			7,968		16,232
	Nonlabor production costs:				
4	Feed bought	411		1,106	
5	Livestock (except horses and mules) bought	205		513	
6	Fertilizer and lime bought	172		317	
7	Vehicle operation	46		190	
8	Depreciation and maintenance	786		1,206	
9	Interest on non-real-estate debt [2]	273		384	
10	Other operating expenses	437		780	
11	Taxes on real estate and tangible personalty	279		355	
			−2,609		−4,851
12	Adjustment for changes in inventory [3]		+73		+39
13	Net income from agriculture		5,432		11,420
14	Government payments				
15	Total net return to labor and investment		5,432		11,420
	Return to labor:				
16	Hired labor (cash and perquisites)	815		1,335	
17	Farm family labor				
18	Operators' labor				
	Net return to investment in farming:				
	Return to capital—				
19	Net return to landlords not on farms [4]	366		797	
20	Mortgage interest	314		417	
21	Capital return to operators				
	Return to management:				
22	Enterprisers' profit and loss				
23	Total to operators [5]	3,937		8,871	
	Total net return to labor and investment		5,432		11,420

[1] The margin of error varies from item to item.
[2] Includes an allowance for interest on one important unknown debt element.
[3] Market value, in terms of prices at the end of the year, of the increase or decrease in the quantities of crops on farms for sale or of numbers of livestock, whether or not for sale.
[4] After subtraction of taxes and estimated mortgage interest and other expenses paid by such landlords.
[5] Includes adjustment for changes in inventory. Difference between item 15 and the sum of items 16, 19, and 20. The distribution of item 23 to the respective shares belonging under items 17, 18, 21, and 22 has not been determined.

A comparative consolidated income statement for the years 1940, 1941, 1942, and 1943 is presented in table 2. Comparative data for 1915 and 1918 are given in table 3.

During the first 4 full years of World War II the gross income from agriculture increased much more rapidly than did the non-labor production costs. The returns to labor and investment increased yearly from 6,512 million dollars in 1940 to 15,762 million dollars in 1943. Changes of such magnitude substantiate a former statement that the impact of the war on the general economy of the country has affected significantly the flow of funds into and out of agriculture. From 1940 to 1943, cash receipts from farm marketings and Government payments increased from 9,106 million dollars to 19,924 million dollars, or 119 percent. The increase in receipts was due mainly to higher prices but in part to increased production. During this period prices received by farmers increased 92 percent and agricultural production, as measured by marketings and home consumption, increased 17 percent (fig. 1).

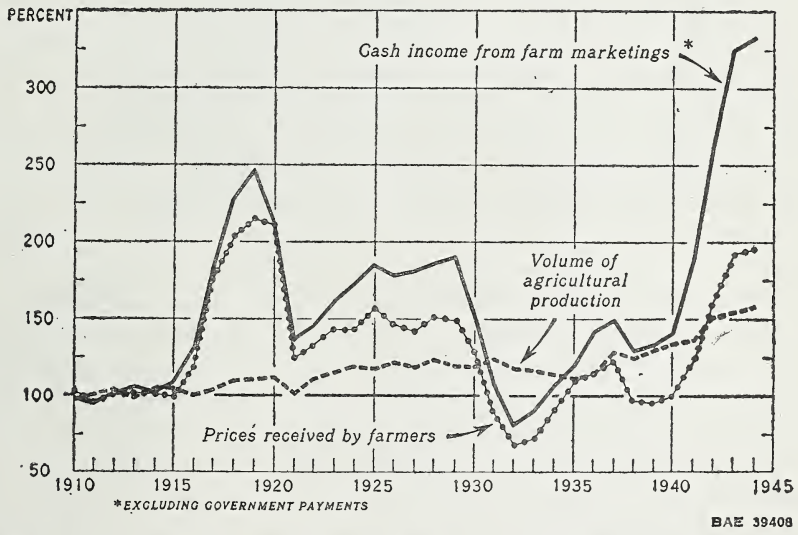


FIGURE 1.—Agricultural Production, Prices, and Income, United States, 1910-44. Data for 1944 are Tentative Estimates. (Index Numbers, 1910-14 = 100.)

Although the rapid rise in consumer incomes and the resulting increase in domestic demand for farm products has been the major factor in the wartime rise of farm-commodity prices, military needs and lend-lease requirements also have been important. In

table 4 the agricultural lend-lease and other exports of agricultural commodities have been separated into food and nonfood products. Each is shown as a percentage of total production (marketing and home consumption) of the goods in question.

TABLE 4.—*Percentage of United States agricultural products required for lend-lease and other exports, 1941-43*

Year	Percentage of food products	Percentage of nonfood products	Percentage total
	Percent	*Percent*	*Percent*
1941	6	16	8
1942	14	25	16
1943	21	28	22

The increased flow of funds into and out of agriculture as a consequence of wartime circumstances has been general but the degree of variation between the levels of 1939 or 1940 and 1943 has not been uniform by regions. Thus during this period, the highest rate of expansion in cash receipts from farm marketings (excluding Government payments) occurred in the Great Plains States (North Dakota, South Dakota, Nebraska, and Kansas) where the 1943 income was 314 percent of 1939 and 297 percent of 1940 income (fig. 2). Income at the beginning of the period in this region, however, was relatively low because of low yields. The smallest rate of increase took place in the North Atlantic States where 1943 income was 192 percent of 1939 and 186 percent of 1940. Almost one-fourth of the total cash farm income (excluding Government payments) in 1943 was received in the five Corn Belt States of Ohio, Indiana, Illinois, Iowa, and Missouri. The States receiving cash farm income in amounts in excess of a billion dollars in 1943 were—Iowa, $1,574,059,000; California, $1,502,917,000; Texas, $1,163,920,000; and Illinois, $1,146,626,000.

The consolidated income statement is so devised as to indicate the amount of each distributive share of income paid to capital, labor, and management, together with the subdivision of these shares according to the respective recipients: Nonoperating landlords, mortgagees, hired laborers, operators' families, and operators for (a) labor contributions, (b) capital contributions, and (c) management. Data are not now available for detailing the respective portions of the distributive shares but it is clear that the net returns from operations and from Government payments going to farm operators and their families increased from 4,826 million dollars in 1940 to 12,433 million dollars in 1943 (sum of items 17, 18, 21, and 22 as listed in table 2). The net return to landlords not on farms likewise increased whereas the return to mortgagees decreased slightly.

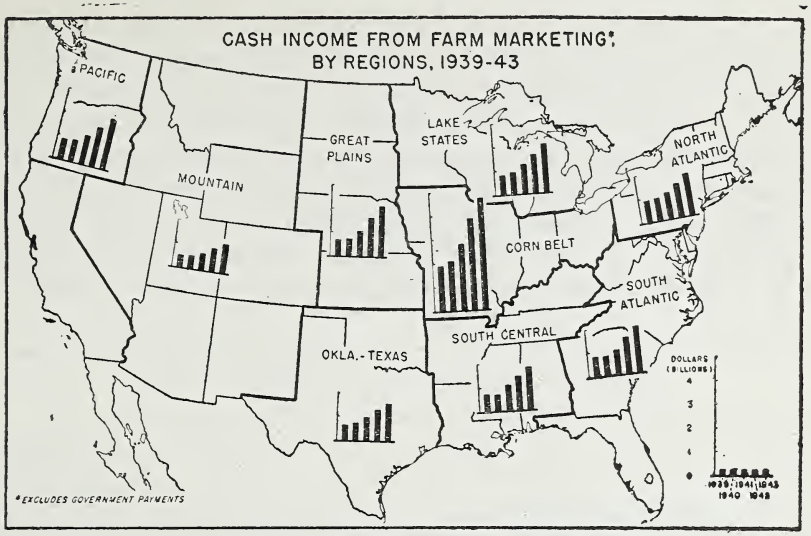


FIGURE 2.—The highest rate of expansion in cash farm income from marketing (excluding Government payments) occurred in the Great Plains States (North Dakota, South Dakota, Nebraska, and Kansas) where the 1943 income was 297 percent of 1940 income. Income at the beginning of the period in this region, however, was relatively low because of low yields. The smallest rate of increase took place in the North Atlantic States where the 1943 income was 186 percent of 1940. Almost one-fourth of the total cash farm income (excluding Government payments) in 1943 was received in the five Corn Belt States of Ohio, Indiana, Illinois, Iowa, and Missouri. The States receiving cash farm income in excess of a billion dollars in 1943 were Iowa, California, Texas, and Illinois. (Data for 1942 and 1943 are preliminary.)

The courses of the various items of income and expenditure during the period of World War II are mostly in the same direction but of a different relative magnitude than during the period of World War I. Thus, cash receipts from farm marketings in 1942 and 1943 were in greater volume than in any of the years of the World War I period and the percentage increase during the current war period has been larger than the percentage increase from 1915 to 1918 (table 5). Receipts from livestock and livestock products have increased at a more rapid rate than in the last war period. In 1943, livestock income accounted for 57 percent of total cash farm income (including Government payments) compared with 48 percent in 1918. As indicated in table 6, the expansion in livestock output has been much more rapid than that for crops in this war period and greater than in World War I.

Although gross income from agriculture (excluding Govern-

ment payments) increased 116 percent between 1940 and 1943, nonlabor production costs increased only 60 percent. Therefore net income (excluding Government payments) to labor and investment increased 163 percent. During this period, Government payments declined 12 percent thus leaving a 142-percent increase in the total net return to labor and investment, Government payments included. Details of the distribution of this income are not available but, as table 5 shows, hired labor received 93 percent more income in 1943 than in 1940. Mortgagees received somewhat

TABLE 5.—*Percentage change in items of the consolidated farm income statement, 1915-18 and 1940-43 (tables 2 and 3)*

Item No.	Item	1915–18	1940–43
		Percent	*Percent*
	Gross income from agriculture:	+104	+116
1	Cash receipts from farm marketings	+110	+131
2	Value of products retained on farms for home consumption	+90	+65
3	Rental value of farm homes	+42	+26
	Nonlabor production costs:	+86	+60
4	Feed bought	+169	+176
5	Livestock (except horses and mules) bought	+150	+59
6	Fertilizer and lime bought	+84	+63
7	Vehicle operation	+313	+27
8	Depreciation and maintenance	+53	+32
9	Interest on non-real-estate debt [1]	+41	−7
10	Other operating expenses	+78	+52
11	Taxes on real estate and tangible personalty	+27	[2]
12	Adjustment for changes in inventory	−47	+217
13	Net income from agriculture not including Government payments	+110	+163
14	Government payments		−12
15	Total net return to labor and investment	+110	+142
	Return to labor:		
16	Hired labor (cash and perquisites)	+64	+93
17	Farm family labor		
18	Operators' labor		
	Net return to investment in farming:		
	Return to capital—		
19	Net return to landlords not on farms	+118	+188
20	Mortgage interest	+33	−8
21	Capital return to operators		
	Return to management—		
22	Enterprisers' profit and loss		
23	Total to operators	+125	+158
	Total net return to labor and investment	+110	+142

[1] Includes an allowance for interest on one important unknown debt element.
[2] Less than 0.5 percent.

TABLE 6.—*Index numbers of agricultural production, 1914-20 and 1939-43*[1]

	World War I (1910–14 = 100)				World War II (1935–39 = 100)		
Year	All production	Crops	Livestock	Year	All production	Crops	Livestock
1914	104	111	98	1939	106	107	106
1915	104	107	102	1940	110	107	112
1916	100	91	106	1941	113	109	115
1917	103	99	106	1942	124	121	126
1918	109	104	112	1943	129	114	138
1919	110	102	114				
1920	111	115	107				

[1] Quantity of marketings and home consumption.

less than in 1940. Operators and landlords living off farms received respectively 158 and 188 percent more in 1943 than in 1940.

The course of events during World War I was somewhat the same though the details were different. Gross income from agriculture, nonlabor production costs, and net returns increased 104, 86, and 110 percent respectively. There were no Government payments at that time. Hired labor gained 64 percent during the period. In contrast with World War II, returns to mortgagees increased substantially—an estimated 33 percent. Operators received increases of 125 percent in the 4 years of the former period as compared with 158 percent in the 4 years ended January 1, 1944.

Although the rate of return on investment in agriculture is not available, net income during 1943 to labor and investment together (excluding Government payments) was 22 percent of tangible investments in farming on December 31, 1943 as compared with 12 percent for 1940. If Government payments are included in the return, the 1943 rate was 23 percent as compared with 13 percent in 1940. However, an increasing portion of these returns must be imputed to hired labor and to the labor of the operator and his family. Higher wage rates and more hours of labor account for the increase in the labor share.

About 9 billion dollars of the 4-year cumulative return of 44 billion dollars to labor and investment remain available to agriculture either in enlarged working capital in the form of livestock and crops or in larger intangible assets of farm operators, that is, in bank deposits, currency, and United States savings bonds. The remainder has gone to pay hired labor, to remunerate nonoperating landlords, to pay interest, to reduce debts, to maintain operators and their families, to pay income taxes, etc.

The financial structure of agriculture seems to have been appreciably strengthened by the conservation of earnings. Some portion of the accumulated quick assets may represent postponed repairs and replacements of buildings and equipment. The significance of this possibility with respect to the pent-up demand for industrial goods is discussed in Part 2. Whatever liquid resources are needed to offset such depletion and ultimately to replace the buildings and equipment, it seems probable that earnings have been conserved to an important degree. A discussion of the risk to which these conserved assets are subject in the event of unfavorable market and price conditions appears in Part 2. The importance of these risks will be realized when it is remembered that farm returns are highly variable over a period of years. The sharp increase in income from 1939 to 1943 rep-

resents a recovery from a very low level. The increase during the war period thus serves as an offset to the unusually low levels of returns received by agriculture in the 1930's.

Changes in Balance Sheet—Asset Items

The foregoing preview of wartime changes in the balance sheet and the income statement for farms of the United States is followed by a more detailed discussion of asset and equity items. A study of the details will emphasize what has already been said to the effect that the financial structure of agriculture has been characterized during the 4 war years ended January 1, 1944 by marked increases in valuations of assets. The increases were caused largely by the increased prices in which the values are figured but partly by the existence of larger physical quantities of livestock and crops. The situation has been characterized by a growing liquidity of assets and an increase in the ratio of current assets to near-term liabilities. The share of agriculture belonging to creditor interests has declined somewhat absolutely, and a great deal relatively, whereas the share belonging to proprietors (all landowners and tenant farmers) has increased greatly both absolutely in dollar amount and relatively in comparison with the creditor interests.

Real estate is the first asset item to be discussed after which is considered each of the other asset items in the order of appearance in the balance sheet. A subsequent section of Part 1 deals with the equity items.

FARM REAL ESTATE

Farm real estate is by far the most valuable single agricultural asset. The comparative balance sheet for the years 1940-44 indicates that throughout that period the value of farm real estate exceeded by a wide margin the combined value of all other farm assets, including tangible and intangible items.

The reports of the Bureau of the Census for 1940 indicated the total value of farm real estate, including improvements, for the United States, as 33.6 billion dollars. Value estimates for intercensal years are derived from the Bureau of Agricultural Economics' index of values per acre with adjustments made for changes of acreage of land in farms (table 7). Acreage changes from year to year are relatively small; consequently, changes in total farm real estate values by years are generally about the same as those shown by the changes in the index of values per acre. Major emphasis in the following discussion is given, therefore, to the value changes as shown by the Bureau of Agricultural Economics' March 1 index of average values per acre.

RECENT CHANGES

During the 5-year period 1937-41, the level of farm real estate values for the United States as a whole was practically unchanged. Values during this period were about 85 percent of the 1912-14 average and 16 percent above the 1933 low. Although offsetting movements within the country contributed to stability of the national index of average values per acre, it is nevertheless true that land values were generally more stable during this period than during any period of comparable length since the beginning of the century.

TABLE 7.—*Farm real estate: Estimated total value of farm land and buildings, by selected regions, by years, 1915-20 and 1940-44*

[In millions of dollars, i.e., 000,000 omitted]

Year	United States [1]	North Atlantic [2]	South Atlantic [3]	South Central [4]	Lake States [5]	Corn Belt [6]	Oklahoma, Texas	Great Plains [7]	Mountain [8]	Pacific [9]
					World War I Period					
1915	39,597	3,080	2,604	2,407	3,947	13,425	2,956	6,185	1,801	3,191
1916	42,271	3,142	2,875	2,650	4,406	14,407	3,032	6,576	1,886	3,297
1917	45,531	3,329	3,145	2,941	4,823	15,124	3,382	7,037	2,109	3,640
1918	49,986	3,448	3,543	3,431	5,333	16,383	3,891	7,778	2,335	3,845
1919	54,539	3,525	4,225	3,937	5,676	17,677	4,136	8,702	2,651	4,011
1920	66,316	3,920	5,202	4,891	6,926	21,978	5,064	10,504	3,163	4,669
					World War II Period					
1940	33,642	2,780	3,160	3,135	3,544	9,031	3,421	3,555	1,780	3,237
1941	34,026	2,797	3,241	3,229	3,546	9,211	3,429	3,482	1,821	3,268
1942	36,611	2,892	3,438	3,534	3,815	10,193	3,644	3,666	1,968	3,461
1943	39,963	3,118	3,756	3,844	4,141	11,198	3,855	4,069	2,184	3,798
1944	45,592	3,306	4,293	4,430	4,653	12,739	4,309	4,798	2,547	4,518

[1] Because of rounding, figures may not add to totals.
[2] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
[3] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia and Florida.
[4] Tennessee, Kentucky, Alabama, Mississippi, Arkansas, and Louisiana.
[5] Michigan, Wisconsin, and Minnesota.
[6] Ohio, Indiana, Illinois, Missouri, and Iowa.
[7] North Dakota, South Dakota, Kansas, and Nebraska.
[8] Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
[9] Washington, Oregon, and California.

Although values were relatively stable during the 5 years ended March 1, 1941, developments during 1940 and 1941 included a sharp increase in the number of voluntary farm sales and a marked decrease in the number of foreclosures. The slowness of the response of land prices to the increased demand was chiefly due to the large overhanging supply of farms in the hands of loan agencies and other creditors. With the progressive depletion of such holdings and with increasing farm incomes sustaining the demand for land, values rose rapidly in the latter part of 1941. By March 1, 1942, the national index (1912-14 = 100) was 91, or 7 percent above the 85 mark of March 1941 (table 8).

TABLE 8.—*Farm real estate: Index numbers of estimated value per acre by regions, 1915-20 and 1940-44, with selected comparisons and average value per acre in 1940*[1]

Region	World War I period (1912–14 = 100)						World War II period (1912–14 = 100)					Increase		Ratio	Average value per acre 1940 [3]
	1915	1916	1917	1918	1919	1920	1940	1941	1942	1943	1944 [2]	1915 to 1919	1940 to 1941	1944 to 1919	
												Percent	*Percent*	*Percent*	*Dollars*
United States	103	108	117	129	140	170	84	85	91	99	114	36	36	81	31,71
North Atlantic [4]	100	103	112	117	121	137	94	95	98	105	112	21	19	93	59,13
South Atlantic [5]	98	108	119	135	161	198	107	110	117	127	145	64	36	90	34,14
South Central [6]	98	108	121	142	163	202	110	114	124	139	156	66	42	96	29,83
Lake States [7]	105	118	129	142	151	183	86	86	93	101	113	44	31	75	48,21
Corn Belt [8]	106	114	120	131	141	176	72	74	82	89	102	33	42	72	63,76
Oklahoma-Texas	101	103	115	133	141	173	98	98	104	110	123	40	26	87	19,83
Great Plains [9]	102	107	114	125	139	166	57	56	59	66	77	36	35	55	20,56
Mountain [10]	98	98	106	117	130	151	76	78	84	92	107	33	41	82	9,27
Pacific [11]	107	111	122	129	134	156	108	109	115	126	150	25	39	112	50,82

[1] All farm land with improvements as of March 1.
[2] Preliminary.
[3] Computed from reports of the Bureau of the Census.
[4] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
[5] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.
[6] Kentucky, Tennessee, Alabama, Mississippi, Arkansas, and Louisiana.
[7] Michigan, Wisconsin, and Minnesota.
[8] Ohio, Indiana, Illinois, Missouri, and Iowa.
[9] North Dakota, South Dakota, Kansas, and Nebraska.
[10] Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
[11] Washington, Oregon, and California.

Increases in farm land values during the summer and fall of 1942 were relatively small. Sharply rising values were reported, however, during the following winter and by March 1, 1943 the United States index of land values was 99. This represented a 9-percent rise for the year with most of the increase taking place during the four winter months. Further sharp increases in values took place during the remainder of 1943, and for the year ended March 1, 1944, the index of average values for the United States as a whole was 114, a rise in values of 15 percent during the year.

COMPARISON OF VALUES (1915-19 AND 1940-44)

The continuing rise in values during recent years has brought values of farm real estate for the country as a whole to a level that on March 1, 1944 was 36 percent above the level reported on March 1, 1940, the first reporting date after the beginning of World War II (table 8). This 4-year rise in values represents the same percentage rise in values as that reported for the 4 years following March 1915. On March 1, 1915 the United States index of values was 103 and on March 1, 1919 it was 140. Yearly increases ranging from 5 to 10 percent were reported in the earlier period, while in the World War II period the yearly increases have ranged from 1 percent in 1940-41, to 15 percent in 1943-44, with a steadily increasing annual rate of increase. A comparison of the trends in value and in relative levels is shown in figure 3.

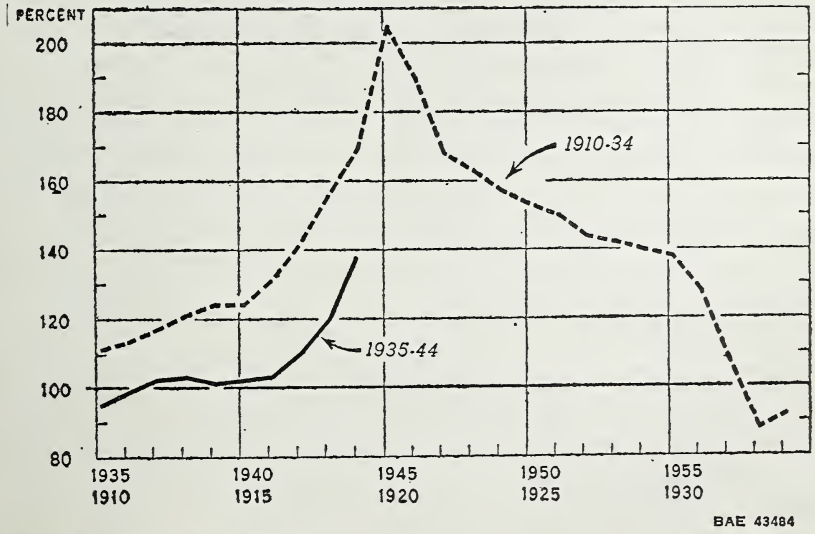


FIGURE 3.—Farm Real Estate: Average Value per Acre, 1910-34 and 1935-44. (Index Numbers, 1935-39 = 100.)

Although percentage increases in farm land values during the first 4 years of both the first and second war periods have been about the same, the levels of average values for the United States as a whole in recent years have been approximately four-fifths of those reported for comparable years in the 1915-19 period. The lower level of values in the 1940-44 period resulted largely from the net effect of value-influencing forces operating since 1920 as they were in the direction of lower values in several of the principal agricultural areas. Reduction in the export or domestic demand for certain of the major agricultural products and a reappraisal of the long-run income potentialities appear to be the principal factors causing this shift in levels of value.

Also important is a change in the degree of confidence among farmers and others in the security of land investments. During the early years of World War I investments in land were believed to constitute the maximum in security. It was believed that such investments could readily be liquidated and they were expected to increase in value. In contrast, the movements in land values since 1920 have created a quite different attitude toward land investments. Many people are now impressed with the fact that land values can and do go down as well as up.

Changes in levels of value substantially different from those indicated for the Nation as a whole have taken place in the Great Plains and Pacific regions. In the States of the Great Plains, average values per acre as of March 1, 1944, were only 55 percent of the level reported in 1919. Forces influencing the value levels in these States, in addition to those mentioned above for the United States as a whole, include the effects of a succession of crop failures during the 1930's. The incomes depressed by droughts convinced many farmers and others that large areas in these States were unsuited for permanent arable farming. Successive years of low income caused widespread difficulty in meeting the payments on debts and paying taxes. They forced much distressed land upon the market or into the hands of credit agencies through foreclosures. All of these large holdings of credit agencies have not yet been disposed of. They are continuing to have a downward influence on land prices in parts of these States. Then too, a cautious attitude continues with respect to post-war prices for wheat. For these reasons, values in the Great Plains more than in other regions may continue low relative to 1919 prices.

In the Pacific region average values per acre are now 112 percent of those reported in 1919. Values in these States have risen

more sharply during the last 4 years than during 1915-19 because of increased demands for some of the specialized products being produced. Also large areas of land in these States have been improved since 1919 by irrigation and plantings of fruit trees, bringing sharply higher levels of value in such areas. This situation is likely to cause values in these States to continue high relative to the levels during World War I.

REGIONAL COMPARISONS OF INCREASES

Increases in land values from 1940 to 1944 that were considerably larger than the average for the United States have been reported from several regions and from a number of States. The largest increases in value since 1940 in the nine selected regions have occurred in the Corn Belt and in the South Central States where values are up 42 percent from 1940 (table 8). Increases almost as large were reported for the Mountain and Pacific regions where values are up from 1940 by 41 and 39 percent respectively. In the North Atlantic States values are only 19 percent above those reported in 1940 and in the Oklahoma-Texas area the increase has been 26 percent. In 4 States—South Carolina, Indiana, Colorado, and Wyoming—values are 50 percent or more above the level reported in 1940, and in 11 States the increases have ranged from 40 to 49 percent.

Relative increases in value since 1940 in the Corn Belt, Mountain, and Pacific regions have been substantially larger than were reported for these regions during the years 1915-19. Approximately the same percentage increases in values as during the earlier war period have occurred in the North Atlantic and Great Plains regions. Smaller increases are reported for all other regions. In the South Atlantic States land values increased 64 percent from 1915 to 1919, whereas for the 1940-44 period an increase of only 36 percent has been reported.

It may be noted from a comparison of tables 7 and 8 that except for the Mountain region the year-to-year total changes in value as well as the relative levels in the two war periods, in general, correspond fairly closely with those based on average value per acre as indicated in table 8.

In the Mountain region, the acreage of land in farms practically doubled from 1910 to 1920 with an average yearly increase of almost 6,000,000 acres. This large acreage of new land resulted in an increase in estimated total value of land from 1915 to 1919 of 47 percent, whereas per acre values increased 33 percent. This is by far the largest variation in changes of total value and per acre value for any of the regions.

FARMER AND NONFARMER HOLDINGS OF FARM REAL ESTATE

Farm real estate owned by farmers early in 1944 is estimated to have had a total value of 31.3 billion dollars, or 69 percent of the value of all farm real estate (table 9). This is approximately 36 percent more than the estimate for 1940. The increase in value of farmer-owned real estate has been due almost entirely to the over-all increase in value of farm real estate, as there was practically no change in the proportion owned by farmers. During the years of World War I, 1915-20, the value of farmer holdings was approximately 71 percent of the value of all farm real estate. The value of farmer-owned real estate in the 1940-44 period has been approximately two-thirds of the value of their holdings in 1915-20.

PHYSICAL CHANGES

So far, this section has dealt primarily with fluctuations in values of farm real estate that result from price movements alone. The value of farm property, however, is also dependent upon the physical condition of the land and permanent improvements. The productivity of land and the efficiency and comfort of the buildings are of considerable importance in evaluating farm real estate.

With the decline of agricultural prices after 1929, expenditures for the upkeep of land diminished. In 1933, however, a Govern-

TABLE 9.—*Farm real estate: Estimated total value of farm land and buildings and value of farmer and nonfarmer holdings for the United States, 1915-20 and 1940-44*[1]

[In millions of dollars, i.e., 000,000 omitted]

Year	Total value	Value of farmer holdings	Value of nonfarmer holdings
		World War I Period	
1915	39,597	28,216	11,381
1916	42,271	30,069	12,202
1917	45,531	32,378	13,153
1918	49,987	35,502	14,485
1919	54,539	38,637	15,902
1920	[2] 66,316	47,106	19,510
		World War II Period	
1940	[2] 33,642	23,076	10,566
1941	34,026	23,351	10,675
1942	36,611	25,164	11,447
1943	39,963	27,406	12,557
1944 [3]	45,592	31,275	14,317

[1] The above estimates of the value of farmer and nonfarmer holdings of farm real estate are made by assuming that the values of farmer and nonfarmer owned leased land are the same proportion of the value of all leased land as net rents due farmer and nonfarmer landlords are to total net rents. The values of manager-operated land for the years 1915-20 and 1940-44 are assumed to be the same proportion of the value of all land as that shown by the census in 1920 and 1940, respectively. This method of distributing the total value of farm real estate appears to give only rough approximations that should be used only for comparison of general levels and not as indication of year-to-year changes.

[2] Census of Agriculture reports.

[3] Preliminary.

ment program of education and financial assistance was initiated to rebuild the Nation's most important natural resource. Erosion control and pasture improvement were gradually more widely practiced and the quantity of fertilizer and lime used per acre was increased. By the time the United States entered the war much of our farm land was in better condition than in the 1930's. Since Pearl Harbor, however, the demand for increased food production has caused an increase in the acreage of soil-depleting crops such as dry beans, peas, corn, white and sweet potatoes, and the oil crops. The maintenance of land devoted to such production is a difficult problem. On the other hand, the number of acres under soil erosion control such as contour farming and strip cropping practiced in connection with Government programs is continuing to increase. Also, the number of tons of fertilizer and lime consumed per acre is greater now than before the war. Although it is probable that there has been a net loss in soil fertility the rate of soil depletion during the present war period probably is not as great as during World War I.

During the depression years building improvements and replacements in general were postponed. In 1932, estimated expenditures on farm buildings, fences, windmills, and wells totaled only 140 million dollars. To have maintained these improvements in constant state of repair that year, an expenditure of 405 million dollars would have been required. Since that year the trend of expenditures for farm improvements has been upward (fig. 4). However, 1937 was the first year since the depression of the early 1930's in which expenditures were sufficient to offset current annual depreciation. For the period 1939 through 1941, expenditures totaled 1,815 million dollars. This was 355 million dollars more than was required to maintain buildings in constant state of repair. For the years 1942 and 1943, curtailment of labor and materials caused average annual expenditures to drop to 595 million dollars—more than 100 million dollars less than in 1941. For the years 1932 through 1943, the total spent for repairs and improvements was 461 million dollars less than should have been spent to keep farm buildings in a constant state of repair. The postponed repairs and improvements of both the war and the depression periods will leave farm buildings in generally poor condition when the war ends.

NON-REAL-ESTATE PHYSICAL INVENTORIES ON FARMS

Next in importance to farm real estate in the balance sheet of agriculture is the inventory of other physical assets. Such inventories on farms were estimated at $14,881,267,000 as of Jan-

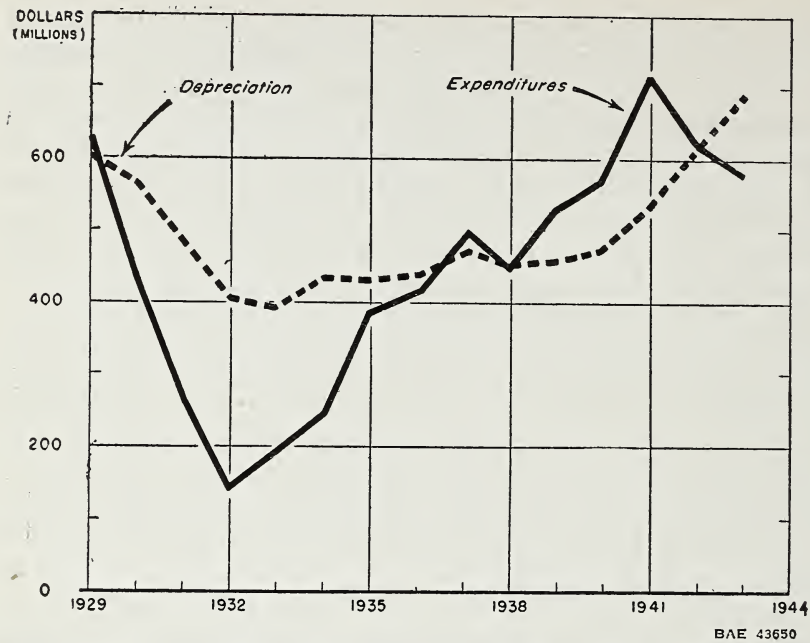


FIGURE 4.—Permanent Farm Improvements: Expenditures and Depreciation, United States, 1929-43.

uary 1, 1940 and $24,017,187,000 as of January 1, 1944, an increase of about $9,000,000,000, or about 60 percent.[3] The various types of assets included under this classification showed the following increases during the 4-year period: Livestock, 86 percent; crops, 139 percent; machinery and motor vehicles, 34 percent; and household equipment, 10 percent. Year-to-year changes in such inventories are shown in table 10.

REGIONAL VARIATIONS IN INVENTORIES

All areas of the country have shown increases of at least 50 percent in the value of their non-real-estate farm inventories during the period from January 1, 1940 to January 1, 1944 (table 11). The expansion in livestock numbers and the rapid rise in prices of both livestock and crops have accounted for the major part of the increase in such inventory values.

[3] These estimates of value are based upon the quantity of livestock, crops, and machinery and motor vehicles on farms January 1, multiplied by the farm value per unit of such items. January 1 values per unit were used for livestock and machinery. Most of the crops were valued at December 15 farm prices although season average prices, or December 1 value per unit, was used in a few instances. As a result, in the following discussion the fluctuations in inventory value reflect changes in quantity as well as in price, although in most cases it was found that price changes have a somewhat greater influence than quantity changes. The overall effect of either price or quantity is difficult to show because of complications in finding a common base that can be used in totaling the various classes of physical inventories. However, in the discussion of the classes effort is made to show both numbers and prices for individual items. The crops held by farmers on farms under seal of the Commodity Credit Corporation's loan program are included. Commodities held under such loans but stored in warehouses, elevators, etc., off the farm are excluded.

TABLE 10.—*Inventory value of non-real-estate physical assets on farms by classes, United States, January 1, 1940-44*

Class	1940	1941	1942	1943	1944
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Livestock [1]	5,132,448	5,320,000	7,041,633	9,540,681	9,525,543
Crops [2]	2,338,819	2,492,780	3,408,726	4,576,475	5,594,644
Machinery and motor vehicles	3,135,000	3,319,000	3,959,000	4,157,000	[3] 4,198,000
Household equipment	4,275,000	4,338,000	4,513,000	4,620,000	4,699,000
Total	14,881,267	15,469,780	18,922,359	22,894,156	24,017,187

[1] Includes horses, mules, cattle, hogs, sheep, and poultry.
[2] Includes grains, hay and forage, oil crops, vegetables, tobacco, and miscellaneous crops.
[3] Preliminary.

The largest regional increase in dollars occurred in the Corn Belt States which accounted for $2,536,000,000, or 28 percent of the total increased value of all inventories of this type on farms in the United States between 1940 and 1944. In this region, the total of these inventories increased 91 percent during the 4-year period. Values of livestock inventories increased 97 percent; of crops, 130 percent; and of machinery and motor vehicles, 40 percent.[4] The largest relative increase was shown in the Great Plains area where the increase between January 1, 1940 and 1944 amounted to $1,448,186,000, or 124 percent. In this region livestock inventories increased 120 percent and crops nearly 250 percent, whereas machinery inventory increased only 36 percent.

The smallest relative increase in total non-real-estate physical inventories between January 1, 1940 and January 1, 1944 occurred in the North Atlantic States, this increase being only 54 percent. The livestock inventory increased about 75 percent; crops, about 65 percent; and machinery and motor vehicles, about 20 percent.

LIVESTOCK INVENTORY ON JANUARY 1, 1940-44

All classes of livestock[5] considered together increased from $5,132,000,000 to $9,526,000,000, or 86 percent, between January 1, 1940 and January 1, 1944 (table 12). The largest percentage increase occurred in the value of hogs and poultry, but the largest dollar increases occurred in milk cows and other cattle. These increases in value reflect in most instances an increase in both numbers and value per head.

Cattle.—The largest item in the livestock inventory is for cattle, including beef animals, milk cows, and calves (table 12). This item comprises somewhat more than half of the total in-

[4] Figures on the regional distribution of household equipment are not now available. It has been assumed in estimating changes in total inventory values that the value of such equipment was distributed by regions in the same proportion as other non-real-estate physical assets.

[5] Not considered are certain minor classes of livestock such as goats, ducks, geese, rabbits, and bees; these probably would not exceed 3 to 5 percent of the total value of all livestock. These data were obtained from the annual publication, Livestock on Farms, 1940-44. U. S. Bur. Agr. Econ. [Processed.]

TABLE 11.—*Inventory value of non-real-estate physical assets on farms, January 1, 1940-44, by regions, by classes*

[In thousands of dollars, i.e., 000 omitted]

Class	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	North Atlantic					South Atlantic					South Central				
Livestock[1]	478,946	488,485	581,957	778,527	836,602	425,456	425,376	507,842	657,396	742,469	530,583	509,380	643,214	850,921	882,359
Crops[2]	232,389	220,903	273,185	315,788	383,501	172,915	188,220	207,921	285,479	378,742	220,941	257,779	309,254	431,064	554,294
Machinery and motor vehicles	375,732	388,033	420,860	438,029	[3] 449,039	210,738	212,526	239,054	247,835	[3] 254,458	239,513	232,539	296,928	303,765	[3] 310,171
Total	1,087,067	1,097,421	1,276,002	1,532,344	1,669,142	809,109	826,122	954,817	1,190,710	1,375,669	991,037	999,698	1,249,396	1,585,750	1,746,824
	Corn Belt					Lake States					Great Plains				
Livestock[1]	1,223,230	1,252,053	1,745,791	2,479,725	2,405,288	687,853	715,731	952,022	1,261,729	1,287,429	545,026	592,980	835,064	1,247,733	1,196,771
Crops[2]	811,293	834,348	1,158,794	1,509,652	1,862,667	333,242	362,563	430,781	554,862	665,461	268,542	285,458	543,371	830,564	935,208
Machinery and motor vehicles	760,680	819,561	984,430	1,052,074	[3]1,063,085	500,813	557,512	659,072	708,218	[3] 708,998	358,313	378,284	475,850	487,847	[3] 488,088
Total	2,795,203	2,905,962	3,889,015	5,041,451	5,331,040	1,521,908	1,635,806	2,041,875	2,524,809	2,661,888	1,171,881	1,256,722	1,854,285	2,566,144	2,620,067
	Oklahoma-Texas					Mountain					Pacific				
Livestock[1]	476,171	494,230	666,182	883,356	795,687	484,414	521,071	696,752	875,045	860,554	280,769	320,694	412,809	506,249	518,384
Crops[2]	109,550	154,002	181,124	230,562	272,323	129,435	129,739	209,424	294,328	376,277	60,512	59,768	94,872	124,176	166,171
Machinery and motor vehicles	265,536	279,139	331,894	351,385	[3] 349,493	184,925	198,447	235,481	241,944	[3] 245,671	238,750	252,959	315,431	325,903	[3] 328,997
Total	851,257	927,371	1,179,200	1,465,303	1,417,503	798,774	849,257	1,141,657	1,411,317	1,482,502	580,031	633,421	823,112	956,328	1,013,552

[1] Includes estimates of the value of horses, mules, cattle, milk cows, hogs, sheep, and poultry.

[2] Includes estimates of the value of grains, hay and forage, hayseed, oil crops, vegetables, broomcorn, tobacco, and cotton.

[3] Preliminary.

ventory value of all livestock. The value of cattle on January 1, 1944 amounted to $5,648,000,000, or about 59 percent of the total of all livestock on farms, as compared with $2,767,000,000, or 54 percent, on January 1, 1940. The increase between January 1, 1940 and 1944 in this item was $2,881,000,000, or 104 percent, and this increase accounted for nearly 66 percent of the $4,393,000,000 increase for all livestock.

Milk cows and heifer calves kept for milk accounted for more than 29 percent of all livestock values on January 1, 1944. The increase in value between January 1, 1940 and 1944 for this class amounted to 97 percent and accounted for about 32 percent of the total increase in value of all livestock.

The number of cattle including milk cows on farms since 1900 has shown a fairly consistent cyclical fluctuation of from 10 to 16 years' duration with 6 to 9 years on the upward swing and from 4 to 10 years on the downward swing (fig. 5).[6] Since 1938 cattle numbers have consistently increased with the January 1, 1944 numbers nearly 17 million more than for 1938. This increase in numbers has been accompanied by an increase in the value per head. The value per head increased from about $34 on January 1, 1936 to nearly $70 on January 1, 1943. From this date to January 1, 1944 the value per head declined slightly to about $69. The trend in numbers and in value per head during the current war is similar to that which occurred during World War I, except that the peak

[6] Figures 5, 6, 7, 8, 9 and 10 show data on the number and value of the various classes of livestock on a logarithmic scale. The actual numbers and value can be read from the scale and the relative change by the slope of the lines. For example, the value of cattle per head between 1912 and 1919 rose from $28 to $55, or an increase of $27 (fig. 5). Between 1936 and 1943 the value rose from $34 to $70, or an increase of $36. Both, however, are about a 100-percent increase.

TABLE 12.—*Total farm value of livestock, United States, January 1, 1940-44*

Class [1]	Average 1931–40	1940	1941	1942	1943	1944
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Horses	881,181	807,540	697,352	641,520	773,609	733,911
Mules	449,405	467,821	420,469	409,929	472,481	510,122
Cattle [2]	2,054,899	2,767,300	3,091,259	4,140,256	5,502,802	5,647,875
Milk cows	1,123,187	1,427,707	1,551,679	2,056,148	2,697,652	2,816,357
Sheep	262,090	330,775	365,496	488,468	539,650	451,267
Hogs	432,809	475,700	452,586	942,931	1,661,215	1,471,753
Chickens	261,440	265,000	276,427	395,042	561,027	670,809
Turkeys	13,860	18,312	16,411	23,487	29,897	39,806
Aggregate 5 species [3]	4,080,384	4,849,136	5,027,162	6,623,104	8,949,757	8,814,928
Aggregate 7 species [4]	4,355,684	5,132,448	5,320,000	7,041,633	9,540,681	9,525,543

[1] For more specific description, see headings of tables by States.
[2] Includes the value of milk cows.
[3] Includes horses, mules, cattle, sheep, and hogs.
[4] Includes horses, mules, cattle, sheep, hogs, chickens, and turkeys.

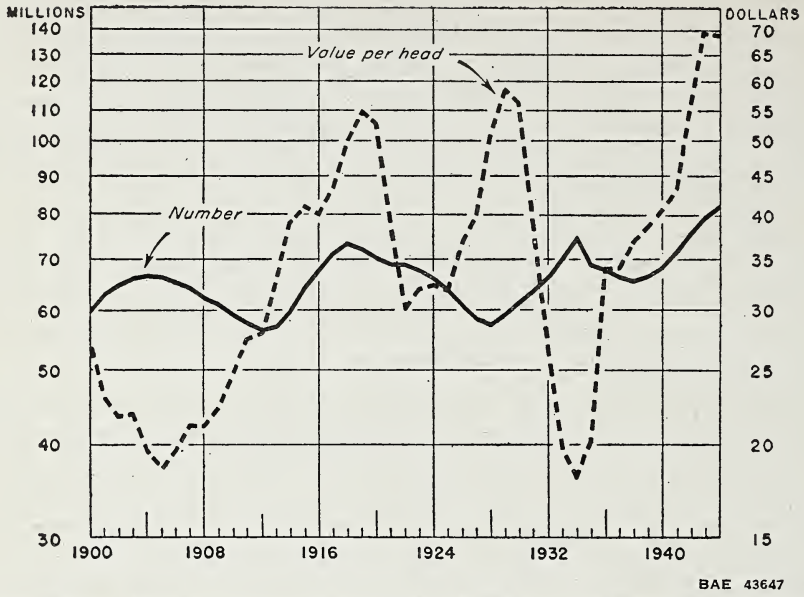


FIGURE 5.—Cattle: Number and Value per Head on Farms January 1, 1900-1944

in the value per head of cattle did not occur until January 1, 1919. On January 1, 1944 cattle numbers were continuing to increase over 1943, whereas the value per head dropped slightly.

It may be further noted from table 13 and figures 5 and 6 that the fluctuations in cattle numbers on farms January 1 were chiefly the result of changes in the number of cattle other than milk cows. Although there has been a continual increase in the number of milk cows, this number has shown less cyclical fluctuation than beef cattle. The only major deviation from the general trend occurred between 1930 and 1938 when the number of milk cows followed a similar course to that of beef cattle, although less pronounced. The value per head of cows and heifers kept for milk over the period 1900-43 showed almost identical percentage fluctuations with those for beef cattle, although for January 1, 1944 the value per head for milk cows and heifers was higher than for a similar date for 1943, whereas the value per head for all cattle decreased between January 1, 1943 and January 1, 1944. The absolute value per head for milk cows, however, was considerably higher than for beef cattle throughout the period.

Hogs.—Of the various classes of livestock shown in table 12, hogs showed the greatest percentage increase in value between January 1, 1940 and January 1, 1944; from $475,700,000 to $1,472,000,000, an increase of 209 percent. Hogs accounted for

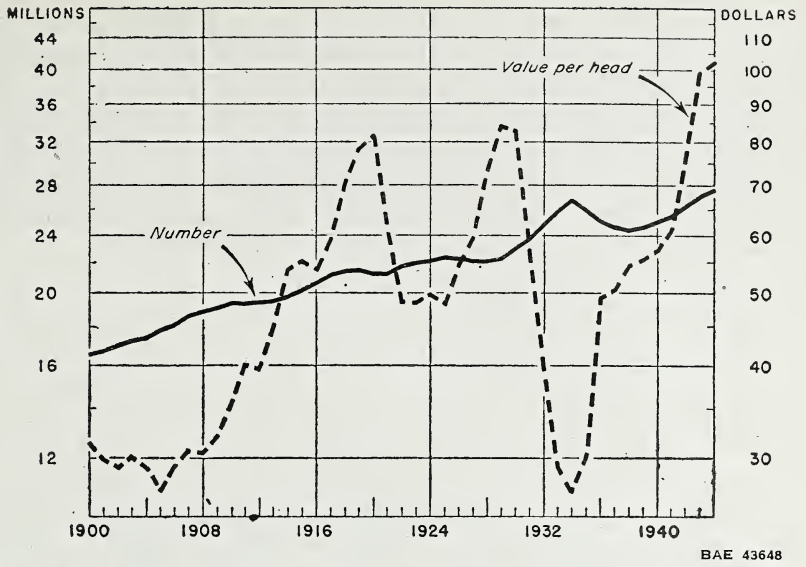


FIGURE 6.—Milk Cows and Heifers: Number and Value per Head on Farms January 1, 1900-1944

about 9.3 percent of the total value of all livestock on January 1, 1940 and nearly 16 percent on January 1, 1944. The peak inventory value of hogs occurred on January 1, 1943 and this item had declined nearly 12 percent by January 1, 1944.

TABLE 13.—*Number and value per head of livestock on farms, United States, January 1, 1940-44*

NUMBER ON FARMS

Class	Average 1931–40	1940	1941	1942	1943	1944
	Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*
Horses	11,707	10,442	10,214	9,907	9,675	9,330
Mules	4,677	4,039	3,922	3,813	3,704	3,559
Cattle	67,575	68,197	71,461	75,162	79,114	82,192
Milk Cows	25,150	24,926	25,478	26,398	27,106	27,607
Sheep	52,281	52,399	54,283	56,735	55,775	51,718
Hogs	51,566	61,115	54,256	60,377	73,736	83,756
Chickens	422,885	438,288	422,909	474,910	540,798	572,460
Turkeys	6,317	8,569	7,252	7,623	6,704	7,520

FARM VALUE PER HEAD

	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Horses	76.06	77.34	68.27	64.75	79.96	78.66
Mules	98.08	115.83	107.21	107.51	127.56	143.99
Cattle	30.68	40.58	43.26	55.08	69.56	68.72
Milk cows	45.02	57.28	60.90	77.89	99.52	102.02
Sheep	5.03	6.31	6.73	8.61	9.68	8.73
Hogs	8.69	7.78	8.34	15.62	22.53	17.57
Chickens	0.62	0.60	0.65	0.83	1.04	1.17
Turkeys	2.22	2.14	2.26	3.08	4.46	5.29

After an initial decline from 61 million on January 1, 1940 to 54 million on January 1, 1941, the number of hogs increased to nearly 84 million on January 1, 1944 (fig. 7). The value per head increased from an average of $7.78 on January 1, 1940 to $22.53 on January 1, 1943, but by January 1, 1944 this value had dropped to $17.57. The decline in the inventory value of hogs on farms between January 1, 1943 and January 1, 1944, mentioned earlier, was due entirely to the decline in the value per head.

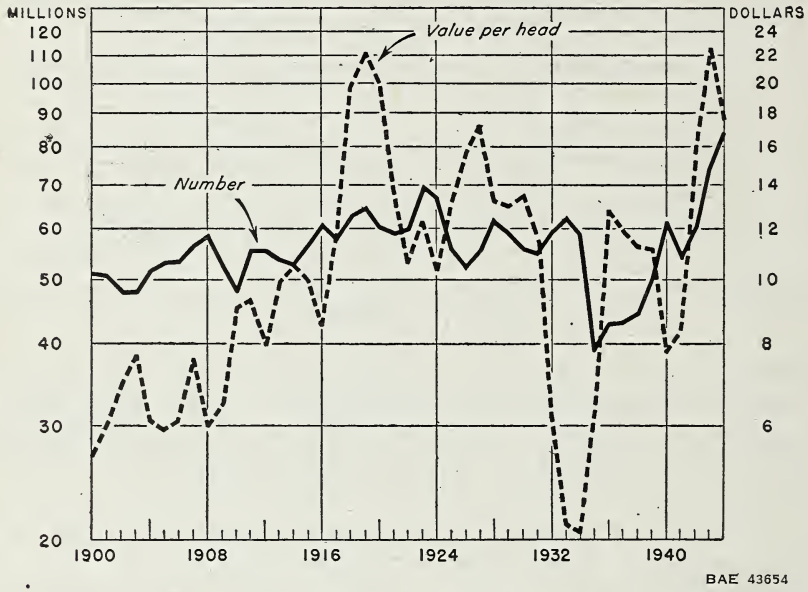


FIGURE 7.—Hogs: Number and Value per Head on Farms January 1, 1900-1944

The number of hogs on farms before the depression years of the 1930's showed a relatively consistent cyclical fluctuation of from 4 to 6 years' duration with 2 or 3 years on the upward swing and an equal number on the downward side (fig. 7). The value of hogs per head showed a fairly consistent negative relationship, being highest in those periods when numbers on farms were generally the lowest. However, during the current war the value per head increased from a little more than $8 on January 1, 1941 to over $22 for 1943, then decreased to slightly under $18 for 1944, whereas the number of hogs on farms has increased continuously since 1941. The high value per head on January 1, 1943 reflects to a considerable extent the unusual scarcity of meat animals, such as butcher hogs, and the resultant demand and high prices for breed-

ing gilts and sows. But this demand was not so great for either the year before 1943 or the year after.

In addition to the price factor it might also be noted that the average live weight of hogs slaughtered during the winter and spring has increased somewhat in the last few years. This indicates that the increased value per head may be the result, partially at least, of heavier hogs on farms January 1 as well as increased price. Although the increase in the value per head during the current war closely parallels that of the first World War, numbers increased much more from 1941 to 1944 than from 1916 to 1919. This is due to a considerable extent to the greater supplies of feed in relation to livestock numbers and the relatively more favorable hog-corn price ratio.[7] These in turn were influenced by ceiling prices on both corn and hogs. The total inventory value of hogs during the current war has thus been somewhat higher than it was during the first World War.

Horses and Mules.—Numbers of horses and mules have continued to decline (table 13), but in the case of mules there were substantial increases in the value per head and the value of horses per head also showed some strengthening since January 1, 1942 (figs. 8 and 9).

[7] For a discussion of the livestock-feed ratios, see page 56 and table 17.

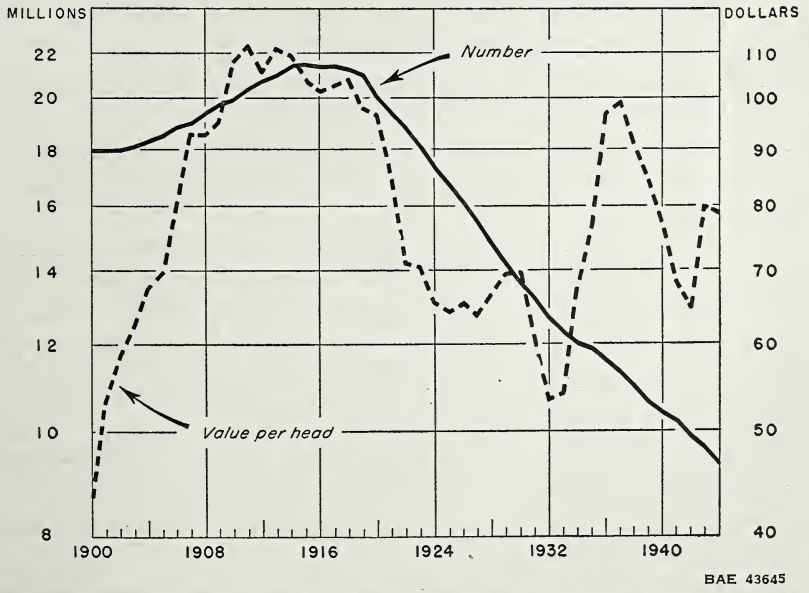


FIGURE 8.—Horses: Number and Value per Head on Farms January 1, 1900-1944

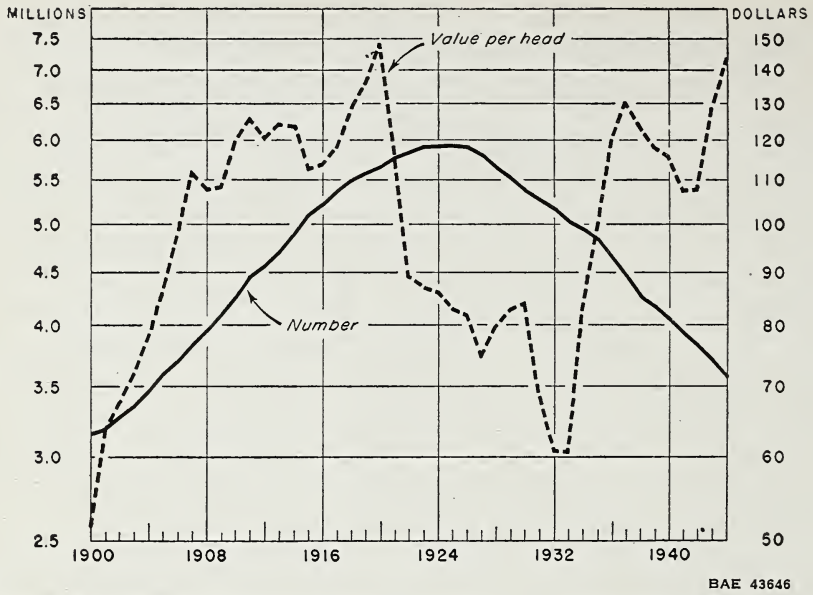


FIGURE 9.—Mules: Number and Value per Head on Farms January 1, 1900-1944

At the time the United States entered the war the inventory value of horses and mules had been on the decline for some time. On January 1, 1940 the value was estimated at $1,275,000,000, compared with $1,390,000,000 on January 1, 1939 and $1,524,000,000 on January 1, 1938. The inventory value of this class of livestock continued to decline until January 1, 1942 when it stood at $1,051,000,000, but then rose in 1943 and 1944 and for the latter date was back near the level of 1940. Horses and mules together, on January 1, 1944, accounted for 13 percent of the total value of all livestock.

Sheep.—The value of sheep on January 1, 1944 was 36 percent above what it was on January 1, 1940 but like hogs the peak value was reached on January 1, 1943 when the value showed an increase of 63 percent over the 1940 figure. As a class, however, sheep represented only about 4.7 percent of the total value of all livestock on January 1, 1944.

Sheep numbers have been declining since January 1, 1942 after a relatively steady increase from 1938 (fig. 10). In most of the States in the Northeast and North Central regions, sheep numbers are still above the1940 level but in the South and West they are on a generally lower level. Increases in the value per head of sheep, however, have maintained a total inventory value well above the

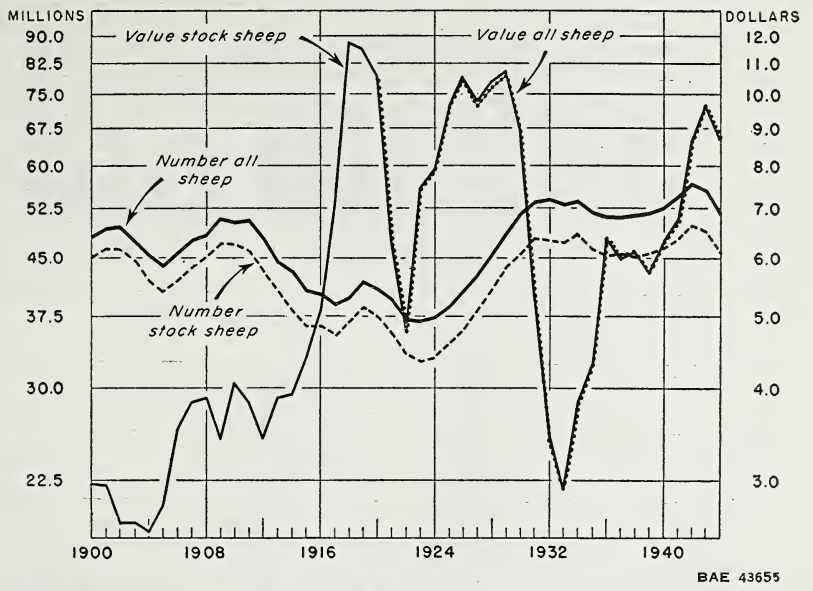


FIGURE 10.—Sheep: Number and Value per Head on Farms January 1, 1900-1944

1940 level despite a decrease both in number and in value per head between January 1, 1943 and January 1, 1944.

Poultry.—The value of poultry on farms was about 7.5 percent of the value of all farm animals on January 1, 1944. Poultry showed a striking increase in value, as the January 1, 1944 figure is about 2.5 times that for January 1, 1940.

The trend in poultry numbers and values parallels that of hogs, both showing a decline in numbers between January 1, 1940 and January 1, 1941, but a substantial increase for January 1, 1944. The value per head of poultry, unlike that of hogs, continued to increase through January 1, 1944.

Regional Distribution of Livestock-Inventory Increases.—The most significant increases in the inventory value of livestock have occurred in the Great Plains and Corn Belt States (table 14). These States have nearly 38 percent of the total value of livestock on farms as of January 1, 1944. Furthermore, the value in these regions is well over twice that on farms January 1, 1940, despite a decrease of nearly 5 percent between January 1, 1943 and January 1, 1944 (fig. 11).

The inventory value of livestock in the Great Plains States, where the most significant regional increase occurred in this item, shows increases in all classes of livestock, except horses and mules for which the inventory value decreased about 7 percent between

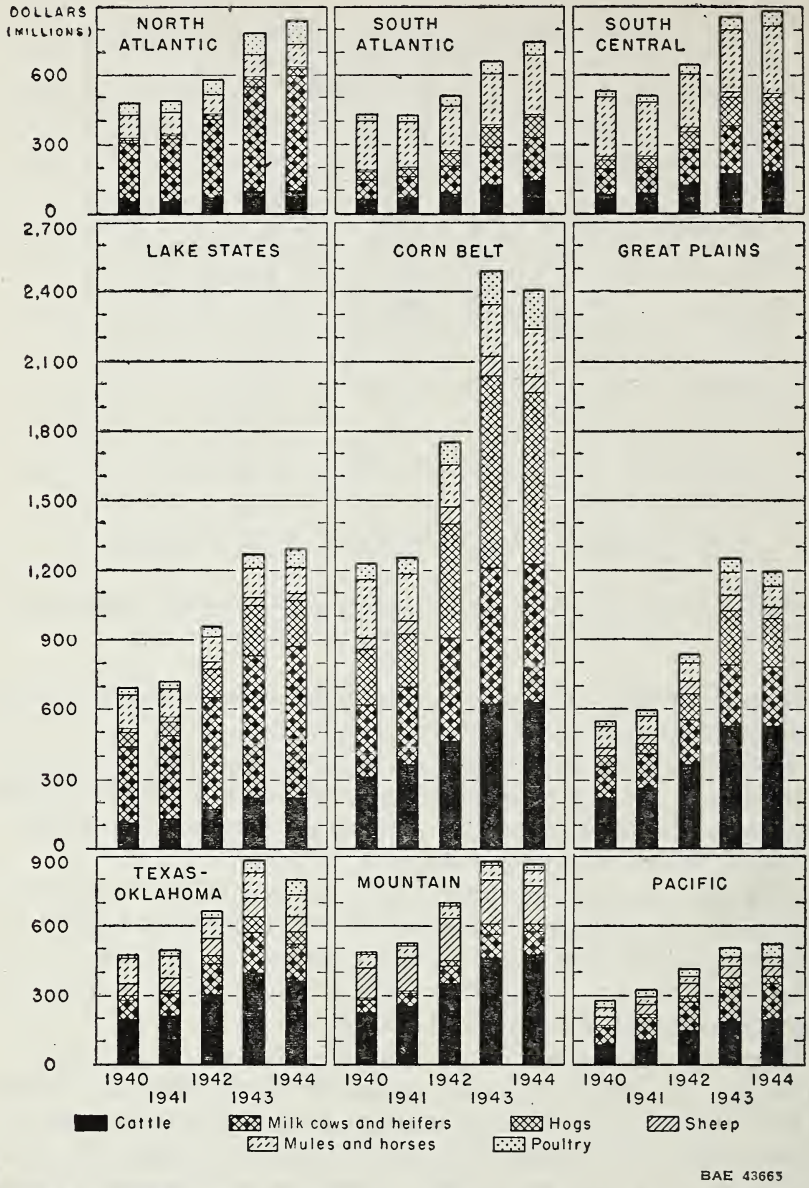


FIGURE 11.—Total Value of Livestock on Farms, by Classes and by Regions, January 1, 1940-44

January 1, 1940 and January 1, 1944 (tables 35, 36, 37, and 38, Appendix A). Increases in the inventory value of hogs in this area amounted to 351 percent between these two dates and the increase was even greater (404 percent) if the period 1940-43 is considered. Such increases for dairy cows and heifers between

TABLE 14.—*Total value of all livestock on farms, January 1, 1940-44*[1]

State and region	1940	1941	1942	1943	1944
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Maine	19,040	18,014	20,379	27,075	31,349
New Hampshire	11,502	10,866	12,006	16,951	20,573
Vermont	30,622	30,695	36,203	50,397	55,821
Massachusetts	22,934	23,268	26,649	38,303	44,149
Rhode Island	3,068	3,237	3,860	5,442	6,300
Connecticut	19,278	19,720	23,927	33,560	37,913
New York	186,899	197,421	233,555	315,447	325,418
New Jersey	32,456	32,579	41,008	54,044	59,389
Pennsylvania	153,147	152,685	184,370	237,308	255,690
North Atlantic	478,946	488,485	581,957	778,527	836,602
Ohio	189,845	183,117	244,528	330,530	324,600
Indiana	162,780	155,144	222,375	304,325	293,966
Illinois	259,331	265,145	366,802	514,551	503,260
Iowa	396,780	434,421	620,908	907,791	869,849
Missouri	214,494	214,226	291,178	422,528	413,613
Corn Belt	1,223,230	1,252,053	1,745,791	2,479,725	2,405,288
Michigan	146,613	147,670	181,556	246,639	238,972
Wisconsin	282,950	298,792	399,087	491,942	533,767
Minnesota	258,290	269,269	371,379	523,148	514,690
Lake States	687,853	715,731	952,022	1,261,729	1,287,429
North Dakota	87,323	96,156	130,839	186,175	180,688
South Dakota	116,706	128,888	180,245	267,108	261,553
Nebraska	186,658	187,761	271,232	417,981	410,889
Kansas	154,339	180,175	252,748	376,469	343,641
Great Plains	545,026	592,980	835,064	1,247,733	1,196,771
Delaware	6,410	6,724	7,850	10,155	10,692
Maryland	33,490	34,993	41,473	53,702	54,641
Virginia	79,578	82,785	94,879	126,462	136,019
West Virginia	40,028	39,892	47,388	62,980	62,199
North Carolina	94,875	91,629	111,563	142,325	169,307
South Carolina	50,630	48,771	56,817	71,379	84,314
Georgia	90,895	89,121	107,852	133,341	154,865
Florida	29,550	31,461	40,020	57,052	70,432
South Atlantic	425,456	425,376	507,842	657,396	742,469
Kentucky	111,556	103,716	136,733	189,494	183,094
Tennessee	106,574	101,847	128,895	171,483	181,344
Alabama	81,335	76,626	96,732	125,116	140,735
Mississippi	90,512	85,550	106,519	136,995	147,602
Arkansas	74,242	75,893	94,558	127,191	116,672
Louisiana	66,364	65,748	79,777	100,642	112,862
South Central	530,583	509,380	643,214	850,921	882,359
Oklahoma	117,939	122,776	165,648	241,707	200,108
Texas	358,232	371,454	500,534	641,649	595,579
Oklahoma-Texas	476,171	494,230	666,182	883,356	795,687
Montana	94,771	105,281	137,510	177,115	180,396
Idaho	59,589	66,351	86,090	103,111	102,552
Wyoming	68,532	72,534	94,752	113,983	113,658
Colorado	88,776	94,302	133,914	187,421	176,802
New Mexico	65,839	67,365	90,337	112,518	101,072
Arizona	41,001	45,187	60,881	71,244	72,110
Utah	41,959	44,546	59,922	71,921	75,518
Nevada	23,947	25,505	33,346	37,732	38,446
Mountain	484,414	521,071	696,752	875,045	860,554
Washington	53,565	60,225	80,344	101,988	94,937
Oregon	62,730	69,183	92,168	108,076	107,231
California	164,474	191,286	240,297	296,185	316,216
Pacific	280,769	320,694	412,809	506,249	518,384
United States	5,132,448	5,320,000	7,041,633	9,540,681	9,525,543

[1] Includes horses, mules, cattle, hogs, sheep, turkeys, and chickens.

January 1, 1940 and January 1, 1944 in the Great Plains States average 92 percent, whereas the increase for sheep and lambs was 68 percent, chickens 230 percent, and turkeys 39 percent.

INVENTORY VALUE OF CROPS ON FARMS, JANUARY 1, 1940-44

The impact of the war on the value of crops retained or held on farms as indicated by January 1 stocks has been substantial.[8] On January 1, 1940 farmers' crops on hand had an estimated inventory value of $2,339,000,000.[9] For January 1, 1941 the value of such crops had increased around $154,000,000, or about 7 percent. However, during the first year of active participation in the war the inventory increased so that for January 1, 1942 it was over $900,000,000 more than for 1941. The rate of increase for January 1, 1943 was even greater than for January 1, 1942, amounting to nearly 1.2 billion dollars. By January 1, 1944 the inventory value of crops on farms had reached $5,595,000,000, or nearly 2.4 times what it was on January 1, 1940 (table 15).

TABLE 15.—*Inventory value of crops on farms, by classes, United States, January 1, 1940-44*

Class	1940	1941	1942	1943	1944
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Grain [1]	1,444,910	1,565,881	2,230,510	2,976,420	3,539,116
Hay and forage [2]	665,883	698,987	862,825	1,039,034	1,436,770
Oil crops [3]	33,924	45,428	56,772	211,972	187,589
Vegetables [4]	72,281	55,917	90,863	115,928	176,527
Tobacco	84,216	67,752	89,540	134,660	177,680
Miscellaneous [5]	37,605	58,815	78,216	98,461	76,962
Total [6]	2,338,819	2,492,780	3,408,726	4,576,475	5,594,644

[1] Includes corn, wheat, oats, barley, rye, buckwheat, rice, sorghum for grain, dry edible beans, and field peas.
[2] Includes all hay, sorghum, corn silage, corn forage, and sorghum for forage.
[3] Includes soybeans, flaxseed, peanuts, and cottonseed.
[4] Includes Irish potatoes, cabbage, and onions.
[5] Includes broomcorn, cotton, and hayseed. Hayseed includes red clover, alfalfa, lespedeza, alsike clover, timothy, and sweet clover seed.
[6] Includes crops stored on farms and sealed under Commodity Credit Corporation loan programs, and excludes all stocks held off the farm.

The most substantial increase in money value of crops on farms occurred in grains. The inventory value increased from $1,445,000,000 on January 1, 1940 to $3,539,000,000 on January 1, 1944. This is an increase of $2,100,000,000, or nearly 65 percent of the total increase for all crops during the period. But the greatest per-

[8] The inventory value of crops has been divided into the following 6 categories: (1) Grains, including corn, wheat, oats, barley, rye, buckwheat, rice, sorghums for grain, dry edible beans, and field peas; (2) hay and forage, including corn silage, corn forage, sorghum for silage and forage, and all hay; (3) oil crops, including flaxseed, cottonseed, soybeans, and peanuts; (4) vegetables, including Irish potatoes, cabbage, and onions; (5) tobacco; (6) miscellaneous crops, including hayseeds, broomcorn, and cotton. For methods of estimating inventory values see Appendix B.
[9] Includes the quantity sealed in storage on farms under the Commodity Credit Corporation loan programs, but excludes that sealed or stored in warehouses, elevators, and in other storage off farms.

centage increase in the value of crops occurred in oil crops. The value of these crops on January 1, 1944 was 5.5 times what it was on January 1, 1940 (table 15). Furthermore, the inventory value of oil crops showed a decrease between January 1, 1943 and January 1, 1944 of from $212,000,000 to $188,000,000. The value of hay and forage crops on January 1, 1940 was estimated to be $666,000,000 as compared to $1,437,000,000 on January 1, 1944. This is an increase of 116 percent. Similarly, an increase of more than 100 percent occurred in the value of vegetables, tobacco, and miscellaneous crops.

These increases in the value of crops on hand January 1 for the period 1940-44 are due primarily to the increases in price rather than to the increase in quantities held, although there has been a notable increase in quantities on farms for certain of the major crops. The quantity of wheat on farms January 1, for instance, increased from around 229,000,000 bushels on January 1, 1940 to 491,000,000 bushels on January 1, 1943 and then dropped to 379,000,000 bushels on January 1, 1944. The quantity of soybeans on farms January 1, 1944 was more than 16 times that for January 1, 1940 and, as already mentioned, the January 1, 1944 figure was a considerable reduction from the quantity on hand January 1, 1943.

Generally, however, the increase in the quantity on hand has had a smaller influence than prices on total value. Between January 1, 1940 and January 1, 1944 the quantity of corn on hand, for instance, increased only about 5 percent, whereas the average price per bushel went up 127 percent. The quantity of oats on hand went up 18 percent, whereas prices went up 121 percent. Prices of wheat increased 73 percent, compared with a 65-percent increase in quantity on farms. The quantity of tobacco fell 21 percent, whereas prices went up 169 percent.

Both the quantity and price of potatoes show an increase between January 1, 1940 and the same date for 1944, but the quantity of cabbage and onions decreased nearly 35 percent. Prices of these two vegetables more than trebled, however.

Regional Variations.—As with livestock, the largest percentage increases in the inventory value of crops on farms between January 1, 1940 and January 1, 1944 occurred in the Great Plains States where the value increased from $269,000,000 to $935,000,000, or 248 percent (table 16). In the Mountain area the increase was 191 percent; in the Pacific area, 175 percent; and increases of about 150 percent occurred in the South Central and Oklahoma-Texas areas. In the Corn Belt, where the total inventory value is the highest, the percentage increase was only about 130 percent.

TABLE 16.—*Inventory value of crops on farms, by classes and regions, January 1, 1940-44*

[In thousands of dollars, i.e., 000 omitted]

Class	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	North Atlantic					South Atlantic					South Central				
Grain [1]	58,905	65,864	78,075	92,068	94,419	90,782	106,749	116,064	148,561	208,567	104,396	133,359	161,252	212,753	264,717
Hay and forage [2]	128,280	119,888	141,045	164,006	200,007	48,037	52,214	55,547	75,064	107,235	53,071	59,630	70,988	85,528	125,776
Oil Crops [3]	0	0	0	0	0	13,468	14,006	16,095	31,592	30,236	7,941	9,976	12,777	19,438	21,031
Vegetables [4]	33,824	23,457	39,543	48,590	72,642	549	502	617	902	791	231	68	95	230	346
Tobacco	11,145	11,398	14,092	10,850	15,849	15,424	8,736	13,122	17,541	21,256	48,567	39,426	52,736	91,983	125,433
Miscellaneous [5]	235	296	430	274	584	4,655	6,013	6,476	11,819	10,657	6,735	15,320	11,406	21,132	16,991
Total [6]	232,389	220,903	273,185	315,788	383,501	172,915	188,220	207,921	285,479	378,742	220,941	257,779	309,254	431,064	554,294
	Corn Belt					Lake States					Great Plains				
Grain [1]	663,089	669,983	943,384	1,143,201	1,443,239	198,843	220,213	255,947	351,868	396,254	198,851	220,419	448,637	705,137	749,041
Hay and forage [2]	130,903	145,448	193,931	222,909	305,355	111,287	119,663	145,931	163,967	215,746	61,792	56,690	84,612	108,477	154,967
Oil crops [3]	516	1,400	1,686	118,369	89,376	2,425	6,788	6,849	16,375	12,788	1,084	2,077	2,820	5,699	9,926
Vegetables [4]	3,575	3,284	5,134	5,658	5,115	12,561	9,571	13,270	15,142	28,981	5,320	4,741	5,578	9,492	19,003
Tobacco	5,212	4,555	5,804	9,732	8,441	3,832	3,603	3,757	4,517	6,650	36	34	29	37	51
Miscellaneous [5]	7,998	9,678	8,855	9,783	11,141	4,294	2,725	5,027	2,992	5,042	1,459	1,497	1,695	1,722	2,220
Total [6]	811,292	824,348	1,158,794	1,509,652	1,862,667	333,242	362,563	430,781	554,862	665,461	268,542	285,458	543,371	830,564	935,208
	Oklahoma-Texas					Mountain					Pacific				
Grain [1]	65,115	87,078	98,541	132,475	144,482	48,575	47,928	102,438	144,292	183,300	16,354	14,288	26,172	46,065	55,097
Hay and forage [2]	31,288	44,067	47,899	62,206	97,197	66,177	64,879	77,237	107,274	144,965	35,048	36,508	45,635	49,603	85,522
Oil crops [3]	7,126	9,540	12,082	14,515	18,341	796	1,160	1,768	3,303	4,325	568	481	2,695	2,681	1,566
Vegetables [4]	0	0	0	0	0	9,655	8,410	16,837	23,467	33,167	6,566	5,884	9,789	12,447	16,482
Tobacco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous [5]	6,021	13,317	22,602	21,366	12,303	4,232	7,362	11,144	15,992	10,520	1,976	2,607	10,581	13,380	7,504
Total [6]	109,550	154,002	181,124	230,562	272,323	129,435	129,739	209,424	294,328	376,277	60,512	59,768	94,872	124,176	166,171

[1] Includes corn, wheat, oats, barley, rye, buckwheat, rice, sorghum for grain, dry edible beans, and field peas.
[2] Includes all hay, corn silage, corn forage, and sorghum for silage and forage.
[3] Includes soybeans, flaxseed, peanuts, and cottonseed.
[4] Includes Irish potatoes, cabbage, and onions.
[5] Includes hayseed, broomcorn, and cotton. Hayseed includes red clover, alfalfa, lespedeza, alsike clover, timothy, and sweet clover seed.
[6] Includes crops stored on farms and sealed under Commodity Credit Corporation loan programs, and excludes stocks held off the farm.

The North Atlantic area showed the smallest increase, being only 65 percent.

The greatest increase in the inventory value of grain occurred in the Great Plains States and in the Corn Belt. The value of grain on farms in the Corn Belt increased from $663,000,000 on January 1, 1940 to over $1,443,000,000 on January 1, 1944, or 118 percent. The increase in the Great Plains, although not so large in absolute amounts, was greater on a percentage basis. In this area the increase in the value of grains reached nearly 277 percent. Smaller increases occurred in all of the other areas.

Considerable effort has been made to increase the production of oil crops during the war and this is reflected in the value of these crops on farms January 1 of the years 1940-44. The largest value of oil crops on farms was in the Corn Belt; it reached nearly $89,000,000 on January 1, 1944. On January 1, 1940 the value of oil crops on farms in this area was only a little more than $516,000. The large increase in these crops in the Corn Belt may be compared with an increase of more than 800 percent in the Great Plains, more than 427 percent in the Lake States, 157 percent in the Oklahoma-Texas area, and 443 percent in the Mountain States. In many of the areas which show a large percentage increase, the actual value of the oil crops on January 1, 1940 was very small.

The increases in the inventory value of vegetables on farms January 1, 1940-44, as would be expected, occurred primarily in the North Atlantic States where the increase was from $34,000,000 to $73,000,000. Substantial increases also occurred in the Pacific and Mountain States where the value of these crops on hand nearly trebled during the 4-year period.

The most substantial increase in the value of tobacco on farms occurred in the South Central States, where the value went up from $49,000,000 on January 1, 1940 to over $125,000,000 on January 1, 1944. This is an increase of 158 percent. In tobacco, however, stocks do not accumulate as they do for other crops because the entire crop must be marketed. An increase in stocks of this crop therefore would be due primarily to increased production or changes in the time of marketing.

Changes in Quantity and Price for Certain Individual Crops.—The large percentage increase in the inventory value of grains on farms in the Great Plains States, mentioned earlier, is due both to increases in the price per bushel and to increased quantity held on farms. In this area the quantity of corn held, for example, increased from about 140 million bushels on January 1, 1940 to over 329 million bushels on January 1, 1943. On January

1, 1944 the quantity held declined to 245,000,000 bushels. Wheat quantities held increased from 96,000,000 bushels on January 1, 1940 to 278,000,000 bushels on January 1, 1943 and then dropped to 198,000,000 bushels a year later.

The quantity of corn on hand in the Corn Belt on January 1, 1944 was lower than on January 1, 1940 by about 28,000,000 bushels, but the price had increased 126 percent as compared to an increase of only 110 percent in the Great Plains. The quantity of corn on hand in the Lake States and the North Atlantic States showed a decline of about 10 percent between January 1, 1940 and January 1, 1944. Other areas showed some increases such as an 18-percent increase in the South Central States. In almost every area, however, the price of corn doubled or more than doubled.

The largest increases in the quantity of soybeans on farms between January 1, 1940 and January 1, 1944 occurred in the Corn Belt, South Atlantic, and Lake States. The percentage increase in this instance is relatively meaningless because of the small crops produced in 1939, which resulted in small quantities on farms on January 1, 1940.

Comparisons With World War I.—The farm inventory of crops on hand during the current war appears to be somewhat larger than during World War I. This is particularly true of those crops which are used for livestock feed and is probably accounted for by favorable growing conditions during the period, and relatively high livestock prices. It will be noted, for instance, that the livestock-grain price ratios have been particularly favorable for livestock feeding. In 1940, for example, it required only 9.1 bushels of corn at the average price received by farmers to equal the value of 100 pounds of hogs at local markets. In 1941 this had increased to 13.4 bushels and in 1942, to 16.6. In 1943 the ratio had declined to 13.8 and during the first few months of 1944 it continued to decline. These ratios may be compared with those of 9.1 in 1915, 11.1 in 1916, 10.2 in 1917, 10.8 in 1918, and 10.6 in 1919. During the current war therefore it has probably been somewhat more profitable to feed corn to hogs than during World War I.

This same situation exists in the beef and corn price ratios. In 1940 the beef-corn price ratio was 16.6; in 1941, 16.1; and 1942, 16.6. As with the hog-corn price ratio, the beef-corn price ratio declined during 1943 and this decline has continued into 1944 when it was only 13.0 for April 1944 (table 17). The presence of more livestock on farms has thus tended to mean more feed retained on farms. During 1942 and 1943, for example, it is estimated that on an average over 250 million bushels of wheat were fed to livestock

per year, as compared with only about 34 million bushels during the last war. Production of wheat and corn in the United States as examples of grain production shows that during the 5 years 1940-44 farmers produced an average of 100 million bushels of wheat more during that period than during the last war (1915-19) but season average prices have averaged about 38 percent lower. Similarly, production of corn during the period 1940-44 has averaged slightly over 200 million bushels more per year than during the period 1915-19 but prices during the current war period averaged about 27 percent less.

TABLE 17.—*Livestock-feed price ratios, United States, specified years, 1915-1943, by months 1943 and 1944*

Year and month	Hog-corn price ratio [1]	Beef steer-corn price ratio [2]	Butterfat-feed price ratio [3]	Milk-feed price ratio [4]	Egg-feed price ratio [5]
	Bushels	*Bushels*	*Pounds*	*Pounds*	*Pounds*
1915	9.1	11.6			
1916	11.1	11.5			
1917	10.2	7.5			
1918	10.8	9.2			
1919	10.6	9.8			
1920	9.8	10.2			
1940	9.1	16.6	24.0	1.29	16.2
1941	13.4	16.1	25.4	1.39	18.8
1942	16.6	16.6	24.4	1.32	19.0
1943	13.8	14.7	24.7	1.36	18.8
January	15.3	15.4	27.9	1.47	21.4
February	15.8	15.6	27.5	1.44	18.4
March	15.5	15.4	26.6	1.39	17.7
April	14.7	15.2	25.6	1.34	16.8
May	13.6	14.6	24.7	1.30	16.8
June	13.1	14.7	23.2	1.27	16.9
July	12.7	14.4	22.8	1.26	17.1
August	13.1	14.4	22.6	1.26	18.2
September	13.8	14.5	22.7	1.28	19.3
October	13.7	14.4	[6] 24.6	[6] 1.44	20.9
November	12.8	14.2	[6] 24.4	[6] 1.45	22.0
December	11.6	13.1	[6] 23.8	[6] 1.42	20.1
1944:					
January	11.6	13.0	[6] 23.7	[6] 1.39	15.3
February	11.8	13.0	[6] 23.6	[6] 1.36	14.1
March	12.1	13.1	[6] 24.8	[6] 1.40	13.2
April	11.7	13.0	[6] 24.6	[6] 1.37	11.8
May	11.2	13.4	[6] 23.1	[6] 1.27	11.8
June	[7] 11.0	[7] 13.9	[6 7] 23.0	[6 7] 1.27	[7] 12.6

[1] Number of bushels of corn required to buy 100 pounds of live hogs, based upon average monthly price of hogs and of No. 3 Yellow corn, both at Chicago.
[2] Average price per 100 pounds of "beef steers from the Corn Belt, sold out of first hands at Chicago for slaughter, all grades," divided by monthly average price of No. 3 Yellow corn per bushel at Chicago.
[3] Average price per pound for butterfat received by producers divided by the average price of grain mixture fed to milk cows for producing cream sold for butterfat.
[4] Average price of wholesale milk divided by the average price of grain mixture fed to milk cows for producing wholesale milk.
[5] Average price per dozen eggs received by producers, divided by the average cost per pound of poultry ration.
[6] Includes dairy production payments beginning October 1, 1943.
[7] Preliminary.

Thus large supplies of feed together with relatively good livestock prices led to a greater retention of many crops on farms as compared to the last war. Further large quantities of wheat, corn, and other commodities were on farms sealed under loans from

the Commodity Credit Corporation. There was no comparable program during World War I. For January 1, 1940 it is estimated that about 28 million bushels of wheat were sealed on farms. For 1941, 1942, 1943, and 1944 the quantities were 49 million, 118 million, 217 million, and 88 million bushels, respectively. It is believed that corn stored on farms January 1, 1940 would be over 191 million bushels; for 1941, 301 million; for 1942, 205 million; for 1943, 106 million; and for 1944, about 2 million bushels. In addition to these principal crops, substantial quantities of barley, rye, grain sorghums, and soybeans were also on farms, sealed under loans from the Commodity Credit Corporation. For barley it is estimated that the quantities on hand January 1, 1941, 1942, 1943, and 1944 would approximate 6.6 million, 15.4 million, 12.1 million, and 1.3 million bushels, respectively. The quantities of the other crops on farms would not be particularly significant.

The Commodity Credit Corporation, in addition to making loans on those commodities, has made loans on cotton, tobacco, flaxseed, peanuts, and several others, but the stocks of these products sealed on farms would be relatively small, compared with wheat and corn.

INVENTORY OF FARM MACHINERY AND MOTOR VEHICLES

The net effect of purchases, depreciation, and adjustments for changes in prices of farm machinery and motor vehicles during the period January 1, 1940-44 was to increase inventory value from about $3,135,000,000 on January 1, 1940 to about $4,198,000,000 on January 1, 1944 (table 18).[10] From January 1, 1940 to January 1, 1942 the inventory value went up by nearly 26 percent but for the next 2 years the total increase was only about 6 percent.

In both of the first 2 years the increase in inventory resulted primarily from relatively large purchases of machinery and motor vehicles by farmers but during the last 2 years the amount of purchases was considerably smaller, whereas price increases were greater. It is estimated that between January 1, 1940 and January 1, 1942 the price of machinery increased only about 6 percent compared to the 26 percent rise in value. During the next 2 years prices increased over 17 percent as compared to a 6-percent rise in value. Between January 1, 1943 and January 1, 1944 prices rose over 8 percent whereas the inventory value increased only 1 percent.

[10] For methods of estimating the inventory value of farm machinery see Appendix C, p. 180 and INCOME PARITY FOR AGRICULTURE, PT. II, SEC. 3, EXPENSES OF AGRICULTURAL PRODUCTS: PURCHASES, DEPRECIATION, AND VALUE OF FARM AUTOMOBILES, MOTORTRUCKS, TRACTORS, AND OTHER FARM MACHINERY. Bur. Agr. Econ., 74pp. 1940. [Processed.]

TABLE 18.—*Expenditures for and depreciation and value of farm automobiles, motortrucks, tractors, and other farm machinery, 1940-44*

Year	Index of value (1940 = 100)	1 Value Jan. 1	2 Farmers' expenditures	3 Value Jan. 1 plus expenditures	4 Amount of depreciation	5 Column (3)–column (4)	6 Adjustment for price change	Value Dec. 31
		Million dollars	*Million dollars*	*Million dollars*	*Million dollars*	*Million dollars*	*Million dollars*	*Million dollars*
				Tractors and attachments and parts				
1940	100	589	239	828	174	654	−52	602
1941	102	602	350	952	200	752	23	775
1942	132	775	189	964	202	762	53	815
1943	138	815	126	941	198	743	18	761
1944	129	761						
				Other farm machinery				
1940	100	1,364	331	1,695	271	1,424	−14	1,410
1941	103	1,410	444	1,854	297	1,557	47	1,604
1942	118	1,604	464	2,068	331	1,737	87	1,824
1943	134	1,824	373	2,197	352	1,845	55	1,960
1944	139	1,900						
				Automobiles				
1940	100	944	305	1,249	250	999	40	1,039
1941	110	1,039	376	1,415	283	1,132	113	1,245
1942	132	1,245	46	1,291	258	1,033	155	1,188
1943	126	1,188	64	1,252	250	1,002	200	1,202
1944	127	1,202						
				Motortrucks				
1940	100	238	81	319	61	258	10	268
1941	113	268	111	379	72	307	28	335
1942	141	335	19	354	67	287	43	330
1943	139	330	14	344	65	279	56	335
1944	141	335						
				Total machinery and motor vehicles				
1940	100	3,135	956	4,091	756	3,335	−16	3,319
1941	106	3,319	1,281	4,600	852	3,748	211	3,959
1942	126	3,959	718	4,677	858	3,819	338	4,157
1943	133	4,157	577	4,734	865	3,869	329	4,198
1944	134	4,198						

Purchases of farm machinery and motor vehicles during 1940 and 1941 were estimated at $956,000,000 and $1,281,000,000, respectively. In 1942 the purchases were still substantial because of relatively large inventories in the hands of manufacturers and dealers and were about 75 percent of the 1940 figure. In 1943, however, purchases declined to only about 60 percent of the 1940 level or 45 percent of the 1941 peak. Depreciation in 1942 and 1943, on the other hand, has exceeded new purchases; and had it not been for increased prices of used farm equipment the total value would have shown a decline of about $428,000,000 instead of

a slight increase.[11] In 1940 and 1941, however, new purchases exceeded depreciation by $629,000,000. It is thus apparent that for the 4-year period purchases have exceeded depreciation by only about $200,000,000.

Of the inventory value of total machinery and motor vehicles on January 1, 1944, tractors accounted for slightly under one-fifth, trucks about one-twelfth, automobiles about one-fourth, and other farm machinery and equipment not quite one-half. From January 1, 1940 to January 1, 1944 the value of tractors on farms increased about 29 percent, motortrucks 41 percent, automobiles about 27 percent, and other farm machinery 39 percent. A considerable portion of this increase in inventory value was due to higher prices. In tractors, for instance, prices increased about 14 percent compared to a 29-percent increase in value. Prices of motortrucks and automobiles increased over 50 percent, whereas that of other farm machinery increased about 11 percent. But for the increase in the price the value of tractors on farms during the 4-year period would have increased only about 22 percent instead of 29 percent; automobiles would have decreased 27 percent instead of increasing 27 percent, and other farm machinery would have increased only 26 percent instead of 39 percent.

Tractors.—Between January 1, 1940 and January 1, 1944 the purchases of farm tractors exceeded the amount of depreciation by about $130,000,000. During 1940 and 1941 purchases exceeded depreciation by $215,000,000 but during 1942 and 1943 the situation has been reversed and depreciation has exceeded replacement by $85,000,000 (fig. 12). The dollar purchases of tractors and parts in 1943 were only about 36 percent of those in the peak year 1941 and a little over one-half of those of 1940.

Trucks and Automobiles.—From January 1, 1940 to January 1, 1944 truck and automobile purchases by farmers are estimated at $1,016,000,000, whereas the estimated depreciation amounted to $1,306,000,000. During 1940 and 1941 farmers bought more than needed to offset the annual depreciation by over $200,000,000 but during 1942 and 1943 the deficit approached 500 million dollars (fig. 13). The greater deficit was in automobiles where depreciation is estimated to have amounted to over 500 million dollars during the last 2 years, whereas new purchases are estimated at only about 100 million dollars.

[11] Depreciation for each class of machinery shown in table 18 is calculated by applying a constant percentage each year to the value at the beginning of the year plus new purchases. For example, the value of automobiles on January 1, 1940 is estimated at 944 million dollars; new purchases are estimated at 305 million dollars, making a total of 1,249 million dollars. From this total was deducted 20 percent or 250 million dollars for depreciation. The use of an annual depreciation rate of 20 percent does not mean that the depreciation rate is based upon the tractor's lasting 5 years because the 20 percent is applied to current value instead of to the purchase price. Thus, a tractor that cost $1,000 would be depreciated $1,000 by 20 percent the first year, $800 by 20 percent the second year, etc.

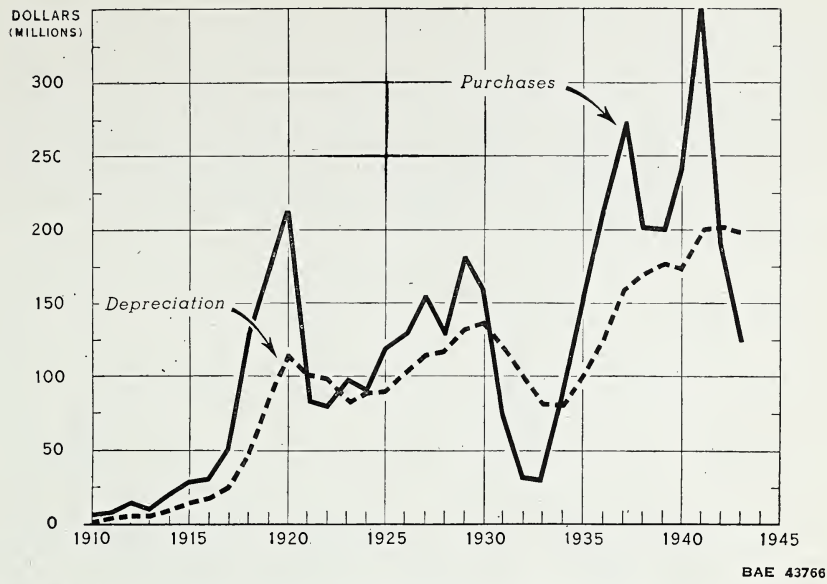


FIGURE 12.—Purchases and Depreciation of Farm Tractors, United States, 1910-43

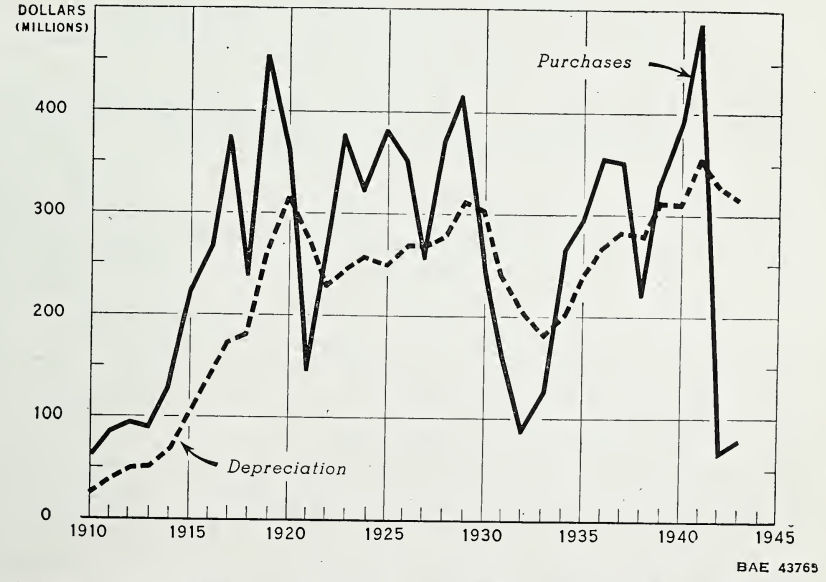


FIGURE 13.—Purchases and Depreciation of Farm Automobiles and Motortrucks, United States, 1910-43

Other Farm Machinery.—Figure 14 shows that the amount of farm machinery other than tractors, trucks, and automobiles, bought by farmers increased each of the first 3 years, 1940, 1941, and 1942. In each of the years 1940-43 purchases have exceeded depreciation although during 1943 they exceeded depreciation by only about 20 million dollars. For the 4-year period purchases have exceeded depreciation for this group of machinery by a total of 361 million dollars.

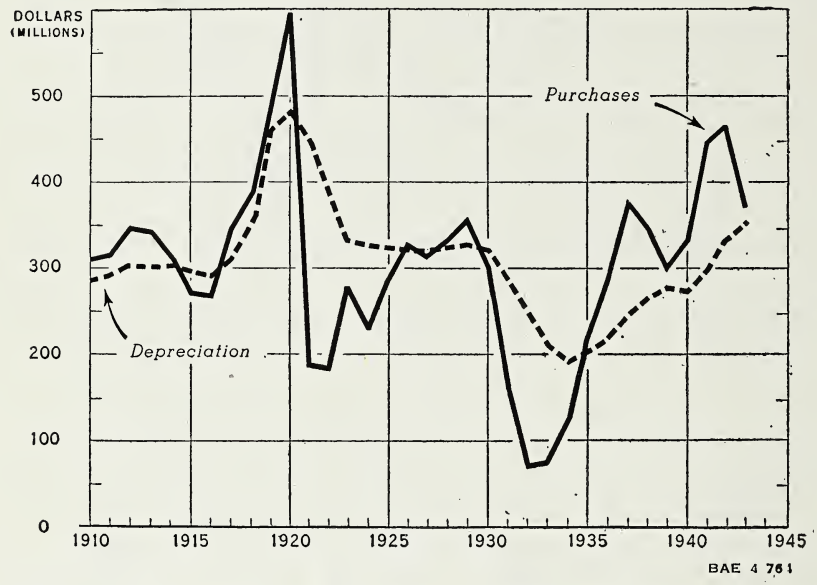


FIGURE 14.—Purchases and Depreciation of Farm Machinery, Other Than Motorized Machinery, United States, 1910-43

The continued increase in the amount of machinery other than tractors, trucks, and automobiles does not mean that there were no deficiencies in farm machinery during the period. With the need for increased production of agricultural commodities and the decrease in farm labor there has been a demand for more farm machinery, and particularly for labor-saving machinery. Further, it will be recalled that the number of horses on farms has declined for several years and this has given rise to the need for more tractors, trucks, and automobiles as well as supplementary equipment. Thus there has been a demand for planting and harvesting machinery, milking machines, and other labor-saving equipment, and a relatively larger demand for tractor-drawn equipment such as plows, seeders, and combines. To a degree this need has been satisfied. For example, it is estimated that the number of tractors

on farms went up from about 1,845,000 on January 1, 1942 to about 1,940,000 on January 1, 1944. During this period the number of combines increased from 269,000 to 303,000 and milking machines went up from 256,000 to 339,000. On the other hand, the numbers of such horse-drawn equipment as cultivators, listers, and planters, show a decline whereas most comparable items that are tractor-drawn show slight increases.

Regional Variations.—Nearly 24 percent of the total inventory value of farm machinery and motor vehicles was found in the Corn Belt States on January 1, 1940 and this increased to a little more than 25 percent for January 1, 1944 (table 19). In other words, the inventory value of such equipment in these States increased about 40 percent between January 1, 1940 and 1944 as compared with an over-all increase for the United States of 34 percent. Substantial increases also occurred in the Lake States where the value on farms January 1, 1944 was about 142 percent of the January 1, 1940 figure. Smallest increases occurred in the North and South Atlantic States where January 1, 1944 values were only 120 percent of the 1940 figure.

TABLE 19.—*Inventory value of farm machinery and motor vehicles on farms, by regions and United States, January 1, 1940-44*

Region	1940	1941	1942	1943	1944 [1]
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
North Atlantic	375,732	388,033	420,860	438,029	449,039
South Atlantic	210,738	212,526	239,054	247,835	254,458
South Central	239,513	232,539	296,928	303,765	310,171
Corn Belt	760,680	819,561	984,430	1,052,074	1,063,085
Lake States	500,813	557,512	659,072	708,218	708,998
Great Plains	358,313	378,284	475,850	487,847	488,088
Oklahoma-Texas	265,536	279,139	331,894	351,385	349,493
Mountain	184,925	198,447	235,481	241,944	245,671
Pacific	238,750	252,959	315,431	325,903	328,997
United States	3,135,000	3,319,000	3,959,000	4,157,000	4,198,000

[1] Preliminary.

Several of the regions showed little or no increase in the value of all farm equipment during 1943 and some showed a slight decrease. As over-all prices increased about 8.5 percent during 1943 it is probable that those regions which show either little change or a decrease in inventory values are using up in the production process considerable of their equipment capital which is not being replaced.

Although the total quantity of machinery and motor vehicles on farms has probably decreased somewhat during the last 2 or 3 years, many of the major types have increased in numbers. In the

Corn Belt, for example, it is estimated that the number of tractors increased from around 547,000 to 583,000 between January 1, 1942 and January 1, 1944. The tractor-drawn moldboard plows increased from 508,000 to 541,000, whereas horse-drawn moldboard plows decreased from 1,189,000 to 1,140,000. Combines increased from 66,300 to 83,780 but grain binders declined from 462,000 to 435,000. Corn pickers increased from 92,000 to 107,000 and tractor-drawn corn planters from 38,000 to 40,720. In the North Atlantic and Lake States, where dairying is a major farm enterprise, the number of milking machine installations on farms increased from 164,000 on January 1, 1942 to more than 220,000 on January 1, 1944. These figures are probably sufficient to indicate that even though there has been a shortage of many farm implements in relation to the war demand, the numbers of many machines needed for the expanded production program have increased.

Comparisons With World War I.—Figure 15 shows that the total value of farm machinery and motor vehicles during World War I increased from about $1,600,000,000 on January 1, 1915 to more than $3,000,000,000 on January 1, 1919 and was more than double the 1915 figure by January 1, 1920. This was a far greater rise than has occurred since 1940. Further, it will be noted that the value continued to increase at a substantial rate during all of

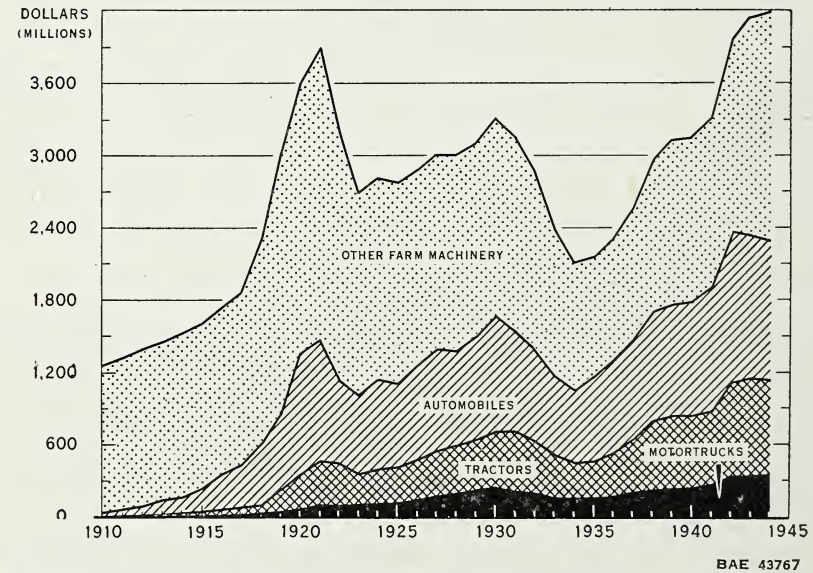


FIGURE 15.—Inventory Value of Farm Automobiles, Motortrucks, Tractors, and Other Farm Machinery, United States, January 1, 1910-44

the years 1915-19, whereas it has leveled off considerably during the last 2 years of World War II period.

After the first World War the inventory value of farm machinery and motor vehicles continued to increase until it reached a peak of about $3,900,000,000 in 1921; then it fell off sharply to only about $2,680,000,000 on January 1, 1923. All of the classes of farm equipment followed this general pattern. But in the current war, the pattern is different. The value of automobiles and tractors fell off during 1942 and 1943 and the value of implements other than tractors, motortrucks, and automobiles has not increased nearly so much as during the last war. What the value of machinery will do after the current war is problematical but no doubt it will show substantial increases for a few years. This question is further discussed on pages 131-133.

The increased value of farm implements during World War I resulted from a cumulation of a number of years when the amount of purchases exceeded the amount of depreciation (fig. 16). This continued until 1921. New purchases fell to less than half of the amount during 1920, with a deficit in purchases compared with depreciation of more than $400,000,000. Purchases, however, were maintained for about 2 years after the Armistice of World War I. In the current war, purchases reached a peak in 1941, and during 1942 and 1943 fell to about one-half of the 1941 figure. Further-

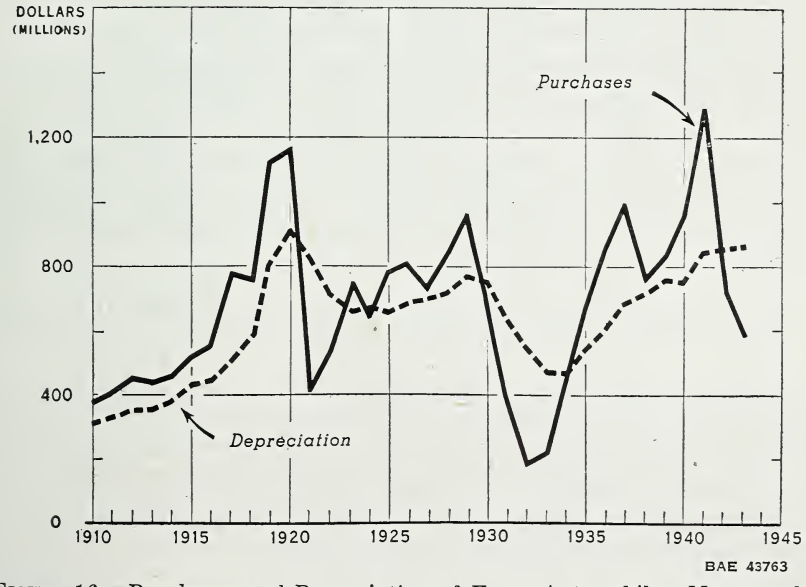


FIGURE 16.—Purchases and Depreciation of Farm Automobiles, Motortrucks, and Other Farm Machinery, United States, 1910-43

more, during the 2 years 1942 and 1943, purchases failed to offset depreciation by over $400,000,000. The difference in the two war periods is chiefly explained by the activities of Government in rationing the manufacturing of finished farm machinery and motor vehicles as well as the sale of such machinery to farmers. Nevertheless, the difference in the two periods has special significance when the probable trends of purchases and depreciation in the years immediately ahead are judged.

The trend in purchases and depreciation of each of the classes of tractors, trucks, automobiles, and "other" farm machinery from 1910 to 1944 is shown in figures 12, 13, and 14. Purchases of automobiles and trucks during the current war have been somewhat smaller than during the last war and not greatly in excess of what they were in 1921, 1925, and 1929 (fig. 13). But depreciation is much higher than in any previous period of high purchases. Furthermore, during 1942 and 1943 purchases of these classes of motor equipment were the smallest since about 1914.

Although the purchases of farm tractors have been relatively high since 1936, exceeding in most years even the peak of 1920, purchases during the 2 years 1942 and 1943 were not sufficient to offset depreciation for those 2 years. But there is a much greater backlog of demand for automobiles and trucks on farms than there is for tractors.

Purchases of farm machinery other than motorized machinery during 1919 and 1920 considerably exceeded purchases in the peak years of the current war period. In 1919 and 1920 purchases of such machinery were estimated at $485,000,000 and $594,000,000, respectively, whereas in the peak years 1941 and 1942 such purchases amounted to $444,000,000 and $464,000,000. However, during the current war depreciation is also relatively low compared to the last war period so that the net addition to the inventory of this equipment has been as great as during World War I.

INVENTORY VALUE OF HOUSEHOLD FURNISHINGS AND EQUIPMENT ON FARMS, JANUARY 1, 1940-44

Table 20 shows that the estimated value of household furnishings and equipment increased consistently between January 1, 1940 and 1944 from $4,275,000,000 to $4,699,000,000. This is an increase of 10 percent.[12] It should be pointed out, however, that the valuations placed upon household furnishings are not entirely comparable with those of other farm assets. Valuations for house-

[12] These estimates are made by the Family Economics Division of the Bureau of Human Nutrition and Home Economics. For an explanation of the method used in the preparation of the estimates see Appendix D.

TABLE 20.—*Estimated value of household furnishings and equipment in farm family homes, January 1, 1940-44*

Year	Aggregate value	Average per farm family
	Million dollars	*Dollars*
1940	4,275	598
1941	4,338	620
1942	4,513	661
1943	4,620	677
1944	4,699	700

hold equipment are based upon the expenditures for equipment bought, minus depreciation, with no adjustment in the valuation of the inventory for changes in the price at which the asset could be liquidated other than that which is already reflected in new yearly purchases. This probably has two consequences: (1) The change in value is likely to be understated relative to other assets, and (2) the absolute level is probably somewhat overstated in the earlier years but not necessarily so by 1944.

In addition to household furnishings and equipment, farm families have assets in the form of clothing which should be recognized because some of their debts may have been incurred for the purpose of buying such consumption goods. But these assets are more personal than other types and do not greatly enter into the farm business as such. Therefore they are not included in the estimate of total physical assets. The exclusion of such assets from the financial condition more than offsets any overstatement that may be present in the estimates for household furnishings.

With a somewhat smaller number of farm families the percentage increase in the average inventory value of household furnishings and equipment per farm family was somewhat greater than the over-all increase would indicate. For January 1, 1940 the average value per farm family was estimated at $598, and this increased to $700 per farm family for January 1, 1944, or 17 percent. This may be compared with an increase in value of 10 percent over the same period.

Information as to the changes in the quantity of household furnishings and equipment during the current war is limited. For January 1, 1940, 1941, and 1942 the number of most of the major items of household equipment increased (table 21) *(9)*.[13] But since that date it is probable that, because of general war restrictions on the manufacture and sale of most of these items, the number may not have increased greatly, if at all.

[13] Italic numbers in parentheses refer to Literature Cited, p. 199.

TABLE 21.—*Estimated number of items of equipment owned by farm families, January 1, 1940-42*[1]

Item	1940	1941	1942
	Millions	*Millions*	*Millions*
Mechanical refrigerator	1.4	1.5	1.9
Ice refrigerator	1.7	1.7	1.8
Mechanical washing machine	3.0	3.1	3.3
Vacuum cleaner	1.0	1.0	1.1
Radio	4.6	5.0	5.1
Electric stove	.4	.5	.5
Gas stove	.2	.3	.5
Kerosene stove	1.5	1.5	1.6
Coal, wood stove	5.5	5.3	5.3
Pressure cooker	1.3	1.4	1.5
Electric toaster	1.4	1.4	1.4
Electric mixer	.4	.4	.5
Electric iron	2.7	2.8	3.0
Electric sewing machine	.4	.4	.4
Piano	1.8	1.8	1.8

[1] Based on data regarding ownership of equipment in U. S. Dept. Agr. Misc. Pub. 520 (*8*). Depreciation each year was figured at 7 percent with the exception of radio at 20 percent and piano at 2 percent. The rate of buying in 1940 was estimated from total expenditure figures. Estimates for 1943 and 1944 were not made because of insufficient data.

INTANGIBLES

The asset values discussed above pertain to tangible goods used in agricultural production. The asset values discussed below pertain to intangible property of farmers consisting of bank deposits, currency, United States savings bonds, warehouse receipts, and other intangibles.

BANK DEPOSITS

On January 1, 1944 farm operators owned bank deposits estimated at 6.5 billion dollars. Of these, 4.5 billion dollars were demand and 2 billion were time deposits (table 22).[14] The aggregate volume of farmer-owned deposits had more than doubled in the 4 years ended January 1, 1944. The 1944 volume is nearly four times that of the years 1933 and 1934. It is more than double the volume of the second half of the 1920's.

Presumably, farmer-owned deposits increased significantly during World War I somewhat as they have during World War II when, between January 1, 1940 and January 1, 1944, the increase was 3.6 billion dollars or 124 percent. Although data comparable to those quoted above are unavailable for years before 1924, the presumed deposit increase during World War I is supported by several facts.[15] In both periods cash farm income more than doubled. In both periods total bank deposits of all classes of per-

[14] See appendix E for sources and methods. The method and all figures are tentative pending extension of surveys undertaken by the Federal reserve banks. Demand-deposit figures used herein are within the range of estimates made tentatively by the Federal Reserve System in the Nov. 1944 Bulletin (*14*). No corresponding Federal reserve data are available for time deposits. See also Monthly Business Review, Federal Reserve Bank of Cleveland, April 29, 1944 (*11*).

[15] An important pioneering effort to estimate farmers' wealth including cash and deposits as of January 1, 1920 was that of L. C. Gray (*2*), who estimated farmer-owned currency and deposits as of January 1, 1920 at approximately 3.4 billion dollars.

sons and business expanded greatly. Thus between June 1914 and June 1918 total deposits of all banks in the United States increased from 18.5 to 28.1 billion dollars, an increase of 52 percent.[16] In the somewhat similar period between January 1, 1940 and January 1, 1944, comparable total deposits of the Nation increased from 57.7 to 104 billion dollars or more than 80 percent. Such facts support the inference with which this paragraph opened, that farmer-owned deposits increased significantly though perhaps not so much, during the last war as they have done during the present war.

TABLE 22.—*Tentative estimates of amount of farmer-owned deposits in the United States, January 1, 1924-44*[1]

Year	Deposits		
	Demand	Time	Total
	Billion dollars	*Billion dollars*	*Billion dollars*
1924	1.4	1.5	2.9
1925	1.4	1.6	3.0
1926	1.4	1.6	3.0
1927	1.4	1.6	3.0
1928	1.4	1.7	3.1
1929	1.4	1.8	3.2
1930	1.3	1.7	3.0
1931	1.1	1.6	2.7
1932	0.8	1.3	2.1
1933	.7	1.1	1.8
1934	.7	1.0	1.7
1935	1.0	1.1	2.1
1936	1.2	1.2	2.4
1937	1.4	1.3	2.7
1938	1.4	1.4	2.8
1939	1.4	1.4	2.8
1940	1.5	1.4	2.9
1941	1.7	1.5	3.2
1942	2.2	1.6	3.8
1943	3.2	1.8	5.0
1944	4.5	2.0	6.5

[1] Distribution between time and demand deposits is uncertain. An available index number showing variations in the amount of each is somewhat more reliable. See table 52, Appendix E. These estimates are tentative pending further tabulation of deposit ownership surveys by the Federal reserve banks.

Farmers' deposits not only have increased greatly during the present war but have increased more rapidly than bank deposits as a whole (fig. 17). Indeed, history indicates that farmers' deposit accounts undergo wider variations than deposits in general (16, pp. 2-3). Thus the index (1924-29 = 100) of deposits of country banks in agricultural areas selected to reflect farmers' holdings reached a low of 47.2 in April 1933, which was about 25 points below a comparable index for all deposits. The relative increase in the deposit index for country banks to the 1937 peak of

[16] Adjusted, but including Federal deposits and deposits in Postal Savings System. See Banking and Monetary Statistics, Federal Reserve System (*13, table 9, p. 34*), and Federal Reserve Bulletin, March 1944 (*14, p. 253*). Adjusted deposits exclude interbank deposits and items in process of collection. Adjusted *demand* deposits also exclude U. S. Government deposits.

91.9 was greater than for all deposits and again during war years the increase to 232.3 for January 1944 was considerably more than the increase in all deposits.

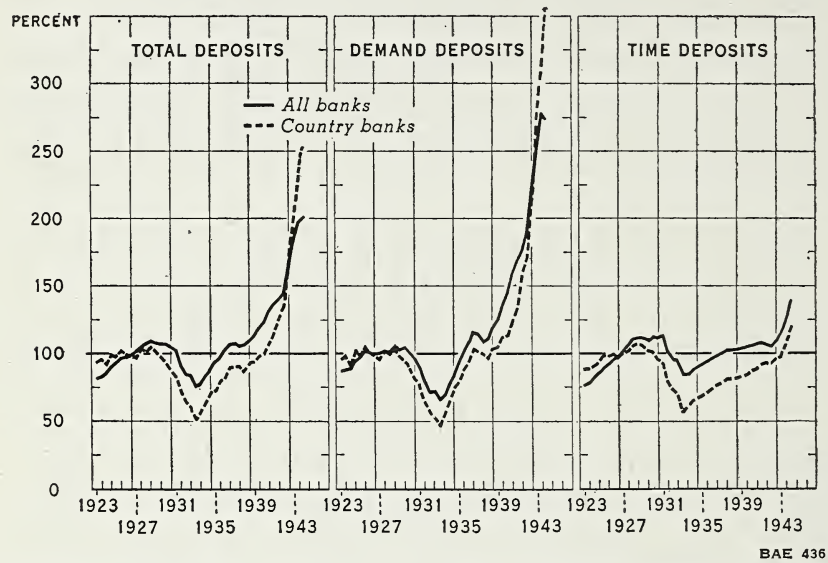


FIGURE 17.—Deposits of Country Banks Compared with Adjusted Deposits of All Banks (Excluding U. S. Government Deposits), June 30 and December 31, 1923-44. (Index Numbers, 1924-29 = 100)

Since the middle of 1942 the increase in deposits in farming areas has been more rapid than in the country as a whole. Since that time the inflow of funds to agricultural communities has been in excess of the payments these communities have been making to nonfarm communities and to the Government.

One of the explanations for the increase of country-bank deposits is indicated by the relationship of cash farm income to rural retail sales (fig. 18). Although index numbers of the two series tended to move in somewhat parallel courses before 1942, beginning with that year sales stabilized or declined somewhat, whereas cash farm income increased sharply. One consequence of this disparity between income of farmers and sales to farmers is the increase of deposits of country banks. Even the high income-tax payments and withdrawals for payments for savings bonds have been insufficient to check the increase in deposits of country banks.

Undoubtedly a considerable portion of this increase in liquid assets should be earmarked for replacement of worn-out equipment, soil depletion, or other capital deficiencies. This increase in liquid assets is partly the accumulation of net income after deduc-

tion for depreciation but is also partly a form of original investment transmuted through production and cash receipts from fixed into liquid assets. In other words, as equipment is used in the

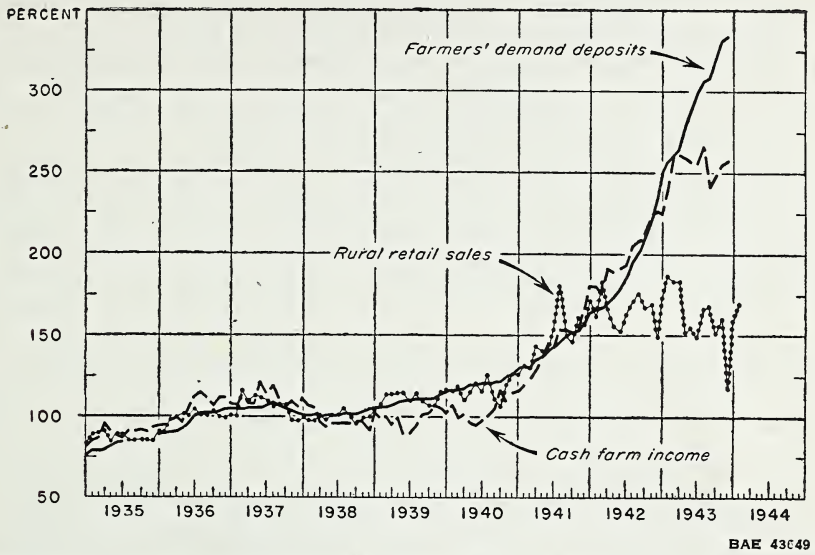


FIGURE 18.—Farmer-Owned Demand Deposits, Cash Farm Income, and Rural Retail Sales, United States, 1935-44. (Index Numbers 1935-39 = 100). Adjusted for Seasonal Variation.

process of producing cash farm income it becomes worn and cash receipts obtained by the use of the equipment is not a net return until depreciation has been deducted. Consequently, cash receipts are partly a return of the cost of the equipment. The prudent operator will retain adequate liquid assets out of this inflow of cash receipts to replace equipment when needed and as available.

As indicated by the index of deposits of country banks, farmer-held demand deposits have increased much more rapidly than time deposits during this war period. The estimates indicate that during war years demand deposits owned by farmers have increased more, both relatively and absolutely, than comparable time deposits. Thus on January 1, 1940 farmers' demand accounts totaled about 1.5 billion dollars and time accounts about 1.4 billion dollars. By January 1, 1944 demand deposits had increased to 4.5 billion dollars, or about 200 percent, whereas time deposits had increased to 2 billion dollars, or only 43 percent.

Reasons for the greater increase in demand than in time deposits owned by farmers include:

1. Farmers' need for holding larger cash balances for transacting an enlarged wartime business at higher price levels.

2. Funds intended for savings are being allocated to United States savings bonds. The combined absolute increase of savings bonds and savings deposits are almost equal to the increase in demand deposits.

3. The lag in the rise of operating costs behind the rise in product sales, permitting funds to accumulate in farmers' checking accounts which are the main points of inflow and outflow of funds.

4. The limited availability of commodities for which expenditures can be made.

5. The low rate of interest paid on time accounts—1 or 2 percent—and the frequent refusal of banks to accept such accounts.

Regional differences may be noted in the extent to which the war has influenced the volume of deposits of country banks (table 23). Although the timing and direction of change in the amount of deposits of country banks appears to be rather consistent between various geographic areas, the amplitude or degree of change

TABLE 23.—*Index of deposits of country banks (demand and time combined)*[1]
[1924-29 = 100]

Year and month	20 leading agricultural States[2]	5 Corn Belt States[3]	8 Cotton-growing States[4]	8 Range States[5]	3 Lake States[6]	4 Great Plains States[7]	Oklahoma-Texas
1924	94.6	97.5	95.1	94.9	96.6	95.7	93.7
1925	100.4	100.4	102.9	94.6	100.1	103.8	101.4
1926	100.6	101.4	103.6	96.8	101.2	101.2	95.8
1927	99.5	99.7	100.8	98.6	98.3	96.6	98.9
1928	103.3	101.6	101.1	107.5	101.7	102.2	106.3
1929	101.5	99.5	96.5	107.7	101.9	100.9	103.9
1930	93.9	91.5	83.3	98.4	97.5	97.6	89.6
1931	81.4	78.9	65.9	85.3	88.9	87.2	74.0
1932	64.0	60.6	48.9	64.6	71.9	68.1	59.7
1933	52.6	45.1	45.6	53.8	49.7	59.4	57.1
1934	64.2	58.2	59.0	61.4	56.9	73.1	69.9
1935	(8)	(8)	(8)	(8)	(8)	(8)	(8)
1936	83.2	79.6	81.4	87.6	77.3	88.4	89.9
1937	90.1	89.3	88.1	94.4	86.3	88.5	99.8
1938	89.6	91.6	86.8	92.4	87.1	81.8	102.1
1939	94.3	99.0	91.6	98.0	90.4	85.0	107.4
1940	101.8	109.4	95.9	105.5	96.8	90.2	115.6
1941	116.0	128.9	109.9	116.8	105.4	99.4	132.3
1942	141.7	159.8	138.8	140.8	119.8	126.6	161.4
1943	200.9	223.4	195.0	211.2	159.4	195.0	244.0
Jan.	177.8	196.7	179.5	187.6	141.8	168.2	213.2
Feb.	182.6	201.0	183.5	186.5	145.5	173.5	225.1
Mar.	183.8	204.0	182.8	189.7	147.9	177.1	220.9
Apr.	183.9	205.6	181.6	192.8	149.3	176.6	218.3
May	190.4	212.9	186.6	198.6	151.8	183.4	226.5
June	194.9	218.2	188.3	200.7	155.4	188.0	234.0
July	201.4	223.9	190.9	203.2	160.8	193.8	242.1
Aug.	205.6	228.9	193.9	211.0	164.4	203.6	247.8
Sept.	211.0	233.6	202.3	221.2	167.5	208.8	258.8
Oct.	220.7	244.8	210.6	236.8	172.6	217.1	270.2
Nov.	228.6	254.2	218.3	250.9	178.0	224.1	284.3
Dec.	230.1	256.9	221.3	255.4	177.2	225.4	286.5
1944:							
Jan.	232.3	260.6	224.6	252.8	178.8	227.8	284.9

[1] Based upon data reported by member banks of the Federal Reserve System located in places of less than 15,000 population (1940 Census). Each deposit series is weighted, the deposits for each State having been given a weight equal to the proportion, in the base period, of that State's cash farm income to the total cash farm income of the group of States.

[2] Ark., Ga., Ill., Ind., Iowa, Kans., Mich., Minn., Miss., Mo., Nebr., N. Y., N. C., N. Dak., Ohio, Okla., Pa., S. Dak., Texas, and Wis.

[3] Ohio, Ind., Ill., Mo., and Iowa.

[4] N. C., S. C., Ga., Ala., Miss., Ark., La., and Okla.

[5] Mont., Colo., Ariz., Idaho, Nev., N. Mex., Utah, and Wyo.

[6] Mich., Wis., and Minn.

[7] N. Dak., S. Dak., Nebr., and Kans.

[8] Five months of 1935 are unavailable.

is not always uniform. In the various regions for which data are available the relative amplitude of change during any year in the volume of deposits of country banks was more nearly the same before the war than more recently. Although the combined index for 20 of the leading agricultural States was 232.3 in January 1944, as compared with 101.8, average for 1940, some dispersion between regions has become evident in the war years, particularly in 1943 and 1944. The Oklahoma-Texas area with a January 1944 index of 284.9 and the Corn Belt with a comparable figure of 260.6 seem to have shown the greatest relative increases in such deposits during war years. The Lake States, with a January 1944 index of 178.8, have lagged behind other areas. The specialized cotton, corn, wheat, and livestock areas evidently have gained relatively more deposits during war years than has the diversified and dairy area of the Lake States.

Although agriculture as a whole has attained a much stronger cash position during war years than before, this discussion has stressed two important interpretative qualifications: (1) Increased cash holdings in part represent decreased tangible assets—worn-out equipment, and (2) regions have not shared uniformly in the attainment of a liquid position. Furthermore, variations between individual farmers within regions must be far greater than variations between regions.

CURRENCY

According to G. L. Bach, individuals, including farmers, are believed to have held 16 billion dollars in currency at the close of 1943, a greater volume than ever before in history (*1, p. 324*).

Of the currency in possession of individuals it is believed that farmers own currency at least in proportion to their representation in the total population, including the armed forces. On the basis of this assumption, it is believed that about 3.2 billion dollars of currency was in the possession of farmers in early 1944. As judged by fluctuations in currency outside banks, comparable farmer-owned currency at the beginning of each war year follows: 1940, 1.1 billion dollars; 1941, 1.2 billion dollars; 1942, 1.6 billion dollars; and 1943, 2.4 billion dollars.

Rural bank failures of the 1920's and 1930's encouraged many farmers to prefer currency to bank deposits. Many farmers live at an inconvenient distance from any bank, and now with the restrictions on the use of gasoline, "mattress banking" is a frequent practice in rural households.

Individually owned currency in circulation appears to be about equal in volume to individually owned bank deposits. As farmers

apparently hold somewhat more than a proportionate share of individually owned deposits, some authorities believe that currency in the hands of farmers may exceed the 3.2 billion dollars, assumed to be applicable to early 1944. In any event, the total of demand and time deposits and currency owned by farmers was probably not less than 9.7 billion dollars at the beginning of 1944.

WAREHOUSE RECEIPTS

As a rule, farmers do not hold warehouse receipts over extended periods. The tendency is to dispose of them by sale of the underlying commodities to merchandisers or to pledge them as collateral for loans. When the underlying commodities are sold the warehouse receipts disappear from among farm assets. In case they are pledged as collateral they remain among the asset items of farms although they may disappear in the liquidation of the loan.

The volume of warehouse receipts owned by farmers is known only with respect to that part which secures loans made by, or guaranteed by, the Commodity Credit Corporation. This excludes warehouse receipts pledged to local banks to secure loans not guaranteed by the Commodity Credit Corporation; the volume thus pledged is substantial, but would probably not equal that reported as pledged for loans in which the Commodity Credit Corporation has an interest. In any case, the volume of farmer-owned warehouse receipts reported in connection with loans made by or guaranteed by the Commodity Credit Corporation is substantially less than the total. With this qualification these figures are used in the balance sheet of agriculture, and are presented in detail in table 24.

TABLE 24.—*Estimated value of commodities in warehouses pledged as security for loans to farmers held or guaranteed by the Commodity Credit Corporation, January 1, 1940-44*

Commodity	1940	1941	1942	1943	1944
	Million dollars	*Million dollars*	*Million dollars*	*Million dollars*	*Million dollars*
Flaxseed	0	0	0.7	1.6	0.6
Wheat	127.5	222.7	253.8	253.3	90.9
Barley	0	.1	.7	1.8	.1
Rye	0	0	0	.1	.04
Cotton	178.4	228.0	130.8	227.4	419.2
Dried peas	0	0	0	0	.1
Dry beans	0	0	0	0	.5
Total	305.9	450.8	386.0	484.2	511.4

INVESTMENTS

The consolidated balance sheet (table 1) lists two classes of intangible investments—United States savings bonds and investments in cooperatives. The limited classification is due to the

paucity of information on farmers' holdings of intangible investments other than savings bonds and shares of cooperatives.

This lack of information probably does not seriously distort the picture of farm assets. In the first place, farmers' holdings of corporation stocks and bonds, of farm mortgages and other intangible investments, as a rule, are not related to farm operations. They are not normally intended for use in farming. But savings bonds may in large part represent an investment of funds which are temporarily released from investment in working capital by the inability of farmers to make replacements of equipment in wartime. Farmers' investments in cooperatives that facilitate production and marketing of farm goods are closely identified with farm operation and their inclusion with farm assets is entirely appropriate.

A second reason for believing that the picture of farm assets is not seriously distorted by lack of data on farmers' holdings of other intangibles is that such holdings appear to be relatively insignificant. [17] This is in line with the nature and organization of agriculture. Because the farming unit is relatively small and the ratio of operators to total workers is exceptionally high, a very large proportion of those who work in agriculture are required to make sizable investments in farm equipment if not in land as well. Thus in normal times there is little ability or inclination to invest in stocks, bonds, or other intangibles.

But war gives rise to circumstances which temporarily alter this general situation. Wartime rationing and other restrictions narrow the channels of expenditure for both consumers' and producers' goods at the very time when cash receipts are exceptionally high. As a result, an unusually high rate of debt repayment or an exceptionally active demand for land and other forms of investment may easily develop. Which of these developments will be most pronounced will depend on many factors, including the manner and vigor with which the Government sells its savings bonds. Part of the sales effort of the Department of the Treasury in this war has been directed toward restraining purchases of land and encouraging the purchase of bonds by farmers even though they were still in debt. Under such circumstances farmers may add significantly to their holdings of intangible investments in the form of savings bonds.

(a) *United States Savings Bonds.*—On January 1, 1940 farmers owned United States savings bonds which had an esti-

[17] It has been estimated by L. C. Gray (*2*), that in 1920 such wealth amounted to about 5 percent of total wealth then owned by farmers. Farm-mortgage holdings of active farmers on January 1, 1928 have been reported as totaling $339,000,000. This was 3.6 percent of the total then held by lending agencies (*17, pp. 21-22*).

mated redemption value of $230,000,000. By January 1, 1944 the estimated value of such holdings had risen to $2,390,000,000.

Farmers' purchases of United States savings bonds between January 1, 1940 and January 1, 1944 were heavily concentrated in the D and E series for the respective periods in which these were on sale.[18]

Acquisition of savings bonds by farmers was relatively slow in the first part of that period and was much accelerated in the latter part. Various factors account for this. In the first place, net farm income out of which bonds are bought rose steadily throughout the period. Moreover, there were few restrictions on purchases of ordinary industrial goods before 1942. Finally, in many States, the organization of bond sales among farmers was slow in starting. Pay-roll deduction plans for industrial workers were developed earlier to facilitate bond sales among the rank and file. Consequently, the bonds bought by farmers were less both actually and relatively than otherwise might have been the case. Nevertheless, it appears that the farmers invested $2,031,000,000 in the 4 years following January 1, 1940 in series D and E bonds (table 25).

Bond holdings of farmers depend not only on the amounts purchased, but also on the amounts cashed. To estimate the latter the Treasury redemptions of savings bonds of series A to E, inclusive, totaling $1,210,000,000 for the 4 years 1940-43, were first divided between the farmers of the Nation and the nonfarm group on the basis of bonds purchased in the same period. Then adjustment was made in recognition of the widespread belief that farmers cash their bonds to a lesser extent than do other groups. How much less is uncertain, but on such direct evidence as has been gathered, it appears that farmers cash their bonds at not more than one-third the rate for the country as a whole. On this basis, it appears that farmers cashed $60,000,000 of bonds—series A to E inclusive—during the years 1940 through 1943. This is 3 percent of series D and E bonds purchased during the same period, and when this amount is subtracted it indicates that farmers had made a *net* addition to their holdings of such bonds in the 4 years preceding January 1, 1944, for which they had paid $1,971,000,000.

[18] Savings bonds were first issued by the United States Treasury in March 1935 and sold at about 14,000 post offices throughout the country. In 1936 the number of post offices at which savings bonds could be bought was increased to about 15,000 and provision was made for mail-order sales through the Treasurer of the United States and the Federal reserve banks. In June 1941, soon after the authorization of the sale of series E bonds, about 16,000 post offices and about 11,000 agencies, including commercial banks and private business firms, which had qualified with the Federal reserve banks, promoted the sale of such bonds. Series A bonds were sold from March 1 to December 31, 1935; series B, January 1 to December 31, 1936; series C, January 1, 1937 to December 31, 1938; and series D, January 1, 1939 to April 30, 1941. On May 1, 1941, series D was replaced by Defense Series E. On the same date, the sale of Defense Series F and G was authorized. These may be bought by any investors other than commercial banks. Series A to E have been available only to individuals.

TABLE 25.—*United States savings bonds: Estimated cost of series D and E purchased by farmers, by regions, 1940-43*

State and region	Total 1940–43			Amount purchased 1940	Amount purchased 1941	Amount purchased 1942	Amount purchased 1943
	Amount of D and E bonds purchased	Average per capita	Percentage distribution of total				
	1,000 dollars	*Dollars*	*Percent*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
North Atlantic [1]	220,553	96.51	10.86	10,103	18,593	73,419	118,438
South Atlantic [2]	240,759	39.82	11.85	9,705	18,014	78,072	134,968
South Central [3]	276,684	38.27	13.62	12,492	19,560	82,978	161,654
Lake States [4]	237,538	90.05	11.70	14,970	18,242	67,757	136,569
Corn Belt [5]	457,964	93.72	22.55	28,726	33,760	137,994	257,484
Oklahoma-Texas	172,940	56.22	8.51	8,146	13,665	49,190	101,939
Great Plains [6]	174,126	100.36	8.57	10,140	11,271	43,187	109,528
Mountain [7]	83,778	76.08	4.12	3,706	5,985	22,455	51,632
Pacific [8]	166,931	136.03	8.22	6,472	12,374	52,132	95,953
UNITED STATES	2,031,273	67.21	100.00	104,460	151,464	607,184	1,168,165

[1] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
[2] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia and Florida.
[3] Kentucky, Tennessee, Alabama, Mississippi, Arkansas, and Louisiana.
[4] Michigan, Wisconsin, and Minnesota.
[5] Ohio, Indiana, Illinois, Missouri, and Iowa.
[6] North Dakota, South Dakota, Kansas, and Nebraska.
[7] Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
[8] Washington, Oregon, and California.
Based upon data furnished by the Department of the Treasury.

Finally, to arrive at the value on January 1, 1944 of the net increase of bond holdings of farmers during the preceding 4 years, account was taken of the fact that the redemption values of these securities do not remain constant. All series except series G increase in redemption value with the passing of time and bonds of the G series first decline and later rise in redemption value.

In computing the cash value on January 1, 1944 of D and E series bonds bought by farmers, the purchases of any half-year period were assumed to have an issue date at the middle of the period. Increases in their value could then readily be computed by reference to published United States Treasury tables of redemption values. Thus calculated, the January 1, 1944 value of D and E bonds purchased by farmers in the preceding 4 years was $2,050,000,000, or 101 percent of purchase price. Applying this percentage to the purchase price of the amount believed to have been held by farmers on January 1, 1944 gives a value to such bonds of $1,991,000,000.

In buying United States savings bonds farmers have not entirely avoided the F and G series, but the proportion bought appears to be small. There is a widespread belief among those closely identified with bond sales to farmers that the proportion would not exceed 8 percent on an average and that it probably is less. The

proportion differs somewhat among the States. It is probable that it is higher than average in the Range States and lower in the States where income is more regularly spread throughout the year and where farms are on a smaller scale. On the assumption that farmers invested $11.50 in series E bonds to every $1 in series F and G combined, the estimated cost to farmers of F and G series bought in this period is $170,000,000. If F and G bonds have been cashed in the same proportion as E bonds, the reduction is so small as not to alter the rounded figures.

No adjustment for difference in issue price and redemption value was attempted for F and G bonds. Any such adjustment would be inconsequential, not only because farmers own relatively few of either series, but also because the adjustments would tend partially to offset each other. The value of all series G bonds bought during the 4-year period under survey fell, whereas redemption values of series F bonds rose beginning 1 year after purchase.

(b) *Investments in Cooperatives.*—It would appear that the financial interest of farmers in cooperatives which facilitate farm operations was valued at around $660,000,000 shortly before the second World War began. Information on the investments of farmers in cooperatives is nowhere regularly reported. But it is possible to piece together figures pertaining to the most important individual types of such organizations for the years 1936-37.

By so doing, a reasonably accurate picture of the size of this farm asset shortly before the beginning of World War II is obtained. No estimate of subsequent growth of decline of the total investment has been made. The same figure, built up from figures

TABLE 26.—*Farmers' financial interest in selected types of cooperative associations, specified periods 1936-38*

Type of cooperative	Year	Farmers' financial interest
		Dollars
Marketing and Purchasing Association	1936 [1]	287,860,000 [2]
Farmers' Mutual Telephone Company	1938 (Jan. 1)	23,035,000 [3]
Farmers' Mutual Irrigation Company	1936 [1]	189,178,000 [3]
Farmers' Fire Insurance Company	1936 [1]	35,193,000 [4]
Production Credit Association	1937 (Jan. 1)	10,800,000 [5]
National Farm Loan Association	1937 (Jan. 1)	111,000,000 [6]
Federal Land Bank	1937 (Jan. 1)	2,800,000 [7]
Total		659,866,000

[1] Day and month not reported.
[2] Total net worth. Source: A Statistical Handbook of Farmers' Cooperatives (*10*).
[3] Investment in plant and equipment less borrowed money (*7*).
[4] Total surplus. Source: (same as footnote 2).
[5] Capital stock owned by farmers. Include B stock and that portion of A stock owned by private individuals. Source: Farm Credit Administration, Washington, D. C.
[6] Capital stock owned by farmers. A substantial amount of this has a value below par. Source: (same as footnote 5).
[7] Capital stock owned by farmers. Source: (same as footnote 5).

pertaining to the period 1936-37, is carried in the balance sheet for each of the war years. This has been done despite the known shrinkage in farmer investment in cooperative credit facilities because of the probability of an offsetting growth in other types of cooperative enterprise. The extent of farmers' financial interest in cooperatives is indicated in table 26.

Changes in Balance Sheet—Equity Items

On the preceding pages consideration was given to the asset items in the agricultural balance sheet. It is proposed now to consider the equities in these assets. The term "equities" is used here in the inclusive sense to apply not only to the interest the proprietors (landowners and tenants) have in the farm business but also to the interest belonging to creditors. The fractional interests belonging to the creditors are indicated by the debts of the proprietors. Among these equities the item of mortgage debt secured by farm real estate will be first considered with special reference to the changes that have occurred since the beginning of the present war.

FARM REAL ESTATE DEBT

Farm-mortgage debt developments so far in World War II have been in sharp contrast in many respects to those of the comparable period of World War I. During the 4 years ended January 1, 1919 outstanding farm-mortgage debt *increased* over 2 billion dollars; during the 4 years ended January 1, 1944 the debt *decreased* almost 1 billion dollars (table 27).

In the first war period mortgage debt rose a little faster than did the value of all farm real estate, whereas in the second war period mortgage debt has declined in the face of rising land values. At the beginning of 1944 mortgage debt was equal to about the same percentage of the value of all farm real estate as it was at the beginning of 1919 (table 27), but at the outbreak of World War II this relationship was in sharp contrast to that at the beginning of World War I. Mortgage debt was equal to almost 20 percent of the value of all farm real estate at the beginning of 1940; at the beginning of 1915 it was only 12.6 percent.

Even at the beginning of 1920, mortgage debt was only 12.7 percent of the value of all farm real estate, but real estate values had risen to more than 66 billion dollars and mortgage debt to about 8.5 billion dollars. With the sharp decline of land values and the further rise of mortgage debt in the early twenties, the ratio rose to 21.1 at the beginning of 1924. Partly as a result of declining debt during World War II, but mainly as a result of

TABLE 27.—*Farm-mortgage debt outstanding, value of farm real estate, and debt as a percentage of value, United States, January 1, 1910-44*

Year	Total outstanding farm-mortgage debt	Total value of farm real estate	Debt as a percentage of value
	Million dollars	*Million dollars*	*Percent*
1910	3,208	34,801	9.2
1911	3,522	36,050	9.8
1912	3,930	37,306	10.5
1913	4,348	38,463	11.3
1914	4,707	39,586	11.9
1915	4,991	39,597	12.6
1916	5,256	42,271	12.4
1917	5,826	45,495	12.8
1918	6,537	49,987	13.1
1919	7,137	54,539	13.1
1920	8,449	66,316	12.7
1921	10,221	61,476	16.6
1922	10,702	54,017	19.8
1923	10,786	52,710	20.5
1924	10,665	50,468	21.1
1925	9,913	49,468	20.0
1926	9,713	49,052	19.8
1927	9,658	47,634	20.3
1928	9,757	47,495	20.5
1929	9,757	47,880	20.4
1930	9,631	47,880	20.1
1931	9,398	43,993	21.4
1932	9,094	37,236	24.4
1933	8,466	30,724	27.6
1934	7,685	31,933	24.1
1935	7,584	32,859	23.1
1936	7,423	33,910	21.9
1937	7,154	34,757	20.6
1938	6,955	34,747	20.0
1939	6,779	33,931	20.0
1940	6,586	33,642	19.6
1941	6,534	34,026	19.2
1942	6,484	36,611	17.7
1943	6,117	39,963	15.3
1944	5,635	45,592	12.4

rising land values, mortgage debt even now is only at about the same level in relation to the value of farm real estate as it was at the beginning of 1920. It should be noted, however, that both debt and land values were at a lower level in 1944 than in 1920.

The absolute amount of farm-mortgage debt was 1.5 billion dollars lower at the beginning of 1944 than at the beginning of 1919 (5,635 million dollars in 1944 as compared with 7,137 million dollars in 1919), and was spread over more farms than in 1919. With average debt per mortgaged farm lower than in 1919, and with the interest charge per 1,000 dollars of mortgage debt at least 25 percent lower on the average than in that year, the average interest charge per year for mortgaged farms now is substantially below that of the comparable earlier period. For the average mortgaged farm, therefore, mortgage interest is a much smaller percentage of cash farm income now than it was in 1919.

Expressed in terms of aggregates and averages, the mortgage-debt situation in 1944 appears to be much more favorable than

that prevailing in 1919. But this does not deny the fact that many individual farmers would soon be in a precarious financial position if prices for farm products should drop and remain low for an extended period. At the same time that many farmers have been paying off their mortgage debts, other farmers have been buying farms at high prices and many have been giving large mortgages in partial payment. It seems probable that a significant part of the 5,635 million dollars of mortgage debt outstanding at the beginning of 1944 was made up of relatively large mortgages. Moreover, many of the large mortgages placed on farms in recent years have been taken by lenders who usually charge higher-than-average interest rates and lend for relatively short terms.

Even if total mortgage debt were to decline still further, there would probably be a mortgage-debt problem for a significant number of farmers if farm income were not maintained at a reasonable level after the war.

Details relating to the effects of war upon the farm-debt structure are discussed in the following paragraphs.

THE FARM-MORTGAGE-DEBT SITUATION AT THE BEGINNING OF 1940

Information relating to the farm-mortgage-debt situation at the beginning of 1940 will serve two purposes: (1) To give a cross-section picture for a date near the beginning of World War II; and (2) to illustrate, for a comparatively recent date, certain general relationships within the mortgage picture that change rather slowly even in a period of economic upheaval such as accompanies a major war.

Percentage of Farms Under Mortgage.—At the beginning of World War II the outstanding farm-mortgage debt, estimated to have been 6,586 million dollars on January 1, 1940, rested on only about 39 percent of the farms. Mortgaged farms, however, accounted for over 43 percent of the land in farms and for over 47 percent of the value of all farms. Thus, mortgaged farms on the average were larger and more valuable than farms that were free of mortgage debt. This appears to be a continuing relationship between mortgaged and free-of-debt farms, judging from data on owner-operated farms at earlier census years.

The percentage of farms under mortgage varies with the tenure arrangements under which the land is operated. A higher percentage of owner-operated than rented or manager-operated farms were under mortgage in 1940 (fig. 19). Moreover, a higher percentage of the part-owner farms were mortgaged [19] than in

[19] Operator owns a part and rents the remainder of the land he operates.

the case of farms operated by full owners.[20] These mortgage-debt relationships, among groups of farms classified according to tenure, were much the same in earlier years for which comparable data are available.[21] From various surveys that have been made

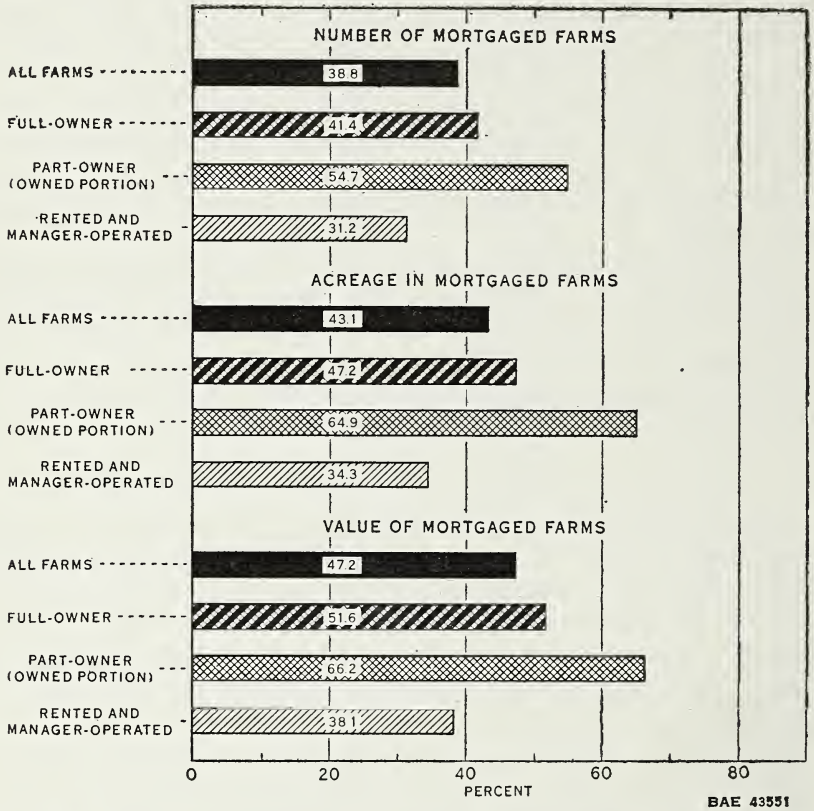


FIGURE 19.—Number, Acreage, and Value of Mortgaged Farms as a Percentage of Number, Acreage, and Value of All Farms by Tenure Under Which the Land is Operated, United States, 1940. (From Bureau of the Census and Bureau of Agricultural Economics)

it appears that the percentage of farms under mortgage ranges from high to low in the following order:

(1) Part-owner—portion owned by operator
(2) Full-owner—no additional land owned [22]
(3) Full-owner—additional land owned [22]

[20] Operator owns all of the land he operates.
[21] See United States Bureau of Agricultural Economics and Bureau of the Census NUMBER OF MORTGAGED FARMS. Cooperative Survey—Farm-Mortgage Indebtedness in the United States—Release 1, 12 pp. 1943. [Processed.]
[22] See Horton, D. C. NUMBER AND PERCENTAGE OF FARMS UNDER MORTGAGE. U. S. Bur. Agr. Econ. Agr. Finance Rev. 1 (2) : 39–52. [1938. Processed.] (See p. 41 for 1935 data.)

(4) Rented and manager-operated farms
(5) Land "rented in" by part owners.[23]

Ratio of Mortgage Debt to Value of Farm Real Estate.—At the beginning of 1940 estimated total mortgage debt was equal to 41.5 percent of the estimated value of *mortgaged* farms and to 19.6 percent of the reported value of *all* farms, including those free from mortgage. The ratio of mortgage debt to value for mortgaged part-owner farms (owned portion) was 46.9 percent; for full-owner farms, 42.5 percent; and for rented and manager-operated land, 37.8 percent.

Table 28 summarizes the principal mortgage-debt ratios for the country as a whole, as of the beginning of 1940, according to tenure. The high ratio of mortgage debt to the value of the owned portion of all part-owner farms (item 5) reflects also the frequency of mortgage on such farms. Mortgage debt on the owned portion of part-owner farms was 31.0 percent of the value of all such land, as compared with 21.9 percent for full-owner farms and 14.4 percent for rented and manager-operated land.

TABLE 28.—*Selected farm-mortgage ratios by tenure under which the land is operated, January 1, 1940*[1]

Item No.	Item	All farms	Full-owner	Part-owner	Rented and manager-operated
1	Percentage of farms mortgaged	38.8	41.4	54.7	31.2
2	Percentage of all farm land in mortgaged farms	43.1	47.2	64.9	34.3
3	Value of mortgaged farms as a percentage of the value of all farms	47.2	51.6	66.2	38.1
4	Mortgage debt as a percentage of the value of mortgaged farms	41.5	42.5	46.9	37.8
5	Mortgage debt as a percentage of the value of all farms	19.6	21.9	31.0	14.4

[1] Data are from Bureau of Agricultural Economics and Bureau of the Census. Cooperative Survey—Farm-Mortgage Indebtedness in the United States—Release No. 1 (See footnote 21, p. 82) and Release No. 2—AMOUNT OF FARM-MORTGAGE DEBT. 15 pp. 1944. [Processed.]

Two principal factors accounting for the more extensive use of mortgage credit by part-owner than by full-owner operators are: (1) Part-owner operators are somewhat younger on the average than full-owner operators and therefore are not likely to have accumulated as much capital as full owners;[24] and (2) part-owner operators often need additional capital to operate the land they rent. Young farmers and others with limited capital often own relatively small farms as compared with other farmers in the same area, and then rent additional land to obtain operating

[23] See footnote 22. From survey data for 1940 it appears that the proportion of the land "rented in" by part owners that is under mortgage is substantially lower than for other rented land. However, no specific quantitative estimates of debt frequency for this kind of land have been made for the country as a whole.

[24] The average age of part owners in 1940 was 48.8 years as compared with 52.1 years for full-owner operators (*6, p. 359*).

units of adequate size. Rented and manager-operated farms are more likely to be owned by retired farmers, well-to-do active farmers, credit institutions, and others who do not usually owe debts secured by farm real estate.

Distribution of Debt by Tenure Classes.—Of the total farm-mortgage debt of 6,586 million dollars outstanding on January 1, 1940, that resting on farms operated by full owners accounted for 50.9 percent, that resting on the "owned portion" of part-owner farms accounted for 16.8 percent, and the remainder resting on rented land and on farms operated by managers accounted for 32.3 percent. Owner operators were liable for a somewhat higher percentage of the total debt than is indicated by these figures, as some of the debt resting on rented land was owed by farmers classified as owner operators. Survey data for 1935 indicate that about 15 percent of the full-owner operators owned farm land in addition to that which they operated. [25] A smaller proportion of these farms was mortgaged, however, than in the case of those belonging to full-owner operators who owned no additional land. [26]

Regional Variations in Mortgage-Debt Situation in 1940.—In 6 widely separated States, more than 50 percent of the *farms* were under mortgage in 1940—Vermont, Massachusetts, Connecticut, Wisconsin, Idaho, and Wyoming (fig. 20). In 10 States, however, more than 50 percent of the *land* or *acreage* in farms was in mortgaged farms, and in 18 States the *value* of mortgaged farms was more than 50 percent of the value of all farms. Mortgaged farms accounted for less than 30 percent of all farms in 7 States; 5 of these were in the South and 2 in the Mountain States. In only 4 States, however, did land in mortgaged farms account for less than 30 percent of all farm land; and in only 1 State (West Virginia) was the value of mortgaged farms less than 30 percent of the value of all farms.

The ratio of debt to value of *mortgaged* farms in 1940 showed less variation among the several States than is shown by any of the three measures of debt frequency presented above. States in which the ratio of debt to value in 1940 was higher than 50 percent are Iowa, Nebraska, North Dakota, South Dakota, and Wisconsin (fig. 21). In only 11 States was the ratio of debt to value higher than the average for the country (41.5 percent), but these States accounted for one-third of the value of all farms in 1940. None of the 27 States in the southern and western geographic divisions had a ratio of debt to value as high as the average for the country as a whole. For 23 of the 48 States the ratio of debt

[25] See footnote 22, p. 82 (p. 51).
[26] See footnote 22, p. 82 (p. 41).

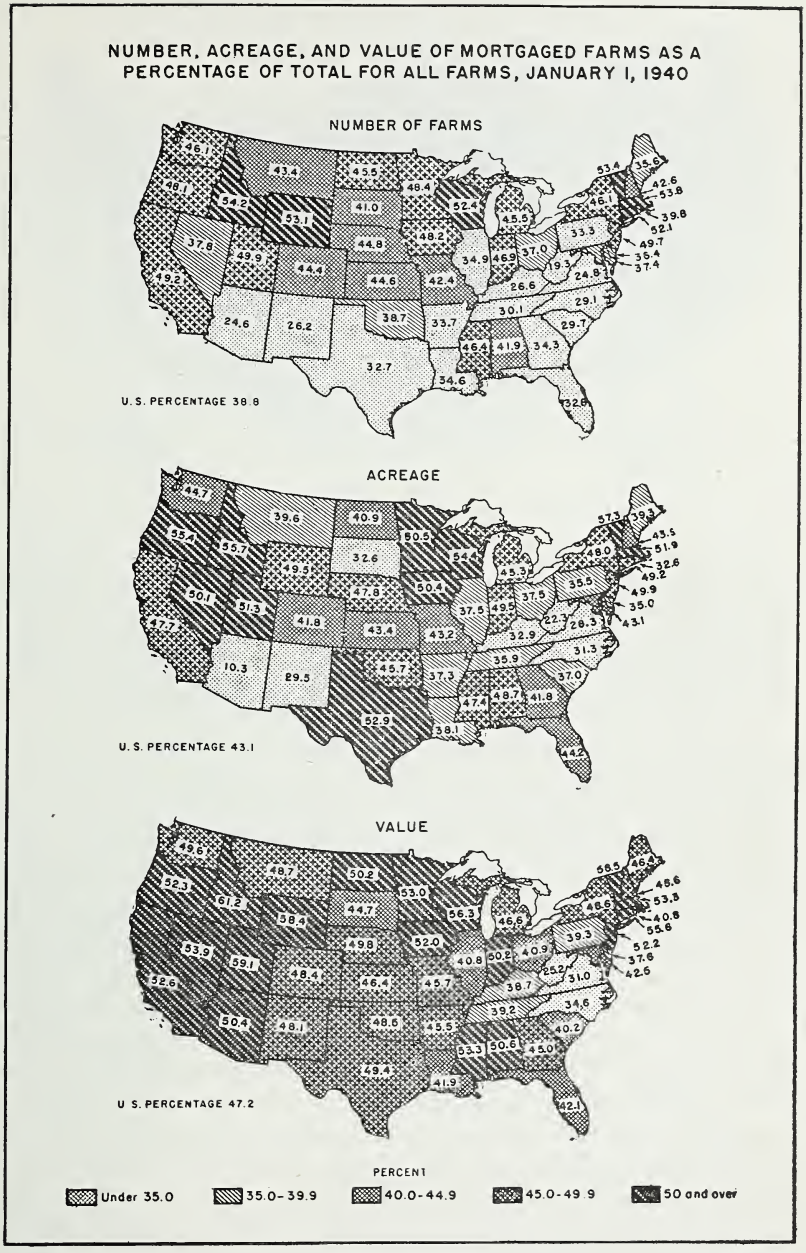


FIGURE 20.—Percentages of the number, acreage, and value of all farms accounted for by those under mortgage in 1940 vary widely by States. In most of the Southern States the percentage of farms under mortgage was below the national average. In most States mortgaged farms were substantially larger and more valuable on the average than free-of-debt farms.

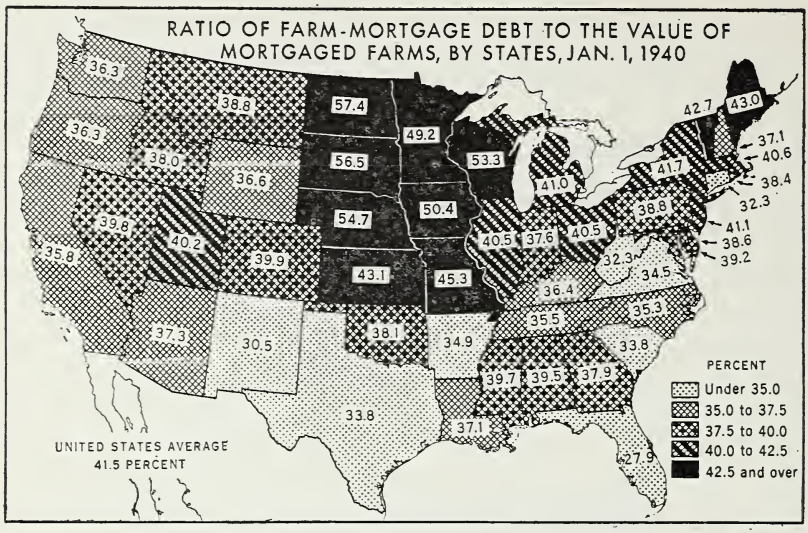


FIGURE 21.—Mortgage debt in 1940 as a percentage of the value of mortgaged farms ranged by States from slightly less than 28 percent to more than 57 percent. Highest percentages are found in the West North Central States and in a part of the New England States. In all of the Southern States, and in all but one of the Mountain and Pacific States, mortgage debt was less than 40 percent of the value of all mortgaged farms.

to value for mortgaged farms fell within a range of 35 to 40 percent.

The ratio of mortgage debt to the value of *all* farms in 1940, including those that were free of mortgage, varied more widely by States than did the ratio of mortgage debt to the value of mortgaged farms. In 6 States—Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, and Nebraska—mortgage debt was more than one-fourth of the value of all farms (fig. 22). In 15 widely scattered States, however, the mortgage debt was equal to less than one-sixth of the value of all farms. For the combined 8 States in the South Atlantic division, mortgage debt was equal to only slightly more than one-eighth of the value of all farms.

In all but 4 States—Florida, Maryland, Oregon, and Texas—the estimated average value per acre of mortgaged farms in 1940 was higher than the estimated average value per acre of free-of-debt farms. For the country as a whole, the average value per acre of mortgaged farms on that date was $34.71; for free-of-debt farms it was $29.44.[27] The relationship between average value

[27] There may be a tendency for owners of mortgaged farms to report values somewhat higher than do owners of comparable free-of-debt farms, but this would not seem to account for the substantial variations among the States. In some of the States the wide differences in land values as between mortgaged and free-of-debt farms would be expected in view of the large area of very low-value land in those States.

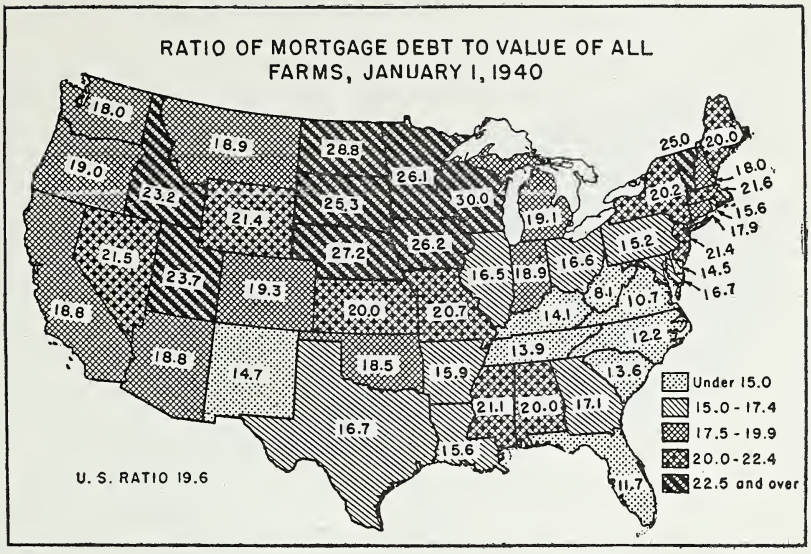


FIGURE 22.—In 1940 mortgage debt as a percentage of the value of all farm real estate ranged by States from 8.1 percent in West Virginia to 30 percent in Wisconsin. The wide regional variations in these percentages suggest that mortgage debt repayment was a better potential absorbent of increased farm income in some States than in others.

per acre for mortgaged and free-of-debt farms is shown by States in figure 23. In North and South Dakota, and in most of the Mountain and Pacific States, average value per acre of mortgaged farms was substantially higher than for free-of-debt farms.

Influence of Pre-War Debt Situation on Wartime Use of Agricultural Income.—This brief sketch of the structural character of the 1940 farm-mortgage debt suggests that the variations that existed at the beginning of the war could well be a factor influencing the use made of the increased farm income. For example, for the country as a whole only 39 percent of the farms had a mortgage at the beginning of 1940. Hence, the repayment of existing mortgage debt could absorb increased farm income on only a fraction of all farms. But as 47 percent of the *value* of all farms was represented by mortgaged farms, a somewhat higher percentage of farm income could flow into debt repayment than is indicated merely by the proportion of farms mortgaged.

Among the several States the proportion of the farms under mortgage and the ratio of debt to value for mortgaged farms varied rather widely in 1940. This could be expected to bring about a variation in the use made of farm income in different areas, as well as wide variations among tenure groups in the uses made of

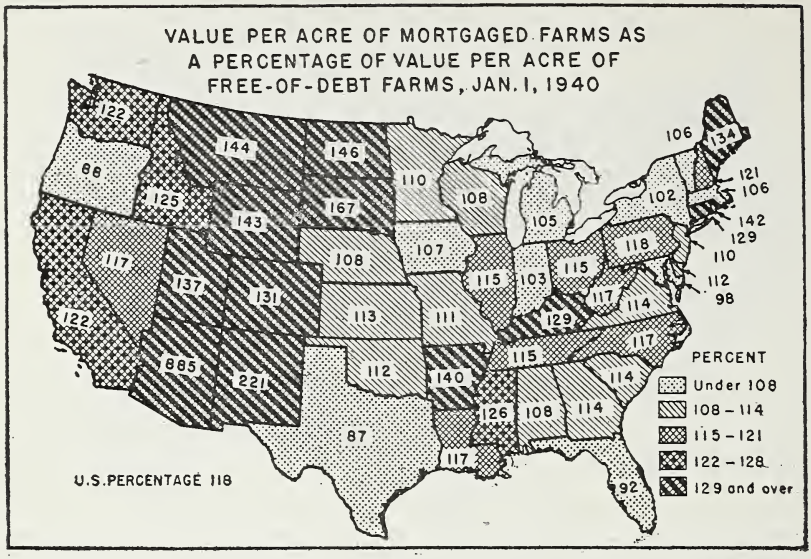


FIGURE 23.—The average value per acre of mortgaged farms in 1940 was higher in most States than that for free-of-debt farms. Large differences in many States reflect the presence of extensive areas of very low value land that is not considered adequate security for mortgage loans. In only four widely scattered States was the average higher for free-of-debt farms.

increased income. Farmers with increased incomes who had no mortgages to pay off might be expected to put more of their savings into additional land, cash savings, or savings bonds.

The influence of this factor in shaping the pattern of uses of wartime income is difficult to measure, chiefly because net reductions in farm-mortgage debt reflect the influence of new borrowing as well as that of debt repayments and because data on other uses made of farm income are also incomplete.

WARTIME CHANGES IN MORTGAGE DEBT

Wartime changes in mortgage debt are next considered.

Comparisons With Other Periods.—From the beginning of 1940 to the beginning of 1944, total farm-mortgage debt decreased from 6,586 to 5,635 million dollars, an average annual reduction of 3.6 percent (table 29). This percentage decline compares with an average annual reduction of 2.6 percent from 1935 to 1940 and of 4.2 percent from 1930 to 1935. The decline of mortgage debt during 1940 and 1941 was moderate, being less than 1 percent

per year, but, in 1942 and 1943 together, the total declined more than one-eighth. This rate of decline compares with a reduction of about one-sixth during 1932 and 1933 when there was a record volume of distress transfers; and with a reduction of about one-twelfth back in 1923 and 1924, following the post-war peak in mortgage debt.

Movements of mortgage debt in relation to changes in land values and farm income, and in relation to distress and voluntary farm transfers, are shown in figures 24 and 25. From these charts it is evident that some of the same forces that operated to increase mortgage debt during World War I have been present in the current situation. Distress transfers were low during both periods. Voluntary transfers and land values increased in both war periods, developments that usually have debt-increasing influences. In fact, in 20 of the 48 States mortgage debt actually increased slightly during 1940 and in 17 of the States it increased during 1941 (table 29). But most of the increases in 1940 and 1941 were small and were more than offset by decreases in other States. In 1942 only one State showed an increase and in 1943 three States registered increases. The percentage change in farm-mortgage debt by States, 1940-44, is shown in figure 26.

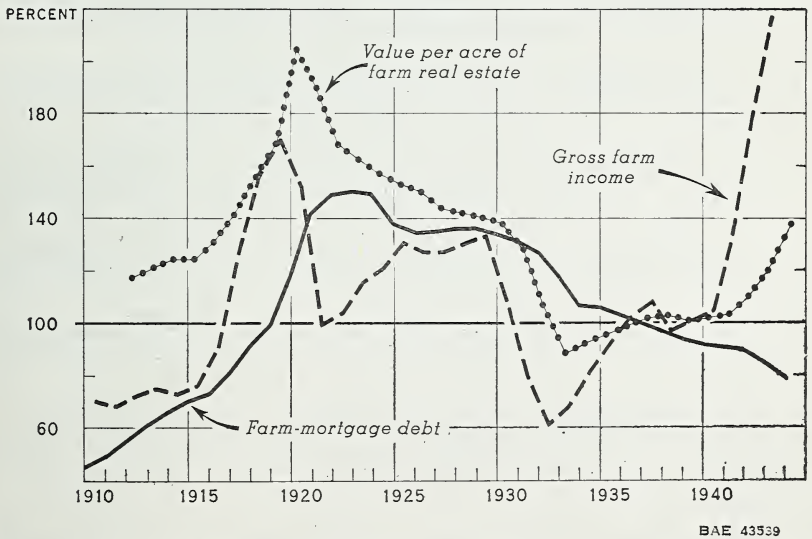


FIGURE 24.—Farm-Mortgage Debt, 1910-44: Value per Acre of Farm Real Estate, 1912-44; and Gross Farm Income, 1910-43; United States (Index Numbers, 1935-39 = 100)

TABLE 29.—*Estimated amount of farm-mortgage debt outstanding, by States, January 1, 1930-44*

State and region	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Maine	27,613	28,251	28,704	32,756	29,894	30,626	30,457	29,096	27,629	26,477	24,757	25,055	23,028	20,081	17,159
New Hampshire	11,756	11,879	12,030	12,053	11,904	12,423	12,517	12,109	11,826	11,585	11,220	11,151	11,439	11,505	11,394
Vermont	35,365	34,658	33,659	32,771	31,966	31,391	30,257	29,969	29,367	28,657	27,814	27,773	27,489	27,234	28,911
Massachusetts	48,984	49,518	53,009	51,225	49,544	49,613	47,972	47,639	47,356	47,080	45,845	45,791	44,921	43,475	43,677
Rhode Island	4,632	4,616	4,714	4,620	4,031	4,065	4,187	4,276	4,330	4,259	4,121	4,151	4,061	3,800	3,693
Connecticut	43,358	47,248	52,384	52,374	49,630	47,886	44,996	43,006	40,847	38,919	36,742	35,936	35,357	32,998	32,191
New York	233,791	228,312	231,352	229,972	216,473	213,634	211,194	207,566	202,829	197,462	191,786	185,864	178,595	168,271	156,651
New Jersey	54,180	53,255	53,170	52,059	48,360	49,206	48,770	48,735	48,898	48,891	48,791	49,597	50,153	48,540	45,863
Pennsylvania	168,492	182,466	184,498	177,286	159,991	150,738	146,200	142,213	138,070	135,189	131,578	129,729	129,234	125,701	123,443
North Atlantic	628,171	640,203	653,520	645,116	601,793	589,582	576,550	564,609	551,152	538,519	522,654	515,047	504,277	481,605	462,982
Ohio	272,738	263,388	255,786	241,308	220,731	224,261	225,341	224,320	227,491	232,550	239,059	245,448	252,681	242,686	231,446
Indiana	269,913	260,001	255,215	235,491	218,721	224,169	225,525	224,244	226,920	231,586	236,266	243,002	244,487	229,129	203,169
Illinois	614,059	571,632	556,410	532,762	494,361	481,797	476,298	454,266	437,780	430,173	418,970	415,192	406,988	373,981	325,915
Iowa	1,196,197	1,142,778	1,079,337	982,484	862,440	787,159	762,614	744,238	732,257	725,154	705,589	707,739	723,397	710,985	652,906
Missouri	442,820	422,849	391,936	352,970	311,859	286,460	268,507	254,318	245,904	237,588	229,377	231,832	232,971	219,962	207,327
Corn Belt	2,795,727	2,660,648	2,538,684	2,345,015	2,108,112	2,003,846	1,958,285	1,901,386	1,870,352	1,857,051	1,829,261	1,843,213	1,860,524	1,776,743	1,620,763
Michigan	221,432	212,635	201,914	189,071	176,441	183,172	184,063	182,150	178,772	176,920	174,308	173,792	171,451	161,231	150,463
Wisconsin	505,472	508,369	483,371	451,900	403,714	413,082	409,129	398,640	383,821	368,975	356,936	346,716	333,279	313,933	287,513
Minnesota	476,210	457,238	437,556	399,602	367,056	396,946	409,676	379,836	376,112	375,943	375,990	384,419	395,901	385,623	364,768
Lake States	1,203,114	1,178,242	1,122,841	1,040,573	947,211	993,200	1,002,868	960,626	938,705	921,838	907,234	904,927	900,631	860,787	802,744
North Dakota	239,772	223,725	207,602	185,448	170,422	197,177	199,771	182,338	172,180	154,312	141,230	132,717	128,255	122,631	105,047
South Dakota	293,080	279,225	267,336	246,432	218,745	216,592	199,709	179,896	162,983	145,808	127,706	119,122	118,474	114,740	105,042
Nebraska	510,453	519,077	516,323	487,587	437,824	431,686	407,888	382,495	358,962	334,355	309,826	290,081	281,184	261,753	232,921
Kansas	411,747	422,667	429,156	409,963	371,181	357,123	343,483	325,921	310,140	299,599	284,248	273,454	258,549	227,800	195,139
Great Plains	1,455,052	1,444,694	1,420,417	1,329,430	1,198,172	1,202,578	1,150,851	1,070,650	1,004,265	934,074	863,010	815,374	786,462	726,924	638,149
Delaware	9,581	9,383	8,245	8,095	8,631	8,668	8,576	8,443	8,286	8,132	7,957	8,127	8,496	8,347	8,095
Maryland[1]	50,377	49,408	51,194	49,502	48,089	43,790	45,068	45,417	45,383	45,873	46,675	46,011	44,896	43,384	42,894
Virginia	91,000	87,699	83,795	77,974	73,829	75,093	74,736	72,976	73,027	72,957	72,299	72,245	70,840	68,406	65,124
West Virginia	26,177	26,057	24,292	22,616	22,844	23,671	23,574	22,974	22,754	22,464	21,969	22,031	21,671	20,193	17,986
North Carolina	111,880	108,940	105,210	95,249	88,497	93,905	92,942	91,799	90,336	89,685	90,071	96,652	97,411	88,645	80,829
South Carolina	64,433	57,872	50,988	43,402	41,345	47,149	47,685	46,792	46,737	46,773	45,948	46,713	50,687	45,950	42,932
Georgia	113,060	104,907	95,789	83,833	75,398	82,867	82,275	82,137	82,156	82,397	82,037	84,355	90,901	89,916	85,740
Florida	52,840	47,783	41,988	36,437	36,179	40,578	41,209	39,654	38,485	38,064	38,101	38,380	35,559	33,726	33,304
South Atlantic	519,348	492,049	461,501	417,108	394,812	415,721	416,065	410,192	407,164	403,345	405,057	414,514	419,961	398,567	376,934

Kentucky	116,250	112,547	107,143	101,219	97,034	105,226	105,560	105,982	105,746	107,963	109,253	110,504	112,414	108,687	102,915	
Tennessee	115,280	110,626	105,278	97,237	91,257	93,055	93,327	93,121	92,102	92,501	92,614	90,017	85,033	77,036	70,069	
Alabama	97,890	98,630	96,117	90,335	83,854	81,421	79,670	79,547	80,180	80,978	81,859	86,834	90,278	88,053	80,354	
Mississippi	103,312	100,850	101,149	88,506	81,998	85,073	89,627	89,489	95,506	96,122	100,368	103,491	104,776	99,968	90,389	
Arkansas	99,085	100,632	95,617	84,280	70,179	69,317	70,672	69,996	70,770	71,478	72,513	75,560	79,305	78,405	77,519	
Louisiana	63,838	62,022	60,945	57,560	54,904	57,951	56,880	55,817	55,328	55,629	55,098	57,221	58,872	57,029	54,132	
South Central	595,655	585,307	566,249	519,137	479,226	492,043	495,736	493,952	499,632	504,671	511,705	523,627	530,678	509,178	475,378	
Oklahoma	274,971	261,300	259,210	233,230	193,047	183,421	175,861	168,816	161,317	157,508	153,679	156,364	159,332	151,554	141,850	
Texas	671,434	648,588	630,965	596,134	566,142	565,968	537,818	513,933	486,055	458,008	431,746	421,448	417,817	386,271	345,642	
Oklahoma-Texas	946,405	909,888	890,175	829,364	759,189	749,389	713,679	682,749	647,372	615,516	585,425	577,812	577,149	537,825	487,492	
Montana	129,744	134,730	132,734	122,438	104,080	100,331	96,153	87,434	79,184	72,670	66,118	63,536	57,535	48,143	39,876	
Idaho	115,547	115,577	110,645	100,536	87,626	89,404	88,491	84,755	82,371	81,335	78,763	78,361	77,557	70,790	62,619	
Wyoming	43,337	44,068	41,200	40,072	35,772	36,709	36,622	36,381	35,726	34,816	34,009	32,948	29,030	25,624	22,374	
Colorado	138,248	136,763	130,731	123,388	108,768	103,479	99,455	92,565	86,393	80,101	75,005	73,408	70,727	61,386	54,238	
New Mexico	38,954	40,054	39,348	33,955	28,935	27,492	28,625	28,333	28,220	27,955	27,499	26,764	24,564	24,195	24,880	
Arizona	41,690	42,766	39,728	33,505	31,005	30,797	30,027	29,869	29,447	29,446	28,933	28,498	28,348	26,362	24,981	
Utah	51,875	50,471	48,616	46,268	44,648	43,757	44,864	43,015	41,214	38,963	36,650	34,946	32,539	27,977	22,713	
Nevada	15,617	15,373	18,187	17,268	15,074	15,131	13,890	12,548	12,933	11,137	10,213	9,639	9,461	8,204	7,071	
Mountain	575,012	579,802	561,189	517,430	455,908	447,100	438,127	414,900	395,488	376,423	357,190	348,100	329,761	292,681	258,752	
Washington	161,557	158,068	156,545	145,669	130,509	125,405	121,793	115,453	111,561	109,829	106,857	104,927	101,227	92,064	83,028	
Oregon	135,917	133,865	128,012	118,016	105,873	104,860	103,440	99,710	96,391	92,114	90,421	90,281	88,900	84,235	81,153	
California	614,810	615,322	594,850	559,560	504,398	460,735	445,307	439,736	432,802	422,938	407,585	396,665	384,277	356,559	347,343	
Pacific	912,284	907,255	879,407	823,245	740,780	691,000	670,540	654,899	640,754	624,881	604,863	591,873	574,404	532,858	511,524	
UNITED STATES	9,630,768	9,398,088	9,093,983	8,466,418	7,685,203	7,584,459	7,422,701	7,153,963	6,954,884	5,779,318	6,586,399	6,534,487	6,483,847	6,117,168	[2]5,634,772	

[1] Includes data for District of Columbia.

[2] Includes joint-stock land bank loans called for foreclosure of $84,384 not distributable by States.

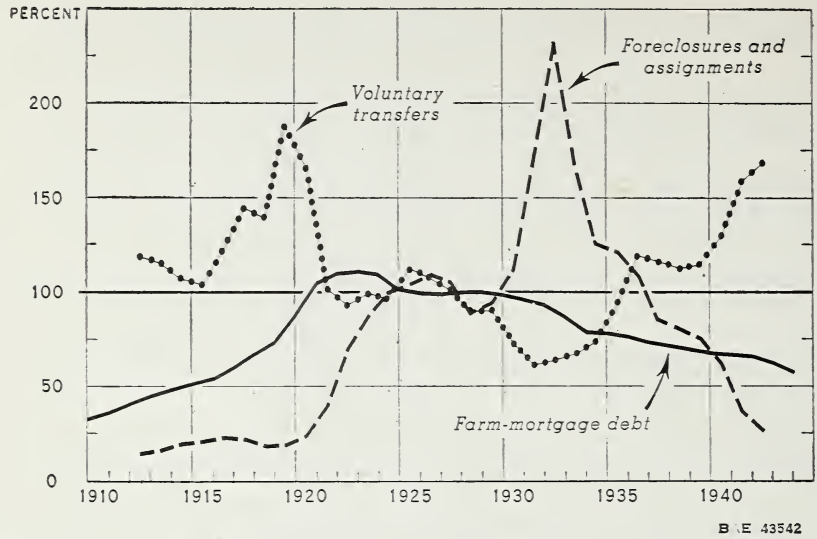


FIGURE 25.—Farm-Mortgage Debt, 1910-44: Volume of Foreclosures and Assignments, and Volume of Voluntary Transfers of Farm Real Estate, 1912-43: United States. (Index Numbers, 1925-29 = 100)

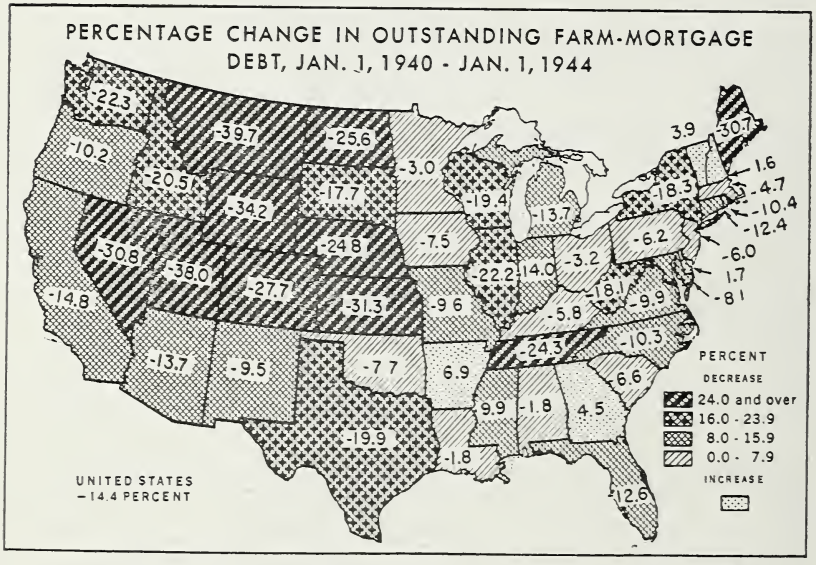


FIGURE 26.—Changes in outstanding farm-mortgage debt during the 4 years ended January 1, 1944 have ranged by States from an increase of almost 7 percent to a decrease of almost 40 percent. Decreases have been greater than the average for the country as a whole in most of the Western States. Maine, Tennessee, Illinois, Wisconsin, New York, and West Virginia are the only States east of the Mississippi River in which debt declined more rapidly than the national average.

Variations in Debt Trend by Areas.—During the 4-year period ended January 1, 1944, net changes in mortgage debt varied widely by areas. In most of the Western States, substantial reductions occurred each year but in 5 widely scattered States net increases occurred. Debt was held up in some States by the sale of farm real estate by institutional lenders in which mortgages or sales contracts were taken in partial payment. In most of the 10 States showing net increases for the 3-year period 1940-43, the increases occurred in 1940 and 1941, followed by substantial reductions in 1942. For the 4-year period ended January 1, 1944 variations in debt change ranged from an increase of 6.9 percent for Arkansas to a decrease of 39.7 percent for Montana.

Of course the net change in outstanding mortgage debt in any given State is a resultant of the many forces that operate one way or the other. Principal forces tending to *increase* mortgage debt include the following:

1. Rising land values, usually necessitating larger loans.
2. More voluntary sales involving additional mortgage financing.
3. Reduced down-payments on farms bought with credit.
4. Slower liquidation, either through distress transfers or regular repayments.
5. Expansion of production giving rise to borrowing on mortgage for working capital.
6. Shifting of farms from owners with little or no debt to owners who have limited capital.
7. Borrowing on real estate security to finance farm and home improvements or other consumption expenditures and to fund existing non-real-estate debt.

Forces tending to *reduce* mortgage debt include:

1. Increased liquidation of debt through surrender of title.
2. Increased volume of principal payments by farm owners.
3. Increased purchases of mortgaged farms for cash or with larger than normal down-payments.
4. Reduced volume of farm transfers involving mortgage credit.
5. Reduced land values, making possible farm purchases with less borrowing.
6. Reduction of debt through compromise.

Because the net change in debt reflects the relative strength of these several factors, it is to be expected that changes over short periods will show wide regional variation. This is likely to be true both in periods of low income and in periods of high income. When incomes are low, some farmers have to give mortgages to fund operating losses and non-real-estate debts, whereas others who have an inadequate basis for additional credit have to give up their farms to satisfy their debts. Likewise, when incomes are high some farmers use their increased income to pay

off debts. Others borrow still more to acquire land or other capital. Agricultural prosperity sets in motion both the debt-reducing and the debt-increasing forces and the net change in outstanding debt, for a short period, can easily be either an increase or a decrease, depending on which forces predominate.

Dominant Factors in Downward Trend Since 1939.—For the country as a whole, the substantial wartime increase in both farm and nonfarm income and the limited opportunities to make normal purchases have been the principal factors exerting a downward influence on total mortgage debt since 1939. The latter situation was much less important in World War I. Then, production resources and consumption goods were allocated mainly through the markets, with rising prices serving to restrict purchases. In this war, direct restrictions on certain classes of goods have performed much the same function that rising prices did in the first war without causing as much borrowing as rising prices did. In this war, also, there has been less desire so far to buy land on credit. The tendency of debt to fall, therefore, is the result partly of the different economic policies followed in the conduct of the war and partly of a different public attitude regarding borrowing to buy land.

A substantial amount of debt is liquidated when farm owners use increased income to pay debts and when both farmers and nonfarmers use their income and savings to buy mortgaged farms for cash or with larger than normal down-payments. In a period when new borrowing is constant or rises only moderately, as has been the case in the 4 years since 1939, [28] the use of even a small part of the additional income for debt repayment can have a marked net effect on outstanding mortgage debt. Likewise, buying mortgaged farms for cash liquidates substantial amounts of debt, as entire mortgages are paid off in such transactions.

The shrinkage in mortgage debt might be quickly reversed, especially at the close of the war. So far people have been restrained from excessive use of credit to buy farm lands by the recollection of what happened in the 1920's and 1930's. Also, the tight rein on supply of many goods restrains borrowing to finance their purchase. But the forces that give rise to mounting mortgage debt are latent in the present situation and might break out at a later date.

SIGNIFICANCE OF REDUCED MORTGAGE DEBT IN 1944

The present favorable relationship between debt and the value

[28] The Farm Credit Administration estimates total farm mortgages recorded in 1940 at 772.5 million dollars. The total rose to 834 million dollars for 1941, declined to 762.8 million dollars for 1942, and then rose to 915.8 million dollars for 1943. From 1914 to 1917 estimated farm-mortgage recordings rose from 1,403 to 2,017 million dollars.

of farms is shown by regions in figure 27. On January 1, 1944 farm-mortgage debt was equal to only about one-eighth of the value of farm real estate. Such a relationship also prevailed during each of the years 1915-20, when both debt and land values were rising; but in no year from 1920 to 1943 was the ratio so low. Back in 1923 and 1924, mortgage debt was equal to more than one-fifth of the value of all farm real estate, and in 1933 it was equal to almost 28 percent of the much-reduced value.

The ratio of mortgage debt to the value of all farm real estate in 1944 varied widely by States. Data for 1944 and 1918, shown in figure 28, indicate that regional variations now are similar in some respects to those at the end of the first 4 years of World War I. But whereas in 1918 all of the Southeastern States had debt-to-value ratios well below the national average, in 1944 Mississippi and Alabama were above the average and most of the other Southeastern States had debt-to-value ratios higher than in 1918. Several of the Mountain States, however, had much lower debt-to-value ratios in 1944 than in 1918.

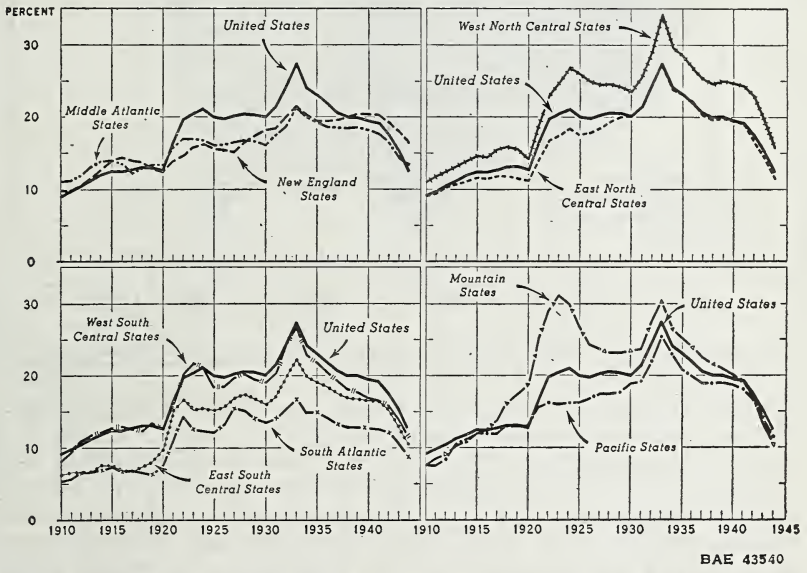


FIGURE 27.—Ratio of Farm-Mortgage Debt to Value of all Farms, United States and Geographic Divisions, 1910-44

Despite this low ratio of debt to value at the present time, considerable debt distress might result if farm income should drop sharply and continue low for several years. The first effect of such a development might well be to increase mortgage debt, as farmers with sufficient security would be able to borrow to

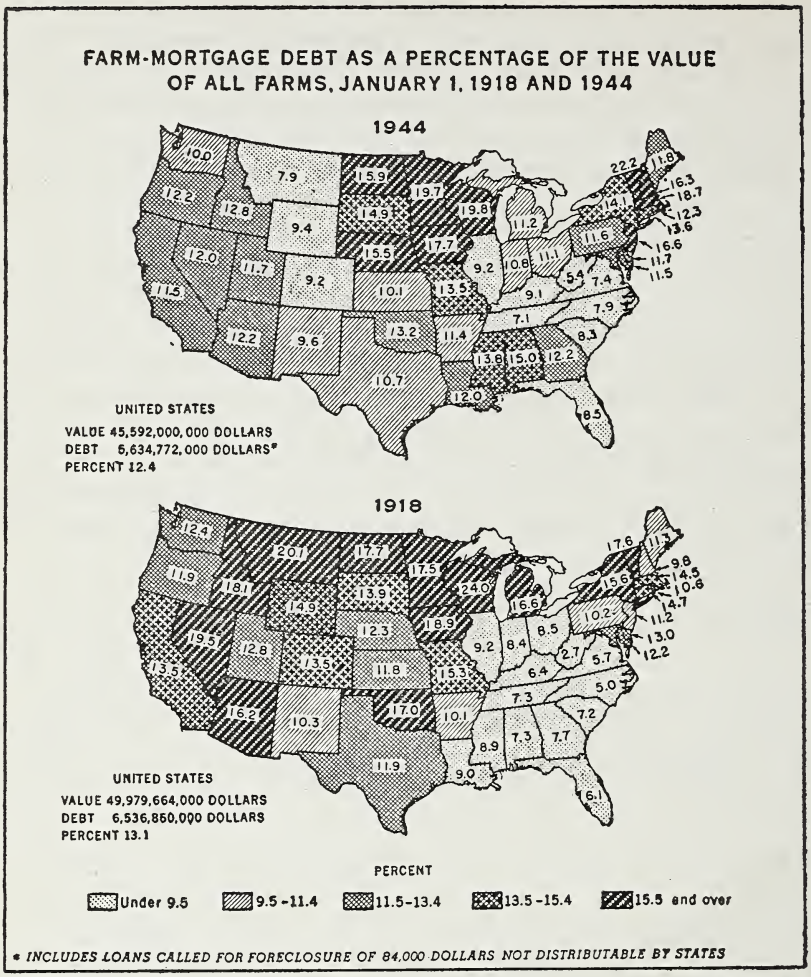


FIGURE 28.—The farm-mortgage debt for the country as a whole was about the same percentage of the value of all farms on January 1, 1944 as it was on the same date in 1918. However, there was a decrease in these ratios throughout the West and Southwest and an increase in the Northeast and Southeast. In certain States—notably Montana, Wyoming, Colorado, and Michigan—the ratio dropped from the highest percentage group in 1918 to the lowest in 1944, whereas Alabama and Mississippi shifted from the lowest percentage group in 1918 to one of the highest percentage groups in 1944.

cover operating losses and then later fund these loans into mortgage debt. Sooner or later a significant number of farm owners doubtless would be in debt difficulties just as they were in the middle twenties and in the 1930's. The fact that in the latter period these difficulties developed with declining income, even

though there was no mortgage-credit boom in the years just preceding, indicates how important is the level of farm income for the financial stability of agriculture.

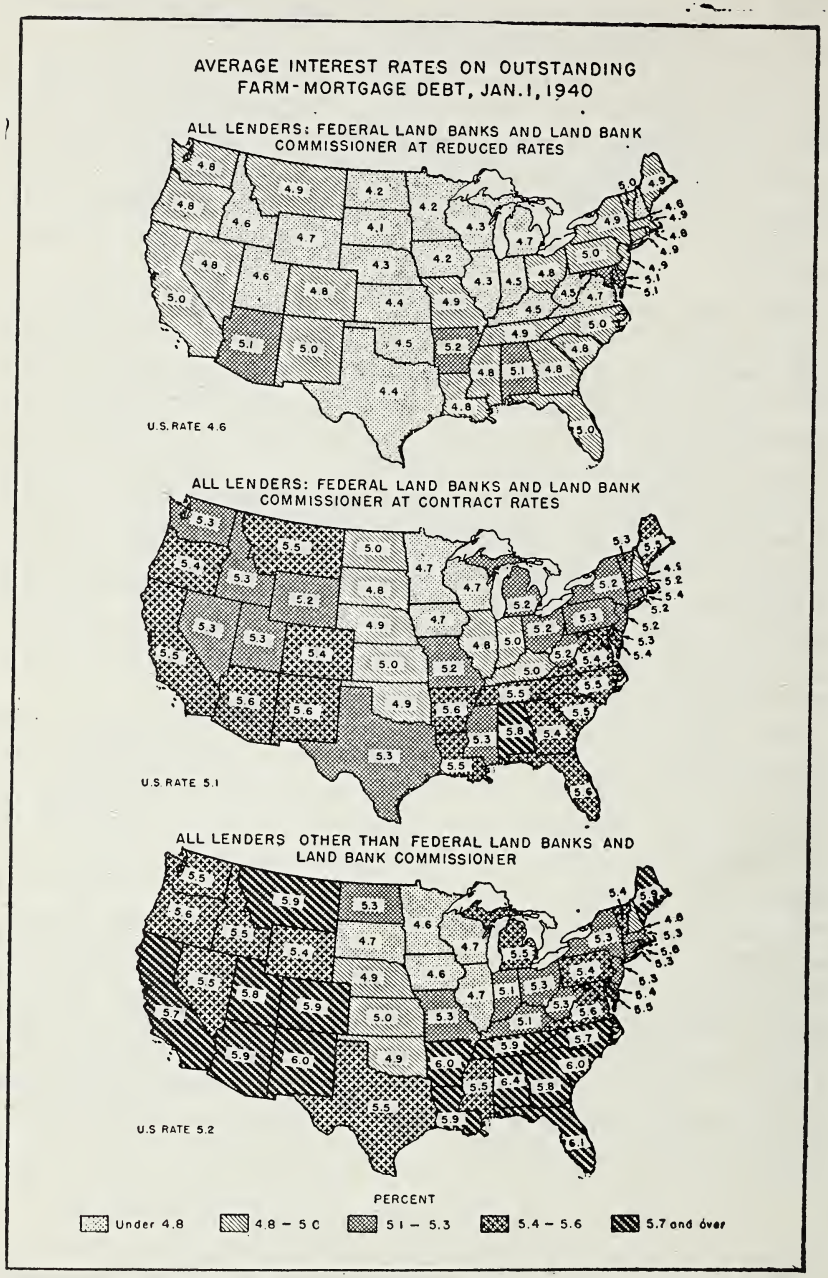
One indication of potential debt difficulties for individual farmers is found in the increasing size of mortgages recorded after 1939. In that year the average mortgage recorded was for $2,190. By 1942 the average size had risen to $2,690 and for 1943 it was slightly more than $3,000. Thus there was an increase from 1939 to 1943 of over 38 percent in the average size of mortgage recorded.

Care must be exercised, however, in interpreting changes in average size of mortgages recorded. This average size fluctuates with the kind of financing involved and with the relative volume of mortgages recorded in areas of high- and low-value farms. When farm sales are increasing, a larger than normal proportion of the mortgages is likely to arise out of land transfers. Such mortgages are larger in most cases than are those given to finance improvements, to fund non-real-estate debts, or to acquire other long-term working capital. Mortgages for these latter purposes probably have been relatively less important in recent years. Also it appears that a part of the increase in the average size of mortgage recorded reflects a greater than average increase in mortgage activity in areas of high land value.

Two other factors also to be considered in interpreting the farm-mortgage debt situation in 1944 are: (1) The current low level of interest rates and (2) the degree of concentration of farm-mortgage holdings. Average interest charges per $1,000 of outstanding farm-mortgage debt in 1944 were at least 25 percent below those for 1918. Also, about 36 percent of all outstanding mortgage loans at the beginning of 1944 were held by Federal agencies. As federally sponsored credit agencies have already had experience in refinancing a large volume of mortgages held by other lenders under adverse economic conditions, better arrangements than after World War I now exist to ease the mortgage situation. These changed conditions help to make the current farm-mortgage situation much less vulnerable to the disintegrating forces of depression.

INTEREST RATES AND INTEREST CHARGES ON FARM-MORTGAGE DEBT

The average rate of interest payable on outstanding farm-mortgage debt in 1940 is estimated to be 4.6 percent. This compares with an average rate of 5.5 percent in 1935, 6 percent in 1930, 6.4 percent in 1923 (when mortgage debt was at a peak), and 6.1 per-


AVERAGE INTEREST RATES ON OUTSTANDING FARM-MORTGAGE DEBT, JAN. 1, 1940
ALL LENDERS: FEDERAL LAND BANKS AND LAND BANK COMMISSIONER AT REDUCED RATES
U.S. RATE 4.6
ALL LENDERS: FEDERAL LAND BANKS AND LAND BANK COMMISSIONER AT CONTRACT RATES
U.S. RATE 5.1
ALL LENDERS OTHER THAN FEDERAL LAND BANKS AND LAND BANK COMMISSIONER
U.S RATE 5.2
PERCENT
Under 4.8
4.8 – 5.0
5.1 – 5.3
5.4 – 5.6
5.7 and over

BAE 43659

FIGURE 29.—The interest rate payable by borrowers on Federal land bank and Land Bank Commissioner loans was reduced during the 1930's by legislation which provided that the difference between this reduced rate and that provided for in the borrower's loan contract was to be reimbursed by the Secretary of the Treasury. When the contract rate of interest on these loans is used in computing average interest rates on all farm-mortgage debt, the rate becomes 5.1 percent for 1940 as compared with 4.6 percent when the rate actually payable by borrowers is used. When loans by these agencies are excluded, the average is 5.2 percent for the remaining lenders. For many of the States the average rate actually payable by all borrowers was lower by 1 percent or more than the average rate payable on loans other than land bank and Commissioner loans.

cent in 1918. Estimated average rates by geographic divisions for the period 1910-44 are shown in table 30.

Effect of Reduced Rates on Land Bank and Commissioner Loans.—Average rates for 1934 and for later years reflect the reduced rates on Federal land bank and Land Bank Commissioner loans provided by Congress. When the loans of these two institutions are included at the rates of interest carried in the mortgage contract, rather than at the reduced rates, the average for 1940 is 5.1 percent and that for 1935 is 5.7 percent. The effect of the reduced interest rate carried by land bank and Commissioner loans upon the average rate for all lenders by States in 1940 is illustrated in figure 29.

Regional variations of rates are changed somewhat when the contract interest rates on these loans are used in computing the averages. The average rates for loans held by lenders other than the land banks and the Commissioner show a still different regional pattern from that shown in either of the other two interest-rate maps in figure 29.

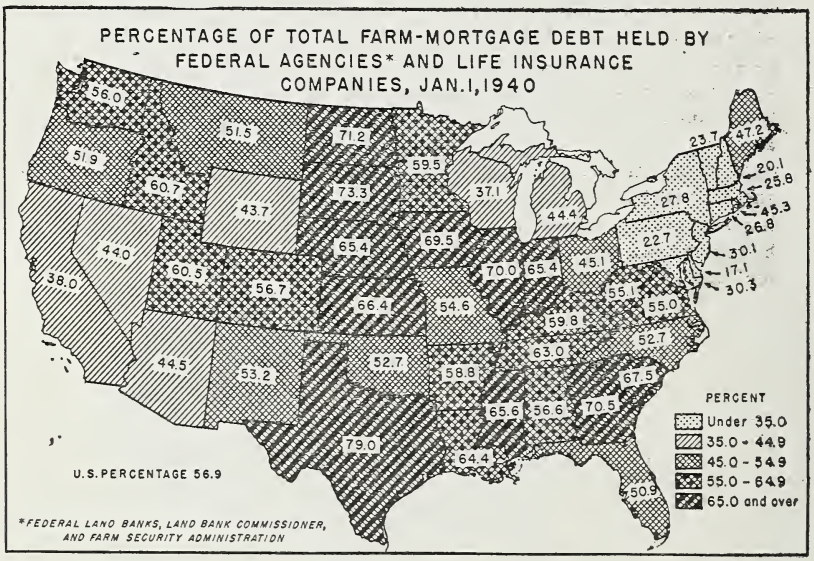


FIGURE 30.—The degree of concentration of mortgage debt in the hands of low-interest-rate lenders gives a general indication of the areas of lowest over-all interest rates. The New England, Middle Atlantic, and Pacific States, which show low percentages of debt held by these lenders, are areas of high average interest rates, but the South Atlantic and East South Central States also have high over-all interest rates in spite of the concentration of debt in the hands of these low-rate lenders. In these sections, rates charged by individuals and banks are among the highest charged in any geographic division.

TABLE 30.—*Average rates of interest charged on outstanding farm-mortgage debt, by geographic divisions, January 1, 1910-44*[1]

Division	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
New England	5.7	5.7	5.6	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.7	5.8	5.8	5.9	5.9	5.8	5.8
Middle Atlantic	5.4	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.7	5.8	5.8	5.8	5.8
East North Central	5.6	5.5	5.5	5.5	5.6	5.6	5.7	5.7	5.7	5.7	5.7	5.8	5.9	6.0	6.0	6.0	6.0	5.9
West North Central	5.7	5.7	5.8	5.8	5.8	5.8	5.9	5.8	5.8	5.8	5.8	5.9	6.0	6.1	6.1	6.1	6.0	5.9
South Atlantic	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.5	6.5	6.5	6.5	6.6	6.6	6.5	6.4	6.5	6.5
East South Central	7.1	7.0	7.1	7.0	6.8	6.6	6.6	6.5	6.4	6.3	6.3	6.3	6.4	6.4	6.3	6.2	6.2	6.1
West South Central	7.6	7.5	7.4	7.4	7.4	7.5	7.5	7.5	7.3	7.2	7.2	7.2	7.4	7.4	7.2	7.1	6.9	6.8
Mountain	7.9	7.8	7.7	7.7	7.8	7.8	7.7	7.6	7.4	7.3	7.2	7.2	7.3	7.3	7.3	7.2	7.0	6.9
Pacific	7.0	7.0	7.0	6.8	6.9	6.9	6.9	6.9	6.8	6.7	6.6	6.7	6.8	6.8	6.8	6.7	6.6	6.6
UNITED STATES	6.0	6.0	6.1	6.1	6.1	6.1	6.2	6.1	6.1	6.1	6.1	6.2	6.3	6.4	6.3	6.3	6.2	6.1

Division	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
New England	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.5	5.3	5.2	5.0	4.9	4.9	4.8	4.8	4.8	4.8
Middle Atlantic	5.8	5.8	5.8	5.9	5.9	5.9	5.7	5.5	5.3	5.2	5.1	5.1	4.9	4.9	4.9	4.9	4.8
East North Central	5.9	5.8	5.8	5.8	5.8	5.8	5.6	5.3	4.9	4.8	4.6	4.5	4.5	4.4	4.4	4.4	4.4
West North Central	5.8	5.7	5.6	5.6	5.6	5.7	5.5	5.3	4.9	4.7	4.5	4.4	4.3	4.3	4.3	4.2	4.2
South Atlantic	6.4	6.4	6.3	6.3	6.3	6.3	5.9	5.5	5.1	5.1	4.9	4.9	4.9	4.8	4.8	4.9	5.0
East South Central	6.1	6.1	6.1	6.1	6.1	6.1	5.7	5.4	5.0	5.0	4.9	4.8	4.8	4.7	4.8	4.9	4.9
West South Central	6.7	6.6	6.6	6.6	6.5	6.5	6.2	5.8	5.2	5.0	4.8	4.7	4.5	4.5	4.6	4.6	4.7
Mountain	6.8	6.7	6.7	6.7	6.7	6.7	6.3	5.9	5.4	5.3	5.0	4.9	4.8	4.7	4.7	4.6	4.7
Pacific	6.5	6.5	6.5	6.5	6.5	6.5	6.2	5.8	5.4	5.3	5.1	5.0	4.9	4.9	4.9	4.9	5.0
UNITED STATES	6.1	6.0	6.0	6.0	6.0	6.0	5.8	5.5	5.1	4.9	4.7	4.6	4.6	4.5	4.5	4.5	4.5

[1] Contract rates except on loans of Federal land banks, 1934-44, and Land Bank Commissioner, 1938-44, which are included at temporarily reduced rates. Rates charged during the period 1941-44 for lenders other than Federal land banks and Land Bank Commissioner are based on 1940 survey data and average interest rates on mortgages recorded during 1941 and 1943 by life insurance companies, banks, individuals, and miscellaneous lenders.

Additional light is thrown on the effect that the distribution of mortgage debt by lenders has on the average rates by the data presented for 1940 in figure 30. The varying proportions of the total debt for individual States that is held by the low-interest-rate lenders—the land banks, the Land Bank Commissioner, the Farm Security Administration under the tenant-purchase program, and life insurance companies—help to explain variations by States in the average rates for all lenders in 1940. In States in which these low-interest-rate lenders hold a high percentage of the total debt, the average rate tends to be low even though other lenders may charge fairly high rates. In some States the relatively low rates of life insurance companies alone have an important independent influence on the average rate.

For the country as a whole the average rate charged by banks was 5.5 percent in 1940 and the average rate charged by individuals was 5.2 percent. Variations by geographic divisions for 1940 and 1930 are shown in table 31. In general, the average rate on all loans is highest in areas in which these two lender groups predominate.

TABLE 31.—*Average interest rates on farm-mortgage debt held by various lender groups, by geographic divisions, January 1, 1930 and 1940*[1]

Division	Federal land banks and Land Bank Commissioner		Life insurance companies		Individuals		Banks		Other lenders		All lenders	
	1930	1940	1930	1940	1930	1940	1930	1940	1930	1940	1930	1940
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
New England	5.4	3.7	5.9	5.0	5.9	5.3	5.8	5.4	5.9	5.3	5.8	4.9
Middle Atlantic	5.4	3.7	6.0	5.3	5.8	5.2	6.0	5.5	6.0	5.7	5.8	4.9
East North Central	5.3	3.7	5.5	4.6	5.7	4.9	6.2	5.4	6.1	5.2	5.8	4.5
West North Central	5.3	3.7	5.4	4.7	5.7	4.7	6.3	5.2	5.8	4.8	5.6	4.3
South Atlantic	5.6	3.8	6.4	5.5	6.6	5.8	6.8	6.0	6.4	5.2	6.3	4.9
East South Central	5.4	3.8	6.0	5.3	6.5	6.0	6.8	5.5	6.1	5.6	6.1	4.8
West South Central	5.4	3.7	6.9	5.4	7.3	6.0	7.8	5.8	6.4	4.5	6.6	4.5
Mountain	5.5	3.7	6.8	5.5	7.0	5.8	7.9	6.3	6.7	5.4	6.7	4.8
Pacific	5.5	3.7	6.3	5.8	6.6	5.6	6.9	5.9	6.3	5.6	6.5	4.9
UNITED STATES	5.4	3.7	5.7	4.9	6.1	5.2	6.5	5.5	6.1	5.1	6.0	4.6

[1] Contract rates, except on loans of Federal land banks and Land Bank Commissioner for 1940, which are included at temporarily reduced rates.

Trend of Rates After 1940.—Average rates for 1941-44, shown in table 30, are computed on the basis of annual interest-rate data for the Federal land banks and the Land Bank Commissioner for these years and estimated rates for other lenders.[29] From the limited data available for the period since 1940 it seems clear that the average rates on mortgages held by private lenders

[29] Estimates reflect reduced rates on mortgages recorded in the years after 1940.

have declined appreciably since that date. Two surveys by the Farm Credit Administration made for dates since 1940 indicate that the average rate on mortgages recorded by commercial banks in the month of March 1943 was 5.31 percent, as compared with 5.66 percent for the month of March 1941.[30] These rates compare with an estimated average rate of 5.5 percent on outstanding loans held by commercial banks in 1940. For insurance companies the average rate on mortgage recordings declined from 4.46 to 4.33 percent and for individuals, from 5.17 to 5.00 percent, from March 1941 to March 1943. The average rate on outstanding farm mortgages held by insurance companies in 1940 was found to be 4.9 percent and for individuals 5.2 percent. The rate of 4.9 percent for insurance companies in 1940 reflects the outstanding loans held by them that had been made in previous years when interest rates were higher than at present. The average interest rate on mortgages recorded by insurance companies in 1935 was about 5.5 percent. As individuals usually make relatively short-term loans, the average rate of 5.2 percent for 1940 is weighted heavily by loans made in the late thirties.

The change in the average rate in outstanding loans after 1940 was not so great as the change shown in the rates on new mortgage recordings, as rates on mortgage recordings tend to vary more. But any tendency of the weighted-average rate for all lenders to rise after 1940, because an increasing proportion of loans was held by the high-interest-rate lenders, was more than offset by a continued decline in the level of the rates charged by these lenders. The average rate on all farm mortgages outstanding at the beginning of 1944 is estimated to be 4.5 percent.

Burden of Mortgage-Interest Charges.—Annual interest charges payable by farm-mortgage borrowers in 1943 are estimated at around 264 million dollars. This is equal to about 1.3 percent of total cash farm income (including Government payments) for that year. Annual mortgage-interest charges for 1940 amounted to almost 300 million dollars, which was equal to about 3.2 percent of the 1940 cash farm income. No data that show separately the cash farm income of mortgaged farms are available; however, assuming that cash farm income was distributed in 1940 between mortgaged and free-of-debt farms roughly in proportion to the value of these two groups of farms, the charges would be equal to about 7 percent of the cash farm income from mortgaged farms in that year. Despite the probability that the number of mortgaged farms has fallen since 1940,

[30] United States Farm Credit Administration. CONTRACT INTEREST RATES ON FARM MORTGAGES RECORDED DURING MARCH 1943. 11 pp. 1944. [Processed.]

it seems clear that the reduced interest charges for 1943 were a substantially smaller percentage of the much larger cash farm income than was the case in 1940—probably no more than 3 or 4 percent.

Estimates for earlier years, of the percentage relation of farm-mortgage interest charges to that portion of the total cash farm income that can be assigned to mortgaged farms can be made only very roughly, but such estimates are valid for general comparative purposes. In 1919 these charges appear to have been equal to about 7 percent of cash farm income from mortgaged farms, and in 1929 they were equal to more than 10 percent of the comparable figure for that year. These 2 years, 1919 and 1929, each immediately preceded periods of drastic reductions of farm income and extensive mortgage distress.

The figure of 3 or 4 percent estimated for 1943 indicates that insofar as the burden of mortgage-interest charges alone is concerned a substantial drop in farm income or a substantial rise in mortgage debt could occur before this burden for owners of mortgaged farms as a group would be even as heavy, in relation to farm income from mortgaged farms, as in the years immediately preceding the two major depressions since World War I. Total charges for debt service, including principal maturities, would be higher than the above figures for interest charges. Still other fixed charges must be considered. Moreover, for many individual farms the proportion of cash farm income required to pay mortgage interest would be very much higher than 3 or 4 percent. For others it would be much lower. A sharp decline in farm income, therefore, would be expected to put many owners of heavily mortgaged farms in a difficult financial position even under the present favorable over-all conditions.

CONCENTRATION OF MORTGAGE HOLDINGS IN HANDS OF CENTRALIZED LENDING AGENCIES

The strength of the mortgage situation depends fundamentally on the underlying economic strength of the farm enterprises from which the income is derived. But in periods of temporary adversity, the ability and willingness of lenders to pursue a policy that will hold foreclosures to a minimum can also be a factor of strength.

At the beginning of 1944 the Federal land banks and the Federal Farm Mortgage Corporation held 33.4 percent of the farm-mortgage debt; real estate loans of the FSA accounted for 3.1 percent; and life insurance companies held 17.5 percent.

The Federal Government is in a position to influence the loan and collection policies of the specialized mortgage-credit agencies under its direct control; and life insurance companies are organized on a basis that permits them to take a somewhat longer run view in their loan and collection policies than can many other lenders. Moreover, in the event of extreme agricultural distress, the Federal Government is in a much better position to work out arrangements with a few large holders of mortgages such as the insurance companies, to avoid extensive foreclosures, than it would be with a multitude of individual lenders, each holding only one or a few mortgages.

The administrative experience of the Federal and federally sponsored agencies in refinancing mortgages and in funding other debts in the 1930's is an added factor of strength in the event that such a program again should become necessary. It should be possible to institute such a program much earlier and much more vigorously than was possible in the 1930's. Moreover, precedents for both State and Federal legislation placing temporary brakes upon foreclosures have been established; and from the experience gained in debt adjustment it should be possible to avoid many of the unnecessary foreclosure actions that involve heavy costs for both borrower and lender.

NON-REAL-ESTATE DEBT

In addition to real estate debt, farmers have a great variety of non-real-estate debt — open accounts, installment accounts, loans evidenced by unsecured notes, and loans secured by chattel mortgages. The terms of these so-called short-term loans may be from 30 days to 5 years or even longer. They may be obtained from a relative or other individual or from a merchant, doctor, local bank, production credit association, or other institution. As assumed in the balance sheet, the total of these many types of debt constituting equities in agriculture of a wide variety of creditors may be more than 3.5 billion dollars or about two-thirds as much as the outstanding farm real estate debt.

Because of the lack of data and the consequent difficulty in measuring many types of non-real-estate debt, this section will deal mainly with such credit extended by banks and federally sponsored agencies. The total of such institutional loans outstanding on January 1, 1944 is estimated to have been 2.4 billion dollars (table 32 and fig. 31).

TABLE 32.—*Non-real-estate loans to farmers by principal credit institutions: Amounts outstanding on specified dates, United States, 1914-44*[1]

Date	Commercial banks[2]		Agencies supervised by the Farm Credit Administration						Farm Security Administration [6]	Commodity Credit Corporation		Total	
			Production credit associations		Federal intermediate credit banks [4]		Regional agricultural credit corporations	Emergency Crop and Feed Loan Office [5]		[Loans held [7]	Institutional loans guaranteed [8]	Excluding Commodity Credit Corporation loans held or guaranteed [3]	Including Commodity Credit Corporation loans held or guaranteed [3]
	Excluding Commodity Credit Corporation guarantees [3]	Including Commodity Credit Corporation guarantees [3]	Excluding Commodity Credit Corporation guarantees [3]	Including Commodity Credit Corporation guarantees [3]	Excluding Commodity Credit Corporation guarantees [3]	Including Commodity Credit Corporation guarantees [3]							
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
1914:													
Spring	1,607,970	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	1,607,970	----------
1918:													
July 1	2,506,814	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	2,506,814	----------
1921:													
Jan. 1	3,869,891	----------	----------	----------	----------	----------	----------	3,104	----------	----------	----------	[9]3,873,788	----------
1924:													
Jan. 1	2,943,818	----------	----------	----------	9,105	----------	----------	2,513	----------	----------	----------	[9]2,982,554	----------
1931:													
July 1	1,936,360	----------	----------	----------	79,206	----------	----------	61,442	----------	----------	----------	2,077,008	----------
1934:													
July 1	[10]	----------	----------	----------	61,879	----------	.....	91,569	----------	205,388	[10]	[10]	----------
1935:													
Jan. 1	594,604	807,613	60,459	----------	55,083	----------	87,087	111,238	5,600	37,162	213,009	914,071	1,164,242
July 1	[10]	[10]	106,402	----------	57,705	----------	72,759	198,240	[10]	151,735	134,415	[10]	[10]
1936:													
Jan. 1	[10]	[10]	93,400	----------	46,518	----------	43,394	172,470	62,900	271,219	8,474	[10]	[10]
July 1	659,703	661,606	139,062	----------	53,959	----------	36,020	176,415	128,691	236,268	1,903	1,193,850	1,432,021
1937:													
Jan. 1	593,560	593,614	104,481	----------	40,508	----------	25,282	164,762	131,600	204,511	54	1,060,193	1,264,758
July 1	726,357	726,400	158,752	----------	47,306	----------	22,908	189,186	171,394	116,827	43	1,315,903	1,432,773
1938:													
Jan. 1	648,961	788,351	136,918	----------	39,974	----------	15,588	171,983	162,802	173,134	139,390	1,176,226	1,488,750
July 1	781,606	925,705	183,296	----------	42,703	----------	14,788	184,656	207,239	228,913	144,099	1,414,288	1,787,300
1939:													
Jan. 1	743,894	1,064,667	146,825	----------	32,612	----------	11,080	170,952	209,806	308,950	320,773	1,315,169	1,944,892
July 1	800,544	1,193,466	186,945	----------	39,794	----------	10,234	179,812	280,528	330,097	392,922	1,497,857	2,220,876
1940:													
Jan. 1	859,898	1,094,392	153,425	----------	32,316	----------	8,005	167,795	276,138	208,193	234,494	1,497,577	1,940,264
July 1	956,022	1,182,721	199,219	----------	40,033	----------	7,768	180,798	320,324	150,183	226,699	1,704,164	2,081,046

1941:													
Jan. 1	938,929	1,281,275	170,686	178,866	33,116	33,861	5,855	167,862	312,717	252,287	351,271	1,629,165	2,232,723
July 1	1,056,845	1,167,204	219,903	221,788	42,106	42,171	6,658	178,818	362,545	214,854	112,309	1,866,875	2,194,038
1942:													
Jan. 1	1,111,809	1,449,937	185,611	201,589	37,939	38,496	5,532	163,792	339,083	133,018	354,663	1,843,766	2,331,447
July 1	1,064,358	1,164,452	245,846	250,460	45,615	45,967	4,249	176,062	397,274	159,585	105,060	1,933,404	2,198,049
1943:													
Jan. 1	895,511	1,641,772	182,658	205,873	38,182	38,510	3,991	155,456	362,343	104,366	769,804	1,638,141	2,512,311
July 1	952,230	1,316,385	254,841	266,334	40,518	41,328	53,754	164,948	378,509	57,968	376,458	1,844,800	2,279,226
1944:													
Jan. 1	906,783	1,505,249	196,637	210,232	34,137	34,392	32,047	146,181	338,714	93,104	612,316	1,654,499	2,359,919
July 1	970,152	1,474,253	266,396	274,119	35,316	35,816	20,561	156,187	342,246	76,327	512,324	1,790,858	2,379,509

[1] Excludes loans to farmers' cooperative associations. Continental United States only.

[2] Insured commercial banks only beginning 1935, prior to 1935 all open State and national banks. Commodity Credit Corporation holdings of banks prior to 1943 partially estimated.

[3] Commodity Credit Corporation guarantees are loans secured by agricultural commodities covered by purchase agreements of the Commodity Credit Corporation, also certificates of participation in cotton producers' pool; after January 1, 1943 includes some loans to processors of and dealers in agricultural commodities.

[4] Loans to and discounts for private financing institutions other than commercial banks.

[5] Includes seed, feed, crop production, drought relief and orchard rehabilitation loans, some of which were made by predecessors (Farmers' Seed Loan Office and Emergency Crop Production Office).

[6] Includes rural rehabilitation, water facility, and project-equipment loans. Includes loans from funds of State rural rehabilitation corporation and loans made by the Resettlement Administration.

[7] Excludes loans held by commercial banks and Federal agencies under purchase agreement with Commodity Credit Corporation. Also excludes collateral securing certificates of participation in the cotton producers' pool.

[8] Includes $793,000 of War Finance Corporation loans.

[9] Includes $27,118,000 of War Finance Corporation loans.

[10] Data unavailable.

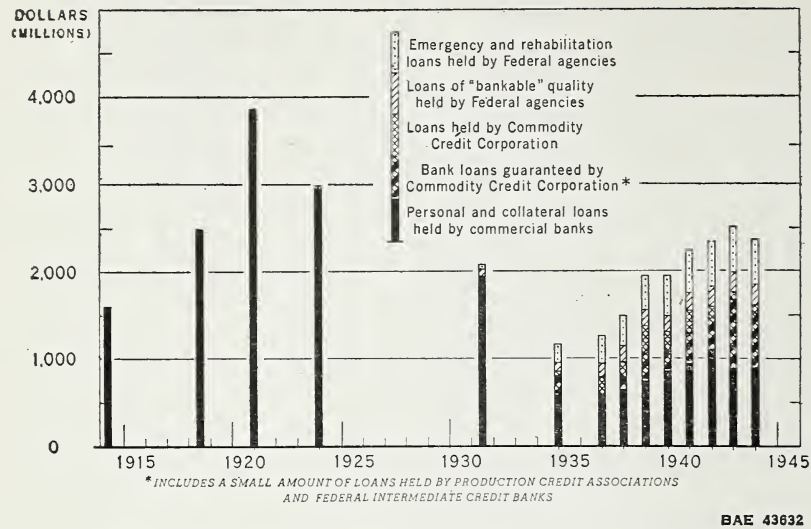


FIGURE 31.—Non-Real-Estate Loans to Farmers Held by Commercial Banks and Selected Federal Agencies, United States, on Various Dates, 1914-44. (In General, Loans Held by Federal Agencies Exclude Loans to Cooperatives)

COMMODITY CREDIT CORPORATION LOANS

A sizable portion of this debt to institutions was the 700 million dollars owed by farmers in connection with activities of the Commodity Credit Corporation. This Corporation makes loans direct to farmers and guarantees loans made by commercial banks and other institutions. For several years after the program started in 1933 the largest share of loans was made directly to farmers by the Corporation. In later years as credit became easier local banks made an increasing proportion of all CCC loans. At the end of 1943 outstanding loans held directly by the CCC totaled only 93 million dollars [31] whereas guaranteed loans held by other institutions amounted to more than 612 million dollars.

The primary purpose of the CCC loan program is price stabilization. The loan proceeds may be considered as income to the farmer unless there is a rise in price above the loan value, in which case the farmer profits by repaying the loan and redeeming the collateral. In contrast to regular types of loans which are often secured by assets used in production such as livestock and equipment, the liability of the farmer is limited to the value

[31] Estimated by the Bureau of Agricultural Economics. Excludes paper held in trust for CCC by certain Federal reserve banks but reported by CCC as directly held. Such paper constitutes a pool of cotton producers' notes securing certificates of participation which are held by banks or other paper guaranteed by CCC. Cash held for immediate disbursement is also deducted from CCC reports of paper directly held.

of the commodity pledged as security. CCC loans, therefore, do not cause the loss of these means of production nor do they result in the building up of a backlog of unpaid debts. When conditions in this war and World War I are compared there is reason to believe that the CCC now bears much of the risk which previously was borne by the "trade," that is, by the dealers in and processors of agricultural commodities. Thus, not only are CCC loans without recourse on the farmer but this credit risk might not be borne by the farmer even in the absence of the CCC.

Although many food and fiber crops have been included in the CCC loan program, the majority of loans have been made in connection with price-supporting programs for cotton, wheat, corn, and tobacco. During the last several years, as the market price of farm products has improved, the need for these loans has steadily diminished. Loans outstanding on wheat, corn, and tobacco have declined. Cotton has been the only major crop on which extensive price-supporting loans have recently been necessary. Two-thirds of all outstanding loans on December 31, 1943 were reported as secured by cotton. In general, so long as market prices are at parity price levels most farmers can be expected to sell their products in regular market channels without the necessity of extensive loans from the Commodity Credit Corporation. It is also probable that commercial banks are now in a position to make many loans on the security of warehouse receipts without submitting the loan to the Commodity Credit Corporation for guarantee.

Because of the unusual character of credit provided or guaranteed by the Commodity Credit Corporation, in the main the remainder of this chapter will exclude such credit from the discussion of non-real-estate debt. However, the balance sheet exhibited above carries the Commodity Credit Corporation paper as a part of non-real-estate debt and the value of the pledged collateral as a part of the farmers' assets.

COMMERCIAL BANK LOANS

Farmers at present obtain more than half of their institutional short-term credit (excluding Commodity Credit Corporation loans) from commercial banks. On January 1, 1944 local banks held 907 million dollars out of the total outstanding non-real-estate loans from institutions of 1,654 million dollars. On January 1, 1935, after a period of forced liquidation, such outstanding debt owed commercial banks was about 595 million dollars. This debt gradually increased through the following years, reaching

1,112 million dollars on January 1, 1942. It has since declined to 907 million dollars (table 32).

During World War I, when there were no federally sponsored short-term credit agencies, commercial banks held almost all the institutional non-real-estate debt of farmers, so the total commercial bank short-term loans were considerably greater than now. In fact, this debt was greater than the total of all institutional non-real-estate debt of farmers outstanding in the present war. In July 1918 farmer indebtedness to commercial banks was 2.5 billion dollars. In this war farmer indebtedness to all short-term lending institutions has remained well below 2 billion dollars.

During the first World War farmers' non-real-estate debt expanded at a more rapid rate than has been experienced so far in this war. From the spring of 1914 to July 1918 short-term debt to commercial banks increased 56 percent. This upward trend continued throughout the remainder of the war and immediate postwar period. It is true that in the present period from January 1, 1939 to January 1, 1942 there was a sharp increase in non-real-estate loans outstanding to commercial banks of 50 percent. Since 1942, however, debts have declined to a lower level so that the actual net increase from January 1, 1940 to January 1, 1944 is only 5 percent (table 33). It is interesting that in this same period outstanding loans to production credit associations and the Farm Security Administration increased 28 and 23 percent, respectively.

At the beginning of 1944 the greatest concentration of commercial bank non-real-estate loans to farmers was in the Corn Belt and the Great Plains. Of the total commercial bank loans in the United States (exclusive of Commodity Credit Corporation paper) 40 percent were in these two regions (table 34). Only 5 percent of all commercial bank short-term loans were outstanding in the South Atlantic region. It is apparent that the largest amount of loan funds of country banks originate and remain in the more prosperous agricultural regions.

The proportion of all non-real-estate loans outstanding to institutions which are held by commercial banks is also greatest in the more prosperous areas. Of all non-real-estate loans outstanding to institutions in the Corn Belt, 70 percent were held by commercial banks (table 34). In the Pacific and Lake State regions, banks also held a high percentage of all short-term loans—68 percent and 61 percent respectively. On the other hand, in the South

Atlantic region only 35 percent and in the South Central region only 43 percent of all institutional loans were outstanding to commercial banks. For the United States, banks held 55 percent of all non-real-estate debt to institutions.

TABLE 33.—*Distribution of non-real-estate loans outstanding to farmers by selected credit institutions according to quality and source, January 1, 1940 and 1944*

Quality and source	1940		1944		Increase or decrease 1940–44	
	Amount	Percent	Amount	Percent	Amount	Percent
	1,000 dollars		*1,000 dollars*		*1,000 dollars*	
Farm Security Administration	276,138	18	338,714	20	62,576	23
Emergency Crop and Feed Loan Office [1]	167,795	11	146,181	9	−21,614	−13
Regional agricultural credit corporations	8,005	1	32,047	2	24,042	300
Total "nonbankable"	451,938	30	516,942	31	65,004	14
Commercial banks [2]	859,898	58	906,783	55	46,885	5
Production credit associations [2]	153,425	10	196,637	12	43,212	28
Federal intermediate credit banks [2]	32,316	2	34,137	2	1,821	6
Total "bankable"	1,045,639	70	1,137,557	69	91,918	9
Grand total (excluding CCC loans)	1,497,577	100	1,654,499	100	156,922	10
Commodity Credit Corporation loans including institutional guaranteed	442,687		705,420		262,733	59

[1] Includes orchard-rehabilitation and drought-relief loans.
[2] Excludes loans subject to repurchase agreement with Commodity Credit Corporation; these Commodity Credit Corporation guaranteed loans of commercial banks in 1940 are estimated.

After the close of the first World War, short-term debt to commercial banks continued to rise, reaching approximately 3.9 billion dollars on January 1, 1921—nearly 2½ times the total outstanding at the beginning of that war. During the next decade non-real-estate debt was gradually adjusted downward and on July 1, 1931 was only about half as large as the amount outstanding on January 1, 1921.

During the serious depression of the 1930's many banks were forced to close their doors and all types of credit were drastically curtailed. To meet the needs of the farmers for working capital credit at that time the Government expanded its activities in regard to small production loans under the Emergency Crop and Feed Loan Office, and later it sponsored the establishment of the Regional Agricultural Credit Corporations, the Production Credit System, and the Farm Security Administration. Except for the RACC these loan agencies have since come to be a very important factor in the non-real-estate loan field.

TABLE 34.—*Non-real-estate loans to farmers held by selected credit institutions, amounts outstanding, percentage distribution, by regions, January 1, 1944*[1]

AMOUNTS OUTSTANDING

Institution	United States	North Atlantic[2]	South Atlantic[3]	South Central[4]	Lake States[5]	Corn Belt[6]	Oklahoma-Texas	Great Plains[7]	Mountain[8]	Pacific
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Commercial banks	906,783	49,014	42,373	77,296	83,675	227,919	115,018	131,757	92,088	87,643
Production credit associations	196,637	19,005	17,499	19,333	13,416	46,436	26,520	15,539	22,727	16,162
Federal intermediate credit banks	34,137	483	270	6,667	2,452	3,777	11,610	1,372	4,377	3,129
Farm Security Administration	338,714	19,851	47,372	63,425	25,864	39,772	44,814	43,552	39,006	15,058
Emergency Crop and Feed Loan Office	[10] 146,181	1,782	10,924	10,548	8,289	3,541	12,269	77,546	19,649	1,592
Regional agricultural credit corporations	[11] 32,047	2,783	2,093	2,034	3,720	2,739	3,033	5,859	4,054	5,449
Total	1,654,499	92,918	120,531	179,303	137,416	324,184	213,264	275,625	181,901	129,033

PERCENTAGE DISTRIBUTION BY INSTITUTION

	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Commercial banks	55	53	35	43	61	70	54	48	51	68
Production credit associations	12	20	15	11	10	15	12	5	12	13
Federal intermediate credit banks	2	1	[12]	4	2	1	6	1	2	2
Farm Security Administration	20	21	39	35	18	12	21	16	22	12
Emergency Crop and Feed Loan Office	9	2	9	6	6	1	6	28	11	1
Regional agricultural credit corporations	2	3	2	1	3	1	1	2	2	4
Total	100	100	100	100	100	100	100	100	100	100

PERCENTAGE DISTRIBUTION BY REGION

	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Commercial banks	100	5	5	8	9	25	13	15	10	10
Production credit associations	100	10	9	10	7	24	13	8	11	8
Federal intermediate credit banks	100	1	1	20	7	11	34	4	13	9
Farm Security Administration	100	6	14	19	7	12	13	13	12	4
Emergency Crop and Feed Loan Office	100	1	8	7	6	2	8	53	14	1
Regional agricultural credit corporations	100	9	7	6	12	9	9	18	13	17
Total	100	6	7	11	8	19	13	17	11	8

[1] Excludes Commodity Credit Corporation loans.
[2] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
[3] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.
[4] Kentucky, Tennessee, Alabama, Mississippi, Arkansas, and Louisiana.
[5] Michigan, Wisconsin, and Minnesota.
[6] Ohio, Indiana, Illinois, Missouri, and Iowa.
[7] North Dakota, South Dakota, Kansas, and Nebraska.
[8] Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
[9] Washington, Oregon, and California.
[10] Includes $41,000 not allocable by States. Also includes drought-relief and orchard rehabilitation loans.
[11] Includes $283,000 not allocable by States.
[12] Less than 0.5 percent.

PRODUCTION CREDIT ASSOCIATION LOANS

From January 1, 1940 to January 1, 1944, outstanding loans made by the production credit associations increased from 153 million dollars to 197 million dollars. Because of seasonal influences, the loans outstanding in July usually exceed the amounts outstanding in January. The volume of loans outstanding on January 1, 1944, however, was the largest for any January in the history of the production credit system and was approximately 12 percent of all institutional non-real-estate credit outstanding.

In 1940, loans made by production credit associations totaled 347 million dollars; in 1943, 497 million dollars was loaned (table 47, Appendix A). Despite the larger volume of loans made, repayments are also larger so that amounts outstanding have not increased materially. Although loans made in 1943 were 150 million dollars more than the volume loaned in 1940, the total outstanding at the end of 1943 was only 26 million dollars greater than the amount on the books on December 31, 1940 (table 48, Appendix A).

Notwithstanding the larger dollar volume of loans made and outstanding, the number of farmers borrowing from the production credit associations was about the same in 1944 as in 1940. Highest number of farmers served annually by these associations —245,525—was reached in 1937. Since then the number of members borrowing each year has leveled off to approximately 230,000.

There has been considerable turn-over of individual members. A study of the production credit association borrowers indicates that 29 percent of the borrowers on July 1, 1942 were not getting credit from the associations a year later. Nearly two-thirds of these no longer needed to borrow for working capital from any source. [32] Improved farm incomes which have made it possible for these individuals to become self-financed have also made eligible for loans from production credit associations many farmers who previously had lower credit ratings. Formerly much of the credit of this latter group was obtained from dealers and finance companies.

A significant development during this war has been the increase in the average size of loan made. In 1940 each borrower from a production credit association obtained on the average $1,505. In 1943 the average size loan was $2,160 (table 49, Appendix A). This upward trend has been continuous since the beginning of the system in 1934 when loans averaged $802. It reflects the higher costs of production, expanded operations of farmers,

[32] United States Bureau of Agricultural Economics. PRODUCTION CREDIT ASSOCIATION LOANS. Agr. Finance Rev., 6 (Nov.): 61–62. 1943. [Processed.]

and possibly a change in loan practices of the associations as a result of increasing experience. The percentage increase in size of loans was the greatest in the grain-producing and cattle-fattening areas of the Great Plains and the Corn Belt. From 1940 to 1943 the respective increases in these areas were 73 percent and 66 percent, respectively. In the Mountain and Oklahoma-Texas regions the size of new loans increased only 16 percent and 21 percent, respectively, during this period. In 1943, loans in the Pacific and Mountain regions averaged about $6,500 each. In the South Atlantic and South Central regions loans from production credit associations on the average do not greatly exceed $1,000.

Borrowers of the production credit associations and of the commercial banks are generally from the same class of farmers. Standards of production credit associations and banks in regard to loans do not differ greatly. It is therefore reasonable to assume that the directions of change in repayments, average size of loans, etc., of the production credit associations would be similar, on the whole, to those found in the non-real-estate loans of commercial banks. It does not necessarily follow that average amounts per borrower are the same.

FEDERAL INTERMEDIATE CREDIT BANK LOANS

Loans and discounts made by Federal intermediate credit banks for private financing institutions, such as livestock loan companies and agricultural credit corporations, have shown little change during the war. On January 1, 1940 outstanding loans totaled 32 million dollars and on January 1, 1944 such loans amounted to 34 million dollars.

FARM SECURITY ADMINISTRATION LOANS

From June 30, 1940 to June 30, 1943 the number of farmers with rural rehabilitation loans from the Farm Security Administration increased from 533,095 to 610,167 (table 50, Appendix A). But after reaching a peak of 645,598 on June 30, 1942 the number of borrowers started to decline. This decline is continuing, and current indications are that during the fiscal year ended June 30, 1944 the number of borrowers will be further reduced to about the same as in 1940. At present, more than 40 percent of all rural rehabilitation clients are concentrated in the South Atlantic and South Central regions.

During the calendar year 1943, new loans totaled 124 million dollars.[33] This is the largest amount loaned in any one year to date. This increase is the result of larger individual loans. For

[33] Includes loans from State corporation trust funds.

the year 1940, the average size of loan was $580 (table 49, Appendix A). In the year ended December 31, 1943, the average size was $766. During the same period the size of supplemental or additional loans made to borrowers with existing loans increased from $214 to $286. Higher costs of production combined with a drive for increased food and fiber have been mainly responsible for these larger individual loans. The largest average original loans of $1,300 to $1,500 were made in States such as Vermont, Wisconsin, Iowa, and Wyoming, where livestock holdings are relatively large. Smaller loans averaging between $400 and $500 were made in the South, where farm units as well as requirements as to livestock and equipment are small.

The trend in amount of FSA loans outstanding was upward until after 1942. Loans outstanding on January 1, 1940 totaled 276 million dollars. By January 1, 1943 they had reached 362 million dollars and on January 1, 1944 they had declined to 339 million dollars. This is the largest amount of debt held by any of the governmental non-real-estate credit agencies. About a fourth of the outstanding loans, however, are in the classifications of "collection-only" or "dropped." The borrowers in these classifications no longer receive farm- and home-management supervision and with a substantial number of them there is no expectation of repayment. Of this "inactive" group over half of the borrowers first received FSA loans in the early years of 1935 and 1936.

It is interesting to note that outstanding rural rehabilitation loans of the Farm Security Administration increased 23 percent from 1940 to 1944 (table 33). Loans outstanding to the agencies making "bankable" loans increased only 9 percent. On January 1, 1944, rural rehabilitation loans constituted 20 percent of all non-real-estate loans outstanding to institutions. On January 1, 1940 the amount of such loans comprised 18 percent of the total.

Several possible explanations for the larger proportion of loans held by the Farm Security Administration are as follows:

1. Increased governmental appropriation.
2. Special effort to expand food production on lower-grade farms.
3. Need for larger individual loans to equip, stock, and get these farms into production.
4. Smaller repayment rate made possible under 5-year term.
5. Tendency to continue borrowing from Farm Security Administration even though improved conditions might have made borrowers eligible for "bankable" credit.

The trend toward fewer borrowers in the last year or two is primarily the result of improved wartime incomes. Increased

production and higher prices often supplemented by off-the-farm factory work, have resulted in the repayment of many loans.

EMERGENCY CROP AND FEED LOANS

A reasonably clear picture of the trends in the financial condition of the smaller low-income farm units may be obtained by following the lending activities and experience of the emergency crop and feed loan offices. Their small loans of $400 or less are intended primarily for farmers who are unable to get credit through the regular channels.

Only 114,933 farmers received loans in 1943 from this source —the fewest served in one year for more than a decade. In 1940, loans were made to 158,036 producers. During the depression and drought years of 1933-35 these loans apparently were the major source of production credit for well over a half million farmers each year.

Emergency crop loans of 18 million dollars made in 1943 were relatively insignificant. They constituted only 2 percent of all non-real-estate credit extended by Government-sponsored agencies.

Although the 146 million dollars of emergency crop and feed loans outstanding on January 1, 1944 is 9 percent of the total institutional non-real-estate debt on that date, 85 percent of it represents overdue loans made in 1936 or earlier years. A large volume of unpaid emergency crop loans and drought feed loans accumulated in the Great Plains during the drought and depression years from 1930 to 1935. About two-thirds of these were crop production loans and one-third drought feed loans made in 1934-35. These loans are unsecured and a large volume of them cannot be collected. In many cases the original borrowers are no longer farming and their whereabouts are unknown. One-half of the total outstanding debt was owed by farmers in the Great Plains.

Of the loans made in the 1943 season, only 4.7 million dollars—25 percent of the total made—remained outstanding on December 31, 1943. Incomes of these borrowers have improved sufficiently so that in 1942 and 1943 repayments were about 150 percent of loans made. These extra payments are gradually reducing the old delinquencies. On June 30, 1943 the average size of all loans outstanding, including old delinquent loans, was $122, the smallest since 1934.

As in the case of loans made by the production credit associations and the Farm Security Administration, high production costs have caused the average size of new emergency crop and

feed loans to increase during the war (table 49, Appendix A). In 1940 the average size of loans made was $120. The average loan to farmers in 1943 was $155.

From current loan activities of the Emergency Crop and Feed Loan Office it would appear that the financial condition of the cotton farmers has not improved sufficiently to attract adequate working-capital credit from regular channels. Of the new loans in 1943, 82 percent of the number and 74 percent of the amount were made in the South Atlantic, South Central, and Oklahoma-Texas regions.

REGIONAL AGRICULTURAL CREDIT CORPORATION LOANS[34]

In early 1943 there was a belief in some quarters that a possible shortage of credit to some farmers might handicap the food-production effort. Accordingly, the loaning activities of the Regional Agricultural Credit Corporation, which had been limited in recent years to a few emergency areas, were rapidly expanded for this purpose (fig. 32). Approximately 65 million dollars were loaned to 108,820 producers in 1943. These loans were rather attractive with a 5-percent interest rate and many of them were made with limited-liability features. Of 67 million dollars loaned from January 1, 1943 to May 31, 1944, approximately 37 million dollars were full-liability loans. Thirty million dollars were special advances for war crops, where liability to repay was limited under certain conditions to proceeds of the crop financed. As of May 31, 1944, 80 percent of these special advances had been repaid; nearly 4 percent were canceled without payment in full; and 16 percent remained outstanding. Of the regular loans, about 70 percent had been paid in full on May 31, 1944, and 30 percent remained outstanding. The term of most of the crop advances which averaged about $400 each was less than 1 year. The average size of the regular loans was nearly $1,000 and many that were made for purchase of livestock and equipment had longer than a 1-year term.

After the experience of the 1943 season it was felt that other existing agencies could handle most of the loans made by the RACC. The 1944 loan program of this corporation has been greatly curtailed. Loans now being made are all full-liability loans and are limited to selected crops in certain areas designated

[34] Table 33 shows that Regional Agricultural Credit Corporation loans have been classified as "nonbankable." Loans made in 1932 and 1933—the first 2 years of operation—were generally of "bankable" quality. Liquidation of Regional Agricultural Credit Corporation loans, however, began in 1934. Thereafter new loans were made only in areas in which an emergency existed or to assist in the orderly liquidation of outstanding loans. In the 1943 food-financing program, Regional Agricultural Credit Corporation loans were intended for those who could not get adequate credit from existing sources. Although many of these loans were of "bankable" quality the majority are of the type that would not be suitable for bank loans. Before June 1944, material published by the Bureau of Agricultural Economics has shown Regional Agricultural Credit Corporation loans in the "bankable" class.

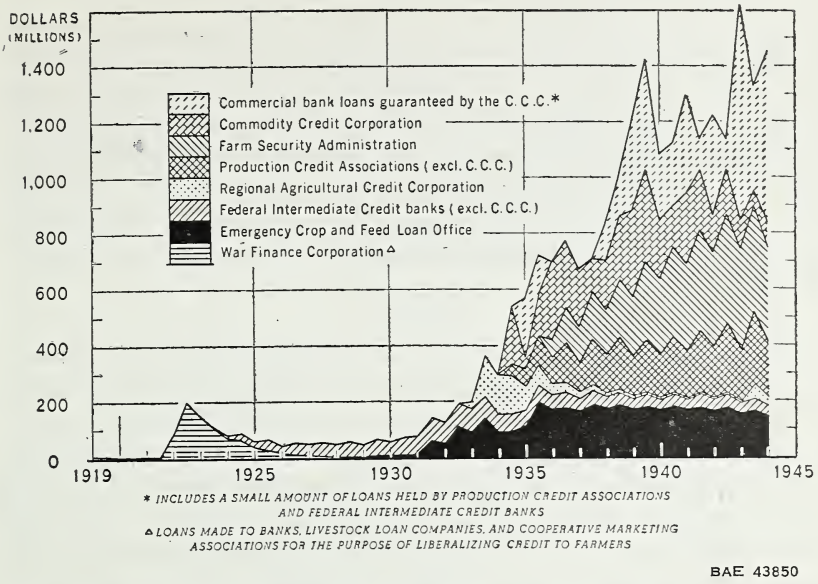


FIGURE 32.—Non-Real-Estate Loans to Farmers by Federally Sponsored Agencies: Amounts Outstanding, United States, 1919-44

by the Secretary of Agriculture. The interest rate has been increased to 5½ percent and a service charge of one-half of 1 percent has been added. Further, before a loan can be approved it must be certain that no loan is possible from other sources. From January 1, 1943 to May 31, 1943 food-financing loans made by the RACC totaled approximately 45 million dollars. For the same period in 1944 loans made totaled only 2¼ million dollars.

OTHER DEBT

As indicated in the opening of this section, ordinarily much non-real-estate debt is owed by farmers, to dealers, merchants, sales finance companies, personal finance companies, and individuals. Few data are available and this "debt to others" has not yet been carefully estimated. For the purpose of the balance-sheet presentation the assumption is made that from 1940 to 1942, non-real-estate debt to others was equal to three-fourths of the non-real-estate debt to institutions. It is assumed further that from January 1, 1942 to January 1, 1944 this debt gradually declined to an amount equal to only one-half of the institutional debt. From January 1, 1940 to January 1, 1944 it is estimated that this type of debt was reduced from 1,455 million dollars to 1,180 million dollars—a decline of 19 percent. Credit regulations and shortage of goods, especially consumers' goods, have con-

tributed to this shrinkage. It is probable also that many farmers, because of improved credit standing, have shifted from the high-cost credit of dealers and personal finance companies to the lower cost credit extended by commercial banks and production credit associations. It is reasonable to assume that the improvement in the situation of farmers who use this "other" non-real-estate credit may be greater than with individuals who normally get all their credit from commercial banks and Government agencies.

SUMMARY

So far during the war period ample credit has been available to most farmers for their production needs. In general, there has been a surplus of loanable funds in country banks as well as in the money centers of the Nation. Further, an increased amount of working-capital loans has been obtainable directly from the Government. Notwithstanding this situation and the fact that production costs have risen materially, total non-real-estate debt outstanding to selected institutions, excluding CCC loans, have increased only 10 percent from January 1, 1940 to January 1, 1944—1,498 million dollars to 1,654 million dollars (table 33). Net incomes and savings have improved sufficiently so that much of the operating expenses of agriculture can now be financed without borrowing.

"Nonbankable" loans outstanding increased 14 percent while "bankable" loans increased only 9 percent during the last 4 years. A possible explanation of this difference in rate of increases is that those who borrow from the emergency governmental agencies have needed much more working capital to step up their operations to maximum wartime production than do those who borrow from the so-called permanent institutions.

Loans made or guaranteed by the Commodity Credit Corporation for price-supporting purposes increased substantially from 443 million dollars outstanding on January 1, 1940 to 705 million dollars on January 1, 1944. This increase is primarily a result of larger loans on cotton. Loans on other agricultural products have steadily decreased during the last 4 years.

From trends shown in federally sponsored agencies it is apparent that on January 1, 1944 there were fewer farmers with non-real-estate debt to institutions than at any time since Pearl Harbor. The increase in total volume outstanding is the result of larger individual loans. Although the financial condition of some farmers has so improved that they could get out of debt to short-term lenders, the remaining farmers have had to borrow more money. Expanded operations and a generally higher cost of pro-

duction have caused the average-size loan to increase. With current good incomes, however, farmers in most instances have little difficulty in repaying them.

So far during the war period it is apparent that the non-real-estate debt situation of many farmers has improved. Delinquencies are smaller, fewer farmers are borrowing, and some shift from high-cost sources (such as dealer credit) to lower cost institutional loans has occurred. Whether this improved situation continues will depend largely on any changes that occur in the current favorable ratio of incomes to production costs. Even in the present short-term credit position there may be an element of danger for individuals who have larger loans. A crop failure or a sudden drop in prices before loans are repaid would leave these farmers with an excessive debt that might cause serious trouble. Others who are able to operate mostly without credit are in an improved position to withstand any shocks arising from post-war readjustments.

PROPRIETARY EQUITIES

Following the liabilities on the balance sheet are the proprietary equities which are left after debts are subtracted from assets. On January 1, 1944 when total assets were almost 83 billion dollars, the proprietors' equities were almost 74 billion. The debt estimated at 9 billion dollars, represents only 11 percent of the total footings of the balance sheet. In other words, the proprietors have an investment in agriculture eight times as important as that of the creditors. The omission of the intangibles from the balance sheet would still leave the proprietors with a 61-billion-dollar interest in the 70 billion dollars of physical assets.

The total equities of the various parties who have an interest in farm assets shown on the balance sheet may be divided into two broad classes: (1) Equities of creditors which constitute the liabilities of farm proprietors and (2) the equities of the proprietors themselves or net worth. The proprietors in agriculture include all who hold legal title to any of the tangible assets of farms. Thus not only are owner-operators included in this category but also landlords living off farms and tenant operators of farms.

The balance sheet shows the division of these proprietary equities into two parts: "Farmers' equity in non-real-estate" and "landowners' equity in real estate" assets. Such a division of equities is merely for convenience in exposition. In law, any creditor has a claim against the general assets of a debtor, sub-

ject to certain specific claims of creditors to any collateral pledged under a mortgage.

"Landowners' equity in real estate" assets is easily obtained by subtracting real estate mortgages from real estate. "Farmers' equity in non-real-estate" assets is obtained by subtracting non-real-estate debts from non-real-estate assets including intangibles. In view of the uncertainty as to the amount of non-real-estate debt, the amount of proprietary equities cannot be accurately ascertained. Granting the assumptions used in the preceding section as to the amount of non-real-estate debt "to others"; that is, to miscellaneous lenders — proprietary equities are in the amount just stated.

In part, the 30-billion-dollar increase in the equities of proprietors resulted from debt reductions which decreased the equities of lenders. The net indebtedness of tenant farmers and landowners to mortgagees and other known lenders has decreased 533 million dollars. In part, the increase came from increased asset valuations. About 8 billion dollars of the increase in asset valuations is a reflection of increases in the intangible assets—cash, bank deposits, United States savings bonds, and warehouse receipts. Another 1.4 billion dollars is a reflection of increases in physical working capital on farms. The remainder is merely the consequence of evaluating given assets in higher prices.

ECONOMIC FORCES—WORLD WAR II VS. WORLD WAR I

Many observers expected certain economic trends to develop in this war much as they did in World War I. In many respects the economic forces have been the same and trends have been similar. In several notable instances, however, the differences between the two war periods have been substantial. Values of farm real estate in World War II have not yet reached the high levels of the corresponding periods of World War I, notwithstanding the same rate of increase. Debts of agriculture as a whole in the current period are declining, whereas in the World War I period they rose sharply. Further, in the last 4 years farmers' reserves of cash or its equivalent increased to the largest figure in the history of the Nation. Likewise, inventories of crops and livestock expanded rapidly and are now generally larger than those on hand 25 years ago.

These trends in the financial condition of agriculture are the net result of many forces operating in a complex economic structure. However, several important factors, which were of lesser significance in World War I, appear to be the main cause of these noteworthy differences.

HIGH INCOME

Increased prices of farm products were a strong force in both periods. Of considerable significance in the present period, however, have been exceptionally favorable growing conditions and a longer upswing in the livestock cycle. These factors have made possible the largest non-real-estate inventories on record. This high production along with good prices has also resulted in an all-time high farm income. Among other things, this increased income has provided many farmers with funds for working capital and for expansion, and has been one of the reasons that the need for credit has declined.

GOVERNMENT PRICE CONTROL AND RATIONING RESTRICTIONS

Accompanying this high farm income has been a national economic policy which has restricted expenditures of farmers as well as others. In this all-out war, Government regulations have been more effective in curbing spending than were the limited measures taken in World War I. This combination of large incomes and restricted expenditures has meant that much surplus cash has been retained in the form of currency, bank deposits, and Government bonds. Further, this inability to spend no doubt has been one of the significant reasons that farmers have paid up their outstanding debts to the extent they have.

DEPRESSION OF THE 1930'S

At the beginning of World War II agriculture had not fully recovered from the prolonged serious depression of the 1930's. This appears to be one of the strongest reasons that a lower level of land values has obtained in World War II than in World War I. Land values rose sharply in both periods. However, because prices were lower to start with in World War II, much of the rise so far has been in the nature of a recovery. Further, the disposal of the large real estate holdings of credit agencies stemming from the depression has been a price-stabilizing influence.

CHANGE IN ATTITUDE

In addition to these economic forces that have been conducive to more conservative land values, to large financial reserves, and to reduction of debts, is the changed attitude on the part of farmers, creditors, and the Government. There had been no prolonged serious agricultural depression immediately before World War I. Many thought that the high prices of both land and farm products that prevailed during the first war would continue. The

optimistic feeling at that time stimulated overexpansion in farm operations, encouraged considerable unhealthy speculation, and resulted in heavy debt. What happened in the depressions of 1921 and the 1930's undermined the confidence of most prospective buyers as to the future of prices of land and of farm commodities. The difficulty in paying for a farm that was bought at inflated prices has had a sobering effect on the actions of purchasers. This forward-looking attitude has been a real restraint on the overexpansion that brings an increase in land values, excessive debt, and exhaustion of reserves. Most farmers hope to emerge from this period in such financial condition as will permit them to undertake any necessary post-war adjustments.

The Government and many creditors have encouraged conservative policies on the part of farmers. The serious results of buying land at boom prices has been driven home and the importance of using good incomes to reduce debts and establish reserves has been emphasized. The widespread use of loans with amortized payments since World War I and more cautious lending by institutional lenders have also contributed to the reduction of debt.

During the present war, farm incomes have been permitted to grow but, so far, national economic policies and the attitudes of farm people have not been conducive to such developments as overexpansion, runaway land values, and excessive use of credit. It may be that inflationary forces have been merely held in check and unless present controls are continued they may burst forth in the form of a post-war boom. For the present, however, farmers are apparently enjoying a rising income without suffering simultaneously from the usual secondary consequences.

Part 2.—FINANCIAL STRUCTURE OF AGRICULTURE IN THE POST-WAR PERIOD

In Part 1 was presented a series of consolidated balance sheets, together with supporting details, which summarized year by year the impact of the war on the financial structure of agriculture. These balance sheets reveal a large growth in the value of various farm assets and some reduction in farm debt. The combined effect of rising values and falling debts was greatly to increase the equities of farmers in the farm enterprise. Moreover, the rapid growth of quick assets—deposits, currency, and Government bonds —has added an element of flexibility to the farmers' financial condition that is not usually present.

This changed financial structure may have far-reaching consequences to agriculture. At no time since World War I have farmers as a whole been so well prepared financially to effect desirable changes in their methods of operation or in types of farming. Certainly the gain in flexibility will facilitate many of the readjustments which agriculture may face in the post-war period. If the present favorable financial condition can be conserved until then, the transition from war production to profitable peacetime operations will be greatly facilitated.

Whether the present improved financial condition of agriculture can be conserved that long remains to be seen. As pointed out in the introduction to this report, the financial structure of agriculture is highly mutable. It is constantly subject to alteration by changing economic conditions and by the actions of farmers themselves. Assets and equities of farmers are constantly changing. It is only when a balance sheet is struck for a given date that they appear to be fixed.

General Considerations

Consideration of these wartime changes in the financial structure of agriculture suggests two broad questions with respect to the future. First, how may the improved financial structure of agriculture affect the transactions and operations of farmers in the post-war period and, second, how may these post-war transactions and operations affect farmers' financial condition? As these activities will be strongly influenced by then-existing general economic conditions and prospects, a study of them must include some examination of the economic conditions that may prevail in the post-war period.

What these conditions will be, cannot now be foretold. Many believe that the immediate post-war period, on the whole, will be

one of high industrial activity induced mainly by the backlog of accumulated needs and liquid resources. They foresee farm income supported at satisfactory levels for a year or two after the war, partly by a strong domestic demand, partly by purchases for foreign relief, and partly by price-support legislation applicable to a period of at least 2 full calendar years following the close of the war (*8*).

Others take a somber view. They believe that the end of the war will be followed by serious dislocation of industry and that a high rate of unemployment is inevitable. They believe that with the serious decline in domestic demand that would accompany stagnation in industry, Government buying for foreign relief and price-supporting legislation would not be enough to prevent a serious reduction in farm income.

Immediate Post-War Developments Affecting the Financial Structure

If the more optimistic of these views should prove to be correct, a high rate of industrial activity and a satisfactory level of farm income would characterize the first year or two after the war. In this case, farmers would be in a position further to strengthen their financial condition.

On the other hand, farmers may act in such a way as to weaken their financial condition. They may be inclined to overlook the impending readjustments made necessary by the approaching end of wartime demand and price conditions which, according to this view, will be prolonged into the immediate post-war period. They may conclude that the prolongation of demand and prices at near wartime levels will be of indefinite duration.

If this attitude is widespread when farm boys return from the military services and when farm equipment becomes increasingly available, farmers generally may embark on a course of agricultural expansion. This would probably include two developments that are of special interest because of their potential effects on the financial structure of agriculture. These are (1) a possible land boom and (2) a possible movement to buy manufactured goods aggressively with the view to satisfying the needs which have accumulated during the war, and for such expansion of operations as may appear attractive. These two courses of action are made possible on an extensive scale by the improved financial condition of the farmers. The large increase in quick assets—currency, bank deposits, and Government bonds—together with reduction in debt, has enormously increased the purchasing power at their command. Given favorable conditions for spending these

funds, farmers are in a position to carry such movements far. If these movements develop what of the financial structure of agriculture?

PROSPECTS OF A LAND BOOM

The forces that tend to generate a land boom are now numerous and strong. A series of exceptionally high annual returns from farm land coupled with good prospects that these may continue at least for a year or two after the war, and the possibility that they may continue longer, have already been influential in a sharp increase in the price of farm land. Likewise the low interest rates of recent years and the growing evidence that these may be more or less permanent has tended to increase land prices. Other developments favorable to borrowers, like smaller down payments and lower annual payments, have stimulated buying. Legislation to assist veterans to acquire farms will increase demand. Moreover, the improvement in financial condition of farmers has contributed in several ways to stimulate the land market.

The threefold increase in deposits, currency, and Government bonds during the 4 years preceding January 1, 1944, may influence the demand for farm land in the immediate post-war period. In some individual instances such assets will be sufficient to cover the entire purchase price of a farm. In other instances they will provide the necessary cash payments. Thus the large increases in deposits, cash, and Government bonds make possible a demand for farm real estate the extent of which is determined not by the volume of these assets alone but also by the mortgage loans that may be made to those who have the necessary cash payments. When this vast reservoir of actual and potential purchasing power at the command of farmers is considered, the possibility of an undesirable land boom appears to be very real, even if no nonfarm groups participate in it.

Rising real estate values themselves are responsible for creating some part of the demand that is now lifting land prices to higher levels. They do this in at least two ways. First, rapidly rising land values suggest to many potential investors that an immediate investment in farm land may be advantageous. A rising market attracts many who might otherwise be indifferent. This is a common experience in security markets as well as in markets for real estate. It is characteristic of many potential investors that they remain indifferent even to obvious opportunities until a significant buying movement has developed.

A second way in which rising real estate values affect the demand for such property is to increase the equities that owners

have in their farms, thus encouraging them to buy additional tracts. An increase in owner equities results likewise from decrease in real estate debt. Although this increase in equities has been much less during the war years than that which was a result of rising real estate values, it does not follow that its influence on demand for farm land is correspondingly small. It is probable that such an increase in equities will seem like a safer basis to expand land holdings than an equal increase in equities arising from a rise in land prices. It will therefore have a larger influence on demand for land.

Increasing values of non-real-estate assets, such as livestock and machinery, have a mixed influence on demand for farm real estate. This is so even when, as in this war, these increases are unaccompanied by rising indebtedness. In one respect at least these higher values tend to reduce demand for farm land. Anyone who is about to begin farming may find that the livestock and machinery necessary to equip his farm is so expensive that he cannot buy them and at the same time buy a farm. On the other hand, established farmers, whether tenants or owner-operators, will find in that part of their livestock inventory which is ready or being made ready for market and which is not a part of their basic stock an asset that will encourage them to bid for farms. But whether in individual cases the influence of high values of such assets is to increase or decrease demand for farms, it appears that in any event it is of relatively small importance.

Although many of the economic developments of the current period suggest that there will be a tendency for farm land values to rise to higher levels there are also certain factors that will tend to retard any runaway inflation in land prices. In the first place, a substantial proportion of the liquid assets of farmers has accumulated because much building repair and replacement, and much replacement of machinery and other equipment were perforce postponed until after the war. It is believed that a considerable amount of farmers' quick assets will be used up when materials, new machinery, and household equipment again are available. Such potential alternative uses suggest that not all of the purchasing power which farmers can command will be focused upon one purpose or type of asset, like real estate.

In the second place, the average age of farm operators is now the highest in history. Substantial numbers of farmers have continued to operate their farms during the war with the expectation that they can retire when hostilities are over. It is probable, therefore, that the volume of farms offered for sale will be larger than usual as many elderly farmers retire.

In the third place, the fact that the tax collector will claim a material share of the profit on a land deal deters many transactions. It is difficult to make a direct comparison of the two war periods in this regard because of the difference in the tax laws. [35] But in general, present laws as compared with those of 1918, take a larger share of the capital gains of the taxpayers who have net incomes below $25,000 to $30,000 (the exact point depending on factors like number of dependents), but a smaller share from those with higher incomes.

In the fourth place, recollections of the financial difficulties that followed the land boom of World War I in the minds of many farmers and lenders will lead to caution and may help to prevent a repetition of the earlier developments.

Lastly, agricultural lenders generally have recognized the potentialities of the current war situation in its relation to real estate values and have largely maintained loan standards regardless of surplus loanable funds and extensive competition for the farm loan business. Despite these moderating factors, the recent rise in land values in many areas has been so rapid that careful consideration should be given to measures which may effectively prevent a recurrence of a land boom similar to that of 1919-20.

Farm-land values were unduly depressed in the mid-thirties and in some areas they are still below their predepression levels. A reasonable recovery from these low levels is desirable, but the rapid increase in sale prices in certain areas is a definite warning that care should be exercised to avoid the purchase of farm land at values which are not justified by its prospective long-time earning capacity. Almost all of the factors that could start a general land boom are present but many realize that such a boom would bring further difficulties not only to farmers but to the agencies that extend new credit.

POST-WAR SPENDING FOR MANUFACTURED GOODS

A very large volume of unfilled farm needs for manufactured goods will have accumulated when the fighting stops. These needs, coupled with the huge cash balances of farmers and generally improved credit conditions, constitute a very large potential post-war demand for manufactured goods. This factor can help to

[35] For example, in 1918, when the entire capital gain was considered as income, a married taxpayer received an exemption of $2,000, paid a normal tax of 6 percent on the first $4,000 and 12 percent on the balance of his taxable net income, and graduated surtaxes starting at 1 percent on taxable net income between $5,000 and $6,000 and reaching 65 percent on income in excess of $1,000,000. In 1944, a similar taxpayer includes as taxable income only 50 percent of the gain on property held more than 6 months. The normal tax of 3 percent applies to all taxable net income in excess of $500 and the graduated surtaxes starting at 20 percent apply to all taxable net income in excess of $1,000 and reach 91 percent on income in excess of $200,000. An alternative computation is available, however, which limits the effective rate on capital gains to 25 percent.

overcome such tendencies to depression as may accompany demobilization of industry and the armed forces. Moreover, the purchase of these items in many cases would increase the efficiency of farm operations.

The demand for these goods, on the other hand, may accentuate an undesirable tendency to bid up the prices of many commodities in the period immediately following the war when they will still be scarce. In any case unrestrained buying at excessive prices by farmers during this period would reduce the liquidity and flexibility of farm assets. This would make more difficult those adjustments which will be necessary at a later time to correct long standing maladjustments as well as those that are induced by the war and that may be prolonged in part into the immediate post-war period.

The nature and extent of farmers' accumulated needs must be examined to appreciate the weight of this factor as an influence on business activity and on the financial structure of agriculture itself. In the early 1930's annual expenditures for repairs and improvements and for the purchase of manufactured goods were not sufficient to offset the current depreciation of land, buildings, farm equipment, and household goods. Taxes, debt service, and minimum necessities of life held first claim on the shrunken incomes. With the improvement in agricultural prices during the later years an increasing proportion of farm income went for improvement or replacement of these farm assets. A substantial amount of the purchases and improvements that were deferred during the period 1930 to 1935 was made in the two or three prosperous years immediately preceding the entry of the United States into World War II. But some of the needs stemming from the depression remain and new deficiency in certain items is developing. On the whole, farmers now have the money to fill these needs but the amount of such expenditures depends chiefly on the extent of war-imposed restrictions on labor and materials.

MAINTENANCE OF LAND

Throughout the war the supply of fertilizer has been reasonably adequate. From 1940 to 1943 the number of acres planted to crops expanded about 4 percent. During the same period fertilizer consumption increased approximately 36 percent. Despite this greater use of fertilizer it is improbable that the heavy wartime drain on soil fertility has been completely offset. To maintain and restore the fertility of farmland, better cultural methods, more physical improvements like terracing and draining, and larger quantities of fertilizer are needed. It has been

estimated that under moderately favorable conditions of production and price farmers in general can profitably use at least twice the fertilizer consumed in 1940. The use of fertilizer at this rate would more nearly approach the point where the loss of nitrogen, phosphate, potash, and other materials through crop production would be replaced.

PERMANENT IMPROVEMENTS

Because of shortage of labor and materials during the war years expenditures on houses, barns, fences, etc., have not been enough to offset depreciation. To maintain the current condition and make postponed improvements, annual expenditures of 650 million dollars (the average expenditures for the years 1940 and 1941) would appear to be necessary for several years. Exceptional wartime wear and tear or rising costs may greatly increase this amount.

In addition to these expenditures are those necessary for modernization. A large proportion of farm buildings are 25 to 50 years old. Recent technological changes in farming practices together with new developments in machinery, like the pick-up hay baler, emphasize the need for remodeling old buildings and constructing new ones. The construction industry anticipates that the equivalent of one new building for every farm will be needed after the war. If such a large-scale program of building improvement develops, annual expenditures for both repair and modernization during the immediate post-war years might well be about 1¼ billion dollars.

MOTOR VEHICLES AND OTHER FARM MACHINERY

At present, there is a substantial accumulation of needs for automobiles. When war restrictions curtailed the production of automobiles there were well over 4 million on farms. Under wartime driving conditions, including poor gasoline and inadequate repairs, automobile replacement needs of 400,000 each year are accumulating. It is not probable that any great number of automobiles will be available until a year or two after the war ends. Expenditures then will depend chiefly on the price range for automobiles. Farm surveys indicate that farmers intend to allocate about 20 percent of their immediate post-war expenditures to automobiles and trucks.[36] The cost of satisfying the total needs for motor vehicles at the end of 1944 might approach a billion dollars.

The outlook for the availability of more farm machinery and

[36] Surveys made by the State colleges of South Dakota and Minnesota. Data summarized by Federal Reserve Bank of Minneapolis.

tractors in the near future is better than that for automobiles and trucks. Consequently that need when the war ends may not be so great as the demand for motor vehicles. Following the relatively restricted production in 1943 the manufacture of machinery in the 1944 season increased substantially. Raw materials allocated for the production of equipment for the year ended June 30, 1944 was 80 percent of the high output of 1940. Although production of machinery in 1944 will be more than twice that of 1943 it will not meet the needs of all farmers for all items.

Notwithstanding a record number of tractors bought in 1940 and 1941, the replacement needs at present are large. The average useful life of a tractor is about 12½ years. Considering the age distribution of tractors now on farms it seems evident that 100,000 to 110,000 each year are depreciating to a point at which, under conditions of normal supply, they would be replaced. In addition, about 50,000 tractors are needed each year to offset losses in animal power. Normal annual needs therefore appear to be 150,000 to 160,000 tractors. Purchases in 1942 just met this need; in 1943 only about half the requirements were met; and in 1944 normal needs are not being completely satisfied. The cumulated deficit of tractors at the end of 1944 will be well over 100,000. To fill this backlog of demand within a 3-year period and meet normal current demands, annual purchases would be about 200,000.

The average age of tractor-drawn machinery on January 1, 1942 was between 7 and 8 years. The useful-life expectancy of this equipment is 12 to 15 years. In general, this equipment is comparatively new so the purchases necessary to maintain the current status will not be great.

The average age of horse-drawn machinery, which constitutes four-fifths of all farm machinery, is 15 to 20 years. This is about the average useful life for such equipment. Undoubtedly one-half of this horse-drawn equipment will need to be replaced with either horse or tractor-drawn equipment within a few years.

Besides the expenditures that will be necessary to maintain present inventories of farm machinery is a growing demand for additional and new types of machinery that will not replace existing equipment. Shortages of labor, improved types of machinery, and increased incomes have undoubtedly accelerated the trend toward farm mechanization. Settlement on farms of returning veterans and war workers will create a further new market. Although a post-war improvement in the labor situation will eliminate some of the current needs, a strong demand for farm equipment may be expected in the immediate post-war years.

Some indication of the type of machinery that may be wanted immediately after the war is shown by the type of machinery in demand for use in the 1945 season as revealed by formal requests made by farmers to the War Food Administration. It is very likely that these requests do not cover the needs of all farmers but they do indicate the relative importance in the need for various rationed items. The major requests for machinery and equipment were as follows: Wheel tractors, 257,000; plows, 248,000; disk harrows, 200,000; cultivators, 339,000; grain drills, 70,000; fertilizer distributors, 74,000; weeders, 29,000; combines, 88,000; corn pickers, 62,000; side-delivery rakes, 74,000; pick-up balers, 33,000; portable grain elevators, 32,000; water pumps, 250,000; milk coolers, 32,000; cream separators, 69,000; milking machines, 61,000.

HOUSEHOLD EQUIPMENT AND FURNISHINGS

Since Pearl Harbor, production of durable consumer goods has been drastically curtailed and it is probable that such household goods will continue to be restricted for some time to come. A substantial amount of furnishings and equipment will need to be replaced when such goods are again available.

In addition to replacement of household goods that are wearing out there will be a new demand by those who are buying the items for the first time. Many of the purchases will be electrical appliances. One indication of this need is the number of farms having electricity. By 1943 approximately 2.5 million farms had been electrified, compared with 788,795 farms in 1935. It is doubtful whether the desired purchase of household electrical appliances has kept pace with rural electrification. Each electrified farm is a potential purchaser of a refrigerator, washing machine, vacuum cleaner, and of many other appliances.

The volume of past sales of household goods is not an accurate measure of future needs. Much depends upon the size of farmers' net incomes. It is reasonable to expect, however, that for several years to come expenditures will equal or exceed those of 1940 and 1941. In those years farm incomes were relatively large and the supply of household goods and equipment was sufficient to meet the demand. Estimates made by the Bureau of Human Nutrition and Home Economics indicate that 1940 and 1941 expenditures of farm families for furnishings and equipment were approximately 400 million dollars. From surveys made in South Dakota and Minnesota it would appear that of the total purchases farmers intend to make in the two immediate post-war years, 7 to 8 percent will be for household goods and equipment.

CHANGES IN THE FINANCIAL STRUCTURE IF PROSPERITY PREVAILS IMMEDIATELY AFTER THE WAR

The foregoing examination of possible expenditures by farmers indicates that in the event of high industrial activity and satisfactory farm income during the immediate post-war period, the financial structure of agriculture may undergo extensive change. If a post-war expansion of agriculture takes place, including, as it very well may, a land boom and a spirited reaching for manufactured goods at high prices, the tangible assets of farmers will increase. In the case of real estate, the increase will be due chiefly to high valuations for a relatively stable acreage in farms. In the expansion of other tangible assets, an increase in physical volume will play a larger part.

These changes will make heavy inroads on the cash assets of farmers. Furthermore, large as the accumulation of readily realizable assets has been, neither their present size nor their distribution among individual farmers will prevent a substantial increase in farm debt if farmers undertake to increase their land holdings and to improve the equipment and furnishings of farm and home as indicated above. Moreover, the volume of farm debt will be increased as returning soldiers and war workers undertake, with the aid of credit, to establish themselves either as tenants or as landowning farmers. These will tend to displace elderly retiring farmers who often own farms and equipment free of debt.

The substantial reduction of cash assets which would accompany the activities just described would take from farmers much of their best hedge against a possible post-war decline in prices. Although the dollar volume of currency, deposits, and Government bonds would remain unchanged by a fall in prices, their purchasing power would rise to the degree that the price level declined. Such a decline could easily set in after the first flush of post-war demand for industrial goods had subsided. If this happens, the farmers who conserve until then most of their present quick assets will suffer least from such deflation.

With the potential demand for credit in the post-war period to meet these indicated needs, it is possible that agriculture may assume an enlarged burden of debt, as it did following World War I, and that this may create economic distress in a later period of lower farm income. It may be recalled that personal and collateral loans to farmers, held by commercial banks, increased from about 2.5 billion dollars in the middle of 1918 to a total of 3.9 billions at the end of 1920. From the beginning of

1919 to the end of 1920, farm-mortgage indebtedness increased from 7.1 billions to 10.2 billions. It was this post-war expansion of both short-term and long-term credit that contributed so seriously to the difficulties of farmers in the period following the price collapse of 1920.

Agencies extending credit to agriculture will be in a position, through their loan policies, to influence materially the financial structure of agriculture during the post-war period. If the mistakes of the immediate post-war period following 1918 are to be avoided, the extension of mortgage credit to finance land transfers will have to be made with caution and the granting of short- and intermediate-term credit will have to be based upon the borrowers' ability to repay out of a level of income that does not reflect wartime conditions. Perhaps the best policy will be to handle credit in such a way as to help prevent over-expansion of farmer purchases in the immediate post-war period and to conserve a part of the buying power acquired during the war for longer term readjustments.

The extent to which both lenders and borrowers can avoid unwise loan commitments if a period of general post-war prosperity develops will depend largely upon national policies related to the retention of many of the economic controls instituted during the current war. Spendable resources and accumulated needs will be far greater at the close of this war than in 1918. Moreover, industry will be faced with a more extensive program of reconversion. In the light of this situation, a premature relaxation of rationing and of allocations might encourage farmers to spend their cash and mortgage their future for goods which will not increase their efficiency enough to justify the outlay.

CHANGES IN FINANCIAL STRUCTURE IF DEPRESSION PREVAILS IMMEDIATELY AFTER THE WAR

This analysis of probable developments in the immediate post-war period has been made on the assumption that industrial activity for the most part would be high, and that agricultural prices and income would hold at favorable levels. But such conditions may not hold true. It is possible that the immediate post-war period will be one of uncertainty, unemployment, and general depression. If these conditions should prevail immediately following the war, there is little doubt that, despite such price supports as are now provided for that period, farm income would suffer a decline. The severity of the decline would probably correspond to the severity of industrial stagnation. The repercussions of this upon the financial condition of farmers would depend on the

severity of the decline in farm income, the duration of the shrinkage, and the manner and extent to which farmers immediately seek to readjust their operations to post-war conditions.

If the shrinkage in farm income were moderate, it would be reasonable to expect later balance sheets to reveal some reduction in value of farm real estate, crops, and livestock. To the extent that these changes were accompanied by some liquidation of crop and livestock inventories debt would tend to fall and cash to rise. But these changes in debts and cash might be offset in whole or in part by purchases of new farm equipment. In the event that farmers began at this time to readjust to prospective peacetime markets they might find such purchases desirable. Such buying would raise the valuation of equipment in later balance sheets as well as influence cash and debt items. But if the decline in farm income were severe, and the shrinkage prolonged, it would be reasonable to expect drastic reductions in all assets, including cash and Government bonds. Likewise a substantial increase in debt would be a reasonable expectation unless the readjustment period produced many foreclosures. The tangible assets including real estate would decline drastically as their values reflected the shrunken income. Cash items would decline not only as the more hopeful farmers sought to readjust their operations but also as restricted income in many instances failed to cover necessary outlays for farm and home, including interest on indebtedness. Debt would rise as instances occurred where cash items were not enough to cover the difference between shrunken income and necessary outgo.

Unless the period of drastic shrinkage in farm income were prolonged, the previous improved financial condition would maintain solvency among farmers generally. At the end of the war farmers will be in better position to withstand adversity than at any time since World War I.

Later Developments of the Post-War Period Affecting Financial Structure

Regardless of whether the immediate post-war period will be one of depression or prosperity, sooner or later extensive readjustments to post-war conditions will be necessary if farmers are to make fullest use of their improved finances. If a high level of farm income is prolonged for a year or two after the war, most readjustments are likely to be postponed. On the other hand, if farm income declines sharply when the war ends, considerable readjustments may be undertaken at once. It seems safe to assume

that in either case the larger part of the necessary readjustments will follow after the immediate post-war period.

READJUSTMENTS OF THE LATER POST-WAR PERIOD

Readjustments that farmers will face in this later post-war period will be due in part to conversion made necessary by the differences in war and peacetime demands but which the nature of the immediate post-war period will delay. In part also they will be due to maladjustments of long standing which were not created by the war but were made obscure by it. Peace will not correct these maladjustments; rather it will accentuate them.

Typical of the first kind are the readjustments that will be necessary for those who, during the war, produced crops like edible dry beans, rice, hemp, soybeans, and peanuts to an extent that probably cannot be sold profitably when former overseas sources of special foodstuffs, fibers, and oil again become available. Readjustments of this kind may be relatively easy as the war period will hardly have been long enough, or the wartime conversion complete enough, to have left the farmers who grew these special war crops without equipment to produce crops that they grew before the war.

Typical of the second kind of readjustments are those which would increase the earnings of the growers of great staple crops like wheat and cotton above the unsatisfactory levels that obtained during much of the interwar period. Readjustments of this kind will include shifts to other types of farming as well as changes that will increase the efficiency with which present crops are grown.

The need of change in type of farming arises mainly from the fact that demand for agricultural commodities is not constant over long periods. This is true not only of periods of drastic change as from war to peace, but also of more stable periods. In times of peace, changes in the habits of consumers, in the methods of processors, and in trade arrangements both foreign and domestic, can greatly alter the demand for farm products. Cotton farmers were especially affected by such developments before the present war when changes in styles, in popular approval of substitute materials, and in trade patterns and arrangements, especially in the important foreign segment of the cotton market, combined sharply to reduce demand for one of the staple farm products of the United States.

That some of these changes are more or less permanent in character can hardly be doubted. They call for large-scale shifts to other crops and farm products, demand for which is high and

increasing. The growing emphasis on better nutrition for the Nation, supplied if necessary at public expense, suggests that certain food crops and products may have a relatively bright future.

The farm enterprise should be in a position to shift from the production of crops for which demand and price are declining, to the production of crops for which demand is rising. Such shifts benefit the country as a whole as well as the individual farms. They cause resources to be directed to the production of goods that are most in demand.

We may well be entering a new period of profound changes in markets for agricultural products. This is suggested not only by revolutionary technological developments of the war, but also by the world-wide disintegration of old relationships among nations and the probable emergence of new patterns of trade and economic relations. For some crops such trends were strongly in evidence before the war.

Ability to meet such changes will be an important characteristic of the farms that continue to prosper as individual units and that make the greatest contribution to the economic life of the Nation. In general, the farms that ordinarily produce crops which in recent years added to the troublesome surpluses are now in a better position than for many years to finance a shift to dairy, fruit, vegetable, or general farming.

For many farmers some change in type of farming would permit profitable operations. Others would get better results by continuing their present crops, but using improved methods and facilities. Many farmers could greatly increase their incomes by operating farms of more effective size, with better equipment, and better livestock, seeds, and the like. Readjustments to obtain efficient combinations of resources and labor are desirable wherever farmers are trying to make a living with inadequate tracts of land or equipment. Recent studies of farm-adjustment opportunities, conducted by certain experiment stations in cooperation with the Department of Agriculture, indicate what is involved.[37] The purpose of some of these studies was ". . . to furnish for various sections of the country farm plans which would specifically indicate the size and type of farm organization necessary to permit paying for a farm, maintaining the farm plant, and providing a family with a satisfactory level of living."

Costs of adjusting families to family-sized units vary from a few hundred dollars spent for fertilizer and for legume and other

[37] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. FARM RESOURCES AND FARMING SYSTEMS NEEDED TO MEET LIVING NEEDS OF FARM FAMILIES. Pts. 1-6. 1942. Quotation from Pt. 1, p. [1].

seeds to thousands of dollars for buying land, livestock, and equipment and putting up new buildings. Most frequent expenditures for reorganizations that do not require extensive buying of land are those for fertilizer, legume seed, equipment, and livestock, and for terracing and resodding land and effecting increases or decreases in stands of timber. Expenditures for farm or dwelling structures are a frequent necessity.

All of this is not to say that it lies entirely within the ability of farmers to adjust their individual affairs so they can farm on a paying basis. As will be pointed out later, national policies that affect the demand for farm products contribute greatly to the prosperity of farmers. On the other hand, the poor returns of many farmers are the result of wrong crops, wrong-sized farms, poor land, inadequate equipment, and inferior livestock. These faults can be corrected by individual farmers who are in good financial condition, especially if they are aided, when necessary, by credit institutions and agencies. They cannot usually be corrected by those who have only meager cash holdings and debts that are out of proportion to assets.

Whatever the more promising post-war readjustments for given farmers may be, they will be greatly facilitated if agriculture succeeds in retaining a good part of its present financial flexibility until the time comes for these adjustments. This flexibility is due to the relatively large proportion of readily realizable assets indicated by the balance sheet and to the relatively low volume of debt.

CHANGES IN THE FINANCIAL STRUCTURE INDUCED BY READJUSTMENTS

The readjustments outlined in this section will leave their marks upon later balance sheets for agriculture. As such changes are made, intangible assets will be partly replaced by tangible assets. Among these may be shifts in relative importance. A larger volume of debt may appear. These changes will mean that some flexibility has been lost. Future changes in farm operations can be less easily accomplished.

On the other hand, to the extent that the cash assets will have been wisely spent and the debt incurred to raise the efficiency of farm operations, the financial structure may even be strengthened. To the extent that cash balances are unnecessarily large they are uneconomic because they are idle assets. It is only when large-scale readjustments are impending that it is wise to retain an exceptional proportion of assets in cash or to forego what otherwise might be a prudent use of credit.

NATIONAL POLICIES THAT AFFECT DEMAND FOR FARM PRODUCTS

The readjustments mentioned can be made more advantageously if the demand for farm products as a whole remains high. No over-all curtailment of output has been suggested.

Maintenance of demand for agricultural products as a whole requires that wartime needs for products like edible dry beans, rice, hemp, soybeans, and peanuts be fully replaced by peacetime requirements for these or other farm products, and that demand now originating in governmental agencies which buy for the military forces and for lend-lease be replaced by additional private domestic demand (made probable by the return of military personnel to private life) and by foreign buyers.

If the demand for our farm products is substantially restricted in the later post-war period, then the readjustments necessary to shrink farming to appropriate size may be drastic and the effects on the consolidated balance sheet may be large. Some conception of the magnitude of such reduction may be had by reflecting that throughout the interwar period demand for agricultural products was inadequate to move at profitable prices what farmers could then produce. During this war, all production records of the past have been broken. Unless we are able to develop peacetime markets of greater absorption power than existed before the war, no amount of adjustments by individual farmers short of reducing the volume of resources and labor utilized in farming will maintain a prosperous agriculture. As so drastic a change of the personal affairs of many farmers would be definitely second choice the possibilities of maintaining demand for farm products in general at near present levels should be explored. What are the conditions necessary to achieve this goal?

First in importance is that there be a high level of domestic purchasing power based on full industrial employment; second, that a substantial export trade in certain farm products be developed.

POLICIES AFFECTING DOMESTIC DEMAND FOR FARM PRODUCTS

The ability of the domestic market to take farm products at profitable prices under wartime conditions has astonished many. If it is possible to maintain a high level of purchasing power in the hands of the nonfarm segment of the population, a large part of what the present agricultural establishment can produce will be bought at home at prices that will maintain farm income at satisfactory levels. The conditions under which a high level of purchasing power can be achieved have been discussed elsewhere and are

not a part of this study. It is sufficient to emphasize the truth that the farmers' interest in high industrial activity is second only to that of the nonfarm groups themselves. In an economy based on exchange the prosperity of those who buy is essential to the prosperity of those who sell. This is true alike of domestic and foreign trade.

POLICIES AFFECTING FOREIGN DEMAND FOR FARM PRODUCTS

The second general condition essential to maintain demand for agricultural products at near present levels is a substantial export trade in certain crops, notably cotton. Traditionally, agriculture in the United States has been geared to a large export market. The nature and growth of our agricultural operations were determined by this fact. It is true that the long-term trend has been to reduce the relative importance of foreign markets for our agricultural products. But the time has not yet arrived when the domestic market will absorb at profitable prices what farmers can produce.

In which direction are we to go in the post-war period? On the one hand, we can aid foreign countries in reestablishing their economies to a level which, with reasonable encouragement to international trade, will give continued support to our economy. If this choice is discarded, the only other major alternative will be to develop a self-contained and self-sufficient economy avoiding, where possible, any trade beyond the national boundary. Abandonment of the foreign market for our farm products would mean the retirement of many who are farming. This is a possible solution but one that might be fraught with hardship to farm families and with perplexing problems of assimilation. It should be attempted only if efforts to enlarge our export trade fail.

What national policies in the post-war period would promote exports of agricultural commodities and at the same time avoid lending support to inefficiency either in agriculture or industry at home or elsewhere? Two broad policies affecting foreign trade appear to have promise: (1) To reduce or remove the present barriers against a large variety of imports; (2) to assist, through long-term credits and the provision of the necessary capital goods, in rebuilding as speedily as possible the mutilated production systems of the warring and occupied countries. These policies are fundamental to the development of a substantial foreign market for our agricultural products. They have a common characteristic in that each in its own way helps to provide purchasing power to potential foreign buyers of our products. The lack of such purchasing power in the form of dollar exchange has been a major cause in recent years of the unsatisfactory status of our export trade.

More Imports Needed.—The need for a national policy that will encourage a larger volume of imports is based on the elementary fact that their exports are by all odds the most important source of purchasing power available to other countries which may want to buy our farm products. Other sources of dollar exchange like loans, gold exports, or services are, by comparison, temporary or of small significance. Unless foreign countries are encouraged to sell a steady and substantial volume of goods to us they cannot acquire a continuous and substantial flow of dollars with which to buy our surplus crops. Lacking this, their demand for our products will be feeble, sporadic, and altogether unsatisfactory.

Moreover, unless we permit a large volume of imports, we cannot even lend to other countries with any assurance that interest or principal payments can be met. Such payments are impossible if the debtor cannot acquire the necessary dollar exchange. The one sure and sufficient source of such exchange is the sale of foreign goods in our markets. This is so basic and elemental and has been said so many times in so many places that it need not be elaborated here. But it must be repeatedly emphasized that no enduring expansion of our agricultural exports—or any other exports—is possible unless the way is opened to a continuous and substantial flow of imports.

Foreign Loans Will Aid Exports.—While the encouragement of imports is basic to a healthy export trade, loans to foreign countries can at times be made to great advantage both to the lending and to the borrowing countries. The post-war period promises to afford such an opportunity.

If we aid foreign countries with loans, foreign demand for our products will increase immediately and will be sustained in the later period. Our capital exports will hasten the rehabilitation of foreign industry and will increase the capacity of other countries to produce. History has shown that as countries become industrialized and the level of living is raised they import more rather than less. Our own experience in industrial development and import trade and the experience of England and other countries bears out this observation. Moreover, the probable benefits of continued expansion of capital investment to maintain an expanding world economy is clearly illustrated by our own domestic experience. Periods of expanding domestic investment have been accompanied by a rapid rate of expansion in our own industrial output; periods of reduced investment by curtailed output.

The immediate need for export capital will be for the reconstruction of war-devastated countries. The destruction of capital

goods has been on a greater scale during the war than any hitherto known. Not only have thousands upon thousands of buildings been destroyed but in the occupied countries factories have been dismantled, rolling stock on railroads has been seized, destroyed, or allowed to fall into disrepair, and obsolescence and deterioration of all buildings and equipment have occurred on a large scale.

In replacing this huge deficit of capital goods the peoples of the occupied countries as well as many of the belligerent countries will be faced with difficult problems. Without the aid of imports of capital goods from other countries, this deficit will have to be replaced out of current production—a discouragingly slow process and one that will necessitate a considerable sacrifice in levels of living. Because of the large demands on the mutilated production capacity, the import requirements of these countries are likely to be in excess of their exports for a while. The resulting lack of foreign exchange, unless offset by foreign loans, will prevent many countries from acquiring abroad, more cheaply than they can produce at home, many of the things they need to rebuild their industries. Moreover, a shortage of foreign exchange may lead to a decision to use available supplies for purchases of capital goods, rather than for farm products. Such a decision would have serious effects on our exports of farm products.

Unless, therefore, additional purchasing power is provided to capital-deficit countries so that their industries can be rebuilt without substantial sacrifice of levels of living, there is little prospect that farm exports will be on a scale commensurate with our need for them. Moreover, the progress of rebuilding and reconstruction in these countries will be delayed.

In these matters, agriculture has a primary interest that is both immediate and remote. As just explained, a shortage of foreign exchange may reduce our immediate sales of agricultural products because foreign countries are likely to give to their importers of machinery prior claims to exchange. More remotely, our agriculture will suffer because our policy of noncooperation would necessitate a lowering of the levels of living in the capital-deficit countries so that labor and other resources could be devoted to the rebuilding of their industrial facilities. This would tend to reduce the world demand for foodstuffs, fibers, and industrial products. Moreover, any lack of foreign exchange that hinders the importation of the agricultural products which normally can be bought more cheaply abroad fosters the domestic production of such commodities. This tends to develop "vested interests" in such production as well as domestic protection, thus making

difficult the future specialization of those areas that are best adapted to the production of agricultural commodities.

Proposals to increase our exports through foreign loans raise the question of how foreign borrowers are to meet interest charges and make ultimate repayment of such advances. Our past experience in international trade, characterized for three quarters of a century by an excess of exports over imports, makes this appear to be a very formidable problem. Many despair of a solution. This pessimistic attitude appears to be supported by our unfavorable experience in making foreign loans in the 1920's. But in retrospect, it is clear that foreign loans of that period were not generally made for productive purposes. They contributed little to the development of the productivity of the borrowing country which would have helped to provide the means of repayment. Moreover, we were unwilling to receive imports through which alone repayment was possible. Such uneconomic foreign lending and illogical obstruction of the means of repayment need not be repeated. Experience has clearly indicated the need for care in providing loans only to those who will use them to increase their productive efficiency. It has likewise shown the folly of extensive restrictions on imports for nations that have a substantial creditor position.

Recent Proposals for Financing Foreign Trade and Rehabilitation.—It is expected that substantial aid of an emergency character will be made available to the occupied countries through the activities of the United Nations Relief and Rehabilitation Administration. But the UNRRA program will not solve the problem of rehabilitating industry and transportation to the extent that the occupied countries can speedily resume their normal international trade relationships. To accomplish that objective will require foreign credits on a considerable scale.

Proposals have been formulated by the United Nations for the establishment of an international monetary fund and an international bank for reconstruction and development. The details of these proposed plans will require the final approval of the legislatures of the participating governments, but the fact that agreement has been reached is significant for the development of positive action in post-war monetary matters.

Under the first proposal a fund would be set up with a capital of 8.8 billion dollars, of which the United States would have a quota of 2¾ billions. This fund would seek to obtain agreements as to rates of exchange between the various participating countries and, in general, would be charged with developing policies to stabilize foreign exchange and to increase its availability. Out of

the resources of the fund, loans could be made to individual countries for the purpose of offsetting temporary shortages in their holdings of foreign exchange. The stress and strain imposed by the war upon the finances of many countries will make the transition to normal peacetime international trade relations a difficult one. An international monetary fund would facilitate such a transition and would help to bring about a higher level of international trade.

The second world institution proposed by the United Nations, the Bank for Reconstruction and Development, would have a capital of 10 billion dollars of which the United States would supply about 3 billion. It would make loans out of its capital funds direct to member governments or it would guarantee loans made to member governments by private capital. Its purpose at the outset would be to provide working capital for the reconstruction of industry and agriculture in war-devastated countries. At a later stage, it would be in a position to finance the expansion of the productive facilities of the less-developed countries, thus contributing to a better utilization of their resources.

An advantage of a world institution that would provide a flow of investment capital would be that all member countries would contribute in the sharing of the risks involved. With a world organization engaged in lending, the orderly flow of capital for investment probably would not be disturbed by the cyclical developments that have interrupted the flow of capital from individual countries in the past. Moreover, with a continuing responsibility to direct the flow of foreign investment, the world bank would be in a position to support and encourage long-range developmental programs.

It is in the field of long-term capital for foreign investment that an international organization perhaps can contribute most effectively to the continuous expansion of world output at a high level. If the Bank for Reconstruction and Development proposed by the United Nations or a similar source for international loans were to be established, it would be in a position not only to hasten the economic recovery of the occupied areas but also to provide the longer range developmental capital which will be needed in many regions of the world in the post-war period.

Industrial Stability in the United States and World Trade. —The role of the United States in assisting in the establishment and maintenance of a high level of international prosperity and trade, however, extends far beyond cooperation in providing a continuous flow of foreign investment. Because of its preponderant share in the world's industrial production capacity and

its high level of wages, this country is the most important consumer of most primary commodities that enter into international trade. By virtue of this fact, variations in business activity in this country affect significantly the demand for commodities that have an international market. A sharp acceleration in business activity here increases prices and incomes over large areas of the world. Conversely, a sharp drop in business activity adversely affects world purchasing power.

Before the war, the United States industrial production represented about 40 percent of the world industrial output. At the conclusion of the war, with the deterioration in the productive capacity of both occupied countries and former enemy territory, it is probable that our industrial production will represent more than 50 percent of the world's total. As a result of this outstanding position and influence which we have in the world economy, other countries may be reluctant to bind themselves to a close form of international cooperation if the sharp variations in our industrial output which have characterized our past history are permitted to continue. Other countries may fear that the sharp variations in our industrial activity will be promptly reflected in the fortunes of their own producers. This indicates clearly that future stability and growth in international trade are largely dependent upon the maintenance in this country of full employment with the elimination of the sharp cyclical fluctuations in business activity which have been characteristic of the past. Full employment will contribute to a high level of foreign trade and that in turn will contribute to stability of employment.

CHANGES IN FINANCIAL STRUCTURE IF AGRICULTURE CONTRACTS

If, despite the application of these national policies to international trade, our farmers cannot compete without subsidy in foreign markets and at the same time maintain a satisfactory level of living, it may be desirable to encourage a shrinkage in the farm working population. It is entirely possible that changes in technology and in world conditions will make other forms of employment more effective in the post-war period than those which up to now have produced farm goods for foreign markets. If this takes place, the problem of agricultural readjustment will include the separation of some farmers from the land and their assimilation in other lines of production. How this is to be accomplished is an important question, but is not a part of this study. This report is concerned with the probable consequences to the agricultural balance sheet if a readjustment as far-reaching as this takes place.

The effects on the balance sheet of agriculture of such a readjustment cannot be foreseen in all details. Much would depend on the way in which the reduction is induced and on what part the Government would play in the process.

On the assumption that the Government would do little to facilitate the readjustment, but would permit "economic forces" to take their course, the effects on the balance sheet probably would be similar to those described earlier in connection with the discussion of possible readjustments of the immediate post-war period (p. 135). As there indicated, if a severe decline in income should take place it would be reasonable to expect drastic reductions in all assets including cash and Government bonds and, if the readjustment period did not involve too many foreclosures, a substantial increase in debt. These doubtless would be consequences also of an extended period of generally unsatisfactory farm income which would follow a failure to expand significantly the foreign market for farm products.

On the other hand, if the Government adopts a policy of definite assistance with the broad goal of establishing a higher level of income for farmers who in the process of readjustment were absorbed into other lines of production and those who remained on the land, it would be reasonable to expect the adoption of policies which, if successful, would provide opportunities in other lines for earning incomes larger than farmers were currently receiving. If through this means some farmers were induced to quit farming, per capita farm income would rise, but a somewhat different distribution of farm earnings would result. Farm wage rates would rise, whereas rent of lands and returns on immovable capital would fall. This would depress the value of farm real estate.

The value of farm equipment reported on later balance sheets would tend to be lower mainly because of lower physical volume, and possibly because, for a time at least, of some lowering in unit price. The value of items like crops and livestock, both products of the farm, might not change greatly as the almost certain reduction in physical volume might be fully or more than fully offset by rise in unit value.

It is difficult to foresee any considerable influence on intangibles or on short-term debt of this particular adjustment standing by itself. On the other hand, it would be reasonable to expect a decline in farm debt induced both by declining volume of land in farms and by a probable reduction in value per farm.

Summary of Part 2

The foregoing examination of possible post-war developments in the financial structure of agriculture has emphasized the impermanent character of any given balance sheet and its susceptibility to change induced by developments both within agriculture and without. The analysis of possible developments revealed the close relationship between changes in the flow of farm income and changes in various items on the balance sheet. It is a two-way influence. Changes in farm income alter the financial structure, whereas reciprocally the financial structure helps to determine farm income through its influence on the ability of farmers to adjust their operations to changing conditions of demand and cost. Moreover, the analysis revealed that the prospects of future farm income as well as past and present farm income influence the financial condition of farmers. Prospects of future farm income leave an imprint on the balance sheet as from time to time they cause changes in the value of land and other durable assets, and as they induce farmers to alter inventories of physical goods, spend or hoard cash, pay off or incur debt.

Any factor, therefore, that influences post-war farm income will also influence the post-war financial structure of agriculture. The way in which farmers adjust their operations to post-war conditions is such a factor. National policies that influence demand for farm products both at home and abroad are other factors. So are national policies that affect the supply of farm products or their costs of production.

Most of these policies will influence farm income through their effects on the price structure. Prices therefore exert great influence on the financial condition of agriculture. On the one hand they are major determinants of farm income and through it work change to the assets and equities of farmers. On the other hand, they affect directly the valuations of important items of the balance sheet. It is this intimate relationship between prices and financial condition which makes the behavior of prices a matter of special concern to farmers.

APPENDICES

A.—TABLES

TABLE 35.—*Farm inventory value of cattle and of milk cows and heifers, January 1, 1940-44*

State and region	Cattle and calves [1]					Milk cows and heifers				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Maine	10,082	9,705	11,332	15,878	19,446	7,866	7,638	8,820	12,546	15,500
New Hampshire	7,038	6,792	7,489	10,846	13,455	5,850	5,625	6,192	8,820	11,076
Vermont	23,117	23,623	29,127	41,675	46,323	20,033	20,536	25,198	36,039	40,256
Massachusetts	14,010	14,666	16,768	23,895	28,108	12,496	13,254	15,042	21,440	25,245
Rhode Island	2,184	2,322	2,838	4,040	4,680	2,002	2,156	2,645	3,749	4,347
Connecticut	12,958	13,455	17,154	24,531	27,636	11,430	11,904	15,360	22,008	24,948
New York	128,520	141,773	177,158	243,182	252,658	109,200	121,380	151,410	204,885	216,150
New Jersey	19,778	20,387	25,903	34,119	35,617	17,520	18,000	22,800	30,030	31,775
Pennsylvania	85,627	91,048	119,612	152,063	169,754	66,120	70,320	92,391	115,062	131,208
North Atlantic	303,314	323,771	407,381	550,229	597,677	252,517	270,813	339,858	454,579	500,505
Ohio	89,073	95,990	130,362	172,458	180,059	59,276	63,562	86,913	113,815	120,628
Indiana	74,938	81,750	112,596	144,022	149,315	43,732	46,909	65,736	82,400	85,680
Illinois	134,106	152,635	197,499	259,032	261,141	69,300	74,052	99,416	130,816	133,340
Iowa	210,708	242,734	306,288	410,117	402,152	90,210	97,944	123,849	168,480	162,240
Missouri	107,858	117,758	157,935	219,044	229,176	45,374	48,150	65,344	90,270	94,775
Corn Belt	616,683	690,867	904,680	1,204,673	1,221,843	307,892	330,617	441,258	585,781	596,663
Michigan	83,662	92,537	120,875	163,760	166,082	61,165	66,861	86,944	115,034	119,667
Wisconsin	199,003	220,498	304,415	366,654	411,775	159,324	176,253	245,243	294,240	333,432
Minnesota	153,709	168,165	220,410	291,143	288,465	105,042	112,384	146,529	193,752	193,800
Lake States	436,374	481,200	645,700	821,557	866,322	325,531	355,498	478,716	603,026	646,899
North Dakota	53,308	62,816	86,673	120,769	121,872	28,600	33,158	42,480	58,976	56,544
South Dakota	69,034	79,703	106,783	152,327	156,988	27,664	31,140	39,785	52,320	50,685
Nebraska	121,128	131,415	177,943	256,139	254,417	37,288	38,186	50,400	73,008	69,452
Kansas	105,260	131,923	180,054	259,349	246,086	39,258	43,442	57,378	79,135	78,213
Great Plains	348,730	405,857	551,453	788,584	779,363	132,810	145,926	190,043	263,439	254,894
Delaware	2,952	3,269	4,328	5,474	5,982	2,380	2,592	3,572	4,446	4,836
Maryland	16,039	18,859	25,157	32,530	34,706	12,078	14,280	19,552	24,592	25,352
Virginia	34,765	38,884	49,908	67,006	74,905	19,411	21,675	28,288	38,180	43,608
West Virginia	20,996	22,304	28,317	38,052	38,325	10,764	11,092	14,460	19,434	20,172
North Carolina	19,218	20,912	28,527	39,983	47,025	14,490	15,312	20,805	28,500	33,852

South Carolina	9,381	9,801	13,540	19,215	23,586	6,720	6,800	9,204	13,213	16,182
Georgia	22,300	23,750	33,033	44,367	50,033	12,915	13,394	19,000	24,490	28,083
Florida	17,786	20,232	27,272	39,530	51,240	4,407	5,280	6,655	7,872	11,264
South Atlantic	143,437	158,011	210,082	286,157	325,802	83,165	90,425	121,536	160,727	184,349
Kentucky	43,920	44,558	64,115	86,356	86,009	24,975	25,470	36,600	47,736	48,336
Tennessee	39,236	41,603	57,110	75,301	83,046	23,688	24,402	33,824	44,160	48,618
Alabama	24,166	24,875	36,552	49,810	57,314	13,895	14,436	20,400	27,594	31,008
Mississippi	29,162	29,201	42,961	58,446	60,134	17,312	16,800	24,795	33,582	34,869
Arkansas	27,995	31,377	43,624	59,127	53,092	16,520	17,496	24,720	32,160	28,875
Louisiana	28,655	29,849	39,115	51,965	58,029	12,060	12,395	16,080	21,204	23,460
South Central	193,134	201,463	283,477	381,005	397,624	108,450	110,999	156,419	206,436	215,166
Oklahoma	73,707	84,205	117,346	169,043	142,936	31,836	35,820	47,712	66,576	56,181
Texas	203,828	223,078	318,757	403,310	382,982	53,808	59,204	82,610	109,837	107,304
Oklahoma-Texas	277,535	307,283	436,103	572,353	525,918	85,644	95,024	130,322	176,413	163,485
Montana	52,234	61,058	82,447	116,075	126,571	9,516	10,368	13,600	18,165	18,360
Idaho	29,696	36,724	47,606	58,341	63,591	12,803	15,312	20,493	24,206	26,631
Wyoming	34,007	37,523	49,890	65,990	70,693	4,002	4,352	5,382	7,029	7,000
Colorado	53,340	60,716	85,622	124,407	121,798	12,220	13,509	17,568	25,647	23,845
New Mexico	44,584	46,324	64,050	80,602	74,297	3,476	3,555	5,166	6,889	6,723
Arizona	31,624	35,711	49,594	57,378	58,981	2,867	3,008	4,165	5,618	6,032
Utah	16,502	18,859	24,963	31,307	35,602	5,871	6,300	8,502	10,881	12,705
Nevada	15,604	16,844	22,934	26,103	27,877	1,491	1,491	1,980	2,200	2,530
Mountain	277,591	313,759	427,106	560,203	579,410	52,246	57,895	76,856	100,635	103,826
Washington	32,989	39,893	54,973	70,242	64,111	20,010	23,168	30,996	38,016	33,464
Oregon	35,231	41,848	58,937	71,472	73,202	13,362	15,370	20,976	25,230	23,572
California	102,282	127,307	160,364	196,327	216,603	46,080	55,944	69,168	83,370	93,534
Pacific	170,502	209,048	274,274	338,041	353,916	79,452	94,482	121,140	146,616	150,570
United States	2,767,300	3,091,259	4,140,256	5,502,802	5,647,875	1,427,707	1,551,679	2,056,148	2,697,652	2,816,357

[1] Includes milk cows and heifers.

TABLE 36.—*Farm inventory value of hogs, and of sheep and lambs, January 1, 1940-44*

State and region	Hogs [1]					Sheep and lambs				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Maine	482	437	525	1,012	1,189	232	233	281	366	366
New Hampshire	179	180	211	418	576	53	59	81	104	109
Vermont	259	230	267	514	669	126	135	163	193	206
Massachusetts	979	915	1,241	2,357	2,303	50	54	65	97	87
Rhode Island	87	88	86	174	211	12	13	16	20	20
Connecticut	290	290	336	603	719	40	34	39	56	64
New York	2,384	2,167	3,539	6,840	6,278	2,332	2,606	3,141	4,105	3,234
New Jersey	990	980	1,380	2,578	2,661	40	46	64	80	96
Pennsylvania	7,627	6,731	10,205	17,405	13,747	1,908	1,911	2,823	3,123	2,749
North Atlantic	13,277	12,018	17,790	31,901	28,353	4,793	5,091	6,673	8,144	6,931
Ohio	27,360	21,936	44,640	73,362	62,939	12,622	13,455	18,134	22,046	17,156
Indiana	35,742	29,256	63,211	101,580	88,160	5,445	6,116	8,485	10,225	7,939
Illinois	53,746	50,316	103,896	172,046	161,550	5,828	6,837	9,082	10,247	8,598
Iowa	93,600	103,691	218,522	374,104	344,424	11,750	14,418	18,492	21,412	18,473
Missouri	28,224	26,020	56,660	101,576	80,394	10,848	11,321	15,641	17,856	15,807
Corn Belt	238,672	231,219	486,929	822,668	737,467	46,493	52,147	69,834	81,786	68,473
Michigan	8,624	7,898	14,698	27,344	19,246	7,456	7,741	9,412	11,133	8,712
Wisconsin	15,834	16,351	30,812	49,148	45,697	2,776	3,114	4,257	5,213	5,413
Minnesota	35,558	35,456	77,304	141,326	132,259	7,843	10,159	13,329	15,279	14,758
Lake States	60,016	59,705	122,814	217,818	197,202	18,075	21,014	26,998	31,625	28,883
North Dakota	4,176	4,507	12,211	27,864	24,118	6,419	8,046	10,612	11,855	9,804
South Dakota	11,402	11,643	29,344	59,595	53,932	11,893	15,488	21,753	24,096	19,487
Nebraska	20,750	17,513	45,745	97,073	94,034	6,688	6,493	10,774	12,730	11,381
Kansas	10,152	9,449	24,884	49,741	37,360	4,275	7,079	10,496	16,409	8,403
Great Plains	46,480	43,112	112,184	234,273	209,444	29,275	37,106	53,635	65,090	49,075
Delaware	295	257	448	770	592	12	12	16	20	20
Maryland	1,682	1,501	2,350	4,504	2,978	454	446	542	609	524
Virginia	4,662	4,777	7,883	14,640	10,743	2,610	2,751	3,229	4,042	3,589
West Virginia	1,675	1,547	2,761	4,877	3,955	2,668	2,520	3,193	3,907	3,369
North Carolina	8,676	8,287	14,434	22,950	22,817	307	307	382	506	521
South Carolina	4,699	4,160	6,418	9,562	9,945	30	25	29	43	30

Georgia	9,520	9,187	14,885	21,902	22,626	74	67	80	89	87
Florida	2,580	2,568	3,778	6,619	6,878	81	79	100	127	128
South Atlantic	33,789	32,284	52,957	85,824	80,534	6,236	6,207	7,571	9,343	8,268
Kentucky	9,300	7,516	17,370	32,535	22,144	7,911	8,283	10,603	12,667	10,263
Tennessee	8,410	7,162	15,174	27,116	20,923	2,653	2,762	3,418	4,148	3,904
Alabama	6,810	5,877	10,838	17,873	18,976	130	142	203	258	239
Mississippi	6,347	4,812	9,498	16,148	15,548	194	190	274	342	315
Arkansas	6,448	5,898	11,271	20,207	14,935	475	515	686	858	728
Louisiana	4,795	4,413	6,950	9,720	11,356	881	880	1,166	1,202	1,140
South Central	42,110	35,678	71,101	123,599	103,882	12,244	12,772	16,350	19,475	16,589
Oklahoma	6,002	5,194	12,068	22,996	13,428	2,040	2,184	3,179	3,576	2,448
Texas	13,090	12,530	23,246	44,048	36,535	47,069	51,359	71,139	77,040	61,658
Oklahoma-Texas	19,092	17,724	35,314	67,044	49,963	49,109	53,543	74,318	80,616	64,106
Montana	1,344	1,332	3,040	6,616	6,674	28,221	30,860	40,429	40,671	34,211
Idaho	3,388	3,148	6,621	11,082	8,496	14,604	16,001	20,837	20,407	16,576
Wyoming	722	569	1,328	2,715	2,519	26,824	28,900	37,991	37,873	33,799
Colorado	2,426	2,139	6,257	13,979	10,187	18,199	18,554	27,535	29,455	25,712
New Mexico	765	705	1,614	2,627	1,888	13,578	14,013	18,092	20,955	16,758
Arizona	451	389	778	1,378	1,173	3,888	4,295	5,298	6,215	5,696
Utah	825	714	1,634	3,390	2,789	17,593	18,542	25,876	27,743	24,840
Nevada	201	193	402	630	470	5,341	5,856	7,268	7,797	6,668
Mountain	10,122	9,189	21,674	42,417	34,196	128,248	137,021	183,326	191,116	164,260
Washington	2,330	2,133	4,555	7,717	6,655	4,718	4,961	6,084	6,087	4,998
Oregon	2,378	2,176	4,432	6,067	4,889	11,390	12,766	15,596	14,267	11,170
California	7,434	7,348	13,181	21,887	19,168	20,194	22,868	28,083	32,101	28,514
Pacific	12,142	11,657	22,168	35,671	30,712	36,302	40,595	49,763	52,455	44,682
United States	475,700	452,586	942,931	1,661,215	1,471,753	330,775	365,496	488,468	539,650	451,267

[1] Includes pigs.

TABLE 37.—*Farm inventory value of horses and mules, January 1, 1940-44*

State and region	Horses [1]					Mules [1]				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Maine	6,084	5,525	5,375	5,874	5,547					
New Hampshire	2,175	1,876	1,876	2,170	2,080					
Vermont	6,091	5,731	5,390	6,263	6,340					
Massachusetts	3,168	3,003	2,880	3,135	3,135					
Rhode Island	282	280	284	320	330					
Connecticut	3,040	2,790	2,550	2,822	2,720					
New York	40,020	37,499	32,880	38,204	37,050	540	520	520	600	636
New Jersey	4,050	3,300	3,280	3,567	3,553	540	528	528	432	444
Pennsylvania	33,480	29,782	25,156	29,028	28,041	6,440	5,638	4,631	5,393	5,343
North Atlantic	98,390	89,786	79,671	91,383	88,796	7,520	6,686	5,679	6,425	6,423
Ohio	42,680	33,877	27,827	33,446	29,244	2,716	2,240	1,903	2,100	2,080
Indiana	30,450	23,016	19,461	24,129	22,065	6,300	4,804	4,024	4,666	4,122
Illinois	44,275	34,398	31,070	38,372	33,836	7,275	5,936	5,000	6,170	5,576
Iowa	57,492	49,314	43,356	53,746	49,209	4,230	3,532	2,952	3,578	3,005
Missouri	36,296	30,362	27,641	36,318	36,904	19,437	16,032	14,131	18,543	18,138
Corn Belt	211,193	170,967	149,355	186,011	171,258	39,958	32,544	28,010	35,057	32,921
Michigan	36,777	28,900	23,360	27,368	23,707	805	534	375	480	400
Wisconsin	54,487	47,374	43,043	49,910	46,294	490	475	380	428	476
Minnesota	49,357	42,778	40,548	44,551	42,057	840	800	693	756	702
Lake States	140,621	119,052	106,951	121,829	112,058	2,135	1,809	1,448	1,664	1,578
North Dakota	20,520	17,768	16,346	17,724	15,573	138	130	120	132	124
South Dakota	19,525	16,726	14,697	18,996	17,431	444	379	285	269	237
Nebraska	27,056	21,881	22,024	29,126	26,415	3,927	3,056	2,944	3,337	2,919
Kansas	22,214	19,573	20,073	26,759	25,015	4,914	4,120	3,936	4,552	4,128
Great Plains	89,315	75,948	73,140	92,605	84,434	9,423	7,685	7,285	8,290	7,408
Delaware	1,232	1,163	987	1,301	1,253	896	896	693	882	846
Maryland	8,481	7,694	6,644	7,630	7,511	3,406	3,075	2,592	2,970	2,700
Virginia	17,955	16,966	14,388	16,949	18,583	13,443	12,603	10,921	12,817	15,111
West Virginia	10,593	9,495	8,440	10,108	9,967	1,166	1,166	990	1,232	1,120
North Carolina	8,436	8,039	8,592	10,142	12,389	51,471	47,228	49,893	54,945	67,591

South Carolina	2,310	2,245	2,381	2,715	3,140	30,927	29,407	30,166	34,205	40,475
Georgia	3,605	3,629	3,955	4,325	4,802	50,685	47,859	48,989	53,044	64,584
Florida	1,880	1,828	1,813	2,107	2,317	5,168	4,752	4,655	5,495	5,845
South Atlantic	54,492	51,059	47,200	55,277	59,962	157,161	146,986	148,899	165,590	198,272
Kentucky	21,141	17,591	16,336	20,749	22,149	23,730	20,215	19,533	24,575	27,789
Tennessee	15,925	13,985	13,815	15,982	17,159	34,968	30,840	31,353	37,512	41,604
Alabama	5,670	5,097	5,501	6,453	7,191	40,392	36,684	37,340	42,258	46,023
Mississippi	8,374	7,852	8,059	8,990	10,205	42,480	39,617	39,972	44,966	50,538
Arkansas	11,008	10,251	10,144	12,157	12,029	24,816	23,946	22,769	25,798	24,920
Louisiana	8,555	8,523	9,269	10,529	11,280	20,383	18,880	18,843	20,716	22,546
South Central	70,673	63,299	63,124	74,860	80,013	186,769	170,182	169,810	195,825	213,420
Oklahoma	19,186	16,263	14,822	21,139	16,152	11,544	9,136	8,600	10,289	8,065
Texas	33,558	30,270	28,142	38,092	35,780	46,818	39,390	34,568	42,759	36,098
Oklahoma-Texas	52,744	46,533	42,964	59,231	51,932	58,362	48,526	43,168	53,048	44,163
Montana	11,250	10,373	9,430	10,766	9,343	136	120	120	152	160
Idaho	10,034	8,627	8,500	10,063	9,820	296	288	268	308	324
Wyoming	6,144	4,788	4,571	6,113	5,040	140	134	126	140	150
Colorado	11,544	9,830	10,093	13,477	11,967	923	868	798	990	814
New Mexico	5,504	4,914	4,928	5,860	5,669	737	689	638	875	743
Arizona	3,975	3,734	4,054	4,766	4,508	504	504	450	528	540
Utah	5,162	4,686	5,027	6,289	6,181	81	81	83	99	99
Nevada	2,479	2,313	2,380	2,744	2,837	85	80	80	90	85
Mountain	56,092	49,265	48,983	60,078	55,365	2,902	2,764	2,563	3,182	2,915
Washington	8,113	7,288	7,044	7,714	6,890	462	396	300	395	332
Oregon	9,800	8,421	7,417	8,118	7,534	375	355	325	390	320
California	16,107	15,734	15,671	16,503	15,669	2,754	2,536	2,442	2,615	2,370
Pacific	34,020	31,443	30,132	32,335	30,093	3,591	3,287	3,067	3,400	3,022
United States	807,540	697,352	641,520	773,609	733,911	467,821	420,469	409,929	472,481	510,122

[1] Includes colts.

TABLE 38.—*Farm inventory value of turkeys and chickens, January 1, 1940-44*

State and region	Turkeys					Chickens				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Maine	35	29	31	38	51	2,125	2,085	2,835	3,907	4,750
New Hampshire	36	32	39	55	66	2,021	1,927	2,310	3,358	4,287
Vermont	93	70	85	130	138	936	906	1,171	1,622	2,145
Massachusetts	180	166	196	260	305	4,547	4,464	5,499	8,559	10,211
Rhode Island	16	18	21	28	31	487	516	615	860	1,028
Connecticut	69	79	102	115	152	2,881	3,072	3,746	5,433	6,622
New York	212	201	266	297	378	12,891	12,655	16,051	22,219	25,184
New Jersey	124	102	130	151	244	6,934	7,236	9,723	13,117	16,774
Pennsylvania	491	484	780	880	1,085	17,574	17,091	21,163	29,416	34,971
North Atlantic	1,256	1,181	1,650	1,954	2,450	50,396	49,952	63,113	88,491	105,972
Ohio	310	301	314	328	546	15,084	15,318	21,348	26,790	32,576
Indiana	221	200	204	312	346	9,684	10,002	14,394	19,391	22,019
Illinois	329	270	341	510	774	13,772	14,753	19,914	28,174	31,785
Iowa	741	677	1,030	947	1,170	18,259	20,055	30,268	43,887	50,916
Missouri	805	662	850	1,204	1,636	11,026	12,071	18,320	27,987	31,558
Corn Belt	2,406	2,110	2,739	3,301	4,472	67,825	72,199	104,244	146,229	168,854
Michigan	259	202	236	353	474	9,030	9,858	12,600	16,201	20,351
Wisconsin	265	243	276	456	590	10,095	10,737	15,904	20,133	23,522
Minnesota	953	828	1,325	1,382	2,168	10,030	11,083	17,770	28,711	34,281
Lake States	1,477	1,273	1,837	2,191	3,232	29,155	31,678	46,274	65,045	78,154
North Dakota	720	668	915	1,244	1,006	2,042	2,221	3,962	6,587	8,191
South Dakota	758	652	853	1,080	843	3,650	4,297	6,530	10,745	12,635
Nebraska	514	418	605	847	910	6,595	6,985	11,197	18,729	20,813
Kansas	543	437	530	745	765	6,981	7,594	12,775	18,914	21,884
Great Plains	2,535	2,175	2,903	3,916	3,524	19,268	21,097	34,464	54,975	63,523
Delaware	95	78	100	122	122	928	1,049	1,278	1,586	1,877
Maryland	278	227	289	385	372	3,150	3,191	3,899	5,074	5,850
Virginia	414	402	483	589	765	5,730	6,402	8,067	10,419	12,323
West Virginia	125	130	146	163	147	2,805	2,730	3,541	4,641	5,316
North Carolina	158	137	201	209	184	6,609	6,719	9,534	13,590	18,780

South Carolina	161	155	201	273	346	3,122	2,978	4,082	5,366	6,792
Georgia	108	120	132	190	240	4,603	4,509	6,778	9,424	12,493
Florida	112	118	117	174	226	1,943	1,884	2,285	3,000	3,798
South Atlantic	1,451	1,367	1,669	2,105	2,402	28,890	29,462	39,464	53,100	67,229
Kentucky	172	185	195	273	258	5,382	5,368	8,581	12,339	14,482
Tennessee	113	116	127	168	168	5,269	5,379	7,898	11,256	14,540
Alabama	106	115	177	210	268	4,061	3,836	6,121	8,254	10,774
Mississippi	118	126	185	242	264	3,837	3,752	5,570	7,861	10,598
Arkansas	90	105	135	192	239	3,410	3,801	5,929	8,852	10,729
Louisiana	92	86	99	117	163	3,003	3,117	4,335	6,393	8,348
South Central	691	733	918	1,202	1,360	24,962	25,253	38,434	54,955	69,471
Oklahoma	575	526	644	724	832	4,885	5,268	8,989	13,940	16,247
Texas	1,495	1,573	2,188	2,753	3,646	12,374	13,254	22,494	33,647	38,880
Oklahoma-Texas	2,070	2,099	2,832	3,477	4,478	17,259	18,522	31,483	47,587	55,127
Montana	150	129	183	227	234	1,436	1,409	1,861	2,608	3,203
Idaho	120	101	146	207	226	1,451	1,462	2,112	2,703	3,519
Wyoming	152	122	164	266	313	543	498	682	886	1,144
Colorado	540	370	710	774	860	1,804	1,825	2,899	4,339	5,464
New Mexico	54	43	58	81	82	617	677	957	1,518	1,635
Arizona	53	44	70	84	118	506	510	637	895	1,094
Utah	305	214	385	616	2,728	1,491	1,450	1,954	2,477	3,279
Nevada	45	33	38	44	70	192	186	244	324	439
Mountain	1,419	1,056	1,754	2,299	4,631	8,040	8,017	11,346	15,750	19,777
Washington	470	458	824	1,458	1,860	4,483	5,096	6,564	8,375	10,091
Oregon	888	867	1,825	2,915	4,026	2,668	2,750	3,636	4,847	6,090
California	3,649	3,092	4,536	5,079	7,371	12,054	12,401	16,020	21,673	26,521
Pacific	5,007	4,417	7,185	9,452	13,257	19,205	20,247	26,220	34,895	42,702
United States	18,312	16,411	23,487	29,897	39,806	265,000	276,427	395,042	561,027	670,809

TABLE 39.—*Total number of cattle and of milk cows and heifers on farms, January 1, 1940-44*

State and region	Cattle and calves [1]					Milk cows and heifers				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*
Maine	235	230	218	209	217	138	134	126	123	125
New Hampshire	125	121	116	115	120	78	75	72	70	71
Vermont	442	446	433	437	450	299	302	293	293	296
Massachusetts	199	197	193	189	195	142	141	138	134	135
Rhode Island	28	28	29	29	30	22	22	23	23	23
Connecticut	178	178	178	182	186	127	128	128	131	132
New York	2,100	2,121	2,142	2,099	2,162	1,400	1,428	1,442	1,413	1,441
New Jersey	201	207	209	213	215	146	150	152	154	155
Pennsylvania	1,484	1,499	1,529	1,560	1,607	870	879	897	906	924
North Atlantic	4,992	5,027	5,047	5,033	5,182	3,222	3,259	3,271	3,247	3,302
Ohio	2,029	2,070	2,132	2,217	2,306	1,022	1,042	1,073	1,105	1,138
Indiana	1,684	1,735	1,787	1,858	1,932	754	769	792	800	816
Illinois	2,884	3,057	3,149	3,212	3,244	1,100	1,122	1,156	1,168	1,180
Iowa	4,735	5,161	5,316	5,529	5,584	1,455	1,484	1,529	1,560	1,560
Missouri	2,710	2,846	3,017	3,258	3,486	926	963	1,021	1,062	1,115
Corn Belt	14,042	14,869	15,401	16,074	16,552	5,257	5,380	5,571	5,695	5,809
Michigan	1,725	1,811	1,847	1,921	2,036	941	969	988	1,018	1,059
Wisconsin	3,473	3,577	3,720	3,832	3,947	2,244	2,289	2,381	2,452	2,526
Minnesota	3,407	3,577	3,684	3,795	3,871	1,722	1,756	1,809	1,863	1,900
Lake States	8,605	8,965	9,251	9,548	9,854	4,907	5,014	5,178	5,333	5,485
North Dakota	1,313	1,444	1,617	1,714	1,834	520	562	590	608	608
South Dakota	1,632	1,779	1,939	2,172	2,367	494	519	545	545	545
Nebraska	2,940	3,046	3,306	3,642	3,890	632	626	672	702	716
Kansas	2,770	3,186	3,568	3,960	4,039	727	749	786	833	841
Great Plains	8,655	9,455	10,430	11,488	12,130	2,373	2,456	2,593	2,688	2,710
Delaware	53	55	57	59	61	35	36	38	38	39
Maryland	328	338	345	355	366	198	204	208	212	216
Virginia	896	941	960	1,008	1,058	413	425	442	460	474
West Virginia	569	586	586	604	610	234	236	241	246	246
North Carolina	595	613	644	696	752	345	348	365	380	403
South Carolina	328	338	355	366	392	168	170	177	181	186

Georgia	953	963	1,011	1,062	1,115	369	362	380	395	407
Florida	851	902	947	1,042	1,136	113	120	121	123	128
South Atlantic	4,573	4,736	4,905	5,192	5,490	1,875	1,901	1,972	2,035	2,099
Kentucky	1,243	1,243	1,330	1,396	1,438	555	566	600	612	636
Tennessee	1,211	1,259	1,309	1,414	1,499	564	581	604	640	666
Alabama	1,024	1,034	1,086	1,151	1,255	397	401	425	438	456
Mississippi	1,273	1,286	1,337	1,431	1,488	541	525	551	579	591
Arkansas	1,138	1,206	1,254	1,342	1,315	472	486	515	536	525
Louisiana	1,204	1,216	1,216	1,301	1,366	335	335	335	342	345
South Central	7,093	7,244	7,532	8,035	8,361	2,864	2,894	3,030	3,147	3,219
Oklahoma	2,370	2,512	2,788	3,123	3,154	758	796	852	912	921
Texas	6,817	7,090	7,444	7,593	7,669	1,416	1,444	1,502	1,547	1,578
Oklahoma-Texas	9,187	9,602	10,232	10,716	10,823	2,174	2,240	2,354	2,459	2,499
Montana	1,148	1,274	1,389	1,528	1,727	156	162	170	173	170
Idaho	748	800	856	907	952	217	232	253	266	269
Wyoming	811	827	885	965	1,052	69	68	69	71	70
Colorado	1,400	1,442	1,586	1,745	1,920	235	237	244	249	251
New Mexico	1,263	1,238	1,288	1,352	1,420	79	79	82	83	83
Arizona	864	916	980	931	987	47	47	49	53	52
Utah	432	454	472	486	515	103	105	109	117	121
Nevada	376	387	406	414	422	21	21	22	22	22
Mountain	7,042	7,338	7,862	8,328	8,995	927	951	998	1,034	1,038
Washington	793	849	917	990	1,010	345	362	369	384	376
Oregon	937	984	1,073	1,148	1,182	262	265	276	290	284
California	2,278	2,392	2,512	2,562	2,613	720	756	786	794	786
Pacific	4,008	4,225	4,502	4,700	4,805	1,327	1,383	1,431	1,468	1,446
United States	68,197	71,461	75,162	79,114	82,192	24,926	25,478	26,398	27,106	27,607

[1] Includes milk cows and heifers.

TABLE 40.—*Total number of hogs and sheep on farms, January 1, 1940-44*

State and region	Hogs [1]					Sheep and lambs				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*
Maine	53	46	43	51	72	43	41	41	43	43
New Hampshire	18	17	17	21	32	9	9	10	11	11
Vermont	32	27	24	29	41	21	21	21	21	22
Massachusetts	102	96	97	111	124	8	8	8	9	8
Rhode Island	8	8	7	8	10	2	2	2	2	2
Connecticut	29	27	27	29	37	6	5	5	6	7
New York	298	256	261	300	420	343	360	348	358	341
New Jersey	110	98	98	111	155	7	7	7	7	9
Pennsylvania	829	754	701	806	967	360	356	370	377	366
North Atlantic	1,479	1,329	1,275	1,466	1,858	799	809	812	834	809
Ohio	3,420	3,181	3,181	3,658	4,243	2,295	2,276	2,303	2,322	2,053
Indiana	4,189	3,938	4,096	4,588	5,322	825	842	864	872	783
Illinois	5,750	5,232	5,912	6,858	7,750	883	914	940	874	807
Iowa	10,400	9,048	10,948	13,028	14,852	1,728	1,958	1,975	1,905	1,915
Missouri	3,920	3,606	3,931	4,914	5,405	1,695	1,695	1,770	1,780	1,673
Corn Belt	27,679	25,005	28,068	33,046	37,572	7,426	7,685	7,852	7,753	7,231
Michigan	1,039	977	987	1,184	1,397	1,147	1,120	1,015	1,002	894
Wisconsin	1,820	1,729	1,954	2,188	2,451	455	482	484	497	514
Minnesota	3,823	3,402	4,082	5,102	5,612	1,265	1,468	1,486	1,496	1,460
Lake States	6,682	6,108	7,023	8,474	9,460	2,867	3,070	2,985	2,995	2,868
North Dakota	464	441	587	957	1,101	958	1,113	1,234	1,175	1,058
South Dakota	1,226	1,103	1,412	1,977	2,392	1,699	2,094	2,381	2,407	2,223
Nebraska	2,385	1,813	2,375	3,491	4,294	1,045	942	1,208	1,285	1,248
Kansas	1,519	1,276	1,672	2,408	2,601	737	1,136	1,327	1,658	974
Great Plains	5,594	4,633	6,046	8,833	10,388	4,439	5,285	6,150	6,525	5,503
Delaware	41	37	36	41	53	2	2	2	2	2
Maryland	251	228	219	247	289	64	61	61	56	52
Virginia	740	710	710	866	970	379	379	371	360	353
West Virginia	250	235	235	298	351	485	461	447	438	407
North Carolina	1,205	1,133	1,144	1,350	1,539	52	52	51	54	56
South Carolina	712	641	628	672	800	8	7	6	6	5

Georgia	1,700	1,547	1,593	1,689	1,875	21	19	18	18	16
Florida	600	576	553	608	669	28	26	24	23	23
South Atlantic	5,499	5,107	5,118	5,771	6,546	1,039	1,007	980	957	914
Kentucky	1,500	1,305	1,436	1,881	1,881	1,069	1,069	1,090	1,057	930
Tennessee	1,450	1,204	1,276	1,646	1,778	402	402	410	418	393
Alabama	1,267	1,039	1,060	1,219	1,560	40	40	41	41	38
Mississippi	1,213	910	983	1,170	1,369	67	64	66	73	71
Arkansas	1,374	1,209	1,197	1,460	1,460	98	100	107	107	103
Louisiana	999	849	815	807	1,025	282	282	296	272	258
South Central	7,803	6,516	6,767	8,183	9,073	1,958	1,957	2,010	1,968	1,793
Oklahoma	1,225	956	1,099	1,495	1,465	385	398	438	424	330
Texas	2,293	1,926	2,042	2,655	3,106	9,606	9,831	10,552	10,829	10,339
Oklahoma-Texas	3,518	2,882	3,141	4,150	4,571	9,991	10,229	10,990	11,253	10,669
Montana	160	168	202	307	414	3,747	4,010	4,193	4,030	3,790
Idaho	440	418	451	573	602	2,019	2,075	2,068	1,836	1,601
Wyoming	87	76	84	130	164	3,778	3,838	3,934	3,744	3,521
Colorado	385	308	400	656	774	2,677	2,582	3,004	2,711	2,602
New Mexico	110	99	110	143	146	2,341	2,310	2,248	2,228	2,108
Arizona	48	48	53	72	68	755	763	762	713	688
Utah	125	105	115	175	229	2,482	2,505	2,645	2,521	2,429
Nevada	25	24	26	28	30	763	785	755	716	662
Mountain	1,380	1,246	1,441	2,084	2,427	18,562	18,868	19,609	18,499	17,401
Washington	295	277	305	381	442	629	639	637	598	491
Oregon	301	277	299	329	359	1,675	1,696	1,637	1,457	1,217
California	885	876	894	1,019	1,060	3,014	3,038	3,073	2,936	2,822
Pacific	1,481	1,430	1,498	1,729	1,861	5,318	5,373	5,347	4,991	4,530
United States	61,115	54,256	60,377	73,736	83,756	52,399	54,283	56,735	55,775	51,718

[1] Includes pigs.

TABLE 41.—*Total number of horses and mules on farms, January 1, 1940-44*

State and region	Horses [1]					Mules [1]				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*
Maine	39	38	36	36	35					
New Hampshire	15	14	14	14	13					
Vermont	42	42	41	41	42					
Massachusetts	22	21	20	19	19					
Rhode Island	2	2	2	2	2					
Connecticut	19	18	17	17	16					
New York	290	287	281	278	267	4	4	4	4	4
New Jersey	30	28	27	26	25	4	4	4	3	3
Pennsylvania	270	265	252	239	232	46	44	42	40	38
North Atlantic	729	715	690	672	651	54	52	50	47	45
Ohio	440	427	401	377	343	28	26	24	21	20
Indiana	350	326	297	273	251	60	55	48	43	38
Illinois	575	529	487	453	417	75	73	65	62	54
Iowa	752	729	693	658	612	47	44	41	39	31
Missouri	524	524	519	519	519	209	209	194	192	172
Corn Belt	2,641	2,535	2,397	2,280	2,142	419	407	372	357	315
Michigan	354	340	316	300	279	7	6	5	5	4
Wisconsin	510	500	485	470	451	5	5	4	4	4
Minnesota	641	622	603	573	539	10	10	9	9	9
Lake States	1,505	1,462	1,404	1,343	1,269	22	21	18	18	17
North Dakota	360	356	352	341	314	2	2	2	2	2
South Dakota	355	355	351	344	327	6	6	5	4	3
Nebraska	481	467	458	458	449	51	48	47	41	36
Kansas	383	375	371	375	375	63	63	60	54	48
Great Plains	1,579	1,553	1,532	1,518	1,465	122	119	114	101	89
Delaware	14	14	13	13	12	8	8	7	7	6
Maryland	82	82	79	74	73	26	25	24	22	20
Virginia	171	168	166	164	161	94	91	89	87	85
West Virginia	99	99	99	99	96	11	11	11	11	10
North Carolina	76	78	80	83	85	301	298	298	298	295
South Carolina	22	22	21	22	22	183	181	181	181	185

Georgia	35	37	38	38	38	327	320	317	304	316
Florida	20	20	20	20	20	38	36	35	35	35
South Atlantic	519	520	516	513	507	988	970	962	945	952
Kentucky	243	245	243	238	231	226	221	221	214	205
Tennessee	175	175	175	172	170	291	291	294	291	288
Alabama	63	63	64	66	66	306	300	294	294	294
Mississippi	106	108	110	112	115	354	350	357	353	353
Arkansas	172	177	184	188	194	264	264	256	253	245
Louisiana	145	148	152	152	152	187	185	181	176	174
South Central	904	916	928	928	928	1,628	1,611	1,603	1,581	1,559
Oklahoma	362	355	344	351	351	148	139	138	130	117
Texas	658	638	600	582	588	578	526	484	455	400
Oklahoma-Texas	1,020	993	944	933	939	726	665	622	585	517
Montana	250	255	252	257	252	2	2	2	2	2
Idaho	173	171	168	171	162	4	4	4	4	4
Wyoming	128	125	125	128	123	2	2	2	2	2
Colorado	222	213	213	211	205	13	13	12	11	10
New Mexico	128	125	120	115	113	11	11	11	11	10
Arizona	75	74	74	73	68	7	7	6	6	6
Utah	82	82	82	85	84	1	1	1	1	1
Nevada	37	37	37	37	37	1	1	1	1	1
Mountain	1,095	1,082	1,071	1,077	1,044	41	41	39	38	36
Washington	133	128	123	119	111	7	6	5	5	4
Oregon	140	137	132	127	117	5	5	5	5	4
California	177	173	170	165	157	27	25	23	22	21
Pacific	450	438	425	411	385	39	36	33	32	29
United States	10,442	10,214	9,907	9,675	9,330	4,039	3,922	3,813	3,704	3,559

[1] Includes colts.

TABLE 42.—*Total number of turkeys and chickens on farms, January 1, 1940-44*

State and region	Turkeys					Chickens				
	1940	1941	1942	1943	1944	1940	1941	194 :	1943	1944
	Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*
Maine	12	10	9	9	10	2,063	2,005	2,250	2,658	2,879
New Hampshire	12	10	10	11	12	1,854	1,768	1,878	2,269	2,522
Vermont	31	23	25	26	25	918	871	960	1,134	1,269
Massachusetts	53	46	46	49	50	4,134	4,058	4,435	5,316	5,673
Rhode Island	5	5	5	5	5	464	478	504	548	581
Connecticut	21	22	24	23	25	2,770	2,844	2,997	3,417	3,679
New York	72	68	75	56	62	14,323	13,463	14,331	16,218	16,678
New Jersey	38	30	31	29	33	7,004	7,094	7,717	8,984	9,585
Pennsylvania	151	149	195	176	187	20,435	19,203	20,547	23,346	24,979
North Atlantic	395	363	420	384	409	53,965	51,784	55,619	63,890	67,845
Ohio	124	118	98	78	105	21,548	21,275	22,711	24,578	26,702
Indiana	96	85	67	77	63	15,876	15,155	16,545	18,645	19,660
Illinois	137	110	110	126	146	22,953	22,020	23,707	26,832	28,128
Iowa	353	282	355	231	249	33,199	32,346	36,912	41,016	43,149
Missouri	435	315	309	290	348	23,460	22,354	25,444	28,558	29,493
Corn Belt	1,145	910	939	802	911	117,036	113,150	125,319	139,629	147,132
Michigan	108	84	76	76	93	12,719	12,479	13,125	14,088	15,776
Wisconsin	108	99	89	98	118	15,296	15,123	16,919	18,471	19,766
Minnesota	433	368	449	337	438	20,896	20,912	24,342	29,297	31,742
Lake States	649	551	614	511	649	48,911	48,514	54,386	61,856	67,284
North Dakota	369	334	321	311	221	4,537	4,627	5,580	7,083	7,446
South Dakota	399	343	316	288	196	7,604	7,674	9,197	10,964	11,592
Nebraska	294	220	242	220	200	13,740	13,179	15,338	19,308	20,207
Kansas	329	236	208	196	178	15,867	14,604	17,264	20,338	21,042
Great Plains	1,391	1,133	1,087	1,015	795	41,748	40,084	47,379	57,693	60,287
Delaware	31	25	25	21	20	1,190	1,206	1,304	1,322	1,401
Maryland	96	77	78	70	61	4,145	3,940	4,193	4,412	4,756
Virginia	169	161	161	137	153	9,095	9,017	9,604	10,215	10,905
West Virginia	48	50	48	43	31	4,452	4,265	4,426	4,937	5,161
North Carolina	62	56	67	55	41	10,014	10,337	12,068	14,156	16,474
South Carolina	62	62	67	70	70	4,659	4,379	4,978	5,476	5,756

Georgia	47	52	47	50	48	8,219	7,642	9,159	10,244	10,959
Florida	45	50	45	47	41	2,699	2,581	2,657	2,970	2,877
South Atlantic	560	533	538	493	465	44,473	43,367	48,389	53,732	58,289
Kentucky	82	88	75	71	60	11,213	10,735	12,258	14,517	14,339
Tennessee	54	55	48	46	40	10,978	10,345	11,446	13,562	14,540
Alabama	47	49	59	56	61	8,122	7,521	9,136	10,190	10,774
Mississippi	55	55	66	69	66	7,993	7,503	8,569	9,705	10,926
Arkansas	50	50	52	52	57	8,525	8,264	9,719	10,929	11,537
Louisiana	40	36	32	30	32	5,562	5,283	6,105	6,801	7,259
South Central	328	333	332	324	316	52,393	49,651	57,233	65,704	69,375
Oklahoma	411	329	280	216	216	12,213	11,208	13,417	15,841	16,247
Texas	1,068	983	875	744	848	28,122	27,050	31,681	36,975	38,495
Oklahoma-Texas	1,479	1,312	1,155	960	1,064	40,335	38,258	45,098	52,816	54,742
Montana	65	55	60	51	45	2,244	2,168	2,297	2,661	2,738
Idaho	52	43	45	47	41	2,459	2,358	2,607	2,816	3,087
Wyoming	66	53	53	56	59	921	830	875	1,007	1,090
Colorado	270	176	229	172	172	3,609	3,319	3,918	4,821	5,254
New Mexico	30	23	21	22	19	1,142	1,187	1,227	1,565	1,528
Arizona	20	17	21	17	20	640	614	678	778	760
Utah	115	78	110	110	440	2,366	2,301	2,505	2,663	2,981
Nevada	15	11	10	8	10	266	259	284	315	354
Mountain	633	456	549	483	806	13,647	13,036	14,391	16,626	17,792
Washington	188	176	229	275	300	6,314	6,370	6,698	6,979	7,260
Oregon	370	340	500	550	671	3,812	3,572	3,710	4,108	4,289
California	1,431	1,145	1,260	907	1,134	15,654	15,123	16,688	17,765	18,165
Pacific	1,989	1,661	1,989	1,732	2,105	25,780	25,065	27,096	28,852	29,714
United States	8,569	7,252	7,623	6,704	7,520	438,288	422,909	474,910	540,798	572,460

TABLE 43.—*Value per head of cattle and of milk cows and heifers on farms, January 1, 1940-44*

State and region	Cattle and calves [1]					Milk cows and heifers				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Maine	42.90	42.20	52.00	76.00	89.60	57.00	57.00	70.00	102.00	124.00
New Hampshire	56.30	56.10	64.60	94.30	112.10	75.00	75.00	86.00	126.00	156.00
Vermont	52.30	53.00	67.30	95.40	102.90	67.00	68.00	86.00	123.00	136.00
Massachusetts	70.40	74.40	86.90	126.40	144.10	88.00	94.00	109.00	160.00	187.00
Rhode Island	78.00	82.90	97.90	139.30	156.00	91.00	98.00	115.00	163.00	189.00
Connecticut	72.80	75.60	96.40	134.80	148.60	90.00	93.00	120.00	168.00	189.00
New York	61.20	66.80	82.70	115.90	116.90	78.00	85.00	105.00	145.00	150.00
New Jersey	98.40	98.50	123.90	160.20	165.70	120.00	120.00	150.00	195.00	205.00
Pennsylvania	57.70	60.70	78.20	97.50	105.60	76.00	80.00	103.00	127.00	142.00
North Atlantic	60.76	64.41	80.72	109.32	115.34	78.37	83.10	103.90	140.00	151.58
Ohio	43.90	46.40	61.10	77.80	78.10	58.00	61.00	81.00	103.00	106.00
Indiana	44.50	47.10	63.00	77.50	77.30	58.00	61.00	83.00	103.00	105.00
Illinois	46.50	49.90	62.70	80.60	80.50	63.00	66.00	86.00	112.00	113.00
Iowa	44.50	47.00	57.60	74.20	72.00	62.00	66.00	81.00	108.00	104.00
Missouri	39.80	41.40	52.30	67.20	65.70	49.00	50.00	64.00	85.00	85.00
Corn Belt	43.92	46.46	58.74	74.95	73.82	58.57	61.45	79.21	102.86	102.71
Michigan	48.50	51.10	65.40	85.20	81.60	65.00	69.00	88.00	113.00	113.00
Wisconsin	57.30	61.60	81.80	95.70	104.30	71.00	77.00	103.00	120.00	132.00
Minnesota	45.10	47.00	59.80	76.70	74.50	61.00	64.00	81.00	104.00	102.00
Lake States	50.71	53.68	69.80	86.04	87.92	66.34	70.90	92.45	113.07	117.94
North Dakota	40.60	43.50	53.60	70.50	66.50	55.00	59.00	72.00	97.00	93.00
South Dakota	42.30	44.80	55.10	70.10	66.30	56.00	60.00	73.00	96.00	93.00
Nebraska	41.20	43.10	53.80	70.30	65.40	59.00	61.00	75.00	104.00	97.00
Kansas	38.00	41.40	50.50	65.50	60.90	54.00	58.00	73.00	95.00	93.00
Great Plains	40.29	42.93	52.87	68.64	64.25	55.97	59.42	73.29	98.01	94.06
Delaware	55.70	59.40	75.90	92.80	98.10	68.00	72.00	94.00	117.00	124.00
Maryland	48.90	55.80	72.90	91.60	94.80	61.00	70.00	94.00	116.00	122.00
Virginia	38.80	41.30	52.00	66.50	70.80	47.00	51.00	64.00	83.00	92.00
West Virginia	36.90	38.10	48.30	63.00	62.80	46.00	47.00	60.00	79.00	82.00
North Carolina	32.30	34.10	44.30	57.40	62.50	42.00	44.00	57.00	75.00	84.00
South Carolina	28.60	29.00	38.10	52.50	60.20	40.00	40.00	52.00	73.00	87.00

Georgia	23.40	24.70	32.70	41.80	44.90	35.00	37.00	50.00	62.00	69.00
Florida	20.90	22.40	28.80	37.90	45.10	39.00	44.00	55.00	64.00	88.00
South Atlantic	31.37	33.36	42.83	55.11	59.34	44.35	47.57	61.63	78.98	87.83
Kentucky	35.30	35.80	48.20	61.90	59.80	45.00	45.00	61.00	78.00	76.00
Tennessee	32.40	33.00	43.60	53.30	55.40	42.00	42.00	56.00	69.00	73.00
Alabama	23.60	24.10	33.70	43.30	45.70	35.00	36.00	48.00	63.00	68.00
Mississippi	22.90	22.70	32.10	40.80	40.40	32.00	32.00	45.00	58.00	59.00
Arkansas	24.60	26.00	34.80	44.10	40.40	35.00	36.00	48.00	60.00	55.00
Louisiana	23.80	24.50	32.20	39.90	42.50	36.00	37.00	48.00	62.00	68.00
South Central	27.23	27.81	37.64	47.42	47.56	37.87	38.35	51.62	65.60	66.84
Oklahoma	31.10	33.50	42.10	54.10	45.30	42.00	45.00	56.00	73.00	61.00
Texas	29.90	31.50	42.80	53.10	49.90	38.00	41.00	55.00	71.00	68.00
Oklahoma-Texas	30.21	32.00	42.62	53.41	48.59	39.39	42.42	55.36	71.74	65.42
Montana	45.50	47.90	59.40	76.00	73.30	61.00	64.00	80.00	105.00	108.00
Idaho	39.70	45.90	55.60	64.30	66.80	59.00	66.00	81.00	91.00	99.00
Wyoming	41.90	45.40	56.40	68.40	67.20	58.00	64.00	78.00	99.00	100.00
Colorado	38.10	42.10	54.00	71.30	63.40	52.00	57.00	72.00	103.00	95.00
New Mexico	35.30	37.40	49.70	59.60	52.30	44.00	45.00	63.00	83.00	81.00
Arizona	36.60	39.00	50.60	61.60	59.80	61.00	64.00	85.00	106.00	116.00
Utah	38.20	41.50	52.90	64.40	69.10	57.00	60.00	78.00	93.00	105.00
Nevada	41.50	43.50	56.50	63.10	66.10	71.00	71.00	90.00	100.00	115.00
Mountain	39.42	42.76	54.33	67.27	64.41	56.36	60.88	77.01	97.33	100.03
Washington	41.60	47.00	59.90	71.00	63.50	58.00	64.00	84.00	99.00	89.00
Oregon	37.60	42.50	54.90	62.30	61.90	51.00	58.00	76.00	87.00	83.00
California	44.90	53.20	63.80	76.60	82.90	64.00	74.00	88.00	105.00	119.00
Pacific	42.54	49.48	60.92	71.92	73.66	59.87	68.32	84.65	99.87	104.13
United States	40.58	43.26	55.08	69.56	68.72	57.28	60.90	77.89	99.52	102.02

[1] Includes milk cows and heifers.

TABLE 44.—*Value per head of hogs and sheep on farms, January 1, 1940-44*

State and region	Hogs [1]					Sheep and lambs				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Maine	9.10	9.50	12.20	19.80	16.50	5.40	5.70	6.90	8.50	8.50
New Hampshire	9.90	10.60	12.40	19.90	18.00	5.90	6.60	8.10	9.50	9.90
Vermont	8.10	8.50	11.10	17.70	16.30	6.00	6.40	7.80	9.20	9.40
Massachusetts	9.60	9.50	12.80	21.20	18.60	6.20	6.80	8.10	10.80	10.90
Rhode Island	10.90	11.00	12.30	21.80	21.10	6.00	6.50	8.00	10.00	10.00
Connecticut	10.00	10.70	12.40	20.80	19.40	6.70	6.80	7.80	9.30	9.10
New York	8.00	8.50	13.60	22.80	14.90	6.80	7.20	9.00	11.50	9.50
New Jersey	9.00	10.00	14.10	23.20	17.20	5.70	6.60	9.10	11.40	10.70
Pennsylvania	9.20	8.90	14.60	21.60	14.20	5.30	5.40	7.60	8.30	7.50
North Atlantic	8.98	9.04	13.95	21.76	15.26	6.00	6.29	8.22	9.76	8.57
Ohio	8.00	6.90	14.00	20.10	14.80	5.50	5.90	7.90	9.50	8.40
Indiana	8.50	7.40	15.40	22.10	16.60	6.60	7.30	9.80	11.70	10.10
Illinois	9.30	9.60	17.60	25.10	20.80	6.60	7.50	9.70	11.70	10.70
Iowa	9.00	11.50	20.00	28.70	23.20	6.80	7.40	9.40	11.20	9.90
Missouri	7.20	7.20	14.40	20.70	14.90	6.40	6.70	8.80	10.00	9.40
Corn Belt	8.62	9.25	17.35	24.89	19.63	6.26	6.79	8.89	10.55	9.47
Michigan	8.30	8.10	14.90	23.10	13.80	6.50	6.90	9.30	11.10	9.70
Wisconsin	8.70	9.50	15.80	22.50	18.60	6.10	6.50	8.80	10.50	10.50
Minnesota	9.30	10.40	18.90	27.70	23.60	6.20	6.90	9.00	10.20	10.10
Lake States	8.98	9.77	17.49	25.70	20.85	6.30	6.84	9.04	10.56	10.07
North Dakota	9.00	10.20	20.80	29.10	21.90	6.70	7.20	8.60	10.10	9.30
South Dakota	9.30	10.60	20.80	30.10	22.50	7.00	7.40	9.10	10.00	8.80
Nebraska	8.70	9.70	19.30	27.80	21.90	6.40	6.90	8.90	9.90	9.10
Kansas	6.70	7.40	14.90	20.70	14.40	5.80	6.20	7.90	9.90	8.60
Great Plains	8.31	9.31	18.56	26.52	20.16	6.59	7.02	8.72	9.98	8.92
Delaware	7.20	6.90	12.40	18.80	11.20	6.00	6.00	8.00	10.00	10.00
Maryland	6.70	6.60	10.70	18.20	10.30	7.10	7.30	8.90	10.90	10.10
Virginia	6.30	6.70	11.10	16.90	11.10	6.90	7.30	8.70	11.20	10.20
West Virginia	6.70	6.60	11.70	16.40	11.30	5.50	5.50	7.10	8.90	8.30
North Carolina	7.20	7.30	12.60	17.00	14.80	5.90	5.90	7.50	9.40	9.30
South Carolina	6.60	6.50	10.20	14.20	12.40	3.70	3.55	4.85	7.20	6.00

Georgia	5.60	5.90	9.30	13.00	12.10	3.50	3.55	4.45	4.95	5.40
Florida	4.30	4.45	6.80	10.90	10.30	2.90	3.05	4.15	5.50	5.60
South Atlantic	6.14	6.32	10.35	14.87	12.30	6.00	6.16	7.73	9.76	9.05
Kentucky	6.20	5.80	12.10	17.30	11.80	7.40	7.70	9.70	12.00	11.00
Tennessee	5.80	5.90	11.90	16.50	11.80	6.60	6.90	8.30	9.90	9.90
Alabama	5.40	5.70	10.20	14.70	12.20	3.25	3.55	4.95	6.30	6.30
Mississippi	5.20	5.30	9.70	13.80	11.40	2.90	2.95	4.15	4.70	4.45
Arkansas	4.70	4.90	9.40	13.80	10.20	4.85	5.20	6.40	8.00	7.10
Louisiana	4.80	5.20	8.50	12.00	11.10	3.10	3.10	3.95	4.40	4.40
South Central	5.40	5.48	10.51	15.10	11.45	6.25	6.53	8.13	9.90	9.25
Oklahoma	4.90	5.40	11.00	15.40	9.20	5.30	5.50	7.30	8.40	7.40
Texas	5.70	6.50	11.40	16.60	11.80	4.90	5.20	6.70	7.10	6.00
Oklahoma-Texas	5.43	6.15	11.24	16.16	10.93	4.92	5.23	6.76	7.16	6.01
Montana	8.40	7.90	15.00	21.60	16.10	7.50	7.70	9.60	10.10	9.00
Idaho	7.70	7.50	14.70	19.30	14.10	7.20	7.70	10.10	11.10	10.40
Wyoming	8.30	7.50	15.80	20.90	15.40	7.10	7.50	9.70	10.10	9.60
Colorado	6.30	6.90	15.60	21.30	13.20	6.80	7.20	9.20	10.90	9.90
New Mexico	7.00	7.10	14.70	18.40	12.90	5.80	6.10	8.00	9.40	7.90
Arizona	9.40	8.10	14.70	19.10	17.20	5.10	5.60	7.00	8.70	8.30
Utah	6.60	6.80	14.20	19.40	12.20	7.10	7.40	9.80	11.00	10.20
Nevada	8.00	8.00	15.50	22.50	15.70	7.00	7.50	9.60	10.90	10.10
Mountain	7.33	7.37	15.04	20.35	14.09	6.91	7.26	9.35	10.33	9.44
Washington	7.90	7.70	14.90	20.30	15.10	7.50	7.80	9.60	10.20	10.20
Oregon	7.90	7.90	14.80	18.40	13.60	6.80	7.50	9.50	9.80	9.20
California	8.40	8.40	14.70	21.50	18.10	6.70	7.50	9.10	10.90	10.10
Pacific	8.20	8.15	14.80	20.63	16.50	6.83	7.56	9.31	10.51	9.86
United States	7.78	8.34	15.62	22.53	17.57	6.31	6.73	8.61	9.68	8.73

[1] Includes pigs.

TABLE 45.—*Value per head of horses and mules on farms, January 1, 1940-44*

State and region	Horses [1]					Mules [1]				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Maine	156.00	145.00	149.00	163.00	158.00					
New Hampshire	145.00	134.00	134.00	155.00	160.00					
Vermont	145.00	136.00	131.00	153.00	151.00					
Massachusetts	144.00	143.00	144.00	165.00	165.00					
Rhode Island	141.00	140.00	142.00	160.00	165.00					
Connecticut	160.00	155.00	150.00	166.00	170.00					
New York	138.00	131.00	117.00	137.00	139.00	135.00	130.00	130.00	150.00	159.00
New Jersey	135.00	118.00	121.00	137.00	142.00	135.00	132.00	132.00	144.00	148.00
Pennsylvania	124.00	112.00	100.00	121.00	121.00	140.00	128.00	110.00	135.00	141.00
North Atlantic	134.97	125.57	115.47	135.99	136.40	139.26	128.58	113.58	136.70	142.73
Ohio	97.00	79.00	69.00	89.00	85.00	97.00	86.00	79.00	100.00	104.00
Indiana	87.00	71.00	66.00	88.00	88.00	105.00	87.00	84.00	109.00	108.00
Illinois	77.00	65.00	64.00	85.00	81.00	97.00	81.00	77.00	100.00	103.00
Iowa	76.00	68.00	63.00	82.00	80.00	90.00	80.00	72.00	92.00	97.00
Missouri	69.00	58.00	53.00	70.00	71.00	93.00	77.00	73.00	97.00	105.00
Corn Belt	79.97	67.44	62.31	81.58	79.95	95.37	79.96	75.30	98.20	104.51
Michigan	104.00	85.00	74.00	91.00	85.00	115.00	89.00	75.00	96.00	100.00
Wisconsin	107.00	95.00	89.00	106.00	103.00	98.00	95.00	95.00	107.00	119.00
Minnesota	77.00	69.00	67.00	78.00	78.00	84.00	80.00	77.00	84.00	78.00
Lake States	93.44	81.43	76.18	90.71	88.30	97.05	86.14	80.44	92.44	92.82
North Dakota	57.00	50.00	46.00	52.00	50.00	69.00	65.00	60.00	66.00	62.00
South Dakota	55.00	47.00	42.00	55.00	53.00	74.00	63.00	57.00	67.00	79.00
Nebraska	56.00	47.00	48.00	64.00	59.00	77.00	64.00	63.00	81.00	81.00
Kansas	58.00	52.00	54.00	71.00	67.00	78.00	65.00	66.00	84.00	86.00
Great Plains	56.56	48.90	47.74	61.00	57.63	77.24	64.58	63.90	82.08	83.24
Delaware	88.00	83.00	76.00	100.00	104.00	112.00	112.00	99.00	126.00	141.00
Maryland	103.00	94.00	84.00	103.00	103.00	131.00	123.00	108.00	135.00	135.00
Virginia	105.00	101.00	87.00	103.00	115.00	143.00	138.00	123.00	147.00	178.00
West Virginia	107.00	96.00	85.00	102.00	104.00	106.00	106.00	90.00	112.00	112.00
North Carolina	111.00	103.00	107.00	122.00	146.00	171.00	158.00	167.00	184.00	229.00
South Carolina	105.00	102.00	113.00	123.00	143.00	169.00	162.00	167.00	189.00	219.00

Georgia	103.00	98.00	104.00	114.00	126.00	155.00	150.00	155.00	174.00	204.00
Florida	94.00	91.00	91.00	105.00	116.00	136.00	132.00	133.00	157.00	167.00
South Atlantic	104.99	98.19	91.47	107.75	118.27	159.07	151.53	154.78	175.23	208.27
Kentucky	87.00	72.00	67.00	87.00	96.00	105.00	91.00	88.00	115.00	136.00
Tennessee	91.00	80.00	79.00	93.00	101.00	120.00	106.00	107.00	129.00	144.00
Alabama	90.00	81.00	86.00	98.00	109.00	132.00	122.00	127.00	144.00	157.00
Mississippi	79.00	73.00	73.00	80.00	89.00	120.00	113.00	112.00	127.00	143.00
Arkansas	64.00	58.00	55.00	65.00	62.00	94.00	91.00	89.00	102.00	102.00
Louisiana	59.00	58.00	61.00	69.00	74.00	109.00	102.00	104.00	118.00	130.00
South Central	78.20	69.10	68.02	80.67	86.22	114.72	105.64	105.93	123.86	136.90
Oklahoma	53.00	46.00	43.00	60.00	46.00	78.00	66.00	62.00	79.00	69.00
Texas	51.00	47.00	47.00	65.00	61.00	81.00	75.00	71.00	94.00	90.00
Oklahoma-Texas	51.71	46.86	45.51	63.48	55.31	80.39	72.97	69.40	90.68	85.42
Montana	45.00	41.00	37.00	42.00	37.00	68.00	60.00	60.00	76.00	80.00
Idaho	58.00	50.00	51.00	59.00	61.00	74.00	72.00	67.00	77.00	81.00
Wyoming	48.00	38.00	37.00	48.00	41.00	70.00	67.00	63.00	70.00	75.00
Colorado	52.00	46.00	47.00	64.00	58.00	71.00	67.00	66.00	90.00	81.00
New Mexico	43.00	39.00	41.00	51.00	50.00	67.00	63.00	58.00	80.00	74.00
Arizona	53.00	50.00	55.00	65.00	66.00	72.00	72.00	75.00	88.00	90.00
Utah	63.00	57.00	61.00	74.00	74.00	81.00	81.00	83.00	99.00	99.00
Nevada	67.00	63.00	64.00	74.00	77.00	85.00	80.00	80.00	90.00	85.00
Mountain	51.23	45.53	45.74	55.78	53.03	70.78	67.41	65.72	83.74	80.97
Washington	61.00	57.00	57.00	65.00	62.00	66.00	66.00	60.00	79.00	83.00
Oregon	70.00	61.00	56.00	64.00	64.00	75.00	71.00	65.00	78.00	80.00
California	91.00	91.00	92.00	100.00	100.00	102.00	101.00	106.00	119.00	113.00
Pacific	75.60	71.79	70.90	78.67	78.16	92.08	91.31	92.94	106.25	104.21
United States	77.34	68.27	64.75	79.96	78.66	115.83	107.21	107.51	127.56	143.33

[1] Includes colts.

TABLE 46.—*Value per head of turkeys and chickens on farms, January 1, 1940-44*

State and region	Turkeys					Chickens				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
Maine	2.90	2.90	3.40	4.25	5.10	103.0	104.0	126.0	147.0	165.0
New Hampshire	3.00	3.20	3.90	5.00	5.50	109.0	109.0	123.0	148.0	170.0
Vermont	3.00	3.05	3.40	5.00	5.50	102.0	104.0	122.0	143.0	169.0
Massachusetts	3.40	3.60	4.25	5.30	6.10	110.0	110.0	124.0	161.0	180.0
Rhode Island	3.20	3.50	4.25	5.50	6.20	105.0	108.0	122.0	157.0	177.0
Connecticut	3.30	3.60	4.25	5.00	6.10	104.0	108.0	125.0	159.0	180.0
New York	2.95	2.95	3.55	5.30	6.10	90.0	94.0	112.0	137.0	151.0
New Jersey	3.25	3.40	4.20	5.20	7.40	99.0	102.0	126.0	146.0	175.0
Pennsylvania	3.25	3.25	4.00	5.00	5.80	86.0	89.0	103.0	126.0	140.0
North Atlantic	3.18	3.25	3.93	5.09	5.99	93.4	96.5	113.5	138.5	156.2
Ohio	2.50	2.55	3.20	4.20	5.20	70.0	72.0	94.0	109.0	122.0
Indiana	2.30	2.35	3.05	4.05	5.50	61.0	66.0	87.0	104.0	112.0
Illinois	2.40	2.45	3.10	4.05	5.30	60.0	67.0	84.0	105.0	113.0
Iowa	2.10	2.40	2.90	4.10	4.70	55.0	62.0	82.0	107.0	118.0
Missouri	1.85	2.10	2.75	4.15	4.70	47.0	54.0	72.0	98.0	107.0
Corn Belt	2.10	2.32	2.92	4.12	4.91	58.0	63.8	83.2	104.7	114.8
Michigan	2.40	2.40	3.10	4.65	5.10	71.0	79.0	96.0	115.0	129.0
Wisconsin	2.45	2.45	3.10	4.65	5.00	66.0	71.0	94.0	109.0	119.0
Minnesota	2.20	2.25	2.95	4.10	4.95	48.0	53.0	73.0	98.0	108.0
Lake States	2.28	2.31	2.99	4.29	4.98	59.6	65.3	85.1	105.2	116.2
North Dakota	1.95	2.00	2.85	4.00	4.55	45.0	48.0	71.0	93.0	110.0
South Dakota	1.90	1.90	2.70	3.75	4.30	48.0	56.0	71.0	98.0	109.0
Nebraska	1.75	1.90	2.50	3.85	4.55	48.0	53.0	73.0	97.0	103.0
Kansas	1.65	1.85	2.55	3.80	4.30	44.0	52.0	74.0	93.0	104.0
Great Plains	1.82	1.92	2.67	3.86	4.43	46.2	52.6	72.7	95.3	105.4
Delaware	3.05	3.10	4.00	5.80	6.10	78.0	87.0	98.0	120.0	134.0
Maryland	2.90	2.95	3.70	5.50	6.10	76.0	81.0	93.0	115.0	123.0
Virginia	2.45	2.50	3.00	4.30	5.00	63.0	71.0	84.0	102 0	113.0
West Virginia	2.60	2.60	3.05	3.80	4.75	63.0	64.0	80.0	94.0	103.0
North Carolina	2.55	2.45	3.00	3.80	4.50	66.0	65.0	79.0	96.0	114.0
South Carolina	2.60	2.50	3.00	3.90	4.95	67.0	68.0	82.0	98.0	118.0

Georgia	2.30	2.30	2.80	3.80	5.00	56.0	59.0	74.0	92.0	114.0
Florida	2.50	2.35	2.60	3.70	5.50	72.0	73.0	86.0	101.0	132.0
South Atlantic	2.59	2.56	3.10	4.27	5.17	65.0	67.9	81.6	98.8	115.3
Kentucky	2.10	2.10	2.60	3.85	4.30	48.0	50.0	70.0	85.0	101.0
Tennessee	2.10	2.10	2.65	3.65	4.20	48.0	52.0	69.0	83.0	100.0
Alabama	2.25	2.35	3.00	3.75	4.40	50.0	51.0	67.0	81.0	100.0
Mississippi	2.15	2.30	2.80	3.50	4.00	48.0	50.0	65.0	81.0	97.0
Arkansas	1.80	2.10	2.60	3.70	4.20	40.0	46.0	61.0	81.0	93.0
Louisiana	2.30	2.40	3.10	3.90	5.10	54.0	59.0	71.0	94.0	115.0
South Central	2.11	2.20	2.77	3.71	4.30	47.6	50.9	67.2	83.6	100.1
Oklahoma	1.40	1.60	2.30	3.35	3.85	40.0	47.0	67.0	88.0	100.0
Texas	1.40	1.60	2.50	3.70	4.30	44.0	49.0	71.0	91.0	101.0
Oklahoma-Texas	1.40	1.60	2.45	3.62	4.21	42.8	48.4	69.8	90.1	100.7
Montana	2.30	2.35	3.05	4.45	5.20	64.0	65.0	81.0	98.0	117.0
Idaho	2.30	2.35	3.25	4.40	5.50	59.0	62.0	81.0	96.0	114.0
Wyoming	2.30	2.30	3.10	4.75	5.30	59.0	60.0	78.0	88.0	105.0
Colorado	2.00	2.10	3.10	4.50	5.00	50.0	55.0	74.0	90.0	104.0
New Mexico	1.80	1.85	2.75	3.70	4.30	54.0	57.0	78.0	97.0	107.0
Arizona	2.65	2.60	3.35	4.95	5.90	79.0	83.0	94.0	115.0	144.0
Utah	2.65	2.75	3.50	5.60	6.20	63.0	63.0	78.0	93.0	110.0
Nevada	3.00	3.00	3.75	5.50	7.00	72.0	72.0	86.0	103.0	124.0
Mountain	2.24	2.32	3.19	4.76	5.75	58.9	61.5	78.8	94.7	111.2
Washington	2.50	2.60	3.60	5.30	6.20	71.0	80.0	98.0	120.0	139.0
Oregon	2.40	2.55	3.65	5.30	6.00	70.0	77.0	93.0	118.0	142.0
California	2.55	2.70	3.60	5.60	6.50	77.0	82.0	96.0	122.0	146.0
Pacific	2.52	2.66	3.61	5.46	6.30	74.5	80.8	96.8	120.9	143.7
United States	2.14	2.26	3.08	4.46	5.29	60.5	65.4	83.2	103.7	117.2

TABLE 47.—*Non-real-estate loans to farmers made by selected Federal agencies, by regions, 1938-43*

Agency and year	United States	North Atlantic [1]	South Atlantic [2]	South Central [3]	Lake States [4]	Corn Belt [5]	Oklahoma-Texas	Great Plains [6]	Mountain [7]	Pacific [8]
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Production credit associations										
1938	301,022	22,800	30,616	31,883	21,598	48,410	31,593	17,483	52,156	44,483
1939	319,401	23,020	31,638	34,955	20,863	59,945	36,898	19,638	54,561	37,883
1940	347,231	23,359	33,797	36,681	23,251	64,887	46,580	21,950	56,919	39,807
1941	415,112	25,861	37,866	41,823	26,304	78,087	64,650	29,482	64,923	46,116
1942	474,048	29,046	42,881	50,965	28,262	95,750	72,259	36,029	66,130	52,716
1943	497,178	33,648	44,683	55,262	27,901	103,538	75,684	36,886	65,060	54,516
Farm-Security Administration [9]										
1938 [10]	60,003	1,970	6,508	9,467	3,502	9,321	7,165	8,973	9,125	3,972
1939 [10]	110,563	4,209	15,203	22,861	5,688	15,669	13,198	13,766	14,765	5,204
1940	92,041	6,620	12,410	19,324	7,985	8,619	12,562	9,978	10,456	4,087
1941	103,797	4,464	14,708	28,195	6,777	8,258	16,874	9,193	11,044	4,284
1942	104,709	5,783	16,797	24,161	6,870	9,792	15,116	9,919	11,420	4,851
1943	109,343	5,519	15,176	22,769	7,407	14,253	17,299	9,643	9,059	8,218
Emergency Crop and Feed Loan Office										
1938	19,196	649	5,495	2,798	248	389	2,624	4,103	2,122	768
1939	14,757	609	4,930	2,684	165	270	2,273	1,931	1,068	827
1940	18,960	775	5,510	4,106	224	358	2,808	1,949	1,168	2,062
1941	17,177	812	5,617	3,788	286	344	2,569	1,792	1,299	670
1942	18,730	923	6,573	4,151	460	478	2,513	1,771	1,299	562
1943	17,857	1,038	6,843	4,114	319	621	2,209	1,283	1,081	349

[1] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
[2] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.
[3] Kentucky, Tennessee, Alabama, Mississippi, Arkansas, and Louisiana.
[4] Michigan, Wisconsin, and Minnesota.
[5] Ohio, Indiana, Illinois, Missouri, and Iowa.
[6] North Dakota, South Dakota, Kansas, and Nebraska.
[7] Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
[8] Washington, Oregon, and California.
[9] Excludes loans made by State corporation trust funds.
[10] Fiscal year.

TABLE 48.—*Non-real-estate loans to farmers held by insured commercial banks and selected Federal agencies as of Jan. 1, 1938-44*

Agency and year	United States	North Atlantic [1]	South Atlantic [2]	South Central [3]	Lake States [4]	Corn Belt [5]	Oklahoma-Texas	Great Plains [6]	Mountain [7]	Pacific [8]
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Commercial banks										
1938	788,351	51,166	40,191	71,939	66,963	200,494	98,436	101,636	76,602	80,924
1939	1,064,667	63,464	56,991	153,421	82,428	272,028	131,234	113,781	84,593	106,727
1940	1,094,392	62,251	42,646	126,005	100,124	281,108	131,865	143,187	95,432	111,774
1941	1,281,275	66,623	66,120	129,317	126,436	310,640	178,037	186,022	107,121	110,959
1942	1,449,937	66,624	64,157	123,764	128,763	352,086	188,859	254,658	142,362	128,664
1943 CCC [9]	746,261	38,609	43,557	44,936	25,683	114,750	175,505	189,807	58,532	54,882
1943 Other	895,511	48,324	40,188	72,258	82,288	236,454	109,224	137,692	86,037	83,046
1943 Total	1,641,772	86,933	83,745	117,194	107,971	351,204	284,729	327,499	144,569	137,928
1944 CCC [9]	598,466	59,161	78,515	82,018	6,959	31,833	194,268	63,722	39,593	42,397
1944 Other	906,783	49,014	42,373	77,296	83,675	227,919	115,018	131,757	92,088	87,643
1944 Total	1,505,249	108,175	120,888	159,314	90,634	259,752	309,206	195,479	131,681	130,040
Production credit associations										
1938	136,918	13,389	8,869	8,425	14,169	23,524	13,218	9,259	23,925	22,140
1939	146,825	14,417	10,902	10,577	14,694	27,208	13,022	9,812	25,520	20,673
1940	153,425	13,948	11,882	13,557	13,515	33,529	15,151	10,280	25,612	15,951
1941	170,686	14,944	13,973	15,971	14,474	36,624	19,918	12,182	26,137	16,463
1942	185,611	16,073	16,538	15,529	13,833	37,974	27,379	15,317	25,982	16,986
1943	182,658	16,694	16,114	16,778	13,138	41,566	25,255	16,310	22,020	14,783
1944	196,637	19,005	17,499	19,333	13,416	46,436	26,520	15,539	22,727	16,162
Farm Security Administration [10]										
1938	162,802	6,723	17,921	25,331	15,631	21,032	23,338	27,529	18,234	7,063
1939	209,806	8,713	22,437	30,177	17,899	27,227	28,695	37,109	27,219	10,330
1940	276,138	11,802	34,003	43,012	21,029	37,910	36,108	44,354	34,824	13,096
1941	312,717	15,722	39,362	51,704	24,871	40,206	38,492	49,768	38,549	14,043
1942	339,083	16,796	44,437	64,158	25,812	37,996	42,680	50,961	41,404	14,839
1943	362,343	19,371	51,514	69,755	25,997	36,808	43,627	51,378	44,836	19,057
1944	338,714	19,851	47,372	63,425	25,864	39,772	44,814	43,552	39,066	15,058
Emergency Crop and Feed Loan Office [11]										
1938	171,964	1,282	9,961	10,013	11,359	4,620	15,489	91,297	26,443	1,500
1939	170,933	1,403	10,146	9,790	10,935	4,209	14,693	91,565	26,577	1,615
1940	167,779	1,418	10,173	9,901	10,528	3,947	14,266	90,276	25,567	1,703
1941	167,845	1,655	10,430	10,514	10,180	3,871	14,158	89,458	24,933	2,646
1942	163,753	1,748	11,093	10,569	9,823	3,706	13,991	87,294	23,657	1,872
1943	155,411	1,744	10,920	10,441	9,070	3,618	12,953	83,191	21,707	1,767
1944	146,140	1,782	10,924	10,548	8,289	3,541	12,269	77,546	19,649	1,592

[1] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
[2] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia and Florida.
[3] Kentucky, Tennessee, Alabama, Mississippi, Arkansas, and Louisiana.
[4] Michigan, Wisconsin, and Minnesota.
[5] Ohio, Indiana, Illinois, Missouri, and Iowa.
[6] North Dakota, South Dakota, Kansas, and Nebraska.
[7] Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
[8] Washington, Oregon, and California.
[9] Loans guaranteed and certificates issued by Commodity Credit Corporation.
[10] Excludes loans made from State corporation trust funds.
[11] Includes drought-relief loans.

TABLE 49.—*Average size of non-real-estate loans to farmers made during year by selected Federal agencies, by regions, 1938-43*

Agency and year	United States	North Atlantic [1]	South Atlantic [2]	South Central [3]	Lake States [4]	Corn Belt [5]	Oklahoma-Texas	Great Plains [6]	Mountain [7]	Pacific [8]
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Production credit associations										
1938	1,237	1,202	543	663	760	1,098	2,000	1,553	5,142	4,382
1939	1,365	1,234	601	744	802	1,321	2,321	1,910	5,662	4,434
1940	1,505	1,248	659	824	966	1,413	2,674	2,113	5,803	4,661
1941	1,791	1,407	754	955	1,188	1,742	2,891	2,676	6,520	5,088
1942	2,011	1,508	896	1,092	1,369	2,073	3,123	2,778	6,550	5,892
1943	2,160	1,690	956	1,118	1,540	2,345	3,241	3,666	6,759	6,324
Farm Security Administration Original loans [9]										
1938	541	517	373	322	854	603	250	615	979	977
1939	560	791	439	387	515	738	699	562	1,058	1,172
1940	580	1,010	424	306	688	705	789	597	1,140	1,106
1941	610	1,118	373	379	1,048	688	845	999	1,099	1,251
1942	630	817	462	454	1,003	583	706	536	835	820
1943	766	1,157	537	504	1,183	1,060	675	811	977	1,104
Supplemental loans [10]										
1938	214	429	169	123	313	256	225	270	394	530
1939	213	535	212	182	196	285	168	119	470	510
1940	214	524	172	164	265	241	174	191	427	559
1941	192	486	139	146	377	240	219	190	362	512
1942	234	517	227	179	353	266	233	174	380	504
1943	286	586	246	223	476	388	296	323	472	608
Emergency Crop and Feed Loan Office										
1938	112	178	95	65	100	99	129	158	190	39
1939	106	187	98	68	105	99	126	132	166	248
1940	120	195	106	82	112	102	132	140	168	464
1941	119	205	110	88	117	111	139	149	179	250
1942	136	234	129	104	154	141	139	181	210	264
1943	155	263	146	125	199	167	155	224	236	288

[1] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey and Pennsylvania.
[2] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.
[3] Tennessee, Kentucky, Alabama, Mississippi, Arkansas, and Louisiana.
[4] Michigan, Wisconsin, and Minnesota.
[5] Ohio, Indiana, Illinois, Missouri, and Iowa.
[6] North Dakota, South Dakota, Kansas, and Nebraska.
[7] Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
[8] Washington, Oregon, and California.
[9] Excludes loans made by State corporation trust funds.
[10] Additional loans made to farmers who already have Farm Security Administration loans.

TABLE 50.—*Number of outstanding borrowers of non-real-estate agricultural loans of selected Federal agencies, by region, June 30, 1938-43*

Agency and year	United States	North Atlantic [1]	South Atlantic [2]	South Central [3]	Lake States [4]	Corn Belt [5]	Oklahoma-Texas	Great Plains [6]	Mountain [7]	Pacific [8]
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Production credit associations										
1938	223,879	16,804	55,903	45,097	27,738	35,476	13,295	10,983	8,783	9,800
1939	219,056	16,599	52,236	43,990	26,448	39,933	13,439	9,520	8,477	8,414
1940	217,316	16,535	50,031	44,834	23,803	40,478	15,490	9,463	8,667	8,015
1941	215,851	16,797	47,829	41,969	22,610	40,894	18,955	10,018	8,953	7,826
1942	220,600	17,798	47,569	45,023	19,955	39,495	21,298	11,924	9,329	8,209
1943	206,343	17,906	43,372	44,839	16,744	38,244	20,228	9,583	8,473	6,954
Farm Security Administration [9]										
1938	373,209	10,812	54,756	95,879	16,664	40,553	56,541	59,149	29,158	9,697
1939	470,663	13,387	76,130	120,285	27,171	53,529	65,361	69,071	33,820	11,909
1940	533,095	15,980	87,478	142,416	29,058	63,912	67,871	76,060	36,811	13,509
1941	615,275	18,846	95,983	173,420	37,073	73,883	83,584	79,841	39,585	13,060
1942	645,598	19,442	101,090	161,336	36,088	75,297	78,044	102,330	54,413	17,558
1943	610,167	18,194	96,609	161,639	30,172	65,374	78,940	91,797	51,090	16,352
Emergency Crop and Feed Loan Office [10]										
1938	1,470,219	13,178	232,757	303,765	88,327	56,002	163,376	453,220	149,353	10,241
1939	1,444,643	13,522	230,644	295,401	84,370	52,375	159,932	449,893	147,509	10,997
1940	1,458,368	14,423	234,286	306,968	81,796	50,976	162,196	449,260	146,018	12,445
1941	1,453,304	15,341	233,119	309,026	80,568	49,491	160,823	447,926	145,420	11,590
1942	1,433,611	15,599	240,389	305,852	77,639	47,683	162,430	433,307	139,840	10,872
1943	1,356,989	15,394	232,028	294,295	71,159	46,341	153,911	406,297	128,275	9,289

[1] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
[2] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.
[3] Kentucky, Tennessee, Alabama, Mississippi, Arkansas, and Louisiana.
[4] Michigan, Wisconsin, and Minnesota.
[5] Ohio, Indiana, Illinois, Missouri, and Iowa.
[6] North Dakota, South Dakota, Kansas, and Nebraska.
[7] Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
[8] Washington, Oregon, and California.
[9] Excludes borrowers of State corporation trust funds.
[10] Including drought-relief loans. Numbers shown are annual accounts outstanding, the total of which is very much larger than the number of individual borrowers because of duplication.

B.—Method of Estimating the Inventory Value of Crops

The inventory value of crops for the years 1940-44 was based largely upon the amount of major crops on farms January 1 and December 15 at farm prices reported by the Bureau of Agricultural Economics. Data for certain of the minor crops were not available for January 1 and estimates were prepared on the basis of such information as December 1 and June 1 stocks, crop-disposition figures, and other related data.

The total inventory value as shown in the report does not include all possible crops on farms January 1. It does not include estimates of farm stocks for certain crops such as sweetpotatoes, apples, and oranges, which may be of considerable importance in limited areas. The estimates include stocks of crops such as wheat and corn which are stored on farms under seal of the Commodity Credit Corporation but exclude crops which are stored off the farm whether sealed under loan to the Commodity Credit Corporation or not.

The method of estimating the inventory value for each of the six major crop categories—grain, hay and forage, oil crops, vegetables, tobacco, and miscellaneous crops—follows:

GRAIN CROPS

Grain crops include corn, wheat, oats, barley, rye, buckwheat, rice, sorghum grain, dry edible beans, and dry field peas. Published data as to the quantity located on farms on January 1 were available for corn, wheat, and oats for each of the years 1940 to 1944. Stocks of barley and rye on farms on January 1 were interpolated from published data on December 1 and June 1 stocks for all years except 1944 when December 1, 1943 and April 1, 1944 farm-stocks data furnished the basis for the interpolation. The indicated quantities of the five grains (corn, wheat, oats, barley, and rye) in farmers' hands at the beginning of each year were valued at the previous December 15 prices and combined into one total for each year.

Data as to stocks were not available for all years for the other grains included in this group. Therefore, value approximations were set up for January 1, 1944 for these grains and allowance was made in the inventory totals of the five grains mentioned above for January 1, 1940 to 1943 inclusive. This allowance was based on the relationship existing in 1944 between the total value of stocks of all grains and the value of the stocks of the five grains for which data were available for each year.

This "other" portion of the grain-crop group included the published December 1, 1943 farm stocks for dry beans and dry peas valued at December 15, 1943 average farm prices; the published data on farm stocks of rice on January 1, 1944 valued at December 15, 1943 prices and indicated January 1, 1944 farm stocks of sorghum grain and of buckwheat valued at December 15, 1943 prices. No data have been published on January 1 farm stocks of grain sorghums and the quantities used here are rough approximations based on limited sample data and relationships of sorghum grain supplies to other grain crops in sorghum-producing areas. Similarly, January 1, 1944 stocks of buckwheat were based on estimated sales by farmers after January 1 to which was added the quantity of home-grown seed used in 1944 and an allowance for the quantity used for feed and in the farm household after January 1.

HAY AND FORAGE

Official estimates of quantities of hay on farms as of January 1 were not available. Quantities used in this report were based on unpublished data from

crop reporters asking for "tons of hay produced on your farm" and "tons of hay on hand January 1." These estimated quantities were valued at December 15 prices of the preceding year. Rough approximations of the quantity of sorghum and corn silage and sorghum and corn forage remaining on farms January 1, 1944 were determined on the basis of fragmentary sample data and the relationship of the size of these crops to other forage crops, such as hay, in the various States. These approximations were set up for January 1, 1944 only and valued at December 1, 1943 prices. To secure inventory totals for January 1, 1940 to January 1, 1943 inclusive, for the hay and forage group, an allowance was made in the inventory values of hay for each of the years, based on the relationship existing between the total January 1, 1944 inventory value of all crops in the group to the inventory value of hay at that time.

OIL CROPS

Oil crops include soybeans, flaxseed, peanuts, and cottonseed. No official estimates were available covering the full period of years on the quantity of these crops in farmers' hands on January 1. It was necessary, therefore, to use interpolated figures based on such information as was available from various sources. For soybeans, published information on January 1 stocks on farms was used for 1943 and 1944. The stocks for January 1, 1940-42 inclusive, were derived from data on disposition of the crop and allowed for the estimated quantities sold after January 1 plus the quantity of home-grown soybeans used for feed and seed from the previous year's crop. For flaxseed, the quantity on farms as of January 1 each year was derived from disposition data and includes sales after January 1 plus the quantity of home-grown flaxseed used for seed. The quantity of peanuts in farmers' hands on January 1 was derived in a similar way in that quantities used for seed were added to sales by farmers after January 1.

No official estimates were available for cottonseed stocks. Since the portion of the crop that is delivered to oil mills is normally delivered at the time the cotton is ginned, rough approximations of January 1 stocks on farms were derived by adding to the amount still to be ginned on January 1 of each year the quantity used for seed and a part of that reserved by the farmer for feed and fertilizer.

For each of these crops the inventory value was obtained by multiplying the derived quantities in hands of farmers on January 1 by the previous December 15 price.

VEGETABLES

The vegetable group includes potatoes (Irish), cabbage, and onions. Official estimates of the quantity of these crops remaining in farmers' hands on January 1 were available. For potatoes, this quantity was valued at the December 15 price of the year preceding to secure a January 1 inventory value. Season average prices for the storage part of the onion and cabbage crops were used in evaluating these inventories.

TOBACCO

No official data on January 1 tobacco inventories were available. The inventory values used in this report were based on the quantities of each crop sold by farmers after January 1 of the crop-year, valued at December 15 or season average prices.

MISCELLANEOUS CROPS

Miscellaneous crops include hayseeds, broomcorn, and cotton. No official estimates of January 1 stocks of any of these commodities were available.

The quantity data used in preparing the inventory value of hayseeds for this report were interpolations based on the best information at hand. The disposition surveys made as of February 15 indicated quantities of seed on farms as of that date. These totals were adjusted upward by an allowance for January and one-half of the February sales of seeds. The quantities thus derived were valued at December 15 prices received by growers to determine the total value of January 1 stocks in each of the 5 years.

January 1 indicated stocks of broomcorn were interpolated on the basis of December 1 and April 1 survey data collected by the State statisticians. These indicated quantities were valued at season average prices for each crop-year to obtain a January 1 inventory value.

For cotton, farm inventories of lint cotton were based on the quantity of cotton yet to be ginned on January 1 plus a rough allowance (2 percent of total ginnings) for the portion of the ginned cotton which might be stored on farms on January 1. This quantity was valued at the December 15 price of the preceding year to obtain January 1 inventory value for each of the years 1940 to 1944, inclusive.

C.—Method of Estimating Value, Purchases, and Depreciation of Machinery and Motor Vehicles on Farms

VALUE

The value of machinery and motor vehicles on farms, as of January 1 each year, is derived by adding purchases during the previous year to the value as of the preceding January 1, deducting depreciation charges, and adjusting the balance to allow for changes in the price level during the year. The value each year, therefore, is an estimate of what farmers would have had to pay to replace the machinery on their farms at current prices and in the current condition. The calculation of the value of machinery is made primarily to obtain estimates of the annual depreciation of farm machinery, which is one of the items of production expenses deducted from gross income to derive estimates of the net income of farm operators.[38]

PURCHASES OF AUTOMOBILES AND MOTORTRUCKS

Calculations of annual purchases and depreciation and of inventory value are made separately for automobiles, motortrucks, tractors, and other farm machinery. For automobiles and for motortrucks, the value of farmers' purchases was obtained by multiplying the estimated number bought by an average price. The number bought is computed by taking into account the number of cars and trucks on farms (interpolated between census years on the basis of changes in automobile registrations in predominately agricultural States and of assessors' records in some of the more important agricultural States where the number of cars and trucks on farms is recorded yearly); the rate of replacement of cars and trucks; the proportions purchased new and second-hand (based on several special studies and surveys); and the estimated number bought by additional owners (measured by the increase in the number of cars and trucks on farms from one January 1 to the next).

[38] The method of deriving these estimates is described in detail in Income Parity for Agriculture, Pt. II, sec. 3. See footnote 10, p. 58.

The average prices paid for automobiles and trucks are based on special surveys made in 1935 and 1936, and for other years, on movements in the price series for new cars and trucks (components of the index of prices paid by farmers) adjusted downward to allow for purchases of used cars and trucks and for trade-in allowances in the case of purchases for replacement. For 1942 and 1943, the purchase figures are extremely tentative because estimates based on the usual procedure involving replacement rates and stable relationships between prices of new and second-hand purchases would not be valid. Purchases in these years are based on information as to numbers and prices of new cars and trucks released for sale, assumptions as to the relative importance of new and second-hand purchases by farmers, and fairly arbitrary estimates of the price increases in farmers' purchases of used automobiles and motortrucks.

PURCHASES OF TRACTORS

The value of tractors purchased by farmers was computed by multiplying the estimated number purchased each year by the estimated average price paid by farmers, plus an allowance for attachments and parts. A further addition was made in certain years, to account for the cost of converting steel tires to rubber tires, as suggested by articles in the monthly publication, *Tire Review*. The numbers of tractors bought by farmers in the years 1922-31 and 1935 through 1941 were derived by adding 95 percent of the number of wheel-type (including garden) and 30 percent of the track-laying tractors sold for domestic use, as reported annually by the Bureau of the Census, Manufacture and Sale of Farm Equipment and Related Products, plus imports. The percentages are based on data furnished by The Farm Equipment Institute. Estimates for other years were based on data collected by the Bureau of Agricultural Engineering, (Power and Machinery in Agriculture, U. S. Department of Agriculture, Misc. Pub. No. 157) and on reports of annual sales by some of the larger manufacturers.

The average price paid for tractors by farmers was estimated from data collected in the Bureau of Agricultural Economics survey of farm automobiles, motortrucks, and tractors in 1936; from prices paid by farmers, collected by the Bureau of Agricultural Economics from 1930 to date; from retail-price data furnished by several farm equipment manufacturers; and from the average factory value of tractors in the years when the Census of Manufacture and Sale of Farm Equipment was taken. For 1942 and 1943 the estimates of farmers' purchases were obtained by multiplying the factory value of sales to farmers of tractors and attachments and parts, by a retail percentage mark-up. The factory value of sales to farmers for 1943 was obtained from confidential data furnished by the Bureau of the Census, and was estimated for 1942. In both these years, the method used allows for the substantial purchases of tractors by the Army.

PURCHASES OF OTHER FARM MACHINERY

Estimates of the value of farmers' purchases of farm machinery other than tractors were made by applying a retail percentage mark-up to the factory value of machinery sold to farmers. The factory value was estimated from data reported annually by the Bureau of the Census, Manufacture and Sale of Farm Equipment and Related Products for the years 1920-31 and 1935 to date; the Census of Manufactures for 1909, 1914, and biennially, 1919-33; annual data on sales and prices from 1909 to date, collected for the Department of Agriculture by the Farm Equipment Institute. The percentage

mark-up applied to the factory value was based on prices paid by farmers for machinery, available in the Bureau of Agricultural Economics from 1910 to date, and on factory prices calculated from the census reports.

DEPRECIATION OF FARM MACHINERY AND MOTOR VEHICLES

Because of the durability of most farm machines and the wide variation in purchases from year to year, depreciation is probably a better measure of the cost of machinery used in a year's production of agricultural products than the actual purchases of machinery in that year. The estimates of depreciation were computed for each type of machinery purchased by farmers, and they take into account the change in the amount of machinery, the year-to-year changes in price, and the average length of life of the different machines. Depreciation rates, computed for each type of machinery, were applied to the estimated value of machinery on farms at the beginning of the year, after it was adjusted to the current price level and the value of purchases during the year. Yearly depreciation charges computed in this way approximate the amount that farmers would have had to pay each year if they had replaced, at prices prevailing during the year, the amount of equipment that was used up in the year. An excess of purchases over depreciation changes represents a net addition to the farmer's wealth in the form of various types of farm machinery, whereas an excess of depreciation charges over purchases indicates that farmers have delayed the replacement of equipment and have used up a part of their capital invested in machinery.

The depreciation rates were calculated on the basis of studies on the length of life of different kinds of motor vehicles and machinery. In calculating the rates for motor vehicles, allowance was made for the increase in the length of life of automobiles, motortrucks, and tractors which has taken place during the last 30 years. During the period 1910-14, for example, it is estimated that the average life of a new automobile was 5 to 6 years, whereas in the late 1930's it was probably between 11 and 12 years. As the depreciation rate is applied to the current value each year (that is, the value after subtracting depreciation charges for previous years), the rate is higher than these figures on average length of life would indicate. In the case of automobiles and trucks, the depreciation rates are intended to cover only the gradual wearing out and obsolescence of the vehicle as the cost of the necessary repairs to keep it in running condition was included as an item of motor-vehicle-operation expense to farm operators. For tractors and farm machinery the rates are somewhat higher as they cover the repairs needed to keep machines in usable condition. This method was used because separate data on attachments and parts used for repairs are not available for these items of machinery.

ADJUSTMENT FOR PRICE CHANGES

The value of motor vehicles and machinery on farms at any given time depends not only on the number and age of the machines but also on changes in the price level of the machines. Whereas a new automobile purchased for $1,000 and depreciated 25 percent the first year would be worth $750 at the end of the year if no change in price occurred, if a new automobile equally as good could be bought the next year for $750, the car that was a year old would be valued at somewhat less than $750 and the additional decline in value would be due to the change in the price of new cars. The adjustment to allow for changes in price level was carried through separately for automo-

biles, motortrucks, tractors, and other farm machinery, and was based on annual price changes for each of these four types of equipment.

The value of implements and machinery by regions January 1, 1940-44 was based upon the 1940 Census of Agriculture. It was then assumed that the year-to-year fluctuations in value for 1941 and 1942 would vary in approximate proportion to the changes in farm income. In order to arrive at these percentage changes, cash income plus Government payments was used, and it was assumed that the change that occurred in income the year previous would have a corresponding effect on the value as of January 1 of the current year. Accordingly, the ratio of the 1940 income to that of 1939, by regions, was multiplied by the value of implements and machinery for 1940, by regions, to obtain the value on January 1, 1941. In the same way the ratio of the 1941 income to that of 1940 was multiplied by the value of implements and machinery in 1941 to obtain the inventory value, by regions, on January 1, 1942. These annual regional figures were then adjusted to the United States total inventory value for each year.

The percentage change in the value of all types of new machinery compiled in the Price and Labor Section of the Bureau was computed by regions for 1942-43, and 1943-44. The percentage changes 1942-43 were applied to the regional figures previously obtained for 1942 and these were adjusted to the United States inventory value to arrive at the regional values for 1943. The corresponding percentage changes of new machinery for 1943 to 1944 were applied to the 1943 regional figures and were again adjusted to the United States inventory value to arrive at the values by regions for January 1, 1944.

D.—Method of Estimating Furnishings and Equipment

Most of the studies of farm family living are not adaptable to the purpose of this estimate because of (1) limited coverage of the population, (2) selective factors influencing the data, and (3) remoteness from the time to be covered in the estimate. In two studies attempts have been made to evaluate the furnishings of the farm home. The average value of furnishings in the homes of 402 farm families in Livingston County, N. Y., was estimated in 1921 at $822, about 35 percent of the estimated value of the farmhouse (*3*). In a study of white farm families in Wake County, N. C., in 1929, estimates of the value of furnishings averaged about $440 for owner families and $250 for tenant families (*4*), a valuation considered low by the author of the report.

Two Nation-wide studies furnish detailed information on expenditures of farm families for household furnishings and equipment. The data in Rural Family Spending and Saving in Wartime (*9*) are especially significant because the study discussed in this publication covers one of the years included in these estimates (1941) and because the sample of families was selected to be representative of the entire United States. The Consumer Purchases Study (*15*), covering expenditures in 1935-36, furnishes a basis for comparisons and an indication of a trend.

The data from the 1941 study show a much higher expenditure per family for furnishings and equipment than those for 1935-36—an indication of the trend of spending between the two periods. To secure these data the volume of retail sales in the house furnishings and equipment group of mail-order and chain stores, as reported by the Department of Commerce (*5*), was converted to an index, using average annual sales in the period 1935-40 = 100. It was assumed that expenditures of farm families for furnishings and equip-

ment followed this trend in general, although a higher peak was allowed in 1941 to fit the data from the 1941 study of family spending (fig. 33).

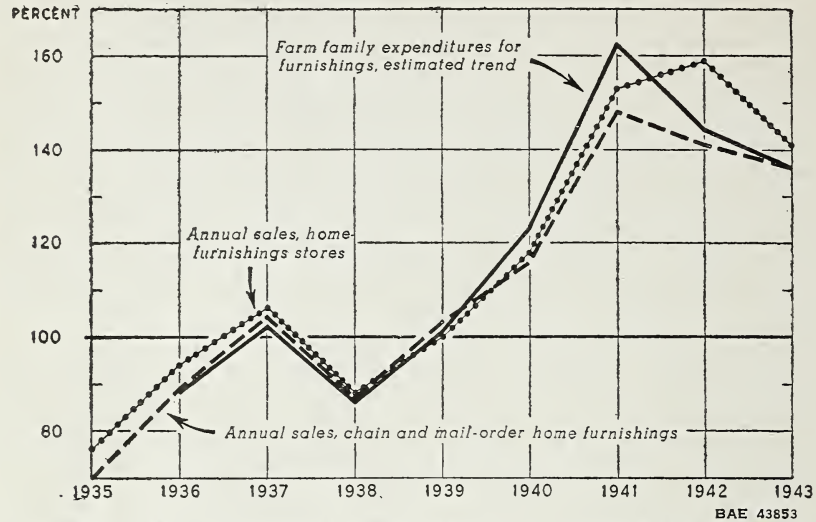


FIGURE 33.—Estimated Trend in Farm Family Expenditures for Furnishings and Equipment, Based on Annual Sales of Home Furnishings, 1935-43. (Index Numbers, 1936-40 = 100)

The 1935-36 and the 1941 studies furnish expenditure data by categories of furnishings and equipment. Adjustments were made in applying the estimated trend to indicate the increased purchasing of mechanical refrigerators and certain other articles of equipment (fig. 34).

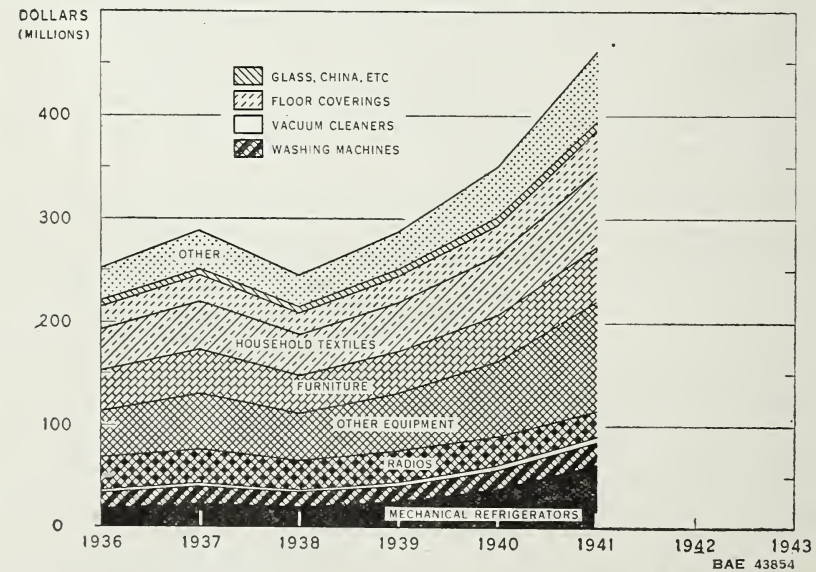


FIGURE 34.—Estimated Expenditures of Farm Families for Furnishings and Equipment, 1936-41

The mean of estimated annual expenditures made by farm families from 1936 through 1940 was assumed to be the normal rate of expenditure. This was taken as representing annual replacement or the amount necessary to maintain inventories at the level of that period. Additional expenditure, assuming no change in prices, implied increased inventory; smaller expenditure, a decreased inventory.

The Heller Committee budgets for urban families of three economic levels[39] include estimates of replacement rates for furnishing the house. Adjusting those figures to be more applicable to farm family experience, the following rates were determined:

	Period of use in years	Replacement rate (percent)
Furniture	25	4
Household textiles	8	12
Floor coverings	10	10
Glass, china, etc.	12	8
Refrigerators, stoves, and other electrical and mechanical equipment	14.5	7

Applying the above replacement rates to the mean expenditures (1936 through 1940), the average replacement rate was determined to be 7 percent. This percentage was used in the estimates for the years 1940 through 1944 as the expenditure needed to maintain furnishings and equipment inventories. Any expenditure over the 7 percent was considered an increase in value.

The price increases since 1940 have had two effects on the estimate. Replacements bought at higher prices have a higher money value than the articles replaced. As prices for goods bought have increased at a greater rate than expenditures, the increased expenditures may conceal some actual physical decrease in inventory.

The estimates for each year (table 20) include an allowance of plus 3.5 percent for farm laborer families in the farm population. This factor was developed from the 1941 study. Farm laborer families include families living off the farm the major part of whose income was obtained from farm labor.

The estimates of total value, 1940-44, are not presented by categories because of insufficient data on shifts in the allocation of funds for replacements and additions to inventories. The 1941 data indicate that a large proportion of expenditures for furnishings went for mechanical refrigerators and other major equipment. In succeeding years, when supplies of such equipment have been sharply decreased, the emphasis in buying may have been on textiles, on furniture, or on floor coverings. Table 21, however, was prepared as an estimate of changes in physical volume of the major items of equipment owned from 1940 to 1942.

E.—Method of Estimating Farmer-Owned Bank Deposits

The purpose of this section of the Appendix is to describe and evaluate the methods employed by the Bureau of Agricultural Economics in estimating the amount of bank deposits owned by farmers.

METHODS

In computing estimates of farmer-owned deposits, chief reliance has been placed upon three types of data: (1) A 1931 inquiry to banks, including a question as to the percentage of their deposits owned by farmers, (2) a time

[39] Heller Committee for Research in Social Economics. Quantity and cost budgets for three income levels. 95 pp.; also Sup. clothing and house furnishings allowances. 49 pp. Heller Com. Res. Soc. Econ., Calif. Univ., Berkeley, Calif. Prices for San Francisco. March 1942.

series of deposits of member banks of the Federal Reserve System located in places of less than 15,000 population, and (3) deposits of all insured commercial banks as of December 31, 1934, tabulated by town-size groups.

Briefly, the method consisted of:

(1) Estimating the volume of deposits owned by farmers as of 1931. This step was accomplished by applying ratios of (farmer deposits to all deposits in respondent banks) to (the universe of total deposits in insured commercial banks). As used in this estimate, both series were stratified by town-size groups and by geographic areas. However, the available deposit total of 1931 was not distributed into the necessary classes by size of town. The Bureau of Agricultural Economics undertook the requisite stratification itself by computation of the 1931 stratified data from data for 1934 which chanced to be stratified into nine town-size classes.

(2) Extending the amount so determined to 1944 by application of an index of deposits of country banks. This index is based on member-bank deposits in places of less than 15,000 in 20 leading agricultural States, weighted for relative cash farm income in each State.

(3) Adjusting the last obtained figures by correcting for the growing proportion of United States Government deposits.

Percentage of Deposit Ownership by Farmers.—In 1931 the Bureau of Agricultural Economics sent a questionnaire pertaining to agricultural credit to each bank in the United States.[40] More than 5,000 banks out of 21,903 responded. Of these, more than 4,400 gave adequate replies to the inquiry concerning the percentage of deposits owned by farmers. The wide geographical distribution of these 4,400 banks is shown by the accompanying map (fig. 35). The schedules were coded, among other things, for the size of the town in which each respondent bank was situated. Such an arrangement made possible the stratification of results by town-size groups.

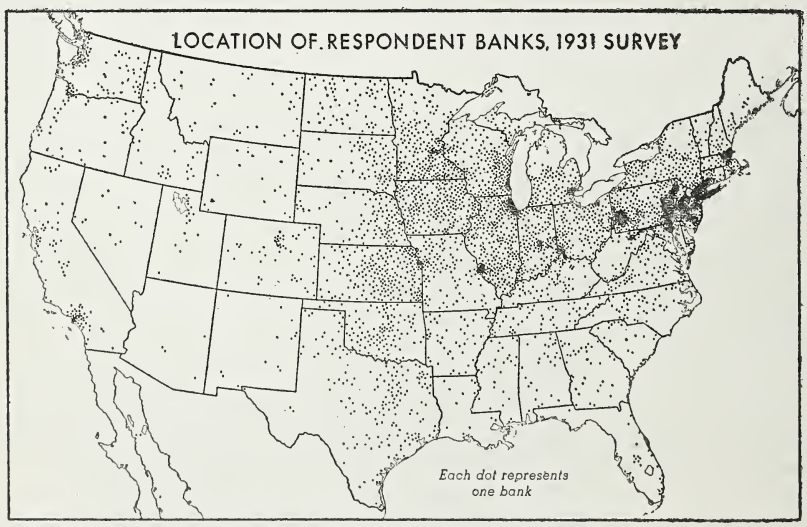


FIGURE 35.—Location of 4,400 Respondent Banks Supplying Information for Survey on Percentage of Deposits Owned by Farmers.

[40] Original schedules have been kept in storage and subjected to a re-edit and a recount of particular items of current interest.

Mutual savings banks gave few replies and those that did indicated the absence of farm business. As most mutual savings banks are located in industrial and commercial centers, schedules for such banks were excluded from the tabulations.

The amount of time and demand deposits in each respondent bank and the banker's estimate as to the percentage of each class of deposits belonging to farmers were listed. The percentages then were applied to demand and time deposits respectively to obtain the amount of farmer-owned deposits held by each respondent bank.

The farmer-owned deposits and the total deposits in *respondent banks* were summarized by town-size groups. This was done by States, by regions, and for the Nation. Finally, the amount of farmer-owned deposits of respondent banks in each town-size group for each geographic area was expressed as a percentage of corresponding total deposits (table 51). Thus three separate sets of percentages or ratios applicable to the nine town-size classes were obtained: (1) Ratios for the Nation as a whole derived from summary data for the Nation, (2) ratios for each region, and (3) ratios for each State. This made possible three separate estimates of farmer-owned deposits for the Nation, each serving as a check against the other. The regional stratification proved the most satisfactory. The resulting percentages were available for application *to the universe of deposits in commercial banks.*

Some Adjustments in Basic Data.—Before the resulting percentages of farmer-owned deposits were applied to the universe, two further steps were taken in the nature of adjustments to the basic data. The first adjustment consisted in eliminating from consideration possible farmer-owned deposits in cities of 100,000 or more population. Such an adjustment was dictated by common sense and by an inspection of the original schedules. Some small banks on the fringes of large cities in agricultural States returned questionnaires indicating that they held at least a small volume of farmer accounts. The larger banks of cities more frequently than the smaller banks there made no answer to the questionnaire. The bias thus introduced into the sample was eliminated by the assumption that no farmer deposits were located in the larger cities. The initial stratification by town-size groups and by regions reduced this bias, but the complete elimination of possible farmer-owned deposits for towns above 100,000 appeared to involve less error than their retention.

The second adjustment of the basic data was necessary because 1931 deposit data for *all* banks had not been stratified by town sizes, and so were unavailable for use with the percentages of farmer-owned deposits obtained for different town-size groups from the 1931 survey. As the necessary 1931 deposits distributed by town-size classes were unavailable, a close substitute was used. This substitute was built up from 1934 figures from insured commercial bank deposits, which were stratified according to nine town-size groups.[41]

[41] These 1934 data were obtained from supplementary schedules prepared and tabulated by the Bureau of Agricultural Economics and included in the Call Report of December 31, 1934 (*16*).

TABLE 51.—*Estimated percentages of farmer-owned bank deposits, number of sample banks, and population of town in which located, by regions, June 30, 1931*

Population of town	United States		New England		Middle Atlantic		East North Central		West North Central	
	Number of sample banks	Percentage of deposits farmer-owned	Number of sample banks	Percentage of deposits farmer-owned	Number of sample banks	Percentage of deposits farmer-owned	Number of sample banks	Percentage of deposits farmer-owned	Number of sample banks	Percentage of deposits farmer-owned
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Less than 1,000	1,681	48.5	4	8.1	148	30.0	408	54.6	656	58.3
1,000–2,499	830	31.6	17	14.6	163	20.5	191	34.7	186	45.7
2,500–4,999	490	22.7	24	11.8	125	16.2	86	24.7	82	37.7
5,000–9,999	381	12.0	25	9.7	111	6.8	94	17.9	39	18.0
10,000–14,999	187	7.6	13	3.1	67	2.0	38	15.0	30	16.5
15,000–24,999	160	5.4	14	3.3	74	3.1	23	7.4	22	15.3
25,000–49,999	162	4.4	26	2.4	46	1.6	48	6.9	6	17.4
50,000–99,999	125	3.9	17	.1	53	4.1	26	2.7	7	27.8
100,000 and over	392	[1]	38	[1]	144	[1]	83	[1]	49	[1]
Total	4,408	4.2	178	1.6	931	1.8	997	6.7	1,077	19.4

Population of town	South Atlantic		East South Central		West South Central		Mountain		Pacific	
Less than 1,000	101	47.7	82	58.9	148	48.8	73	43.7	61	45.4
1,000–2,499	69	33.8	35	46.9	79	33.5	43	22.7	47	35.1
2,500–4,999	39	26.8	25	36.6	48	23.7	32	24.0	29	16.7
5,000–9,999	27	19.2	12	32.7	34	17.2	18	20.1	21	27.5
10,000–14,999	6	24.7	10	14.4	3	24.2	10	9.7	10	16.1
15,000–24,999	9	9.7	3	11.9	8	5.2	3	6.1	4	2.1
25,000–49,999	14	6.4	4	1.0	5	1.0	4	8.3	9	3.9
50,000–99,999	13	2.5	0	0	5	9.9	0	0	4	0
100,000 and over	25	[1]	9	[1]	12	[1]	3	[1]	29	
Total	303	10.0	180	22.1	342	13.9	186	15.8	214	3.4

[1] To compensate for a bias in the sample, the percentages in towns of 100,000 and over are assumed to be zero.

These stratified deposits had to be separately grouped on a national, a regional, and a State basis in conformance with the three sets of ratios relative to farmer ownership of deposits derived from respondent bank data of 1931.

The method of building up these 1934 figures into figures that would represent all deposits of 1931 was as follows: First, the average change between 1931 and 1934 in *member* bank deposits in banks located in cities (1) below and (2) above 15,000 population was calculated. Next, this rate of change was applied to the deposits of all insured banks. It was assumed that the changes in deposits in member banks located in cities of less than 15,000 would apply to the five classes below 15,000 into which the 1934 deposits of all insured banks were divided. Similarly, it was assumed that the changes in deposits of member banks located in cities above 15,000 population would apply to the four classes above 15,000 into which the 1934 deposits of insured banks were divided. Thus by observing the changes in deposits of *member* banks that took place between 1931 and 1934, and by adjusting the 1934 deposits of all insured banks in accordance with such changes it was possible to build up deposit figures for 1931 stratified in the same pattern as were the percentages of farmer-owned deposits calculated from the data made available by respondent banks in the 1931 survey.

The adjustment just described was more easily accomplished for the national deposit total of the insured commercial banks as distributed in nine town-size groups, than for the separate State and regional totals. For the Nation-wide total the ratio used in adjusting the 1934 strata of deposits upward to the 1931 volume was readily calculated from published figures (*12, table 75, p. 168*). An identical adjustment was impossible for State and regional totals because aggregate deposits of member banks were unavailable except on a national basis. However, State data were available for deposits of member banks in places under 15,000 population.[42] In the absence of data on a State basis for places of 15,000 or more population, adjustments for the large places were made on the basis of national figures. The error involved in applying a national ratio to each State is comparatively small, for it appears that only 11 percent of farmer-owned deposits in 1931 were in towns over 15,000 population.

A special adjustment for deposits in the State of California would have been desirable in view of the fact that deposits of branch banking systems, most common in California, were all reported at the site of the head office. Moreover, the principal branch banking institution appears not to have returned a schedule. Such an adjustment could not be undertaken because of lack of information.

Application of Farmer-Ownership Ratios to the Universe.—The next step was to apply the percentages of farmer-owned deposits, previously calculated from figures obtained in the 1931 survey of 4,400 banks, to the 1931 deposits of all commercial banks. Farmer-owned deposits were thus estimated for each of nine town-size groups. The estimates were made for three different geographic area arrangements: State, regional, and national. Three separate national figures thus were obtained: (1) From the direct national approach, (2) from the sum of the regional figures, and (3) from the sum of the State figures. The figures for individual States often were faulty because of inadequate samples. The national approach seemed to overweight nonagricultural areas. The regional approach appeared to provide the best

[42] These State data for small places prepared by the Federal Reserve Board are available in the Bureau of Agricultural Economics.

stratification of the sample. The State and regional approaches to a national estimate gave almost identical results whereas the national approach was about 6 percent lower.

Estimating Volume of Farmers' Deposits, 1923-44.—After basic information had been obtained for June 30, 1931 as to the volume of farmer-owned deposits, data for previous and subsequent periods from 1923 to 1944 were estimated from the fluctuations in an index of deposits of country banks (table 52). An index for total deposits of country banks (combined time and demand deposits) was prepared in the same manner as the Bureau's regularly issued index of "demand deposits of country banks."[43] A similar index was prepared for time deposits alone.

[43] The technique of constructing this index is described by Wall (*16, p. 9*). In the preparation of the index of total deposits a revision was made in the regularly issued series to provide better comparability between the series before and after 1936. Recently available information concerning interbank items permitted a recalculation of the index derived for a time from "gross demand deposits" by the exclusion of interbank items for the period 1936 through April 1943. Such items already had been excluded beginning with May 1943. Before 1935 the reported "net demand deposits" on which the index was based were nearly comparable to the current series with interbank items eliminated.

TABLE 52.—*Index numbers of deposits of country banks, 1923-44*[1]

(1924-29 = 100)

Year and month	Total deposits	Demand deposits	Time deposits	Year and month	Total deposits	Demand deposits	Time deposits
1923:				1926:			
January	---	---	---	January	102.3	104.1	98.8
February	---	---	---	February	102.6	105.0	99.2
March	---	---	---	March	101.9	104.0	99.6
April	92.5	98.7	85.2	April	100.8	102.0	99.7
May	92.7	98.6	85.9	May	100.2	101.2	99.8
June	92.8	97.0	88.0	June	99.5	100.1	99.6
July	92.1	95.1	88.7	July	99.9	100.1	100.2
August	92.5	95.3	89.1	August	99.6	99.5	100.3
September	94.4	98.7	88.9	September	100.8	101.5	100.1
October	95.7	99.3	89.0	October	101.0	102.3	99.1
November	96.1	99.2	89.0	November	99.8	100.2	98.9
December	95.8	99.4	88.1	December	98.8	99.0	97.2
Average	93.8	97.9	88.0	Average	100.6	101.6	99.4
1924:				1927:			
January	95.1	97.6	89.4	January	98.3	97.9	97.8
February	94.4	96.7	89.5	February	99.0	99.2	98.2
March	93.7	96.3	90.3	March	98.9	98.9	98.9
April	93.0	95.2	90.9	April	98.4	98.0	99.3
May	91.9	93.4	91.0	May	97.7	96.7	99.7
June	91.4	92.2	91.0	June	97.6	96.2	100.0
July	91.3	91.4	92.0	July	97.6	95.8	100.3
August	92.7	93.1	92.7	August	98.0	96.2	100.8
September	95.2	96.8	92.9	September	100.6	100.4	100.9
October	98.0	100.6	93.4	October	102.0	102.1	101.1
November	99.2	102.0	93.9	November	102.8	103.5	101.0
December	99.8	102.9	92.9	December	103.0	102.8	101.9
Average	94.6	96.5	91.7	Average	99.5	99.0	100.0
1925:				1928:			
January	100.0	102.3	95.0	January	103.2	102.4	102.9
February	101.1	103.9	96.2	February	103.6	102.2	104.2
March	100.2	103.3	96.6	March	103.3	102.6	104.6
April	99.5	101.1	97.6	April	102.4	101.2	104.6
May	98.6	99.7	97.9	May	102.4	101.0	105.2
June	98.3	98.9	98.2	June	101.5	99.4	105.4
July	98.3	98.3	99.0	July	102.1	99.7	105.9
August	99.3	99.9	99.2	August	101.9	99.4	106.0
September	102.0	103.8	99.8	September	102.6	100.6	105.8
October	103.0	105.5	99.1	October	105.5	104.4	106.9
November	102.7	104.9	98.9	November	106.1	105.0	106.9
December	102.5	104.6	98.1	December	104.8	102.9	106.0
Average	100.5	102.2	98.0	Average	103.3	101.7	105.4

TABLE 52.—*Index numbers of deposits of country banks, 1923-44*[1]*—Cont.*

(1924-29 = 100)

Year and month	Total deposits	Demand deposits	Time deposits	Year and month	Total deposits	Demand deposits	Time deposits
1929:				1934:			
January	105.5	102.8	109.0	January	57.8	56.5	61.1
February	104.5	102.2	107.0	February	60.5	60.4	62.6
March	103.6	101.4	106.6	March	61.8	62.2	63.8
April	102.6	100.3	106.9	April	61.9	62.8	63.9
May	101.1	98.3	106.2	May	62.7	63.7	64.6
June	100.0	96.8	105.8	June	62.9	63.9	64.6
July	100.4	97.4	105.5	July	64.1	65.5	65.4
August	100.2	97.2	107.2	August	64.9	67.1	65.4
September	101.0	98.7	105.3	September	66.5	69.7	65.7
October	101.1	99.2	104.7	October	67.9	72.0	65.8
November	99.9	97.4	103.7	November	69.4	73.9	66.6
December	98.2	95.1	102.1	December	69.9	74.5	66 6
Average	101.5	98.9	105.8	Average	64.2	66.0	64.7
1930:				1935:			
January	97.8	94.4	102.6	January	70.9	75.5	67.6
February	97.5	94.3	102.4	February	71.7	76.9	67.9
March	96.8	93.8	102.3	March	71.4	76.9	67.6
April	95.8	92.5	101.9	April	71.6	77.2	67.8
May	95.0	91.2	101.4	May	72.7	78.7	68.4
June	94.1	89.6	101.4	June	72.6	78.8	67.9
July	93.4	88.4	101.6	July	73.0	79.0	68.8
August	92.8	87.4	101.7	August	[2]	[2]	69.2
September	92.6	87.3	100.9	September	[2]	[2]	69.0
October	92.1	86.6	100.0	October	[2]	[2]	69.2
November	91.0	85.3	99.1	November	[2]	[2]	69.6
December	88.1	81.8	96.5	December	[2]	[2]	69.9
Average	93.9	89·4	101.0	Average	[3] 72.0	[3] 77.6	68.6
1931:				1936:			
January	86.7	80.5	95.0	January	79.1	87.4	71.6
February	86.3	80.5	94.4	February	79.3	87.6	72.2
March	86.0	80.8	93.7	March	79.4	88.0	72.3
April	86.1	81.2	93.4	April	79.7	88.7	72.5
May	84.7	79.5	92.8	May	79.9	88.9	72.4
June	83.3	77.3	92.3	June	80.8	90.3	73.4
July	83.1	76.6	93.1	July	84.0	95.3	74.3
August	81.0	74.0	91.3	August	84.9	96.9	75.0
September	79.1	72.2	89 3	September	86.1	98.8	75.1
October	76.2	69.5	86.2	October	87.4	100.6	75.5
November	73·8	67.2	83.1	November	88.7	102.1	76.0
December	71.1	64.7	79.7	December	89.0	102.5	76.0
Average	81.4	75.3	90.4	Average	83.2	93.9	73.9
1932:				1937:			
January	69.0	62.7	77.8	January	89.3	102.4	76.6
February	67.9	61.7	76.7	February	89.2	102.0	76.8
March	66.8	61.0	75.5	March	89.0	101.7	77.2
April	66.5	60.7	75.6	April	89.3	101.6	77.7
May	65.5	59.7	74.7	May	89.0	100.6	78.0
June	64.2	57.6	73.8	June	88.8	100.0	78.5
July	62.6	55.3	73.9	July	89.9	101.2	79.3
August	61.8	54.2	72.8	August	90.7	102.2	80.0
September	61.6	54.4	72.1	September	91.5	102.7	80.9
October	61.7	54.4	72.0	October	91.9	103.0	81.5
November	60.9	53.5	71.1	November	91.5	101.8	81.6
December	59.9	52.3	70.1	December	90.6	100.0	81.5
Average	64.0	57.3	73.8	Average	90.1	101.6	79.1
1933:				1938:			
January	58.7	51.1	69.4	January	90.7	99.9	81.7
February	57.3	49.7	67.6	February	90.2	99.2	81.7
March	[2]	[2]	[2]	March	89.4	98.1	81.8
April	47.2	42.4	55.2	April	88.5	96.9	81.2
May	48.1	43.9	55.2	May	88.0	96.2	81.4
June	49.2	45.6	55.6	June	87.7	95.6	81.5
July	51.0	47.7	57.4	July	88.2	96.3	81.5
August	51.4	48.0	58.4	August	88.4	97.1	81.5
September	52.0	48.9	58.7	September	89.3	98.6	81.8
October	53.6	51.0	58.9	October	90.7	100.8	81.7
November	54.6	52.6	58.9	November	92.0	102.6	82.0
December	55.5	53.9	58.8	December	92.1	103.0	81.8
Average	52.6	48.6	59.5	Average	89.6	98.7	81.6

TABLE 52.—*Index numbers of deposits of country banks, 1923-44*[1]—*Cont.*

(1924-29 = 100)

Year and month	Total deposits	Demand deposits	Time deposits	Year and month	Total deposits	Demand deposits	Time deposits
1939:				1942:			
January	93.1	104.3	82.4	January	129.5	161.8	93.6
February	92.6	103.6	82.4	February	129.6	163.2	92.4
March	92.6	103.7	82.4	March	129.6	164.0	91.9
April	93.1	104.2	83.4	April	130.5	165.0	92.0
May	92.7	103.4	84.3	May	131.0	165.9	92.0
June	93.0	103.8	83.6	June	132.9	169.1	92.4
July	93.4	104.2	84.0	July	136.6	175.2	93.3
August	93.6	104.7	84.0	August	141.7	183.9	94.1
September	95.4	107.6	84.1	September	147.7	194.2	95.0
October	96.8	109.7	84.2	October	156.1	208.0	95.6
November	97.8	111.1	84.7	November	164.2	221.0	96.8
December	98.0	111.8	84.4	December	170.7	232.6	96.7
Average	94.3	106.0	83.7	Average	141.7	183.7	93.8
1940:				1943:			
January	99.3	113.2	85.4	January	177.8	245.1	96.3
February	100.3	114.2	86.7	February	182.6	253.0	96.8
March	100.0	114.0	86.5	March	183.8	256.2	96.7
April	100.1	114.0	86.1	April	183.9	256.0	97.0
May	100.0	113.5	87.0	May	190.4	267.4	97.0
June	99.7	113.0	87.4	June	194.9	274.5	98.0
July	100.1	113.3	87.9	July	201.4	283.1	99.6
August	100.7	114.1	88.2	August	205.6	290.9	100.9
September	102.5	117.3	88.4	September	211.0	298.5	102.5
October	104.6	120.4	88.9	October	220.7	315.9	103.0
November	106.9	123.4	89.6	November	228.6	328.4	104.7
December	107.6	124.7	89.6	December	230.1	328.7	106.4
Average	101.8	116.3	87.6	Average	200.9	283.1	99.9
1941:				1944:			
January	109.2	126.9	90.2	January	232.3	330.0	109.0
February	110.1	128.1	91.0	February	----	----	----
March	110.2	128.5	91.2	March	----	----	----
April	111.6	130.8	91.8	April	----	----	----
May	112.5	131.6	94.4	May	----	----	----
June	112.4	132.4	92.2	June	----	----	----
July	114.2	135.5	92.7	July	----	----	----
August	115.9	138.5	93.1	August	----	----	----
September	119.6	144.9	93.6	September	----	----	----
October	122.9	150.1	94.3	October	----	----	----
November	125.8	154.4	94.8	November	----	----	----
December	128.0	158.3	94.5	December	----	----	----
Average	116.0	138.3	92.8	Average			

[1] Based upon data reported by member banks of the Federal Reserve System located in places of less than 15,000 population (1940 Census) for 20 leading agricultural States as follows: Ark., Ga., Ill., Ind., Iowa, Kans., Mich., Minn., Miss., Mo., Nebr., N. Y., N. C., N. Dak., Ohio, Okla., Pa., S. Dak., Tex., and Wis. Each deposit series is weighted, the deposits for each State having been given a weight equal to the proportion, in the base period, of that State's cash farm income to the total cash farm income of the group of States

[2] Data unavailable.

[3] Average of 7 months.

The distribution of total farmer-owned deposits into the demand and time categories was next undertaken. The assumption was made that time and demand deposits owned by farmers were equal at the time that demand and time deposits of country banks in 20 leading agricultural States were about equal—that is, the end of 1937.[44] Hence the estimated total of farmer-owned deposits was divided into two parts as of that time.

The next step was to apply separately to the appropriate series the time and demand indexes for deposits of country banks. Finally each year's total for time and demand deposits separately was then forced into balance with the previously ascertained aggregate. In this way data were obtained for the period 1923-44.

[44] Member banks in places of less than 15,000 adjusted to 1940 population basis.

A Final Adjustment.—A final adjustment remained to be accomplished. To the extent that the recently expanded war-loan deposits are located in banks in towns of less than 15,000, a bias is introduced in the index of demand deposits. In December 1943, about 10 percent of demand deposits of "country" member banks, minus interbank items, were United States Government deposits. Lesser percentages were applicable to earlier periods, the data being reported for member banks at each call date. The final adjustment consisted in making an allowance for the increase in apparent farmers' deposits caused by the effect of an increase in Government deposits in excess of the amount present at the time of the 1931 survey. On an adjusted basis, demand deposits became those set forth in table 23 of the body of this report.

Farmer Deposits Compared with Farm Income and Farm Population.—The sample survey in 1931 indicated that the five States of Ohio, Indiana, Illinois, Missouri, and Iowa comprising the central Corn Belt had nearly 27 percent of all farmer-owned bank deposits in the country as a whole (table 53). These States had about 23 percent of the cash farm income and 18 percent of the population at that time. Surprisingly, the North Atlantic region comprising New England, New York, New Jersey, and Pennsylvania stood next with 20.3 percent of farmer-owned deposits as compared with 13 percent of the cash farm income and 8 percent of the farm families of the Nation. In third place came the Lake States of Michigan, Wisconsin, and Minnesota.

On this regional basis, the relation of deposits to cash farm income is more obvious than the relation of deposits to population. However, there is a considerable correspondence between the proportion of deposits owned by farmers and the proportion of population living on farms. Indeed the application of the ratio that (1) the population living on farms is to the population living outside of cities of 15,000 or more to (2) the volume of bank deposits in towns of less than 15,000, gives results that are reasonably consistent with results obtained by more elaborate processes. Changing proportions of deposits owned by farmers are only partially reflected in this method.

EVALUATION OF THE PROCESSES

The methods described provide useful first approximations. The margin of error as of January 1, 1944 probably is within 500 million dollars. Obviously these methods cannot provide estimates with as high a degree of accuracy as current sampling surveys could provide. But the results are within the range of estimates of demand deposits owned by farmers made by the Board of Governors of the Federal Reserve System[45] and they indicate that the volume of farmer-owned demand deposits is considerably larger than those reported by the Securities and Exchange Commission.

An important limitation of the data derived from the processes described above lies in the initial human element. As no instructions were given with the distributed questionnaires, bankers presumably did not apply a uniform meaning to the term "farmer." Even had the term "farmer" been employed in a uniform fashion, bankers could not have rendered an estimate uniform in quality as to the source of their deposits. The entire procedure rests on the validity of the assumption that bankers know, or upon interrogation will

[45] The Federal Reserve System is undertaking additional surveys the results of which will provide a better basis for evaluating present estimates.

TABLE 53.—*Percentage distribution of farmer-owned deposits, 1931; of families on farms, 1930 and of cash farm income, 1931, by regions*

Item	United States	North Atlantic [1]	South Atlantic [2]	South Central [3]	Lake States [4]	Corn Belt [5]	Oklahoma-Texas	Great Plains [6]	Mountain [7]	Pacific [8]
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Farmer-owned deposits, 1931	100.0	20.3	9.3	8.9	14.5	26.6	5.7	7.2	3.0	[9] 4.5
Farm families, 1930	100.0	7.6	17.5	22.8	8.5	17.5	11.0	7.0	3.8	4.3
Cash farm incomes 1931	100.0	13.0	9.1	7.9	10.4	22.6	7.8	11.9	6.2	11.1

[1] North Atlantic includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
[2] South Atlantic includes Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.
[3] South Central includes Kentucky, Tennessee, Alabama, Mississippi, Arkansas, and Louisiana.
[4] Lake States include Michigan, Wisconsin, and Minnesota.
[5] Corn Belt includes Ohio, Indiana, Illinois, Missouri, and Iowa.
[6] Great Plains include North Dakota, South Dakota, Kansas, and Nebraska.
[7] Mountain includes Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
[8] Pacific States include Washington, Oregon, and California.
[9] The absence of an adequate sample from large branch banking institutions leaves the presumption that this percentage is too low.

inform themselves as to the approximate portion of deposits belonging to principal economic classes, including farmers as an economic class.

Another limitation is inherent in the structural change that has occurred in banking and farmer reliance on banks since 1931. In part, the index numbers used in this method correct the data for the structural changes.

The effect of any error in the estimates bankers may have made when stating the proportion of deposits owned by farmers is reduced by the tendency of farmer-owned deposits to concentrate in the smaller places. Officers of banks in small towns commonly maintain a personal acquaintance with each depositor. Such officers may be expected to know the approximate quantitative importance of farmer-owned deposits. It is the small places from which most responses were received. Table 54 shows that in 1931, 89 percent of all estimated farmer-owned deposits were located in towns of less than 15,000 population.

TABLE 54.—*Amount and percentage distribution, of farmer-owned deposits by population of towns in which banks were located, 1931*[1]

Population of towns	Amount	Distribution	Cumulated distribution
	1,000 dollars	*Percent*	*Percent*
Less than 1,000	802,415	32.1	32.1
1,000– 2,499	558,709	22.3	54.4
2,500– 4,999	404,009	16.1	70.5
5,000– 9,999	299,035	12.0	82.5
10,000– 14,999	152,458	6.1	88.6
15,000– 24,999	81,627	3.3	91.9
25,000– 49,999	85,857	3.4	95.3
50,000– 99,999	116,727	4.7	100.0
100,000 and over	[1]	[1]	
Total	2,500,837	100.0	-----

[1] Assumed to be negligible. The uncorrected figure was nearly 5 percent.

F.—Method of Estimating Purchases of United States Savings Bonds by Farmers

Series E bonds, July 1, 1941—January 1, 1944

No attempt has been made by Treasury officials to maintain records of bond sales by types of purchaser. However, it was possible to obtain from the Treasury a record of series E bond sales in each county from July 1, 1941 to date. The problem of estimating the volume of E bonds bought by farmers was to devise a method by which farmers' proportion of these sales in the 48 States and in the country as a whole might be estimated.

The method developed began with the selection of sample counties in which (a) farmers constituted more than 50 percent of the population, (b) there was no city as large as 15,000 population, and (c) population growth had not exceeded 2 percent between 1940 and 1943. This threefold screen was designed to produce a sample for which two assumptions would be reasonably valid. The first of these is that farmers' per capita purchases in these counties would be equal to the per capita purchases of nonfarmers. The second assumption is that the per capita purchases in such counties within a crop-reporting district, when averaged, would give a figure that was typical of farmer purchases throughout that crop-reporting district.

Granting these two assumptions with respect to series E bond sales in

sample counties, it was possible to estimate the volume of such bonds purchased by farmers throughout a crop-reporting district. This was done by applying the average per capita purchases of the combined sample counties to the 1940 farm population of the entire crop-reporting district. Having made the estimates for crop-reporting districts, summarization by States and for the country as a whole was a simple process.

For most States outside the North Atlantic section and the Pacific Coast, it was possible to adhere to the rule that not less than two counties should constitute the sample for each crop-reporting district. When at least two counties that would qualify as samples were not found in a district, two or more crop-reporting districts were combined if such combination provided at least two sample counties for the enlarged district, or the boundaries of the crop-reporting districts were somewhat altered in order to remove a sample county from a district with an excess of sample counties to one with a deficiency. In rare cases the bond sales in a contiguous sample county located in an adjoining State were used as a partial basis for estimating the bond purchases in a section of a State especially deficient in sample counties. This procedure was avoided where possible because of the error introduced by possible differences among the States in the energy with which the war-bond campaigns have been conducted among farmers.

Delaware, Maryland, and the North Atlantic States (Vermont excepted) constitute an area so industrialized or so unsuitable for farming that almost no counties could be found that conformed to the standard set for the sample. These States had to be treated separately and in such a way as seemed best under the individual circumstances of each State. Fortunately some of these States are small in area and contain relatively unimportant segments of the agriculture of the country. Inability to estimate closely the farmer purchases of savings bonds in these States would not seriously affect the estimate for the Nation. Others, like New York and Pennsylvania, are large and, although extensively industrialized, have retained an important agricultural position. Several Mountain and Pacific States presented similar problems.

A number of possible procedures appropriate for these special cases were weighed and tested. The possibility of modifying the sample screen in these industrialized States by using as sample counties those with farm populations of less than 50 percent, suggested itself. There is, of course, no magic line at 50 percent which makes counties having a farm population slightly higher than that acceptable samples, and counties with a smaller proportion of population, unacceptable. But when the farm population of a county falls below 50 percent there is increasing reason to suppose that the industrial and urban influence dominates and becomes increasingly influential as the proportion of this nonfarm element becomes greater. Inevitably urban income, attitudes, and bond-selling plans exercise the dominant influence and per capita sales in such counties will be strongly influenced by them.

Nevertheless in three States, California, New York, and Pennsylvania, it was decided to modify the general rule and to use sample counties with less than 50 percent farm population. To prevent excessive errors introduced by urban influence the sample was severely limited to a few counties which had a farm population nearest to the 50-percent minimum. It was believed that to increase the sample by adding counties with increasingly large urban population would be to add to the distortion caused by the city influence. Thus only five sample counties were selected in New York, five in California,

and six in Pennsylvania. Because of the very limited sample it seemed desirable to make allowance for possible differences in the economic power of farmers in the sample counties and in the rest of the State. The per capita bond purchases were therefore adjusted according to the relation of the average value of land and buildings per farm in the sample counties and in the respective areas of the State to which the bond-selling experience of the sample was to be applied.

In the case of New Jersey, the bond-sale experience of sample counties of crop-reporting districts in other States was used. These sample counties were located in districts selected because of similarity in type of farming, and their average per capita sales were adjusted for differences in economic power as evidenced by differences in the average value of land and buildings per farm of sample counties and of the crop-reporting districts to which the adjusted sales figures were to be applied. This procedure made possible the use of a per capita sales figure that seemed reasonable so far as sales are determined by economic status, but it opened the door to error arising from possible differences in the efforts put forth by bond-selling committees among farmers, and to other non-economic influences.

Elsewhere, somewhat similar modifications were made in parts of States that were deficient in sample counties. This happened particularly in the case of the Mountain States and in Maryland, where to get a plausible estimate, special types of adjustments seemed best suited to different parts of the same State.

In the North Atlantic group, Vermont alone has counties that meet the requirements of the sample. In the remaining States of that group industrialization has gone so far or other developments curtailing agriculture are so prevalent that it appeared unwise to attempt an estimate even on the basis of their least urbanized counties. Instead, the sales experience of Addison and Orange Counties, Vermont, was applied with appropriate adjustment to the differences in values per farm to the remaining New England States except Maine. Even in Maine, the Vermont experience was applied to two districts where the type of farming was similar to that in the sample counties of Vermont, whereas to the remaining district the bond-selling experience of a similar area in Michigan was applied.

Probably the greatest risk that the estimator runs in applying samples from areas outside the State is that the various States have not carried their bond-selling campaigns to farmers with equal vigor. In some States it may have appeared wiser to the war finance committees of State and county to press the campaign with particular energy in the industrial centers with a consequent neglect of farmers. In other States greater emphasis may have been laid on selling bonds to farmers. This is a factor which cannot be measured and for which allowance cannot as readily be made as, for instance, in cases in which differences in economic power exist. The risk of error from this source should be taken only when urbanization and other factors make it impossible to find a sample county which would reflect farmers' purchases in the State.

SERIES D, 1940; SERIES D AND E, JANUARY-JULY 1941

Estimation of the amount of series D bonds bought in 1940 and of series D and E bought in the first six months of 1941 constituted a special problem because data as to the sales of United States savings bonds in the earlier period are not available in the same form as later.

Series D bond sales for 1940 were obtained from the Treasury on a maturity value basis. The amount paid for them was calculated by the simple operation of reducing these figures by one-fourth. More serious was the fact that the sales records of D bonds in the first four months of 1941 were not available by States. This made necessary an apportionment of the national total for that period on the basis of the known State distribution of the national total of 1940. These adjustments produced figures that represent the amounts paid for series D bonds from January 1, 1940 to April 30, 1941 by States. To these State figures were added the amounts of E bonds sold in May and June 1941 that were reported by the Treasury on a State basis. A county break-down for the entire period January 1, 1940 to July 1, 1941 was not available so that the sampling method previously described and used to estimate farmer purchases after July 1, 1941 could not be applied to the earlier figures. Instead an assumption was made that the proportion of all D and E bonds bought by farmers during the 18 months preceding July 1, 1941 would be the same as the proportion bought by farmers in the 12-month period immediately following.

It was necessary to apply this technique to a relatively unimportant segment of the entire period covered by the estimate. The bond sales were not heavy until after Pearl Harbor.

SERIES F AND G BONDS

Estimation of F and G series bonds bought by farmers was complicated by the fact that a record of sales on a county basis was available for only a 3-month period. This precluded the use of the basic method by which series E bond purchases were estimated. Moreover that method would be unsatisfactory even if county data were available. Series F and G bonds are designed to provide facilities for the larger investors, and registration is not limited to individuals. It would be much harder to defend an assumption that in sample counties farmers bought that proportion of all such bonds sold to individuals which corresponded to the proportion of farmers in the total population, than is true of the more widely purchased E bonds.

Because of these special difficulties it seemed best to make an estimate based on the considered opinion of numerous individuals who were in a position to observe the relative amounts of E, F, and G bonds bought by farmers. In response to the question, "What percentage of all War Savings Bonds (E, F, and G series combined) purchased by farmers are E series?" 28 key bankers of the Fourth Federal Reserve District representing agricultural counties in Ohio, Kentucky, and West Virginia gave answers that averaged 90 percent. This is somewhat lower than estimates received from State and county chairman of war finance committees who have responded to inquiries on this subject. There is doubtless much variation in the extent of such purchases in different areas. It was believed that a reasonable estimate of F and G bonds bought by farmers would be based on the assumption that they constituted 8 percent of all United States savings bonds bought by farmers.

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