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AGRICULTURAL INPUT SITUATION

AGRICULTURAL FINANCE OUTLOOK, 1974

REMARKS BY PHILIP T. ALLEN, AGRICULTURAL ECONOMIST, ECONOMIC RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE, DECEMBER 19, 1973

The price and income outlook and farm cost prospects for 1974 have been covered fully in other sessions of the Conference. This session will focus upon anticipated borrowing needs in the farm sector in 1974 and the factors that will influence this demand. In preparing our report, we have been assisted by many finance and credit specialists.

Farmers' anticipation of product prices will have a major influence upon their investment decisions. Despite a leveling off of prices received, a further upward movement of prices paid, and continued high interest rates, net farm income in 1974 is expected to be $20 to $23 billion, second only to the record net farm income of over $25 billion expected for 1973. Thus, farmers remain generally optimistic and are expected to be committing large amounts of their earnings and loan funds toward expanding agricultural output.

Forecasting Model

The method used to forecast the level of capital formation in the farm sector and how this investment in capital items will be financed is the aggregative income and wealth (AIW) simulator developed by John B. Penson, Jr., and C. B. Baker at the University of Illinois. The AIW simulator can be used to forecast the sources and uses of funds in the farm sector and year end demand for physical and financial assets and for loan funds outstanding. Today we will look at the products on the AIW simulator rather than its construction or mechanics.

Outlook for 1974

With a second year of unparalleled prosperity still in their minds and in their savings, farmers will be entering the new year with more uncertainties than usual. Among these are (1) the availability and cost of fuels, fertilizers, and other farm inputs; (2) the acres to be planted; (3) the markets for their products; and (4) the costs and availability of loan funds. For farmers considering further purchases of real estate assets, a major uncertainty is whether land prices have risen beyond the level at which they can be paid for out of present and future earnings.

Our forecast of borrowing needs in 1974 is based on assumptions of an optimistic mood in the farm sector, that fuel requirements for production will be available, and that farmers will reinvest their net earn-

ings and borrowed funds to further increase their productive capacity and farm earnings.

Interest rates

Current interest rates on short- and intermediate-term loans are one to two percentage points above their 1972 average; farm mortgage rates are up about one-half percentage point (table 1). Interest rates on new short- and intermediate-term and farm mortgage loans in 1974 are expected to be higher than the 1973 average, and to be near fourth quarter 1973 levels. There is much uncertainty about the specific level of interest rates we should expect for 1974, however, stemming from fluctuating monetary policy and economic developments. Because of these uncertainties, we have used two alternative interest rate "scenarios" in forecasting the level of capital formation and the demand for loan funds in 1974. A high interest rate scenario will assume an interest rate of 9 percent on short- and intermediate-term loans and 8½ percent on farm mortgage loans in 1974. A moderating interest rate scenario, on the other hand, assumes an interest rate of 8½ and 8 percent, respectively.

Capital Formation

Figure 1 presents the level of investment in capital items. This capital formation is defined as the summation of new investment in real estate and nonreal estate assets, plus uses of funds to purchase real estate from farmers leaving the sector. Capital formation increased from $6 billion in 1960 to about $26 billion in 1973 when net farm income reached record levels. With net farm income expected to decline between $3-5 billion in 1974 and if interest rates approximate the high interest rate scenario, the amount of current investment will approximately equal the 1973 level. If, instead, interest rates approximate the moderating interest rate scenario, capital formation is expected to reach $27.2 billion or 5 percent greater than 1973.

Figure 2 shows how these investments have been financed over time—whether out of internal funds (farm and off-farm earnings) or by farm borrowings. Note that 1973 was rather unusual in two respects—the high level of annual investment and the high proportion financed out of income. The exceptionally large use of internal funds in 1973 was the result of: (1) the high level of net farm income, and (2) increasing interest rates in the last half of the year which dampened the demand for loan funds. In 1974, however, the net flow of loan funds (new loans less repayments) is expected to account for a greater share of funds used to finance capital formation. Use of internal funds to finance capital formation in 1974, on the other hand, would fall to approximately 60 percent, a level recorded several times in the sixties.

As shown in figure 2, the percentage of capital formation financed by internal and external sources of funds are closer to being equal than in recent years. The net flow of loan funds forecasted for 1974 and corresponding percentage of capital formation financed by this external source of funds is affected by the accuracy of the preliminary estimates for the stock of loan funds outstanding for the January 1, 1974, balance sheet. For example, an underestimation of the stock

of loan funds outstanding on January 1, 1974, would understate the percentage of capital formation financed by the net flow of loan funds in 1973 and, therefore, overstate the percentage financed by the net flow of loan funds in 1974.

The stock of loan funds outstanding on January 1, 1974, presented in figures 2 and 4 attached were estimated by credit specialists using data available at this time. Alternatively, the AIW simulator was used to forecast these stocks. For example, the stock of farm mortgage loan funds outstanding was forecasted by the AIW simulator at $38.6 billion for January 1, 1974, or some $.6 billion higher than the preliminary estimate of $38.0 billion. Similarly, the stock of short- and intermediate-term loan funds outstanding on January 1, 1974, is forecasted by the AIW simulator to be $42.04 billion, or $.14 billion higher than the preliminary estimate of $41.9 billion. Table 2 attached shows the impact that these alternative forecasts with the AIW simulator have upon the net flow of loan funds in 1973 and 1974 and corresponding percentages of capital formation financed by internal and external sources of funds. This alternative estimate of the stock of loan funds outstanding for January 1, 1974, provided by the AIW simulator results in an increase in the net flow of loan funds in 1973 of $.7 billion and a corresponding $.7 billion decline in the estimate of the net flow of loan funds in 1974. Importantly, however, the conclusions reached regarding the relative importance of external and internal sources of funds in financing capital formation in the farm sector are changed only slightly.

Farmland prices rose at a near record rate of 20 percent per acre in 1973 (see figure 3). Figure 3 shows a further, although less steep, rise forecasted for 1974. These rising land values will tend to increase the need for loan funds to purchase real estate from farmers leaving the sector.

Figure 4 shows total loan funds outstanding reaching as high as $92 billion by January 1, 1975. Thus, the net flow of loan funds in 1974 is expected to be roughly $10–$12 billion depending upon the interest rate scenario examined and the estimate of the stock of loan funds outstanding on January 1, 1974. Certainly, this forecast raises several questions. For example, will these amounts of loan funds be available without excessive strains on the lending institutions supplying them?

The ability of farm borrowers to service their debt commitments out of farm earnings is another major concern. Figure 5 presents the ratio of net farm income to total debt, an indicator of the ability of farmers to repay their loans out of farm earnings. This ratio in 1973 is expected to be higher than it was in recent years. For 1974, however, the ratio of net farm income to total loan funds outstanding is expected to be less favorable than 1973. While the ratio for 1973 is expected to be relatively higher than in recent years, one should keep in mind that repayments, particularly for farm mortgage loans, will be made for many years to come. Thus, the ratio of current net farm income to loan funds outstanding does not reflect the future debt servicing capacity of the farm sector. This is dramatized by the decline in the ratio in 1974.

Figure 5 shows the ratio of debt to asset values. This ratio is expected to decline almost 2 percentage points in 1973 but increase slightly in 1974.

Lending Activities

In the past, a large volume of farm loans were made by noninstitutional lenders such as merchants and dealers as well as individuals who finance their real estate sales. Typically, these sources have provided about two-fifths of the total loan funds used. In 1973, however, reports from finance and credit specialists indicate that these sources of loan funds probably provided a smaller proportion of total loan funds to the farm sector. Despite the very strong demands for farm machinery, fertilizer, and other purchased inputs, merchant and dealer credit appears to have dropped considerably. Sales did not need to be encouraged. Instead of dealers making sales in which no payment on the purchase was required for several months as had been customary, purchasers were reported to be making downpayments on machinery and equipment orders that would not be filled for several months. This probably increased the demand for loan funds at banks, Production Credit Associations, and other institutional lenders.

With the spectacular increases in net farm income in recent years, farmers were able to finance a larger share of their current production expenses from internal sources of funds. Because of expectations for continued high income, many farmers may also find it relatively easier to qualify for short-term production loans.

On the farm mortgage lending side, there were numerous reports of the changed competitive position of Federal land banks with their increased legal maximum lending (debt to value) ratio and variable interest rate. Another important factor was the impact upon life insurance company lending of usuary laws on the rates they can charge. Available statistics bear out the increased competitiveness of Federal land banks. For example, new borrowing from Federal land banks was 70 percent higher in the first half of 1973 than one year earlier as compared with a 40-percent increase for life insurance companies. In 1974, these differences will probably be even greater. Financing by individual sellers under land contracts is also reported to have increased in 1973. The 20-percent rise in land values per acre may have heightened sellers' desire to use sales devices that minimize their capital gains taxes. Lender reactions to conditions in 1973 and prospects for 1974 will be considered in more detail by our panel.

Conclusions

With relatively optimistic expectations about farm product prices and incomes, farmers are expected to invest heavily in equipment, farmland, and other productive inputs in 1974. The value of farmland can be expected to climb further in 1974 though less than the 20-percent increase this year. With net incomes expected to be second only to 1973, demand for loan funds will remain strong. Although some shifts among lenders are expected, credit supplies are anticipated to be adequate. Interest rates on new farm loans averaged higher in 1973 than in the year before and are expected to average near fourth quarter 1973 levels in 1974.

TABLE 1.—AVERAGE INTEREST RATES ON FARM LOANS, SELECTED LENDERS

LOAN TYPE AND LENDER	1972	1973				1974-FORECAST	
	JULY 1	JAN. 1	APR. 1	JULY 1	OCT. 1	HIGH RATES	MODERATING RATES
	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
SHORT- AND INTERMEDIATE-TERM FUNDS:						9.00	8.50
COMMERCIAL BANKS[1]							
FEEDER CATTLE LOANS	7.34	7.74	8.03	8.61	9.71		
OTHER PRODUCTION LOANS	7.55	7.89	8.01	8.35	9.09		
PRODUCTION CREDIT ASSOCIATIONS	7.07	7.43	7.71	8.16	8.98		
FARM MORTGAGE:						8.50	8.00
FEDERAL LAND BANKS	7.42	7.35	7.35	7.35	7.75		
LIFE INSURANCE COMPANIES[2]	8.32	8.39	8.29	8.49	8.70		

[1] BANKS REPORTING FOR G.10 RELEASE OF THE FEDERAL RESERVE SYSTEM. [2] AVERAGE FOR THE QUARTER ENDING DAY BEFORE DATE SHOWN.

Table 2--Percentage of Capital Formation Financed by External and Internal Sources of Funds in the Farm Sector, Under Alternative Interest Rate Scenarios.

Item	1973		1974			
			High Interest Rates		Moderating interest rates	
Sources of funds used to finance capital formation:	a/	b/	a/	b/	a/	b/
Cash flow of income	18.2	17.5	15.1	15.8	15.3	16.0
New loans less repayments:						
Farm mortgage loan funds	3.5	4.1	6.1	5.5	6.6	6.0
Short-and intermediate term loan funds	4.1	4.2	4.4	4.3	5.3	5.2
Total cash sources of funds used	25.8	25.8	25.6	25.6	27.2	27.2
Percentage of capital formation financed by:						
Cash flow of income	70.5	67.8	59.0	61.7	56.2	58.8
New loans less repayments:						
Farm mortgage loan funds	13.6	15.9	23.8	21.5	24.3	22.1
Short-and intermediate term loan funds	15.9	16.3	17.2	16.8	19.5	19.1
Total cash sources of funds used	100.0	100.0	100.0	100.0	100.0	100.0

a/ Preliminary estimates for the Balance Sheet for the Farming Sector for 1974.
b/ Forecast by the AIW Simulator.

25-954 O - 74 - 13

FIGURE 1--ANNUAL FARM CAPITAL FORMATION

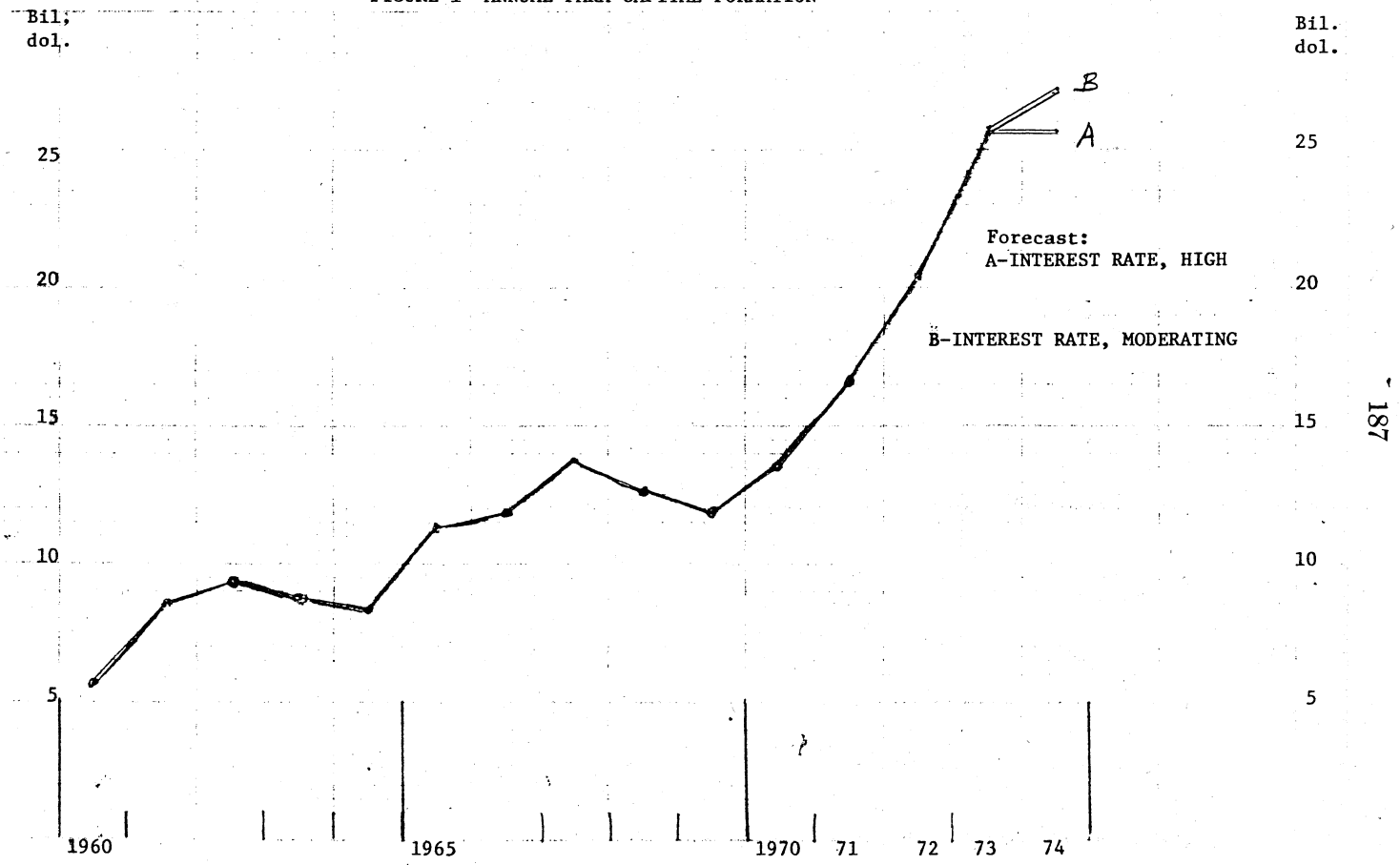


FIGURE 2--CASH SOURCES OF FUNDS USED TO FINANCE ANNUAL CAPITAL FORMATION

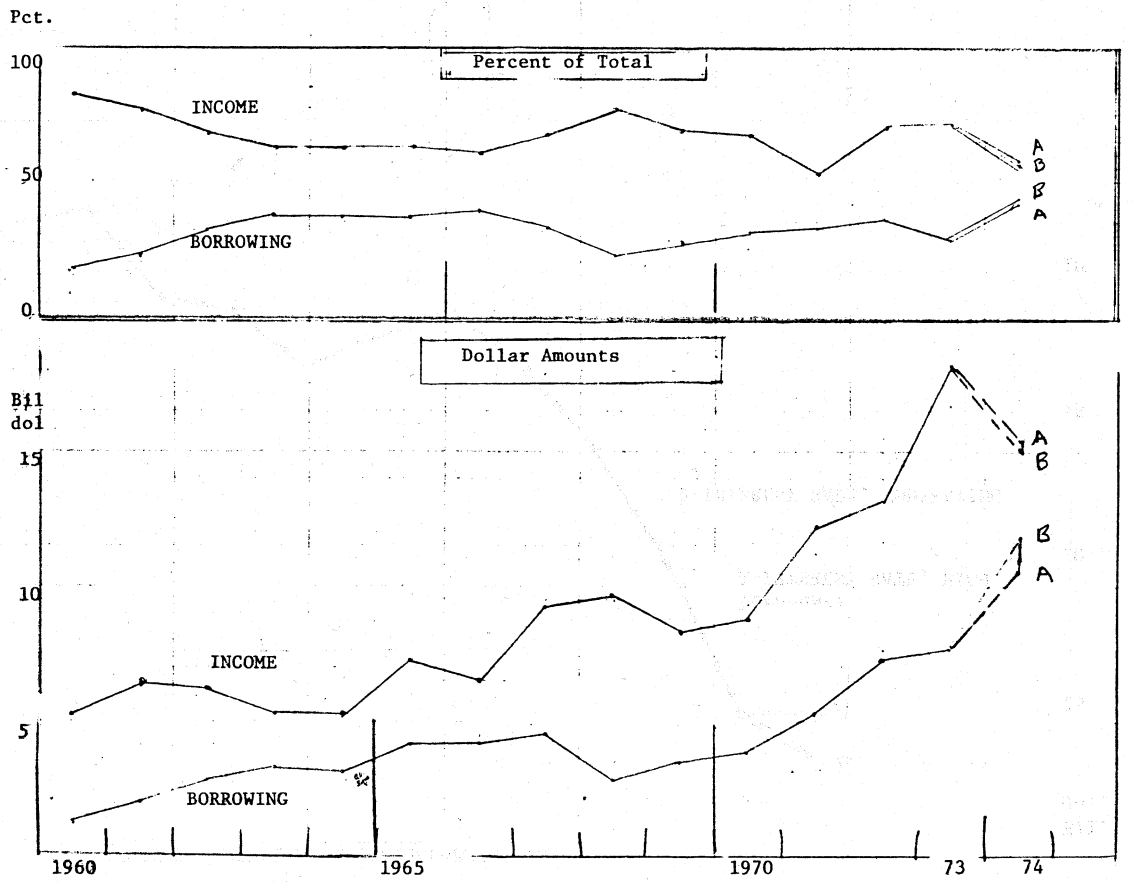
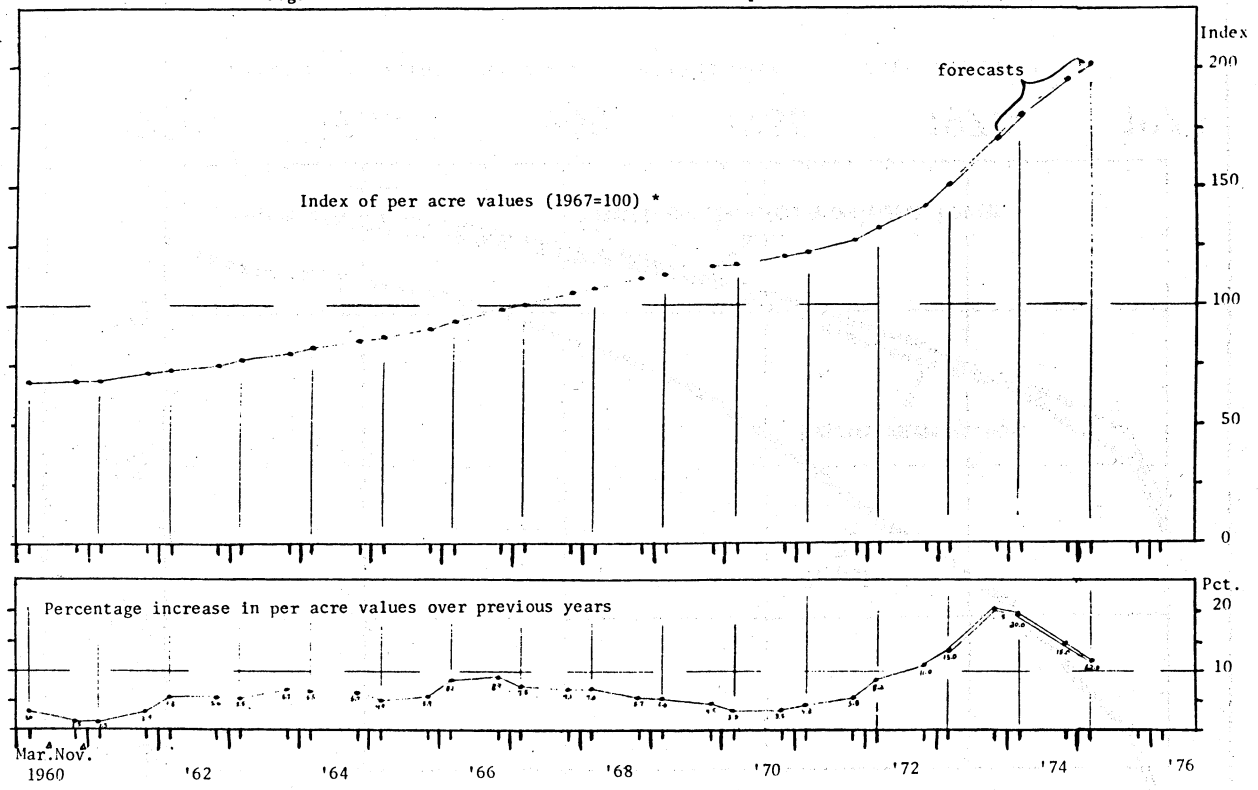


Figure 3--Trends in U.S. farm real estate values per acre



* Excludes Alaska and Hawaii.
Δ Index values are as of March 1 and Nov. 1.

Sources: "Farm Real Estate Market Developments," Suppl. No. 2, CD-77, ERS, USDA, June 1973, and CD-78, ERS, USDA, July 1973.

FIGURE 4--FARM LOAN FUNDS OUTSTANDING JANUARY 1

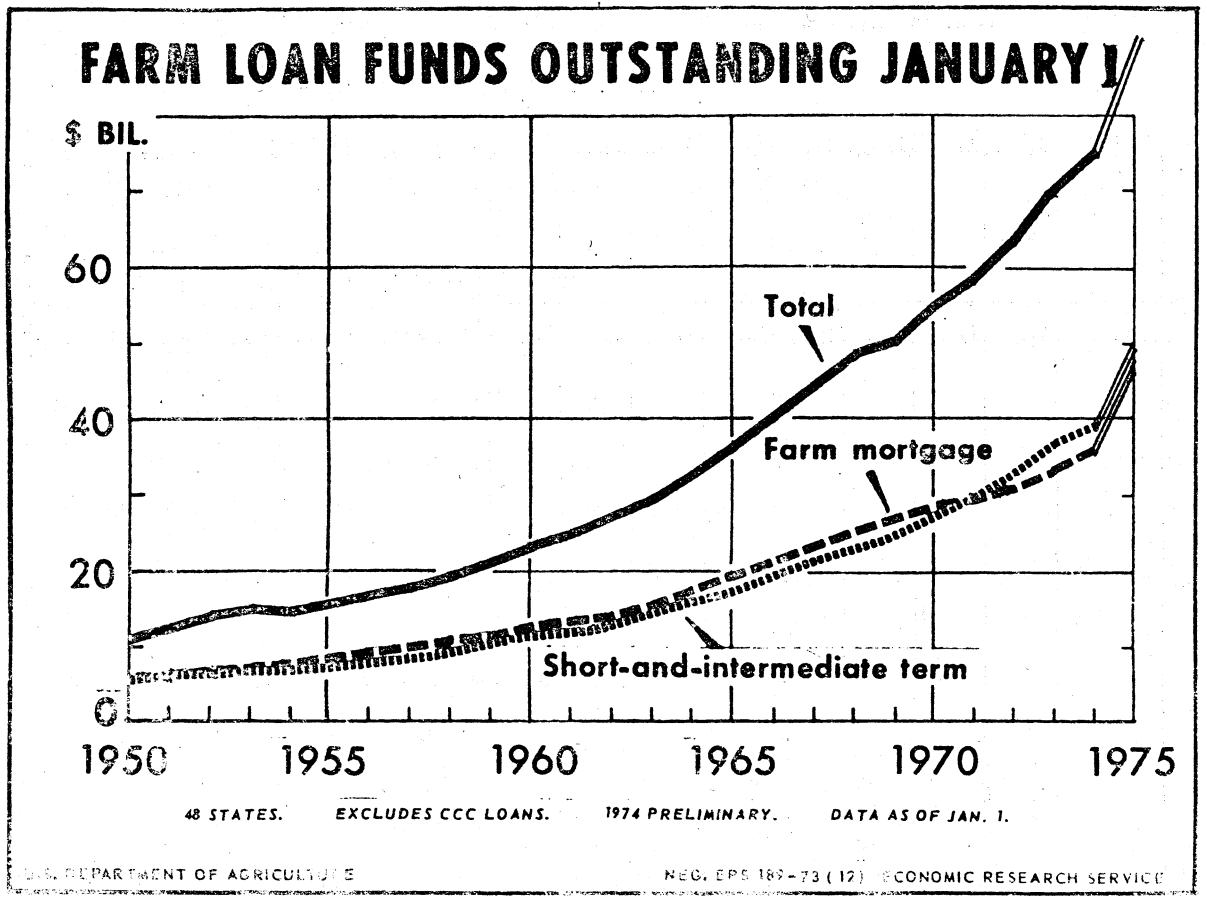


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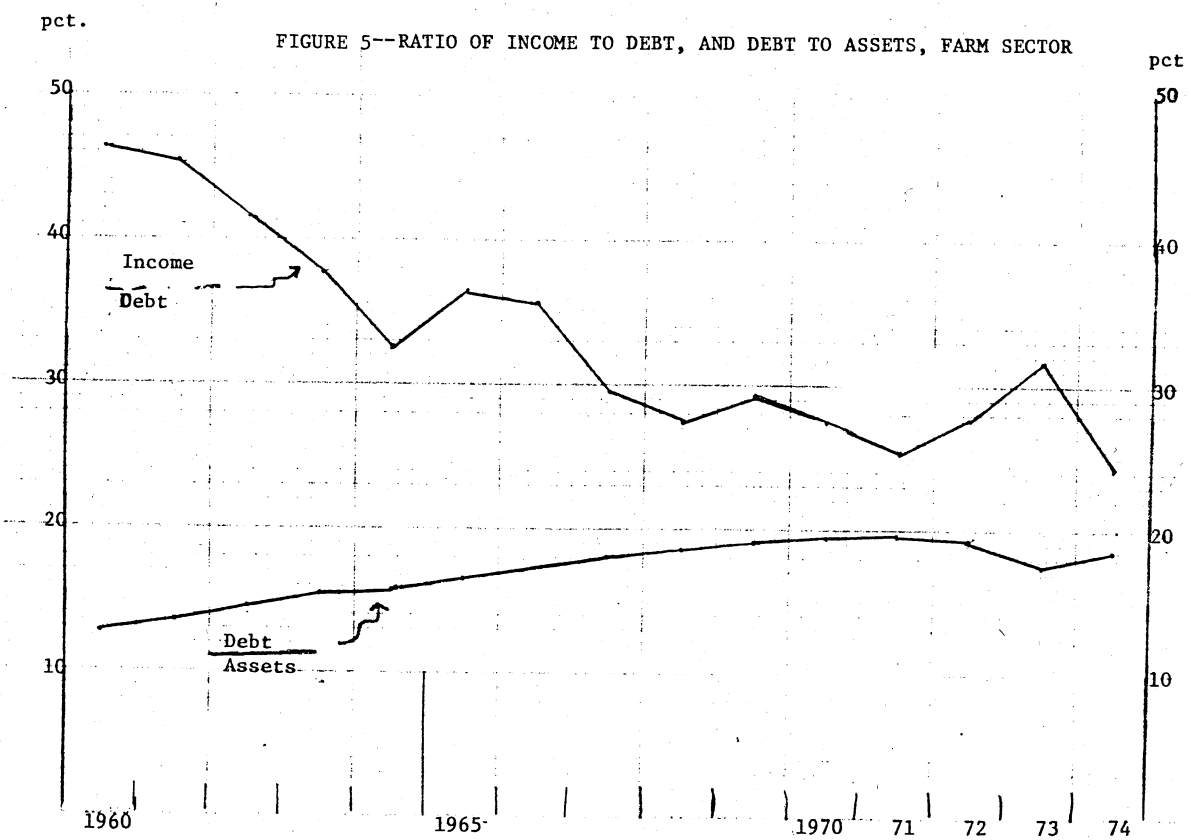
FIGURE 5--RATIO OF INCOME TO DEBT, AND DEBT TO ASSETS, FARM SECTOR



IMPLICATIONS OF THE INPUT SITUATION FOR PRODUCTION

REMARKS BY JOHN H. BERRY, NATIONAL ECONOMICS ANALYSIS DIVISION, ECONOMIC RESEARCH SERVICE, USDA, DECEMBER 18, 1973

At no time in recent history has the agricultural input situation been so vitally important to U.S. agriculture as it is now. Shortages of a number of inputs from machinery to baling wire and from petroleum to feed were reported this past production season. Yet farmers were able to produce a record output in spite of problems associated with getting the needed inputs in the right place at the right time. That accomplishment speaks well for the ability and willingness of farmers and farm suppliers to respond with needed adjustments to provide food and fiber needs for domestic use and export trade.

We are now, however, entering the planning phase for 1974 food and fiber production. Although the input supply situation has always been important to farmers in making their plans, it is even more crucial now. As Secretary Butz said in his announcement of this Conference, "Farmers will be making more complex production and marketing decisions than usual in 1974. We want to give farmers all the help we can with up-to-date outlook information and last-minute reports on the probable availability of fuel, pesticides, fertilizer, farm equipment, and related supplies." I want to underscore the word "probable" because the situation concerning many of our agricultural unputs is changing daily.

You have already heard views on the energy, fertilizer, and transportation situations and a discussion of the use of technology to conserve the use of agricultural inputs. I will close this section of the Conference with the outlook for other selected inputs and the possible implications of the input situation for agricultural production. The outlook for feed and credit will be discussed later in the Conference.

We are all acutely aware that fossil fuel is one of our most basic resources in agriculture—whether it is used directly in propelling equipment or indirectly as a feedstock in the manufacture of numerous other inputs. However, transforming fossil fuel energy into food energy requires, in part, mechanical equipment.

In their attempt to respond to consumer demands for increased food production, farmers purchased more tractors and self-propelled combines in 1972 than any year since 1968. They also purchased more hay balers and forage harvesters in 1972 than in either of the 2 previous years. This reversal in the downward trend of numbers of new equipment purchased does not appear to have stopped. For the first three quarters of 1973, the number of new tractor sales increased 25 percent over the same period in 1972. Combine sales increased 47 percent, and baler and forage harvester sales increased

would welcome some control or rationing here to have a bit of peace and quiet. With the energy shortage, she now has a valid reason.

In summarizing, I have emphasized the need to reduce energy consumption in and around the home. Ways were suggested to show how this could easily be done.

If each household cuts back on energy consumption 5 percent that would be a savings equivalent to supply energy to 2½ million households. We ask you for your support.