FINANCIAL CONDITIONS IN THE FARM SECTOR 1984-1990: PROJECTIONS FOR DIFFERENT MACROECONOMIC POLICIES

Dean W. Hughes and John B. Penson, Jr.

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The time is certainly right to look ahead to the financial future of the U.S. farm sector. Farmers and ranchers continue to suffer through the longest and most severe recession in 50 years. Legislators have started to debate measures aimed at alleviating some of the symptoms of low incomes in the sector. And, plans are being made for the 1985 farm bill. It is, therefore, necessary to bring all available resources to bear on identifying possible future trends. Unfortunately, it is also a time of great political uncertainty. Depending on the outcome of the 1984 elections, major changes in macroeconomic policies may result.

The purpose of this paper is to present the results of using COMGEM80.2, a commodity specific model of the U.S. economy that focuses on agriculture, to project financial conditions in the farm sector for the period 1984 through 1990 under alternative macroeconomic policies (Penson, Hughes (1983), Romain)). Due to uncertainties regarding political and other noneconomic factors, results presented in this paper should be considered to be projections of farm sector financial conditions if the assumed macroeconomic policies are pursued. They should not necessarily be construed as forecasts of what the future will bring. Every effort has been made to remove the authors' subjective evaluations of the likelihoods of different outcomes. Such evaluations would be more in the realm of the study of politics than economics and are left to the reader. The first section of the paper presents a brief outline of current conditions in the sector and the major forces that have brought them about. The next section presents projections of future sector outcomes under three distinctly different sets of macroeconomic policies. The final section summarizes the paper.

Past and Current Financial Conditions in the Farm Sector

The last comprehensive long term sets of projections of financial conditions in the farm sector were made in late 1979 and 1980 (Moore, et al., Hughes (1981)). At that time, farm income had been high for almost a decade and farm real estate values had increased 25 consecutive years. The problem of concern at the time was the continued difficulties with current returns to sector assets. Inflation was high and growing, keeping farm incomes under pressure from rising costs and yet generating large, unrealized capital gains in farm r[illegible]

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*The authors are an associate professor in the Department of Agricultural Economics, Texas Tech University and professor in the Department of Agricultural Economics, Texas A&M University, respectively. Funding for this project was provided by the Thornton Agricultural Finance Institute of Texas Tech University and the USDA through a cooperative agreement number 58-3123-4-00161.

With the concerned, but decidedly optimistic, attitudes of that time, there is little wonder that projections missed the harsh realities of the next 5 years at least in degree, if not in direction. Net farm income in 1980 through 1983 averaged 10 percent less than in 1976 through 1979. In constant dollar terms, the decline was worse, with the average falling one-third between the two periods. Farm real estate values have declined in both real and nominal terms. At the end of 1983, farm real estate values were 23 percent below their peak in real dollars and 7 percent lower in nominal terms. Even farm debt, which grew because of debt repayment problems during 1980 through the end of 1982, declined in 1983 by over $2 billion.

The seeds of current problems had been planted prior to the start of 1980, however. The October, 1979 announcement of a change in operating policies of the Federal Reserve System was, in retrospect, a clear signal of a new offensive against inflation. Again in hindsight, the conflicts of the proposed fiscal policies of the current administration should have been clear. Plans to simultaneously reduce taxes, increase defense expenditures, and balance the budget were inconsistent and unachievable.

The conflict between a highly stimulative fiscal policy and a restrictive monetary policy that reduced inflation from 9.2 percent to 4.3 percent in three years has been reflected in historically high real interest rates. On an ex post basis, real interest rates on PCA loans averaged 2.1 percent from 1976 through 1979 and 6.3 percent from 1980 through 1983. On an ex ante basis, the change may have been even greater, given expectations of rising inflation prior to 1979 versus flat to declining expectations of future inflation today.

Farm incomes and asset values have been strongly influenced by high real interest rates. Farming is one of the few businesses in the nation that is both capital intensive and export sensitive. Rising interest rates influence farm income in several ways. The most direct impact is to increase interest expenses on over $200 billion in farm debt. Perhaps just as important, however, is the influence of higher interest rates on farm revenues through their impact on prices received (Hughes and Adair). Higher real interest rates in the U.S. induce foreign purchases of U.S. securities. To buy the securities, foreigners need dollars and as a result bid up the value of the U.S. dollar relative to the value of other currencies. A higher value of the U.S. dollar is perceived as an increase in the cost of U.S. agricultural exports which leads to lower foreign demands. Higher U.S. interest rates may have precipitated a crisis in Third World borrowing to finance both capital and human development. These debt repayment problems have also reduced the foreign demand for U.S. farm products. Added to the declines in foreign demands have been domestic declines due to reduced growth in incomes and higher inventory carrying costs. Thus, farm prices and incomes have been reduced by high interest rates caused by conflicts in monetary and fiscal policies.

Farm asset values have also suffered because of high interest rates. The profitability of investing in farm assets has declined and the cost of capital has increased. Combining the two factors has led to an almost catatonic land market and concerns of possible price declines below long term equilibrium levels.

Since the middle of 1983, the general economy has seen a period of vigorous growth that has not been reflected in the financial condition of farmers. Real GNP grew by over 6 percent at an annualized rate in the second half of 1983 and is expected to grow between 6 and 7 percent in 1984. Yet net cash farm income, even with the Payment-in-Kind program, was not substantially increased in 1983 above 1981 and 1982 levels, nor is it expected to rise in 1984. It might seem a contradiction to argue that macroeconomic policies have caused the decline in farm profitability, and yet not expect improved macroeconomic conditions to help the sector.

The reason for the seeming contradiction is that macroeconomic policies are not only responsible for the size of the economic pie, but also partially determine the size and distribution of its slices. A given level, or rate of growth, in real GNP can be accomplished by an infinite number of combinations of fiscal and monetary policies. Each combination, however, will generate different levels of interest rates, consumption, investment and savings. Currently, conflicts in monetary and fiscal policies have a definite bias against interest sensitive and export sensitive industries. Since agriculture is sensitive to both, resources are flowing out of the sector to other production activities.

Financial resources are fluid, and generally lead the adjustments needed in physical resources. The first sign of this in the farm sector was the farm financial "crisis" of 1980 with the government adding $2 billion to the Farmers Home Administration's Economic Emergency Loan Program. During 1981 and 1982, the whole country was struggling through the worst recession since the Great Depression. While farmers were having difficulties, they could at least understand that they were not alone. Since mid-1983, however, profitability has returned to many other sectors of the economy. Funds have been needed to meet growing loan demands outside of agriculture and real interest rates have not declined.

Currently there are substantial problems in the farm debt markets. Surveys show 2 to 3 times the normal proportion of farmers are leaving the sector, either voluntarily or through forced sales (Federal Reserve Bank of Kansas City and Federal Reserve Bank of Chicago). Farm loan losses at banks and the Farm Credit System have grown dramatically (Melichar, Irwin). Delinquencies at the Farmers Home Administration now exceed 30 percent.

The current financial health of the farm sector can be characterized as poor. Incomes have been low for 5 years, asset values are declining, and debts are overdue.

Future Projections of Financial Conditions in the Farm Sector

Given these problems, policy prescriptions are being formulated. But, to create policies that do not simply react to the past, assumptions are needed about the conditions they will influence in the future. For example, little is gained by implementing policies that simply postpone adjustments, if the adjustments will in all likelihood be required later. In fact, harm can be done if postponement compresses the adjustments into a shorter time period than would occur without intervention.

Three projections of the future are presented below: S1, S2, and S3. S1 assumes continued high government deficits and a renewed fight against inflation using a restrictive monetary policy. Current inflation is still between 4 and 5 percent, a level high enough to generate price and wage controls in the 1970's. It is, therefore, not difficult to imagine another period of slow growth in money and credit. S2 also assumes high deficits, but a more relaxed monetary policy. Past history would suggest continued cycles of low growth and low inflation followed by rapid growth and higher inflation. Moreover, continuing the fight against inflation might be interrupted by the potential collapse of international financial markets. S3 assumes decreases in the deficit and a monetary policy between that used in S1 and S2. As such, S3 represents an admittedly optimistic view of the future, but one with some chance of occurring.

No attempt is made to outguess farm policymakers in any of the scenarios. Farm policies are the same across scenarios and reflect 1984 levels of support without the delayed impact of the 1983 Payment-in-Kind program. No surprises in either energy prices or weather are assumed in any of the projections, although some are likely to occur.

Graphs are used to present the results in the text. There is a full set of tables presented in the appendix, however, that include: projections of macroeconomic conditions, the balance sheet of the farming sector, the farm income statement and the sector's cash sources and uses of funds statement. All accounts include as much of the information on farm households as is normally available from the USDA.

S1-High Deficits and Slow Growth in Money

In this scenario, the real government deficit is held at its 1984 level through 1990. Monetary policy is constructed to eliminate inflation by 1987, and then contain changes in the overall price level to almost zero. It is, of course, highly unlikely that the smooth transition projected for the economy could actually be achieved. Eliminating inflation would probably introduce more volatility in the economy than shown in the model results. However, the implications for the farm sector of another period of disinflation in the face of large government deficits are clearly indicated in the model results.

Stopping inflation in the face of continued fiscal stimulus is projected to lead to another period of slow growth and higher real interest rates for the whole economy. The solid lines in Figures 1, 2, and 3 show the percent change in real GNP, the percent change in the GNP deflator and the real prime interest rates for this scenario. Growth in real GNP, which averages 2.3 percent from 1985 through 1990, is substantially below its long run potential growth rate of about 3 percent. Inflation is smoothly controlled by 1987 and after that the GNP deflator does not change by more than 0.2 percent annually. The real prime interest rate continues to grow throughout the period, reflecting both the continuing struggle between fiscal and monetary policy and banks adjustments to an environment with higher costs of funds.

The implications for the farm sector of continued slow growth of incomes and even higher interest rates are clear: declining asset values, and restricted use of debt financing. Figures 4, 5, and 6 graphically illustrate these points with the solid lines again representing results from the first scenario. In 1967 dollars, net farm income fluctuates between $5 and $12 billion with no apparent trend. Its average for the decade 1981 through 1990 would then be $9 billion compared to $15 billion for 1971 through 1980.

Farm asset values decline substantially in this scenario. By 1990, they might be 82 percent of their 1983 value in nominal terms and 75 percent in constant dollar terms. All of the decline is in physical assets with the principal loss coming in farm real estate values. Financial assets grow reflecting the incentives for participants in the sector to divert their available funds into nonfarm assets.

Debt is projected to grow, but at a much slower rate than in the 1970's. The average growth in nominal farm debt for this scenario during the 1980's would be 4 percent versus 13 percent in the 1970's. Almost all of the growth in debt is collateralized by real estate. While real estate is losing value in the projections, it still provides the safest collateral for farm loans. Moreover, net incomes are projected to be so low that farmers may have difficulties repaying short-term loans and need to refinance over longer repayment periods. Such refinancing would almost certainly shift debt to the real estate category.

The net result of declining assets and increasing debt is a substantial decline in sector wealth and increasing leverage. Proprietors' equities decline 29 percent in nominal terms and 35 percent in constant dollars. The debt-to-asset ratio for the sector grows from 21 percent in 1983 to 32 percent in 1990. Certainly the sector would have far fewer participants without debt if these projections are realized. In addition, farmers with low debt-to-asset ratios in 1983 would be highly leveraged by 1990. And, those farmers who currently have moderate to high leverage ratios will likely be out of business.

Monetizing the deficit is, therefore, probably not the solution to farm sector problems. It leaves the farm sector at the end of the decade with lower incomes, slightly higher real asset values, and more debt than if monetary policy is restrictive.

S3-Lower Deficits and Moderate Growth in Money

In this scenario, the real government deficit is assumed to be declining by about 15 percent per year through 1990 due to an assumed slowing of the growth in government expenditures. Monetary policy is one of moderate growth in money designed to make inflation less than one percent by the end of the decade. Again it is hard to imagine economic policymakers being able to generate as smooth a transition to a noninflationary economy as is shown by the model. The implications for the farm sector of such a transition are, however, enlightening.

The projection of growth in real GNP lies between the projections of the other scenarios. It is higher than the first scenario because monetary policy is less restrictive. It is lower than that of the second scenario because monetary policy is more restrictive and fiscal policy is less stimulative.

Inflation (dotted line in Figure 2) is the driving force in developing monetary policy for this scenario. It, therefore, rather smoothly declines to almost zero in 1990. It is able to drop more quickly in 1985 and 1986 than inflation in the first scenario due to the reduction in fiscal stimulus to the economy. Its rate of descent is less after 1986, reflecting a less severely restrictive monetary policy.

Real interest rates (dotted line in Figure 3) show the impressive reductions that could be gained when monetary and fiscal policies cooperate in reaching a goal. Continued reductions in government borrowing reduce demands for loanable funds. On the other side of the market, more moderate restrictions on the growth in money and credit add to the supply of loanable funds. The net result is declining real interest rates throughout the period. Moreover, declines in inflation help nominal interest rates to fall precipitously.

Here again, the implications for the farm sector are clear -- higher incomes, rising asset values, and moderate growth in the use of debt financing. Real net farm incomes (dotted line in Figure 4) rise rapidly and then fluctuate at higher levels. While projections of real incomes do not reach the level of 1973, which was $26 billion, they substantially exceed those of the early 1980's. The projected average of real net farm incomes for 1985 through 1990 is $14 billion compared to $9 billion for 1980 through 1983. The reasons for this increase again lie in the change in interest and inflation rates. Lower interest rates decrease the value of the dollar and expand export demands. They also help increase domestic demand by holding economic growth high and inventory carrying costs low. At the same time, lower rates of inflation keep production expenses from growing rapidly. The net result is a higher level of profitability for the sector.

When higher profitability is combined with lower interest rates, farm asset values start to increase again (dotted line in Figure 5). The average annual compound growth rate for real farm asset values from 1985 through 1990 for this scenario is 4 percent. While this is less than the 6 percent real growth in the 1970's, real interest rates in the scenario continue higher than those in the last decade. Most of the gain in the value of assets is in farm real estate, although machinery and equipment also show steady gains.

Almost surprisingly, real farm debt (dotted line in Figure 6) shows only moderate growth in this scenario, a 3.5 percent annual average compound growth rate from 1985 through 1990. The reasons for this slow growth in farm debt are that more internal funds are available, due to higher levels of profitability and real interest rates, while declining, continue to be high by historic standards.

The cash sources and uses of funds statement and financial ratios show the farm sector in much better financial condition by the end of the decade. Purchases of capital account for only about two-thirds of net cash income. And, the ratio of debt outstanding to total cash income declines from 3.8 in 1983 to 3.0 in 1990. The sector's debt-to-asset ratio also declines from 21 percent in 1983 to 20 percent in 1990. Under the macroeconomic policies assumed in this scenario, adjustments currently underway in the sector will likely be stopped or reversed. Instead of going out of business, highly leveraged farmers and ranchers would likely do very well. Farmers who prefer to be without debt could probably avoid borrowing. And, farmers with moderate debt-to-asset ratios would not be forced into more highly leveraged situations.

Contrary to the results of other scenarios, reductions in government deficits and moderate restraint in monetary policy could lead the farm sector to an improved financial condition by the end of the decade. Steady economic growth, lower inflation and lower interest rates would probably result in higher farm incomes and asset values, and moderate growth in farm debt. This would, in turn mean the sector would be more resilient to weather and other shocks and be more productive than it is today.

Summary and Concluding Comments

Current financial conditions in the farm sector indicate substantial difficulties exist in adjusting to general economic conditions. Large government deficits and a monetary policy that has reduced the inflation rate by more than one-half in three years have changed the economic environment for farmers. While the general economy has seen a vigorous recovery over the last year, agriculture has not been included. The current blend of macroeconomic policies

APPENDIX

The following tables provide more detailed information on the results of using COMGEM80.2 to project financial conditions in the farm sector from 1984 through 1990 given three different sets of macro-economic policies.

TABLE A1: MACROECONOMIC VARIABLES FOR SCENARIO 1
HIGH DEFICITS AND SLOW GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT (GNP)							
NOMINAL U.S. GNP	3674.7	3778.2	3961.0	4050.0	4098.2	4187.3	4285.6
PERCENT CHANGE	11.1	2.8	4.8	2.2	1.2	2.2	2.3
CONSTANT DOLLAR GNP	1290.3	1288.9	1327.3	1357.8	1375.0	1406.7	1442.1
PERCENT CHANGE	6.5	-.1	3.0	2.3	1.3	2.3	2.5
PRICES:							
GNP DEFLATOR	284.8	293.1	298.4	298.3	298.1	297.7	297.2
PERCENT CHANGE	4.3	2.9	1.8	-.0	-.1	-.1	-.2
CONSUMER PRICE INDEX (CPI)	310.7	317.6	323.1	323.2	323.6	323.8	323.7
PERCENT CHANGE	3.2	2.2	1.7	.0	.1	.1	-.0
CPI FOOD	300.1	306.4	311.7	310.4	308.5	308.1	309.3
PERCENT CHANGE	3.2	2.1	1.7	-.4	-.6	-.1	.4
CPI DURABLES	252.1	255.1	255.4	251.2	247.3	243.0	238.7
PERCENT CHANGES	3.3	1.2	.1	-1.6	-1.5	-1.7	-1.8
CPI NONFOOD NONDURABLES	329.1	337.1	343.6	344.8	346.5	347.4	347.7
PERCENT CHANGE	3.2	2.4	1.9	.4	.5	.3	.1
INTEREST RATES:							
NOMINAL RATE ON 3 MONTH TREASURY BILLS	9.6	8.5	7.6	6.1	6.1	6.0	6.0
REAL RATE ON 3 MONTH TREASURY BILLS	5.3	5.6	5.8	6.1	6.1	6.1	6.1
NOMINAL RATE ON 3/5 YEAR GOVERNMENT BONDS	12.7	11.5	10.6	8.9	8.9	8.9	8.8
REAL RATE ON 3/5 YEAR GOVERNMENT BONDS	8.4	8.6	8.8	9.0	9.0	9.0	9.0
NOMINAL RATE ON LONG TERM GOVERNMENT BONDS	12.8	11.6	10.6	8.9	8.9	8.8	8.8
REAL RATE ON LONG TERM GOVERNMENT BONDS	8.5	8.6	8.8	8.9	9.0	9.0	9.0
NOMINAL PRIME INTEREST RATE	12.2	11.1	10.3	8.6	9.1	9.4	9.8
REAL PRIME INTEREST RATE	7.9	8.2	8.5	8.7	9.2	9.6	9.9
NOMINAL RATE ON COMMERCIAL BONDS	11.5	11.1	10.2	8.6	9.0	8.9	8.8
REAL RATE ON COMMERCIAL BONDS	7.1	8.2	8.4	8.6	9.1	9.1	8.9

NUMBERS IN BILLIONS OF DOLLARS OR PERCENTS.

TABLE A2: NET FARM INCOME FOR SCENARIO 1
HIGH DEFICITS AND SLOW GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
INCOME							
CASH RECEIPTS FROM:							
CROP MARKETINGS	72.7	66.1	70.5	74.3	64.8	65.4	69.4
LIVESTOCK MARKETINGS	73.0	75.1	85.2	81.7	76.1	73.8	73.8
TOTAL	145.7	141.3	155.6	156.0	140.8	139.2	143.2
GOVERNMENT PAYMENTS	10.0	4.0	3.8	3.6	3.6	3.6	3.6
TOTAL CASH RECEIPTS	155.7	145.3	159.5	159.7	144.5	142.8	146.9
NONMONEY AND OTHER FARM INCOME							
TOTAL REALIZED INCOME	15.6	15.6	15.4	15.0	14.7	14.2	13.8
NET CHANGE IN FARM INVENTORIES	8.8	2.9	3.0	3.0	3.0	3.0	3.0
TOTAL	24.4	18.5	18.4	18.0	17.6	17.2	16.8
TOTAL GROSS FARM INCOME	180.1	163.8	177.9	177.7	162.1	160.1	163.6
PRODUCTION EXPENSES							
OPERATING EXPENSES	104.0	104.3	104.0	99.0	95.2	91.7	89.8
OTHER INTEREST, TAXES AND RENT	20.4	19.7	19.5	18.2	18.5	18.9	19.4
DEPRECIATION AND DAMAGE	24.7	25.1	25.5	25.4	25.3	25.2	25.1
TOTAL	149.1	149.0	149.0	142.6	139.1	135.9	134.4
TOTAL NET FARM INCOME	31.0	14.7	28.9	35.1	23.0	24.2	29.3
REAL NET FARM INCOME *	10.8	5.0	9.7	11.8	7.7	8.1	9.9

NUMBERS IN BILLIONS OF DOLLARS

TABLE A3: BALANCE SHEET OF THE FARMING SECTOR FOR SCENARIO 1
HIGH DEFICITS AND SLOW GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
ASSETS							
PHYSICAL ASSETS:							
REAL ESTATE	745.8	718.2	703.5	672.7	637.9	594.0	548.0
NONREAL ESTATE:							
LIVESTOCK AND POULTRY	45.1	41.6	38.8	34.1	27.1	20.5	16.2
MACHINERY AND MOTOR VEHICLES	115.4	116.3	118.5	118.0	117.5	117.4	117.3
CROPS STORED ON AND OFF FARMS	31.9	23.1	22.6	17.9	13.1	9.3	5.6
HOUSEHOLD EQUIPMENT AND FURNISHINGS	23.9	24.5	24.9	25.0	25.1	25.2	25.2
FINANCIAL ASSETS:							
DEPOSITS AND CURRENCY	31.9	40.4	49.5	58.3	66.9	75.7	84.7
U.S. SAVINGS BONDS AND INVST. IN COOPS	29.6	32.0	34.8	37.0	39.3	41.5	43.6
TOTAL	1023.7	996.1	992.6	962.9	926.9	883.6	840.7
CLAIMS							
LIABILITIES:							
REAL ESTATE DEBT	111.8	115.7	122.4	129.0	137.3	147.7	160.3
NONREAL ESTATE DEBT	108.1	109.9	110.4	106.8	105.3	105.0	105.2
TOTAL LIABILITIES	219.9	225.6	232.8	235.8	242.6	252.7	265.6
PROPRIETORS EQUITIES	803.8	770.6	759.8	727.1	684.3	630.9	575.1
TOTAL	1023.7	996.1	992.6	962.9	926.9	883.6	840.7
REAL TOTAL FARM ASSETS AND REAL TOTAL FARM LIABILITIES*	359.4	339.8	332.6	322.7	310.9	296.8	282.8

*CALCULATED BY DIVIDING BY THE GNP DEFLATOR (1967=1.00)

NUMBERS IN BILLIONS OF DOLLARS.

TABLE A4: CASH SOURCES AND USES OF FUNDS IN THE FARM SECTOR FOR SCENARIO 1
DEFICITS AND SLOW GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
CASH SOURCES OF FUNDS							
NET CASH INCOME FROM FARM SOURCES	40.9	40.4	57.0	63.7	51.6	52.6	57.8
NET CASH INCOME FROM OFF-FARM SOURCES	44.3	44.4	44.3	44.2	43.0	40.5	38.9
NET FLOW OF REAL ESTATE LOANS	1.0	3.9	6.7	6.6	8.3	10.4	12.6
NET FLOW OF NONREAL ESTATE LOANS	5.9	1.6	-.2	-3.9	-2.1	-1.1	-.2
TOTAL CASH SOURCES OF FUNDS	92.2	90.3	107.7	110.6	100.8	102.5	109.1
CASH USES OF FUNDS							
PURCHASES OF MACHINERY AND MOTOR VEHICLES	14.7	12.7	14.6	14.3	14.2	14.5	14.5
CAPITAL IMPROVEMENT TO REAL ESTATE ASSETS	5.5	3.8	3.8	5.4	5.5	5.5	5.6
OTHER CAPITAL FORMATION	11.6	13.2	14.7	13.6	13.3	13.4	13.6
ANNUAL CAPITAL FORMATION	31.8	29.7	33.2	33.3	33.1	33.3	33.6
PURCHASES OF REAL ESTATE FROM DISCONTINUING PROPRIETORS	7.1	8.0	8.8	9.3	9.7	10.0	10.3
TOTAL PURCHASED CAPITAL	38.8	37.7	41.9	42.6	42.8	43.3	43.9
PERSONAL CONSUMPTION AND OTHER CASH USES	53.3	52.7	65.8	68.0	58.0	59.1	65.2
TOTAL CASH USES OF FUNDS	92.2	90.3	107.7	110.6	100.8	102.5	109.1
TOTAL PURCHASED CAPITAL	38.8	37.7	41.9	42.6	42.8	43.3	43.9
CHANGE IN INVENTORIES	8.8	2.9	3.0	3.0	3.0	3.0	3.0
TOTAL CAPITAL FLOW	47.6	40.6	44.9	45.5	45.8	46.3	46.9
REAL DOLLAR FLOWS:							
NET CASH INCOME FROM FARM SOURCES/CPI	14.4	13.8	19.1	21.3	17.3	17.7	19.5
NET CASH INCOME FROM OFF-FARM SOURCES/CPI	15.6	15.1	14.8	14.8	14.4	13.6	13.1
TOTAL CASH SOURCES OF FUNDS/CPI	32.4	30.8	36.1	37.1	33.8	34.4	36.7
ANALYTICAL RATIOS:							
TOTAL PURCHASED CAPITAL/TOTAL NET CASH INCOME	94.9	93.1	73.5	66.8	82.9	82.4	75.9
TOTAL NET FLOW OF LOANS/TOTAL PURCHASED CAPITAL	17.9	14.6	15.3	6.3	14.7	21.5	28.2
TOTAL NET FLOW OF LOANS/TOTAL CAPITAL FLOW	14.6	13.5	14.3	5.9	13.7	20.2	26.4
NET FLOW OF REAL ESTATE LOANS/TOTAL CASH USES	1.1	4.3	6.2	6.0	8.3	10.1	11.6
CASH INCOME/TOTAL CASH USES	44.4	44.8	53.0	57.6	51.2	51.3	53.0
DEBT OUTSTANDING/TOTAL CASH INCOME	537.7	557.7	408.0	370.4	470.4	480.7	459.4

NUMBERS IN BILLIONS OF DOLLARS

TABLE A5: MACROECONOMIC VARIABLES FOR SCENARIO 2
HIGH DEFICITS AND RAPID GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT (GNP)							
NOMINAL U.S. GNP	3700.8	4013.1	4481.8	5024.1	5676.4	6532.5	7627.6
PERCENT CHANGE	11.8	8.4	11.7	12.1	13.0	15.1	16.8
CONSTANT DOLLAR GNP	1299.5	1350.1	1408.2	1461.9	1516.5	1588.4	1673.0
PERCENT CHANGE	7.2	3.9	4.3	3.8	3.7	4.7	5.3
PRICES:							
GNP DEFLATOR	284.8	297.2	318.3	343.7	374.3	411.2	455.9
PERCENT CHANGE	4.3	4.4	7.1	8.0	8.9	9.9	10.9
CONSUMER PRICE INDEX (CPI)	310.7	319.2	340.1	364.5	394.2	430.1	473.6
PERCENT CHANGE	3.2	2.7	6.6	7.2	8.2	9.1	10.1
CPI FOOD	301.2	312.2	331.3	354.0	378.1	410.8	452.8
PERCENT CHANGE	3.5	3.6	6.1	6.8	6.8	8.6	10.2
CPI DURABLES	251.9	258.7	270.6	284.5	301.9	322.7	347.2
PERCENT CHANGE	3.2	2.7	4.6	5.1	6.1	6.9	7.6
CPI NONFOOD NONDURABLES	328.9	337.1	360.5	387.6	421.4	461.2	508.9
PERCENT CHANGE	3.1	2.5	6.9	7.5	8.7	9.5	10.3
INTEREST RATES:							
NOMINAL RATE ON 3 MONTH TREASURY BILLS	9.6	7.4	10.4	11.6	12.9	14.3	15.7
REAL RATE ON 3 MONTH TREASURY BILLS	5.3	3.0	3.3	3.6	4.0	4.4	4.8
NOMINAL RATE ON 3/5 YEAR GOVERNMENT BONDS	12.7	7.5	10.3	11.5	12.7	13.9	15.2
REAL RATE ON 3/5 YEAR GOVERNMENT BONDS	8.4	3.1	3.3	3.5	3.8	4.0	4.3
NOMINAL RATE ON LONG TERM GOVERNMENT BONDS	12.8	7.2	10.1	11.2	12.3	13.5	14.7
REAL RATE ON LONG TERM GOVERNMENT BONDS	8.5	2.9	3.0	3.2	3.4	3.6	3.9
NOMINAL PRIME INTEREST RATE	12.2	10.0	13.6	14.8	16.2	17.6	19.0
REAL PRIME INTEREST RATE	7.9	5.6	6.5	6.9	7.3	7.7	8.2
NOMINAL RATE ON COMMERCIAL BONDS	11.3	10.5	13.0	13.5	14.1	14.4	14.6
REAL RATE ON COMMERCIAL BONDS	7.0	6.1	5.9	5.5	5.1	4.5	3.7

NUMBERS IN BILLIONS OF DOLLARS OR PERCENTS.

TABLE A6: NET FARM INCOME FOR SCENARIO 2
HIGH DEFICITS AND RAPID GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
INCOME							
CASH RECEIPTS FROM:							
CROP MARKETINGS	75.7	78.3	87.7	92.7	95.4	100.3	115.6
LIVESTOCK MARKETINGS	73.2	80.9	93.3	98.3	98.3	108.8	121.8
TOTAL	148.9	159.2	181.1	191.0	193.6	209.1	237.5
GOVERNMENT PAYMENTS	10.0	4.0	3.8	3.6	3.6	3.6	3.6
TOTAL CASH RECEIPTS	158.9	163.2	184.9	194.6	197.3	212.8	241.1
NONMONEY AND OTHER FARM INCOME							
TOTAL REALIZED INCOME	15.6	15.6	16.2	16.8	17.6	18.4	19.3
NET CHANGE IN FARM INVENTORIES	8.8	3.0	3.2	3.4	3.7	4.1	4.6
TOTAL	24.4	18.6	19.4	20.2	21.3	22.5	23.9
TOTAL GROSS FARM INCOME	183.3	181.8	204.3	214.9	218.6	235.3	265.0
PRODUCTION EXPENSES							
OPERATING EXPENSES	104.1	105.7	114.9	123.4	132.4	146.3	164.3
OTHER INTEREST, TAXES AND RENT	20.5	17.9	22.3	25.9	30.7	37.1	45.9
DEPRECIATION AND DAMAGE	24.7	25.7	27.4	29.0	31.1	33.6	36.6
TOTAL	149.3	149.4	164.6	178.3	194.2	216.9	246.8
TOTAL NET FARM INCOME	34.0	32.4	39.7	36.6	24.4	18.4	18.2
REAL NET FARM INCOME *	11.9	10.9	12.5	10.6	6.5	4.4	3.9

NUMBERS IN BILLIONS OF DOLLARS

TABLE A7: BALANCE SHEET OF THE FARMING SECTOR FOR SCENARIO 2
HIGH DEFICITS AND RAPID GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
ASSETS							
PHYSICAL ASSETS:							
REAL ESTATE	754.7	775.5	823.9	855.3	878.2	892.8	905.1
NONREAL ESTATE:							
LIVESTOCK AND POULTRY	45.2	43.8	43.6	44.2	38.5	36.8	36.9
MACHINERY AND MOTOR VEHICLES	115.6	120.1	127.4	134.3	143.0	154.4	168.1
CROPS STORED ON AND OFF FARMS	33.9	25.9	29.2	27.8	22.3	21.1	22.5
HOUSEHOLD EQUIPMENT AND FURNISHINGS	23.9	24.9	26.7	28.8	31.3	34.2	37.6
FINANCIAL ASSETS:							
DEPOSITS AND CURRENCY	31.9	40.8	51.6	64.3	79.2	97.6	120.4
U.S. SAVINGS BONDS AND INVST. IN COOPS	29.7	32.8	37.4	42.6	48.6	55.9	64.5
TOTAL	1034.9	1063.7	1139.8	1197.3	1241.2	1292.7	1355.1
CLAIMS							
LIABILITIES:							
REAL ESTATE DEBT	111.8	117.0	130.4	149.7	175.8	211.4	259.8
NONREAL ESTATE DEBT	108.1	110.1	118.7	128.8	142.3	162.1	188.5
TOTAL LIABILITIES	220.0	227.2	249.1	278.5	318.2	373.5	448.2
PROPRIETORS EQUITIES	815.0	836.6	890.7	918.8	923.1	919.2	906.9
TOTAL	1034.9	1063.7	1139.8	1197.3	1241.2	1292.7	1355.1
REAL TOTAL FARM ASSETS AND REAL TOTAL FARM LIABILITIES*	363.3	357.9	358.1	348.4	331.6	314.4	297.2

*CALCULATED BY DIVIDING BY THE GNP DEFLATOR (1967=1.00)

NUMBERS IN BILLIONS OF DOLLARS.

TABLE A8: CASH SOURCES AND USES OF FUNDS IN THE FARM SECTOR FOR SCENARIO 2
HIGH DEFICITS AND RAPID GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
CASH SOURCES OF FUNDS							
NET CASH INCOME FROM FARM SOURCES	43.9	59.2	71.3	71.4	63.0	61.9	67.9
NET CASH INCOME FROM OFF-FARM SOURCES	44.6	37.1	42.9	46.7	49.4	50.9	51.1
NET FLOW OF REAL ESTATE LOANS	1.1	5.2	13.4	19.3	26.1	35.6	48.4
NET FLOW OF NONREAL ESTATE LOANS	5.9	2.2	7.7	9.6	13.1	18.9	25.8
TOTAL CASH SOURCES OF FUNDS	95.4	103.8	135.2	147.0	151.6	167.3	193.1
CASH USES OF FUNDS							
PURCHASES OF MACHINERY AND MOTOR VEHICLES	14.7	14.4	14.9	14.4	15.5	17.5	19.0
CAPITAL IMPROVEMENT TO REAL ESTATE ASSETS	5.5	4.1	5.7	5.5	5.2	5.4	5.8
OTHER CAPITAL FROMATION	11.7	14.3	18.4	20.9	23.8	28.7	35.1
ANNUAL CAPITAL FORMATION	31.9	32.8	39.0	40.8	44.5	51.6	59.8
PURCHASES OF REAL ESTATE FROM DISCONTINUING PROPRIETORS	7.1	8.1	9.4	10.7	12.2	13.8	15.8
TOTAL PURCHASED CAPITAL	39.0	40.9	48.4	51.5	56.6	65.4	75.6
PERSONAL CONSUMPTION AND OTHER CASH USES	56.4	62.9	86.8	95.5	95.0	101.9	117.5
TOTAL CASH USES OF FUNDS	95.4	103.8	135.2	147.0	151.6	167.3	193.1
TOTAL PURCHASED CAPITAL	39.0	40.9	48.4	51.5	56.6	65.4	75.6
CHANGE IN INVENTORIES	8.8	3.0	3.2	3.4	3.7	4.1	4.6
TOTAL CAPITAL FLOW	47.8	43.9	51.6	54.9	60.4	69.5	80.2
REAL DOLLAR FLOWS:							
NET CASH INCOME FROM FARM SOURCES/CPI	15.4	19.9	22.4	20.8	16.8	15.0	14.9
NET CASH INCOME FROM OFF-FARM SOURCES/CPI	15.7	12.5	13.5	13.6	13.2	12.4	11.2
TOTAL CASH SOURCES OF FUNDS/CPI	33.5	34.9	42.5	42.8	40.5	40.7	42.3
ANALYTICAL RATIOS:							
TOTAL PURCHASED CAPITAL/TOTAL NET CASH INCOME	89.0	69.0	67.9	72.1	89.9	105.7	111.4
TOTAL NET FLOW OF LOANS/TOTAL PURCHASED CAPITAL	17.9	18.2	43.5	56.1	69.2	83.3	98.1
TOTAL NET FLOW OF LOANS/TOTAL CAPITAL FLOW	14.6	17.0	40.8	52.6	64.9	78.4	92.5
NET FLOW OF REAL ESTATE LOANS/TOTAL CASH USES	1.1	5.0	9.9	13.1	17.2	21.3	25.0
CASH INCOME/TOTAL CASH USES	46.0	57.1	52.7	48.6	41.6	37.0	35.1
DEBT OUTSTANDING/TOTAL CASH INCOME	501.6	383.5	349.6	390.2	505.1	603.8	660.6

NUMBERS IN BILLIONS OF DOLLARS

TABLE A9: MACROECONOMIC VARIABLES FOR SCENARIO 3
DECREASING DEFICITS AND MODERATE GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT (GNP)							
NOMINAL U.S. GNP	3710.1	3903.1	4132.6	4337.0	4515.4	4710.5	4927.2
PERCENT CHANGE	12.1	5.2	5.9	4.9	4.1	4.3	4.6
CONSTANT DOLLAR GNP	1302.7	1343.7	1401.5	1446.7	1492.7	1551.3	1619.9
PERCENT CHANGE	7.4	3.1	4.3	3.2	3.2	3.9	4.4
PRICES:							
GNP DEFLATOR	284.8	290.5	294.9	299.8	302.5	303.7	304.2
PERCENT CHANGE	4.3	2.0	1.5	1.7	.9	.4	.2
CONSUMER PRICE INDEX (CPI)	310.7	313.5	317.5	321.8	323.9	324.7	324.8
PERCENT CHANGE	3.2	.9	1.3	1.4	.7	.2	.0
CPI FOOD	302.2	307.7	311.5	316.2	316.5	317.1	319.4
PERCENT CHANGE	3.8	1.8	1.2	1.5	.1	.2	.7
CPI DURABLES	251.9	252.6	252.6	252.2	250.4	247.2	243.1
PERCENT CHANGES	3.1	.3	-.0	-.2	-.7	-1.3	-1.6
CPI NONFOOD NONDURABLES	328.6	331.1	335.9	341.0	344.4	345.8	346.0
PERCENT CHANGE	3.0	.8	1.5	1.5	1.0	.4	.1
INTEREST RATES:							
NOMINAL RATE ON 3 MONTH TREASURY BILLS	9.6	6.3	5.4	5.2	4.0	3.2	2.7
REAL RATE ON 3 MONTH TREASURY BILLS	5.3	4.3	3.9	3.5	3.1	2.8	2.5
NOMINAL RATE ON 3/5 YEAR GOVERNMENT BONDS	12.7	9.8	9.0	8.9	7.8	7.1	6.7
REAL RATE ON 3/5 YEAR GOVERNMENT BONDS	8.4	7.8	7.5	7.2	6.9	6.7	6.5
NOMINAL RATE ON LONG TERM GOVERNMENT BONDS	12.8	10.0	9.2	9.2	8.2	7.5	7.1
REAL RATE ON LONG TERM GOVERNMENT BONDS	8.5	8.0	7.7	7.5	7.3	7.1	6.9
NOMINAL PRIME INTEREST RATE	12.2	8.4	7.5	7.3	6.0	5.0	4.3
REAL PRIME INTEREST RATE	7.9	6.4	6.0	5.7	5.1	4.6	4.1
NOMINAL RATE ON COMMERCIAL BONDS	11.3	8.7	7.9	7.8	6.6	5.5	4.5
REAL RATE ON COMMERCIAL BONDS	6.9	6.7	6.3	6.1	5.7	5.1	4.4

NUMBERS IN BILLIONS OF DOLLARS OR PERCENTS.

TABLE A10: NET FARM INCOME FOR SCENARIO 3
DECREASING DEFICITS AND MODERATE GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
INCOME							
CASH RECEIPTS FROM:							
CROP MARKETINGS	78.8	81.1	85.1	86.2	84.1	82.6	85.5
LIVESTOCK MARKETINGS	73.2	79.6	88.5	88.4	82.3	80.2	81.1
TOTAL	152.0	160.8	173.7	174.6	166.4	162.8	166.5
GOVERNMENT PAYMENTS	10.0	4.0	3.8	3.6	3.6	3.6	3.6
TOTAL CASH RECEIPTS	162.0	164.8	177.5	178.3	170.1	166.4	170.2
NONMONEY AND OTHER FARM INCOME							
TOTAL REALIZED INCOME	15.6	15.5	15.6	15.7	15.9	16.0	16.0
NET CHANGE IN FARM INVENTORIES	8.8	2.9	2.9	3.0	3.0	3.0	3.0
TOTAL	24.4	18.4	18.6	18.7	18.9	19.0	19.1
TOTAL GROSS FARM INCOME	186.3	183.2	196.0	197.0	189.0	185.4	189.2
PRODUCTION EXPENSES							
OPERATING EXPENSES	104.2	103.3	103.5	103.5	100.8	98.4	97.9
OTHER INTEREST, TAXES AND RENT	20.5	18.8	19.1	20.1	20.1	20.3	20.8
DEPRECIATION AND DAMAGE	24.8	25.1	25.8	26.2	26.6	26.9	27.2
TOTAL	149.5	147.2	148.3	149.8	147.5	145.6	145.9
TOTAL NET FARM INCOME	36.9	36.0	47.7	47.2	41.5	39.8	43.4
REAL NET FARM INCOME *	13.0	12.4	16.2	15.7	13.7	13.1	14.3

NUMBERS IN BILLIONS OF DOLLARS

TABLE A11: BALANCE SHEET OF THE FARMING SECTOR FOR SCENARIO 3
DECREASING DEFICITS AND MODERATE GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
ASSETS							
PHYSICAL ASSETS:							
REAL ESTATE	757.8	808.7	877.1	937.9	987.7	1027.2	1069.4
NONREAL ESTATE:							
LIVESTOCK AND POULTRY	45.1	41.2	37.8	34.9	26.4	18.6	13.9
MACHINERY AND MOTOR VEHICLES	115.7	117.1	120.4	121.8	123.4	124.9	126.1
CROPS STORED ON AND OFF FARMS	35.9	24.0	25.1	22.2	14.7	9.7	5.5
HOUSEHOLD EQUIPMENT AND FURNISHINGS	24.0	24.4	24.9	25.6	26.2	26.6	26.9
FINANCIAL ASSETS:							
DEPOSITS AND CURRENCY	31.9	40.2	48.8	57.6	66.0	74.3	82.6
U.S. SAVINGS BONDS AND INVST. IN COOPS	29.7	32.3	35.6	38.9	42.0	44.8	47.5
TOTAL	1040.2	1088.0	1169.8	1239.0	1286.4	1326.2	1371.8
CLAIMS							
LIABILITIES:							
REAL ESTATE DEBT	111.9	114.7	120.7	129.7	139.7	151.0	164.4
NONREAL ESTATE DEBT	108.0	107.1	107.8	108.8	109.1	110.2	112.1
TOTAL LIABILITIES	219.8	221.8	228.6	238.5	248.8	261.2	276.5
PROPRIETORS EQUITIES	820.3	866.3	941.2	1000.4	1037.6	1064.9	1095.3
TOTAL	1040.2	1088.0	1169.8	1239.0	1286.4	1326.2	1371.8
REAL TOTAL FARM ASSETS AND REAL TOTAL FARM LIABILITIES*	365.2	374.5	396.7	413.3	425.3	436.7	451.0

*CALCULATED BY DIVIDING BY THE GNP DEFLATOR (1967=1.00)

NUMBERS IN BILLIONS OF DOLLARS.

TABLE A12: CASH SOURCES AND USES OF FUNDS IN THE FARM SECTOR FOR SCENARIO 3
DECREASING DEFICITS AND MODERATE GROWTH IN MONEY: 1984-1990

ITEMS	1984	1985	1986	1987	1988	1989	1990
CASH SOURCES OF FUNDS							
NET CASH INCOME FROM FARM SOURCES	46.7	62.6	77.8	78.8	74.3	73.6	78.3
NET CASH INCOME FROM OFF-FARM SOURCES	45.0	40.6	40.3	39.5	37.0	35.2	35.1
NET FLOW OF REAL ESTATE LOANS	1.1	2.9	6.0	9.0	10.0	11.3	13.4
NET FLOW OF NONREAL ESTATE LOANS	5.8	-.1	-.2	.7	.4	1.0	2.0
TOTAL CASH SOURCES OF FUNDS	98.5	106.0	123.8	127.9	121.6	121.1	128.7
CASH USES OF FUNDS							
PURCHASES OF MACHINERY AND MOTOR VEHICLES	14.8	13.8	15.5	14.5	15.3	15.7	15.8
CAPITAL IMPROVEMENT TO REAL ESTATE ASSETS	5.5	4.1	5.9	7.8	7.7	8.8	9.5
OTHER CAPITAL FROMATION	11.8	13.2	14.7	15.0	14.0	13.6	13.7
ANNUAL CAPITAL FORMATION	32.1	31.1	36.1	37.3	37.0	38.1	39.0
PURCHASES OF REAL ESTATE FROM DISCONTINUING PROPRIETORS	7.1	7.9	8.7	9.3	9.8	10.2	10.5
TOTAL PURCHASED CAPITAL	39.1	39.1	44.7	46.6	46.8	48.3	49.5
PERSONAL CONSUMPTION AND OTHER CASH USES	59.4	66.9	79.1	81.3	74.8	72.8	79.2
TOTAL CASH USES OF FUNDS	98.5	106.0	123.8	127.9	121.6	121.1	128.7
TOTAL PURCHASED CAPITAL	39.1	39.1	44.7	46.6	46.8	48.3	49.5
CHANGE IN INVENTORIES	8.8	2.9	2.9	3.0	3.0	3.0	3.0
TOTAL CAPITAL FLOW	47.9	42.0	47.7	49.6	49.9	51.4	52.5
REAL DOLLAR FLOWS:							
NET CASH INCOME FROM FARM SOURCES/CPI 16.4	16.4	21.6	26.4	26.3	24.6	24.2	25.7
NET CASH INCOME FROM OFF-FARM SOURCES/CPI	15.8	14.0	13.7	13.2	12.2	11.6	11.5
TOTAL CASH SOURCES OF FUNDS/CPI	34.6	36.5	42.0	42.7	40.2	39.9	42.3
ANALYTICAL RATIOS:							
TOTAL PURCHASED CAPITAL/TOTAL NET CASH INCOME	83.8	62.4	57.5	59.2	63.1	65.7	63.2
TOTAL NET FLOW OF LOANS/TOTAL PURCHASED CAPITAL	17.5	7.0	12.9	20.7	22.1	25.4	31.1
TOTAL NET FLOW OF LOANS/TOTAL CAPITAL FLOW	14.3	6.6	12.1	19.5	20.7	23.9	29.3
NET FLOW OF REAL ESTATE LOANS/TOTAL CASH USES	1.1	2.7	4.9	7.0	8.2	9.4	10.4
CASH INCOME/TOTAL CASH USES	47.4	59.1	62.8	61.6	61.1	60.8	60.8
DEBT OUTSTANDING/TOTAL CASH INCOME	470.5	354.2	293.8	302.8	334.9	355.0	353.2

NUMBERS IN BILLIONS OF DOLLARS