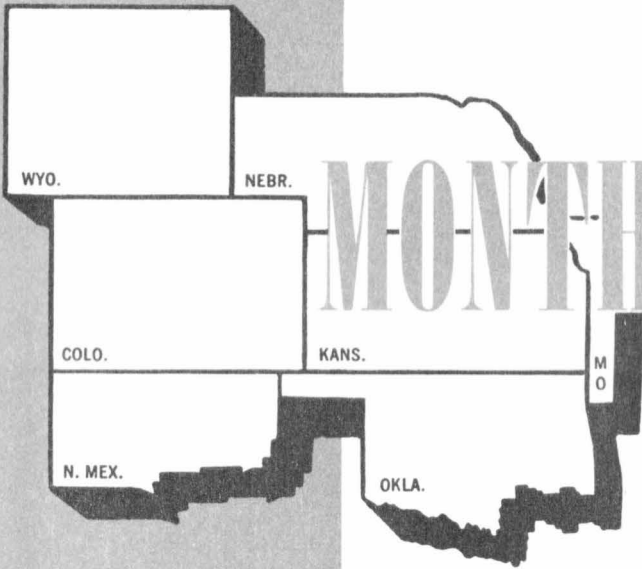


November 1960



MONTHLY REVIEW

In This Issue

- Financing of Federal Lending Agencies . . . page 3
- The Wheat Surplus Problem page 10
- Current Statistics page 16

FEDERAL RESERVE BANK
OF KANSAS CITY

Subscriptions to the MONTHLY REVIEW are available to the public without charge. Additional copies of any issue may be obtained from the Research Department, Federal Reserve Bank of Kansas City, Kansas City 6, Missouri. Permission is granted to reproduce any material in this publication.

Financing of Federal

Lending Agencies

THE FEDERAL GOVERNMENT has participated in various programs of lending to private sectors of the economy for 44 years. From relatively circumscribed beginnings in 1917, when lending was limited to long-term agricultural loans of the Federal Land Banks, the Government has extended its participation by supplying short- and intermediate-term credit as well as long-term credit and by channeling funds to business, private financial institutions, and housing as well as to agriculture.

Growth in the number and loan volume of the Federal and federally sponsored agencies administering these programs has brought about a variety of financing arrangements. A majority of currently active agencies finance their operations through the Treasury and are administered directly by the Government. Thus, their financing is an integral part of Treasury taxation and debt management policies and the general economic impacts of this financing cannot be analyzed independently of these policies. Within this group are the programs of the Small Business Administration, the Export-Import Bank, the Rural Electrification Administration, and various units of the Housing and Home Finance Agency, among others.

Some agencies, however, have obtained loanable funds from external sources other than the Treasury, such as from commercial banks and the capital market. Among this latter group are the federally sponsored lending agencies, including the Federal Home Loan Banks (FHLB's), the Federal Land Banks (FLB's), Federal Intermediate Credit

Banks (FICB's), and the Banks for Cooperatives. In addition, the Federal National Mortgage Association (FNMA) was authorized in November 1954 to issue nonguaranteed notes and debentures.

Taken together, these five agencies engage in borrowing operations on a scale which has become increasingly important in terms of the effect on the money and capital markets. In 1959, for example, the net demand on the capital market by these agencies amounted to a little more than \$2 billion. Thus, Federal and federally sponsored agencies have joined the Treasury, state and local governments, the business and consumer sectors of the economy, and the residential mortgage market as dominant sources of varying demands for credit. Since they are a factor in shaping general developments in financial markets, these agencies also tend to influence the cost and availability of funds to other credit users. For, while these agencies—as well as those financed through the Treasury—have provided credit to some borrowers whose needs might otherwise have been unsatisfied, they also have tended to absorb funds which would have been available to other borrowers. The resulting shift in the use of financial resources is, of course, one of the several objectives of the programs established to provide financial assistance to certain sectors of the economy.

Growth in Outstanding Nonguaranteed Securities

Outstanding marketable debt of the five Federal and federally sponsored lending agencies authorized to issue nonguaranteed

Changes in Outstanding Nonguaranteed Securities

In millions of dollars

	Mid-1954 to Mid-1957	Mid-1957 to Mid-1958	Mid-1958 to End of 1959
Total	+3,045	+410	+2,495
Banks for Cooperatives	+59	+20	+165
FICB	+199	+235	+197
FLB	+544	+95	+340
FHLB	+623	-282	+1,318
FNMA	+1,620	+342	+475

SOURCES: Individual agency reports and the *Treasury Bulletin*.

securities increased \$7 billion during the years 1946 through 1959. Nearly 85 per cent of this increase occurred during the 1955-59 period. While a substantial portion of the growth over this 5-year period can be traced to FNMA's entry into the capital market in 1955 and to its subsequent sales of marketable securities, borrowings of the other four agencies accelerated during this period and accounted for nearly 60 per cent of the 5-year increase.

The postwar growth in outstanding marketable securities of these agencies has responded to a long-term rise in financial requirements that reflects the growth in lending activities. Short-term fluctuations in financing needs have been superimposed on this longer-run growth trend with the result that agency demands in the money and capital markets have declined during years of economic recession, when falling business and consumer demands were tending to reduce the level of interest rates. In periods of expanding economic activity and increasing financial restraint, outstanding marketable debt of these agencies has risen.

This cyclical character of agency demands for funds is readily evident in the expansion of recent years, as shown in the accompanying table. Agency demands on the capital market totaled \$3,045 million from mid-1954 to mid-1957 and \$2,495 million from mid-1958 through the end of 1959—both periods of expanding economic activity. From mid-1957 to

mid-1958, when recession conditions prevailed, these demands were noticeably lower. A postwar record retirement of nonguaranteed securities of nearly \$500 million was registered in calendar 1958, but in 1959 alone, agency marketable indebtedness increased \$2,195 million.

Factors Affecting Nonguaranteed Security Offerings

As suggested, a chief factor affecting the volume of nonguaranteed security offerings over the 1946-59 period was the growth and fluctuation in outstanding loans. To a somewhat lesser extent, however, shifts between alternative means of satisfying agency financial needs also have affected the volume of their security sales. Due to the essentially different economic behavior of the various sectors, it is useful to distinguish between the agencies that lend to agricultural borrowers and the two that provide financial assistance to the housing industry.

Farm Credit Agencies.

Loans of the FLB's are comprised of long-term mortgage loans on farm properties to Federal land bank associations (formerly the "national farm loan associations"), which in turn extend credit to the farmer. The FICB's complement lending activities of the FLB's by providing short- and intermediate-term farm credit mainly through production credit associations. In addition, the FICB's lend to Banks for Cooperatives and to certain other financial institutions that extend credit to farmers, such as agricultural and livestock associations and state and national banks. The Banks for Cooperatives lend exclusively to eligible farmer cooperative associations. Through their commodity loans, operating capital loans, and facilities loans to these associations, they provide short-term and long-term credit—usually of less than 10 years' maturity—to facilitate the marketing of farm products.

Total loans of these three agencies increased \$2.9 billion over the 14-year period 1946 through 1959, and their outstanding marketable indebtedness rose \$2.8 billion. Government investment in these institutions was reduced over this period. The liquidation of Government ownership of the FLB's was completed in 1947 and its ownership of stock in the FICB's and Banks for Cooperatives gradually is being reduced. While the FICB's and the Banks for Cooperatives may obtain Treasury financing, funds available from this source have been used relatively sparingly. Investment in the stock of these agencies by the

affiliated associations is governed largely by formulas relating equity ownership to borrowings, but the upward trend in ownership capital that has accompanied the growth of the farm credit agencies has not affected materially the growth in marketable indebtedness.

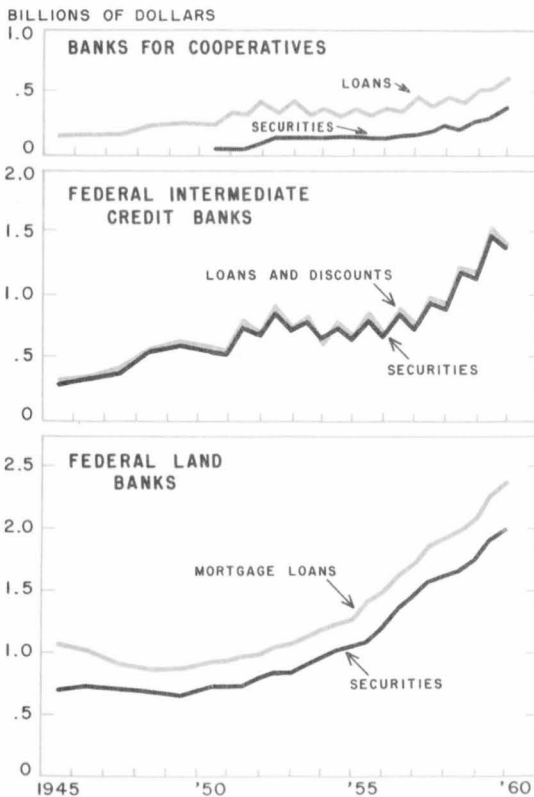
From the accompanying chart it may be noted that financial requirements of each of these three farm credit agencies have moved upward, almost without interruption, with the growth in outstanding loans. Loan demands on the Banks for Cooperatives and the FICB's weakened during the 1949-50 and 1953-54 recession periods and expanded during periods of generally rising economic activity. However, the \$252 million increase in combined loans of these institutions from mid-1957 to mid-1958 forcefully demonstrates that agricultural conditions and loan demands on these agencies do not necessarily parallel general economic developments. Moreover, the 1949-50 decline in FICB loans resulted primarily from repayments of borrowings by the Banks for Cooperatives when this agency made its first public offering of securities.

Of the two agencies whose loan growth has been interrupted by seasonal and other short-run fluctuations, only the FICB's have responded by retiring outstanding nonguaranteed securities. Banks for Cooperatives have met seasonal and other declines in loan demands by altering the volume of borrowings from FICB's and commercial banks. With the reduction in loans during the 1949-50 and 1953-54 periods, the FICB's retired outstanding debentures, and contributed thereby to the decline in nonguaranteed debt held by private investors in 3 of the 4 postwar years in which the total was reduced.

FNMA and FHLB.

In contrast with the farm credit agencies, demands on the capital market by the FNMA and FHLB's have not always paralleled closely the lending activities of these institutions. Nevertheless, FNMA purchases and sales of

Outstanding Loans and Nonguaranteed Securities



NOTE: Data are for end of fiscal years through mid-1950; semi-annual data thereafter.

SOURCES: Reports of the farm credit agencies and the Farm Credit Administration.

federally guaranteed mortgages and advances to members of the Federal Home Loan Bank System have been major factors affecting the volume of demands of these institutions on the capital market. Credit extended by these agencies has been geared to residential housing activity and to mortgage market developments, but the timing of their demands on the capital market relative to general financial developments has reflected to some degree the essentially different character of their lending programs.

Advances by the FHLB's are designed to aid members—primarily savings and loan associations—in meeting heavy withdrawal demands and seasonal needs for mortgage funds. The mortgage market activities of the FNMA, on the other hand, have been administered under three separate programs. One of these involves the management and liquidation of mortgages acquired by the FNMA prior to its reorganization in late 1954 and of mortgages formerly held by other Government agencies. Secondly, at the time of the reorganization, the “secondary market function” was established as a separate operation designed to enhance the liquidity of guaranteed mortgages through buying and selling operations. A third function, the “special assistance function,” operates under the direction of Congress and the President and was established to finance mortgages arising out of special Government housing programs and to buy home mortgages generally, “as a means of retarding or stopping a decline in mortgage lending and home building activities which threatens materially the stability of a high level national economy,” as stated in FNMA semiannual reports.

This last program is financed through congressional appropriation. Thus, the growth in volume of special assistance mortgages held by the FNMA over the period since its reorganization, and especially during 1959, has widened the margin between total mortgage

holdings and the outstanding volume of FNMA notes and debentures. Additionally, mortgages held under the management and liquidation function have been partly Treasury financed and partly financed by private holders of nonguaranteed notes. Shifts in the proportion of Treasury and privately financed mortgages under this phase of the FNMA's operations have provided a convenient tool for debt management, but have led to changes in outstanding FNMA debt not commensurate with over-all movements in mortgage holdings. A sale of management and liquidation notes in 1957, for example, aided the Treasury with its debt management problems when debt was pressing against the Federal ceiling. Also, the Treasury implemented its debt management policies in August 1960 by retiring outstanding FNMA notes at maturity.

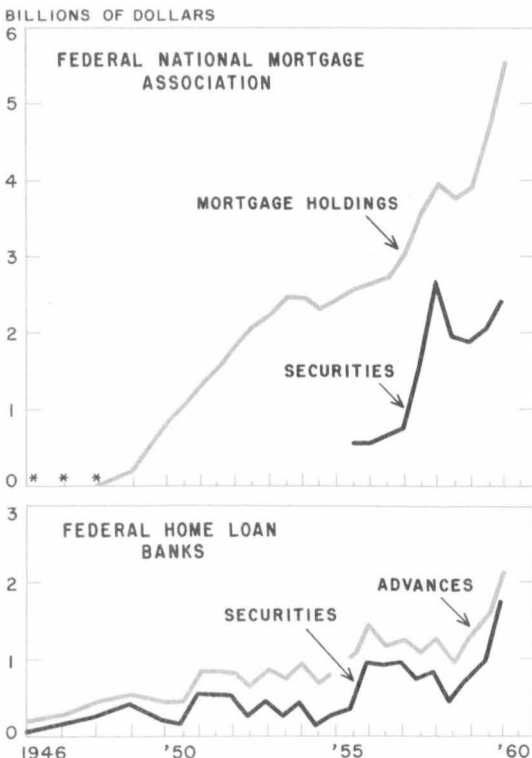
Sales of nonguaranteed debentures have provided the principal source of loanable funds for secondary market operations and this largely explains the parallel direction of movement between total mortgage holdings and securities outstanding shown in the accompanying chart. Interim financing of this function by the Treasury attained a level in excess of \$350 million at the end of 1956 when mortgage acquisitions were increasing sharply. More typically, however, notes payable to the Treasury have ranged from \$40 million to \$100 million on semiannual statement dates. Private investment in secondary market common stock, generated by the requirement that those selling mortgages to FNMA under this function acquire an equity interest, has risen gradually, reaching \$51.5 million at the end of 1959. This investment and a \$50 million increase in Government-owned preferred stock in 1957 were the only other sources of funds over the 1955-59 period when the FNMA was an active borrower in the capital market.

The sharp rise in FNMA demands on the capital market witnessed during periods of

increasing financial restraint stems from shifts in investor preferences in such periods. FNMA debentures outstanding rose by \$1.3 billion during 1956 and 1957, as rising interest rates on marketable securities, business loans, and conventional mortgages induced mortgage holders to sell guaranteed mortgages to the FNMA and to seek more rewarding outlets for funds. In 1958, as mortgages became more attractive to investors, secondary market debenture retirements totaled \$215 million. Mortgage-market operations were quickly reversed in late 1958 and marketable debt rose \$540 million in 1959.

Unlike the publicly held FNMA securities,

Outstanding Credit and Nonguaranteed Securities



*Negligible.
 NOTE: End of calendar year data through 1949; semiannual data thereafter.
 SOURCES: Federal Reserve Bulletin and Treasury Bulletin.

which have tended to expand most sharply when housing activity was being subjected to increasing financial restraint due to the reduced availability of credit from private sources, FHLB borrowings have surged in the 3 peak years of residential construction activity. As member institutions turned to FHLB's for funds to supply rising demands for mortgage funds, outstanding debt of the FHLB's rose by \$355 million, \$702 million, and \$1,060 million, respectively, in 1950, 1955, and 1959.

The parallel between advances and outstanding nonguaranteed marketable securities in these and other postwar years, however, has been affected by changing availabilities of funds from other sources—such as stock acquisitions and deposits of member institutions. Fluctuations in the volume of funds supplied from these sources have influenced the volume of FHLB borrowings, so that when advances increased only moderately, as from 1952 through mid-1954, or declined, as from the end of 1955 through mid-1958, the ratio of marketable debt outstanding to advances has fallen.

A growing membership in the FHLB System, coupled with the requirement that paid-in subscriptions to FHLB stock must equal at least 2 per cent of member mortgage holdings or no less than \$500, has brought about a steady rise in equity capital. On the other hand, member deposits, while moving upward over most of the postwar period, have declined in peak periods of housing activity as mortgage loan demands outpaced new share capital at savings and loan associations and induced members to economize holdings of liquid reserves.

Thus, when advances have risen sharply and member deposits have declined, growth in FHLB borrowings has surpassed the growth in advances. But, when this growth has moderated or when advances have declined, FHLB securities have been retired.

In conclusion, it is evident that the outstanding securities of the two agencies whose borrowings are connected with mortgage market developments comprise the more volatile part of the nonguaranteed marketable debt offerings by Federal and federally sponsored agencies. Demands on the capital market by these two agencies have been primarily responsible for the cyclical behavior of nonguaranteed securities outstanding, particularly over the 1955-59 period.

Impacts on Financial Markets

Clearly, the volume of agency demands on the capital market comprises but a single dimension of the relationship between these demands and general financial developments. The effects of agency borrowing operations can be more fully delineated by examining the market for nonguaranteed securities.

The outstanding postwar development in this market is the reduction in the proportion of outstanding nonguaranteed agency securities held by commercial banks and the rise in the proportions held by nonfinancial corporations and especially by individuals, including nonprofit institutions. Over this period, a cyclical response by these classes of investors has developed with the more flexible interest rates that have characterized most of the past decade and particularly the years since 1954.

Specifically, it should be noted that individuals increased their ownership of these issues \$1.6 billion over the 1955-57 period, but these holdings declined \$300 million in 1958, when until midyear interest rates were lower than were typical in the preceding period. In 1959, holdings of this class of investor surged upward \$1.5 billion. Commercial bank holdings, on the other hand, increased \$100 million in 1958, and judging by data on the sample of commercial banks in the Treasury Survey of Ownership, this increase came early in 1958 when banks were well supplied with reserves. During 1959, however, as reserve pressures

intensified and loan demands expanded, commercial banks included in this survey liquidated more than \$400 million of agency issues. Nonfinancial corporations increased their ownership of these securities by \$700 million in the 1955-57 period, but liquidated \$200 million of their holdings in 1958. Corporate investment in nonguaranteed issues during the former period contrasts with their liquidations of guaranteed Government securities and suggests that corporations may have responded to the interest rate premium on the former securities and substituted holdings of these for ownership of Treasury issues.

Data currently available do not permit quantification of the change in agency security holdings of nonfinancial corporations during 1959. A rise in the ownership of agency issues by a miscellaneous group of investors—a group which excludes Government trust accounts and commercial banks, insurance companies, mutual savings banks, and savings and loan associations included in the Treasury's sample survey—amounted to \$2.4 billion in 1959. The increase in holdings of individuals and nonprofit institutions accounted for all but \$900 million of this advance, but there is reason to believe that a substantial part of this balance represents corporate acquisitions.

The interest that consumers and nonprofit institutions have displayed in these securities when yields on marketable instruments have advanced sharply, as in the 1955-57 period and in 1959, parallels their growing interest in marketable securities generally during such periods, when yields on these investments have advanced relative to those on time deposits, savings bonds, and savings and loan association shares. This market has dwindled, however, as yields on securities have declined.

That corporations might find agency securities attractive when their volume of business and liquid asset holdings have risen, as in 1959, is not surprising in view of the short-term maturities of the majority of the out-

standing nonguaranteed issues. Except for four issues carrying maturities of 1 to 3 years sold prior to 1955, the Banks for Cooperatives have restricted their offerings to maturities of 1 year or less during the postwar period. FHLB issues have carried maturities of 1 year or less with the single exception of a 5-year bond marketed in April 1958, and debentures of FICB's have been issued for periods of 1 to 9 months.

While the maturities of FNMA security offerings have ranged from a few months to 10 years, the attractiveness of these securities to nonfinancial corporations has been enhanced by offerings of short-term maturities when corporate demands were rising. The appeal of FLB securities to nonfinancial corporations undoubtedly has been more limited with maturities running from a few months to 16 years and with average maturities ranging from 72 months on June 30, 1946, to a low of about 25 months on June 30, 1954. The FLB's have attempted to attract primarily long-term

investors and have not altered their maturities particularly in response to changing market conditions. The average maturity of FLB bonds rose from the mid-1954 low to about 42 months at mid-1957. Lengthening continued over the fiscal year ending at mid-1958 and the average maturity of outstandings declined only moderately in the subsequent fiscal year.

Nevertheless, the available supply of short-term nonguaranteed securities has risen during periods of increasing financial restraints. In terms of the maturity structure of yields on marketable securities, the rising volume of agency issues that has been observed in past periods of increasing financial restraints has had its initial impact on short-term rates. As financial conditions have eased, reduced agency demands on the capital market have reinforced other market influences in reducing rates generally, but, to the extent that agencies have extended the maturities of offerings at such times, downward pressures on long-term rates have been restrained.



The Wheat Surplus Problem

WHEAT PRODUCTION in the Nation has generally exceeded the amount needed for domestic uses and exports since the end of World War II. Total supplies reached a new high of 2,682 million bushels on July 1, 1960, according to a recent estimate by the U. S. Department of Agriculture. Supplies have risen in 8 of the past 10 years, and they now stand 84 per cent above the 1950 level and 144 per cent above the 1940 level. Currently, stocks are more than double the estimated total requirements for the coming year, and they are more than four times the predicted total domestic use for 1960-61.

The estimated carryover of 1,313 million bushels on July 1 also was a new high. It was only slightly greater than for a year earlier, but it is significantly smaller than the 1,548 million bushels predicted for next July 1. The carryover has tripled in size since 1950. Compared with domestic food consumption, carryovers averaged a 6-month supply in the 1930's, an 8-month supply during the 1940's, and a 19-month supply during the 1950's. The carryover on July 1, 1960, was equivalent to a 33-month supply. The bulk of the carryover stocks has been held by the Commodity Credit Corporation in recent years.

The increases in carryover have been almost entirely in hard red winter wheat. More than three fourths of the carryover at the beginning of this marketing year and all of the predicted increase for the next year is expected to be in that class of wheat. This has special significance for the Tenth Federal Re-

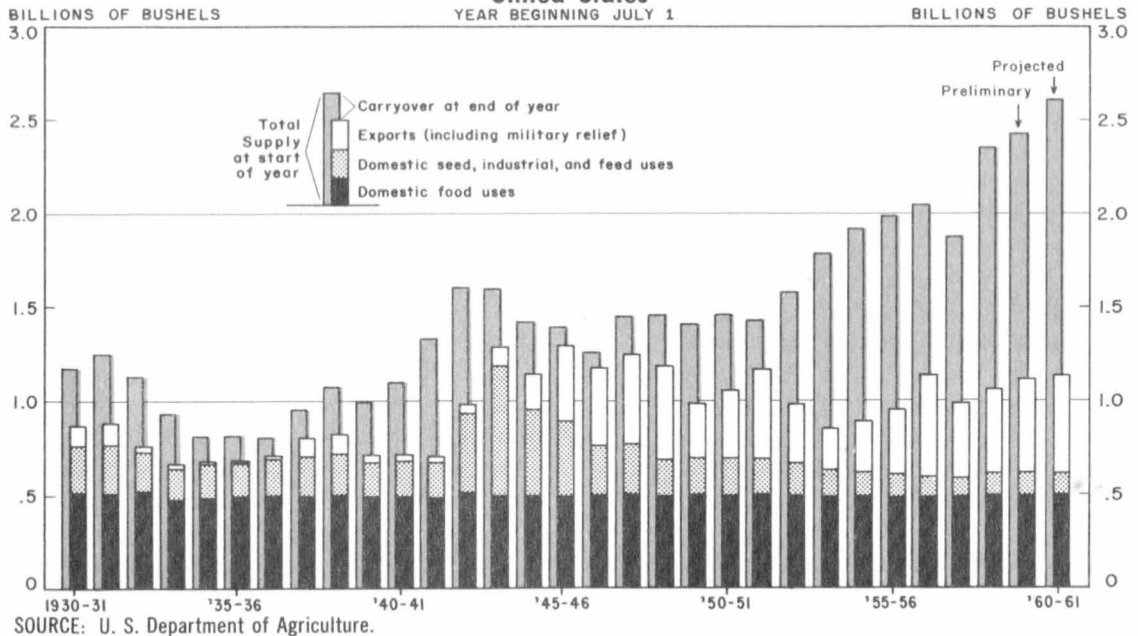
serve District because most of the wheat grown in the District is of the hard red winter type. Furthermore, wheat is a leading source of crop income in each of the District states. Wheat ranked first as a source of cash income from crops for Colorado, Kansas, Nebraska, Oklahoma, and Wyoming in 1958, and again in 1959 for all of these states except Nebraska, where it was slightly exceeded by corn.

The wheat surplus problem is difficult because stocks have continued to grow despite efforts to reduce production through acreage controls; to encourage domestic consumption through sales promotion and research to find new uses for wheat; and to stimulate exports through the use of subsidies, sales for "soft" local currencies, sales on credit, and foreign relief programs. It is apparent that these efforts have not resulted in a completely satisfactory solution to the wheat problem. The purpose of this article is to explore the major factors contributing to the imbalance of wheat supplies and to examine some of the potential means for balancing utilization and production.

Factors Involved in the Wheat Surplus

Utilization. Wheat use has been relatively more stable than production and stocks. The chart on wheat supply and distribution shows that domestic food consumption of wheat has been remarkably stable for several decades. On the other hand, the use of wheat for seed has declined slightly and industrial use never reached significant proportions except during

Wheat Supply and Distribution United States



World War II when wheat used for the production of industrial alcohol was heavily subsidized. The use of wheat for livestock feed has shown a general downward trend since 1930 except for the war years. Wheat can be produced competitively with feed grains in some areas. However, support prices generally preclude the use of wheat for feed unless it is of relatively poor quality.

Prospects for increasing domestic consumption of wheat do not appear bright at the present time. Per capita consumption of wheat has been declining at about the same rate as population has been increasing. In the past, the use of cereals in American diets has declined as incomes have increased. Whether this trend will continue is a moot question. Barring a revolution in dietary habits and preferences, however, it is doubtful that it will be reversed. Various industrial uses for wheat have been developed. However, a significant expansion in industrial use is not

likely to occur unless prices are substantially lower. Many products that can be made from wheat, such as industrial alcohol, can be made from other materials more cheaply. Feed uses might be expanded more easily except for the plentiful supply of feed grains. Also, in many areas, feed grains can be produced more cheaply than wheat in terms of cost per unit of digestible nutrients.

Wheat exports have been increased several fold since World War II. Following the war, large quantities were shipped abroad under the Marshall Plan and various relief programs to feed peoples whose food-producing capacities had been disrupted during the conflict. A second upsurge in exports accompanied the Korean War. More recently, exports have been stimulated by the Agricultural Trade Development and Assistance Act of 1954, known as Public Law 480. These programs have helped maintain wheat exports at high levels despite the fact that domestic prices have

been supported higher than world prices.

Prospects for wheat exports in the next few years are difficult to evaluate because they rest so heavily upon Government agricultural and foreign policies. Exports probably would decline to negligible proportions if wheat shipments under foreign relief and export subsidy programs (such as Public Law 480 and the International Wheat Agreement) were suspended while domestic prices were supported above world prices.

Many efforts to increase exports through greater subsidies, loans, gifts, or other means which may tend to displace regular commercial sales have been, and probably will continue to be, opposed by other exporting countries. Several other countries, such as Canada, Australia, and Argentina, depend heavily upon commercial exports of wheat for foreign exchange. Canada, for example, has a wheat carryover which—relative to its annual production, national income, and total exports—is proportionately larger than the U. S. carryover. Other wheat-exporting countries tend to be seriously concerned about subsidized U. S. exports, since they feel such sales may displace some of their commercial sales. Conse-

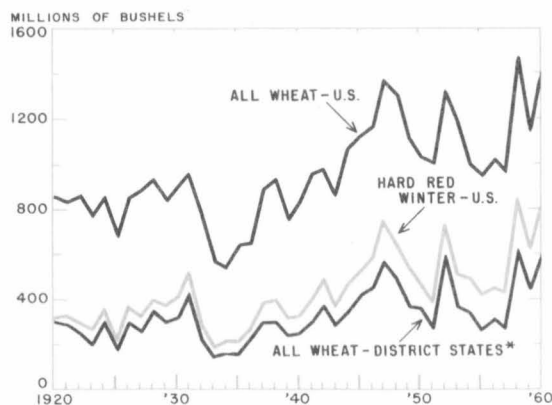
quently, it has been the announced policy of the United States to avoid such interference as much as possible in its efforts to increase the foreign disposal of wheat. Wheat is being disposed of on an experimental basis in the economic development programs of some underdeveloped countries. This method of disposal seems to offer a means for using surpluses constructively without interfering with normal commercial trade. However, it is not known how much can be absorbed in this way or what returns ultimately may be received from such uses.

Production. Wheat production in the United States has shown a strong upward trend, particularly since 1934. Compared by decades, with the 1920's as the base, production declined 16 per cent for the 1930's, but was up 29 per cent for the 1940's, and 33 per cent for the 1950's. The greatest surge in production followed the removal of acreage controls in 1942. Since 1947, production has fluctuated widely.

The changes in total wheat production have been caused largely by changes in hard red winter wheat output. Changes in the production of the other classes have been largely offsetting. Since the 1920's, production of soft red winter wheat has declined, while that of white wheat has increased about the same amount. Hard spring wheat production has remained about the same. The increase in hard red winter wheat production from the 1920's to the 1950's accounted for 76 per cent of the increase in total wheat production for that period.

The changes in hard red winter wheat production, in turn, may be accounted for largely by changes in wheat production in Tenth District states. All of the hard red winter wheat states, except Texas, are located wholly or partly in the District. Also, all of the District states, except Missouri, produce largely hard red winter wheat. Disregarding state boundaries, the Tenth District encompasses all of the

Wheat Production, 1920-60

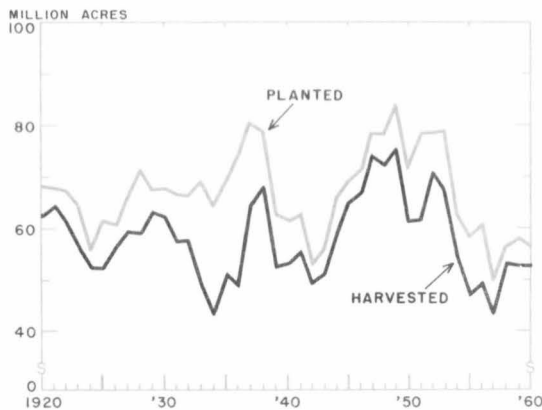


*Missouri was omitted because only a small portion of that state is in the Tenth District.

SOURCE: U. S. Department of Agriculture.

Wheat Planted and Harvested, 1920-60

United States



SOURCE: U. S. Department of Agriculture.

hard red winter wheat belt, except northwest Texas, southcentral South Dakota, and part of Montana. District production was expanded greatly during the 1940's, but it averaged the same for the 1950's as it did for the 1940's.

Wheat Planted and Harvested. Wheat acreages generally have shown an upward trend except during periods of acreage controls. Both planted and harvested acreages have fluctuated widely. However, as would be expected, harvested acreage has varied more with changing weather conditions than has planted acreage.

Wheat plantings increased during World War I, in the mid-1920's, in the mid-1930's, and during and immediately following World War II. Each of these periods was characterized by relatively favorable wheat prices. Large areas of grass land in the western Great Plains were plowed up and planted to wheat during these periods. In the central Great Plains (Colorado, Kansas, Nebraska, and Wyoming), land planted to wheat increased 6.4 million acres or 34 per cent from 1944 to 1949. Wheat plantings in the northern Great Plains increased 3.6 million acres from 1944 to 1949, while plantings in the southern Great

Plains declined 500,000 acres in that period. However, both the northern and southern areas had shown increases in the preceding 5 years—1939 to 1944—while the central area showed a decline. For the 20-year period 1929 to 1949, acres planted increased 2.2 million in the northern area, 5.7 million in the central area, and 1.8 million in the southern area—a total of 9.7 million acres for the entire Great Plains.

Acreage allotments were in effect for 1938 through 1942, for 1950, and for 1954 through 1960. Both of the prolonged periods of controls resulted in very significant reductions in acreages. Acres planted dropped below 50 million in 1957 for the first time since before 1919. The last time that planted acreage declined significantly in the absence of controls was during the early 1920's.

Planted and harvested acreages generally move together. The difference between the two—the abandoned acreage—is smaller during periods of favorable weather conditions and larger during periods of unfavorable conditions.

Yields. Wheat yields have shown a general upward trend since the dry early 1930's. The big surges in yields have occurred during the period of acreage controls. Conversely, yields have increased very little during periods of acreage expansion.

As would be expected, yields and abandoned wheat acreage have usually moved in opposite directions. Both are influenced strongly by natural factors such as precipitation, insects, and diseases. Lack of moisture reduced yields and increased acreage abandonment in the Great Plains during the early 1930's and in parts of the hard red winter wheat area during some years in the late 1940's and early 1950's. Rust and insect infestations have been factors causing reduced yields at times.

The general upward trend in yields reflects to a large extent the use of improved wheat

varieties and cultural practices. Rust resistant varieties have been particularly helpful in increasing yields in the northern Great Plains. The widespread use of combines has resulted in smaller harvest season losses because the harvest period has been reduced. Greater mechanization has helped also in seedbed preparation and drilling. These faster operations enable producers to avoid periods of bad weather more easily. The use of fertilizer, irrigation, fallowing, and deep plowing are other important factors contributing to improved yields.

Several reasons can be cited to explain why yields have increased during periods of acreage control. For one thing, farmers tend to retire their poorest producing land and keep the best in production. Guaranteed support prices, which are announced well before planting dates, tend to encourage better cultural practices. Also, when farmers are restricted in the acreage they can plant, they tend to apply more resources such as fertilizer.

Yields have decreased during periods of acreage expansion primarily because poorer land has been brought into production. This includes both marginal crop and grass land

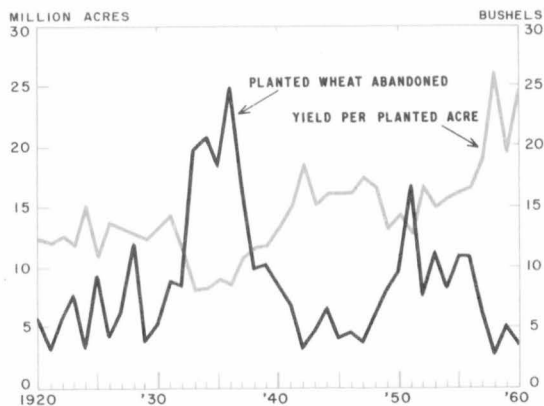
in wheat-producing areas and the expansion of wheat production into grazing areas that are not so well adapted to wheat production. In addition, the opposite of the previously described situation occurs with respect to cultural practices. Farmers tend to spread their time and capital over more acres and the result, other things being equal, is lower yields even though total production may increase.

Potential Adjustments in Wheat Production

Since the mid-1920's, numerous efforts have been made to improve farm incomes through Government programs. Wheat producers have been involved in or affected by most of these programs. One of the most direct efforts to improve farm incomes has been through price supports. As one of the so-called basic commodities, wheat has been supported continuously since 1938. Price supports have been effected chiefly through nonrecourse commodity loans and purchase agreements. The Commodity Credit Corporation has accumulated large stocks of wheat, amounting to about 1.2 billion bushels on July 1, 1960. As a result of these mounting stocks, the Government has attempted to balance production and utilization through programs which would not adversely affect the incomes of wheat producers. Among these programs have been several directed toward reducing wheat production—the adjustment of production to the level of utilization. At the national level, wheat supply adjustment involves balancing production and utilization, while at the farm level, it entails the shifting of resources from wheat to the best alternatives so that farm income can be maintained. Thus, the adjustment problem is divided into two separate but related parts—controlling production, and shifting the resources freed thereby into the best alternative uses.

Production controls. A number of efforts have been made to control wheat production through both voluntary and mandatory pro-

Planted Wheat Abandoned
And Yield Per Planted Acre, 1920-60
United States



SOURCE: U. S. Department of Agriculture.

grams. The Federal Farm Board was established in 1929 to help farmers by stabilizing prices through Government purchases of surpluses. Efforts were made to encourage voluntary reduction of production through marketing associations. However, the Farm Board had no authority to regulate production and it concluded that it was not feasible to support the price of wheat above world prices over a period of time unless production could be controlled. The Agricultural Adjustment Act of 1933 provided for voluntary restriction of production through a system of benefit payments to producers. The Act ended in 1936 after a part of it was ruled unconstitutional by the Supreme Court. Wheat stocks declined and prices increased while the legislation was in effect. However, a combination of factors were involved, including a major drought.

Wheat acreage allotments and marketing quotas were provided for by the Agricultural Adjustment Act of 1938 and, as indicated earlier, have been in effect intermittently since that time. These controls have not been successful in reducing production in either of the periods in which they were in effect more than 1 year. Acres planted declined 34 per cent from 1937 to 1942 in response to acreage controls. Meanwhile, yields per planted acre increased 69 per cent. The result was an increase of 11 per cent in production. In the more recent period of controls, acres planted were reduced 28 per cent from 1953 to 1960, yields were up 62 per cent, and production rose by nearly 17 per cent.

Production controls could be effective if applied strictly enough. In recent years, the legal minimum to which acreage could be restricted has been 55 million. This acreage has been allotted among producers in the commercial wheat states. Marketing quotas have been calculated by applying normal or actual yields, whichever was larger, to the acreage allotment. They have been used primarily as a means for enforcing the acreage restrictions.

Such controls constitute a relatively unreliable means of production control. Given sufficient incentive by way of price supports, farmers can and do increase yields by applying more capital and effort per given unit of land. Experience with the various crops has indicated that farmers tend to overproduce in response to favorable support prices unless relatively high penalties are imposed.

Alternatives to wheat production. The most profitable alternatives to wheat production differ by location. Over most of the soft winter wheat states there are many alternative crop possibilities. While the alternatives may lack the multipurpose aspects of wheat (the same planting of wheat may serve as a winter cover crop, winter pasture, and a grain crop) many of them can be produced advantageously. In the hard winter and spring wheat states—roughly the same area as the Great Plains—there are fewer alternatives to wheat production. Studies made of the uses of land diverted from wheat show considerable variations in the Great Plains area. In western Kansas in 1955, nearly two thirds of the diverted acres went into grain sorghum and corn and one fourth was fallow or idle. In an area in North Dakota, two fifths went to barley and other grains, while one third went to flax. And, in northern Montana, nearly seven eighths of the acres diverted from wheat went into barley and small grains.

Alternatives in Tenth District states vary widely. In eastern Kansas and Nebraska, corn and other small grains offer alternative possibilities to wheat production. Further west, grain sorghums are better adapted to the drier climate. At the extreme western edge of the Wheat Belt, a grass-livestock program may offer the best alternative to wheat. Probably none of these alternatives are as profitable as wheat at present price-cost relationships. On typical wheat farms in western Kansas in 1955, the net returns per acre from grain sorghums were 68 per cent of the net returns

from wheat, while barley returned 36 per cent. Comparable figures are not available for the grass-livestock alternative, but farm budgets for selected farms indicate that it may compare very favorably with wheat once it is well established. The comparison depends, of course, upon the area, individual farm, farm operator, and price relationships. The grass-livestock alternative suffers two disadvantages—the long period of time required to establish a good stand of grass, and the high capital requirements for livestock.

Concluding Remarks

Wheat supplies have continued to grow despite various Government programs to increase utilization and decrease production. The carryover on July 1, 1960, was sufficient to supply estimated domestic food uses for 33 months with no further production. The carry-

over in 1961 is expected to be even larger. Exports have been increased considerably under various foreign assistance and export-subsidy programs.

Wheat production has increased despite acreage controls and marketing quotas. Yields have been increased through improved varieties, more fertilizer, irrigation, and better cultural practices. Under present price support conditions, the price-cost relationships between wheat and various alternatives are such that many farmers find wheat production their most profitable alternative. Furthermore, prospects for increased utilization, either domestic or foreign, do not appear bright at present price levels. Therefore, if price supports are maintained at present levels, stricter controls appear to be the most likely alternative for bringing wheat production into balance with utilization.

BANKING IN THE TENTH DISTRICT

District and States	Loans				Deposits			
	Reserve City Member Banks		Country Member Banks		Reserve City Member Banks		Country Member Banks	
	September 1960 Percentage Change From							
	Aug. 1960	Sept. 1959	Aug. 1960	Sept. 1959	Aug. 1960	Sept. 1959	Aug. 1960	Sept. 1959
Tenth F. R. Dist.	† +3	† +12	+1	†	†	†	+2	
Colorado	+1	+8	† +14	+1	+1	+1	+3	
Kansas	-6	-2	-1 +18	-3	-2	-1	+5	
Missouri*	+2	+6	† +7	+2	+1	+3	-1	
Nebraska	†	-5	+2 +10	†	-2	†	†	
New Mexico*	**	**	-3 +7	**	**	-1	-1	
Oklahoma*	-1	+3	† +13	+4	+1	†	+2	
Wyoming	**	**	† +9	**	**	+1	+2	

PRICE INDEXES, UNITED STATES

Index	Sept. 1960	Aug. 1960	Sept. 1959
Consumer Price Index (1947-49=100)	126.8	126.6	125.2
Wholesale Price Index (1947-49=100)	119.2	119.2	119.7
Prices Rec'd by Farmers (1910-14=100)	237	234	240 r
Prices Paid by Farmers (1910-14=100)	298	298	296 r

r Revised.

TENTH DISTRICT BUSINESS INDICATORS

District and Principal Metropolitan Areas	Value of Check Payments		Value of Department Store Sales	
	Percentage change—1960 from 1959			
	Sept.	Year to date	Sept.	Year to date
Tenth F. R. District	+5	+3	+3	0
Denver	+9	+8	+2	+2
Wichita	+1	-4	-15	-14
Kansas City	+9	+3	+1	+2
Omaha	+5	+2	+18	+5
Oklahoma City	-3	+2	+1	0
Tulsa	+2	0	0	-3

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

**No reserve cities in this state.