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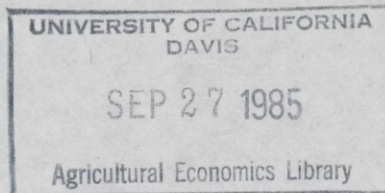
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STAFF PAPER

Aggregate Production, Income, and Financial Effects
of the 1980-83 Recession in Agriculture

by

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Aggregate Production, Income, and Financial Effects
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My charge in this paper is to describe some of the aggregate effects of changes in the agricultural sector during the 1980-83 period. Our overall title refers to the 1980-83 recession, but one might question what constitutes a recession for a sector of the economy. The agricultural sector is not a homogeneous sector. Some segments had some good years, and gross receipts of the sector were both up and down over the period. Total cash receipts in current dollars increased from 1979 until 1982 but dropped off in 1983. In constant dollars, however, total cash receipts did decrease each year from 1979 through 1983. (Note tables and figures attached.)

Operators net farm income dropped by about one-third from 1979 to 1980, but it then increased in 1981 to almost the same level as 1979. In 1982, operators net farm income dropped, and it decreased still further in 1983. In constant dollars, operators net farm income in 1983 would have been comparable to the depression years of the early 1930s, but of course, NFI was divided among many less farmers in 1983.

Prices of farm products increased in some of the 1980-83 years. The index of prices received by farmers rose in 1980 and '81 compared to 1979, then decreased in 1982, and stabilized in 1983. Clearly, however, the margin between prices received and prices paid diminished each year over the period. Using 1977 price relationships, the ratio of prices received to prices paid was 1.07 in 1979. That ratio decreased to .97 in 1980, .93 in 1981, .85 in 1982, and .83 in 1983. Clearly, the pinch for farmers between prices received and prices paid by 1983 was much more severe than four years earlier.

Considering prices of individual commodities, it was generally true that there were both ups and downs from 1980-83. Of the several prices shown in appendix materials, only beef steers and heifers prices had a continual downward trend over the entire period. Each of the other products had at least one or two upward moves in their annual prices.

While it may be questionable, then, to characterize 1980-83 as a general agricultural recession, it is also clear that the agricultural sector has experienced, and is experiencing, very difficult times. The popular press has given much publicity to the number of bankruptcies, foreclosures, and delinquencies. Operators net farm income has remained below 1979 levels, and in 1983 was only half of the 1979 level, even in current dollars. Recent data from agricultural lenders indicate a strong upward trend in charge-offs, loans in process of liquidation, past-dues, etc. Tables of these data are attached. Another indication of distress is that real estate and production durables markets have been especially soft due to the number of liquidations and the relatively poor income prospects for farmers. Within two years, land values dropped one-sixth to one-fourth in several states. Much net worth disappeared from individual farm balance sheets as lenders wrote down asset values accordingly.

Still another indicator of the stress is the large number of special programs and congressional bills that have been proposed to alleviate the problems in agriculture.

While the foregoing indicate problems, perhaps one of the most critical aspects of the farm situation in recent years has been the relative increase in debt service costs. In 1979, total interest payments of farmers were \$12.5 billion, up from \$6 billion in 1975. By 1982, only three years later, interest payments reached \$20.98 billion dollars--3.45 times what they had been only seven years earlier.

Real long term interest rates in the U.S. which are generally expected to average 1-4 percent exceeded 7% in 1982, 8% in 1983, and are currently between 9 and 10%. Financial markets are being squeezed to dampen inflationary expectations, to decrease loan demand, and to increase the rate of savings.

While high real interest rates made debt service costs high, an important effect of the current high rates has been to decrease prices of basic resources and commodities. Such decreases in commodity prices, to the extent they occur, raise the real value of debt in terms of bushels of grain or hours of work it takes to repay the debt.

Still another indication of debt service difficulty can be seen by looking at interest costs as a percentage of cash income from farming after paying business expenses except for interest. That is, take total cash receipts, subtract all cash expenses except interest. What is left is used to pay for interest, principal, and new capital items or assets including land. Also, part serves as a payment to operators for their labor. This latter might be used primarily for family living, nonfarm investments and the like. In 1975, 17% of cash available for debt service, asset purchases and living was paid for interest. By 1981, interest had risen to 35%, and it has since been between 33 and 38%. While interest as a percentage of the total figure has risen, the total cash available for debt service, asset purchases and living has remained relatively constant over the period.

Of interest also, because of its effect on farm lenders, is the distribution of the farm debt. Melichar has estimated that by January 1, 1983, 18% of all farm operators had debt to asset ratios of over 40%. Debt, of course, is closely associated with farm size. And, 44% of farms with over \$200,000 of sales had debt-asset ratios in excess of 40%. From the lenders standpoint, the risk is magnified since 63% of outstanding debt is owed by those with debt-asset ratios greater than 40%. And, 31% of debt is owed by those with debt asset ratios greater than 70%.

Another part of this difficult adjustment, perhaps coming from higher real interest rates and lower farm income expectations, is the halt in ever increasing land values and the associated generation of farm wealth. Melichar, in his W. I. Myers Lecture, estimated that events of the 1970s produced real capital gains of about \$465 billion 1983 dollars in that decade--a "monster"; as he put it, demanding continued increases in income to maintain itself. The changed relationships thus far in the 1980s have taken away one-third of that 1970s capital gains. The public policy issues now being discussed really concern how much of the remaining \$300 billion of capital gains are to be taken back versus being maintained by feeding additional income to the "monster". The point is that income prospects, interest rates and asset values are not in balance. They must, and will, adjust toward equilibrium either through higher income, lower interest rates, lower asset values, or some combination of those three.

Regional or farm type differences would be useful to document. I do not have data to do so. Data reflecting the severity of financial stress among farmers by regions and farm types are not easily obtained, nor I think, are we doing a good job of monitoring the situation. The general impression is that early problems arose in the Southeast and Eastern corn belt and have since spread to the Great Plains. With respect to farm types, grain farmers, cow-calf, and beef feeders, have all had a period of severe financial stress. Some fruit producers, especially grape growers, have been hard hit. Dairymen escaped somewhat until 1983, but their problems may yet lie ahead.

With a very diverse agriculture and a number of different reasons for problems in the agricultural sector, one should not expect their effects to be simple and/or uniform. It seems to me that the causes of current problems are not "the agricultural recession of 1980-83". Rather, the basic causes are the numerous factors which contributed to recent farm distress. As I see it, some of the major contributors are:

1. Numerous farmers overleveraged as they sought economic advantage under the tried and true strategy of the 1970s. This, of course, was based on an incorrect expectation concerning future inflation rates and income in the agricultural sector.
2. High real and nominal interest rates were made even more severe because a large part of the farm debt is now on some form of variable rate basis.
3. Natural disasters, widespread drought, floods, etc.
4. Emergency credit, or credit of last resort to deal with natural disasters, also now carries high real interest rates rather than the subsidies of earlier years.
5. The high value of the dollar compared to other currencies has hurt export markets as U.S. produced goods have become high priced in international markets.
6. Overly favorable price supports on some products such as milk have created surpluses and a need to reduce production. This is being done by lowering profitability.

There are some lessons and principles to be learned (or relearned) from the 1980s to date. Some of the more important follow:

1. Contributing factors to farm distress came from numerous sources: general economic policy, farm price and income policy, agricultural finance policy, lenders policies, personal financial management strategies of farmers, and natural disasters. There is no single cause, nor should one expect, therefore, a single, simple solution. Nevertheless, a major factor in farm failures in this instance has been high debt coupled with abnormally high interest rates. This, in turn, probably means a disproportionate number of beginning farmers have failed or are failing.
2. Abrupt changes in policies, expectations, and relationships have created havoc with agriculture. The capital gains of the '70s have already partially disappeared in the 1980s. Land values, it turns out, can come down as well as go up. Indexed price supports can be deindexed. Such abrupt changes create critical financial distress for many farmers.

3. Interest rate risk has been largely shifted to farmers and away from lenders. Farmers and rural areas, in general, have become much less insulated from interest rate changes compared to just a few short years ago. One result, however, is that farm lender's default risk has become substantially greater as larger numbers of farmers failed due to the increased debt service burden.

4. The increased price of capital as reflected in high real interest rates is forcing farmers attention toward ways to economize on capital. The optimal combination of capital and labor has undoubtedly shifted toward less capital relative to labor than prior to 1980-83.

5. Farmers and lenders have rediscovered cash flow and debt service concepts after a period of overemphasizing asset values and net worth. Problems developed in part because financing had been based on the balance sheet rather than cash flow. Both are important.

6. Closer monitoring of the financial health of the farm sector is needed. To do so will require series of more appropriate statistics. We do not have sufficient information characterizing the financial health of the farm and rural sector. Foreclosures, delinquencies, past dues and similar data are either unavailable, not comparable, or incomplete by lender, by farm location and by farm type. Such data are needed for public policy purposes.

7. Finally, undoubtedly the financial health of the agricultural sector also affects rural businesses and communities as do monetary and fiscal policies. The effects of farm distress and other economic policies of the '80s on this segment needs analysis. One suspects that it may be more serious than presently recognized.

Table 1. Cash Receipts, Gross Income from Farming and Operators
Net Farm Income, Selected Years.

Year	Livestock Receipts	Crops Receipts	Govt Pmts	Total Cash Receipts	Gross Income from Farming ^{1/}	Operators Net Farm Income ^{1/}
Millions of dollars						
1975	43,089	45,813	807	89,709	100,598	25,555
1978	59,162	53,708	3,030	115,900	127,198	27,651
1979	68,594	63,174	1,375	133,143	150,358	32,301
1980	67,800	72,707	1,286	141,793	150,186	21,239
1981	69,215	73,342	1,932	144,489	167,057	30,966
1982	70,139	74,623	3,492	148,254	161,821	22,339
1983	69,203	69,516	9,294	148,014	151,421	16,100

^{1/} Includes home consumption, rental value of dwellings, change in farm inventories, etc.

Source: Tables 39 and 46, Economic Indicators of the Farm Sector, ECIFS 2-2, ERS, USDA, Oct. 1983. (1983 data obtained by phone.)

Table 2. Farm Sector Cash Income and Uses
(Excluding Farm Households), Selected Years.

Year	Total Cash Receipts ^{1/}	Intermediate Production Expenses	Business Taxes Wages, Rent	Interest	Total Cash Uses	Cash Income from Farming	Col. 4 as % of (Col. 4 + Col. 6)
Millions of dollars							
1975	90,715	42,606	13,063	6,075	61,744	28,971	17.3
1978	118,477	56,354	14,876	9,788	81,018	37,459	20.7
1979	135,070	67,651	17,106	12,533	97,290	37,780	24.9
1980	142,838	71,925	17,762	15,637	105,324	37,514	29.4
1981	147,178	74,384	18,046	19,118	111,548	35,630	34.9
1982	149,181	73,756	19,732	20,982	114,470	34,712	37.7
1983	149,546	70,940	18,177	20,369	109,486	40,061	33.7

^{1/} Includes changes in CCC loans.

Source: Tables 3 and 4, Economic Indicators of the Farm Sector, ECIFS 2-2, ERS, USDA, Oct. 1983. (1983 data obtained by phone.)

Table 3. Cash Income From Farming, Change in Outstanding Loans, and Capital Expenditures of the Farm Sector, Selected Years.

Year	Cash Income from Farming ^{1/}	Change in Real Estate Loans	Change in Non Real Estate Loans	Capital Expenditures
Millions of dollars				
1975	28,971	4,588	4,602	12,384
1978	37,459	7,563	8,283	17,948
1979	37,780	12,983	10,869	19,874
1980	37,514	9,351	5,863	17,959
1981	35,630	9,301	6,171	16,829
1982	34,712	3,746	3,098	13,640
1983	40,061	2,120	768	13,057

^{1/} Includes changes in CCC Loans Outstanding.

Source: Table 4, Economic Indicators of the Farm Sector, EC1FS 2-2, ERS, USDA, Oct. 1983.(1983 data obtained by phone.)

Table 4. PCA and FLB Chargeoffs, Loans in Process of Liquidation, and Loans 90 Days Past Due, Selected Years.

	Year						3/31/84
	1978	1979	1980	1981	1982	1983	
<u>Chargeoffs</u>	Percent of Outstandings						
PCA	.06	.05	.11	.20	.74	1.20	----
FLB	.01	*	*	*	*	.02	----
<u>Loans in process of liquidation</u>							
PCA	NA	NA	NA	NA	0.97	2.19	2.60
FLB	NA	NA	NA	NA	0.23	0.79	1.35
<u>Loans 90 days or more past due</u>							
PCA	NA	NA	NA	NA	NA	NA	3.75
FLB	NA	NA	NA	NA	NA	NA	0.53

NA is not available

*Negligible--less than .005%

Source: Farm Credit Administration (Data obtained by phone.)

Fig. 1 Index of Prices Paid and
Prices Received by Farmers

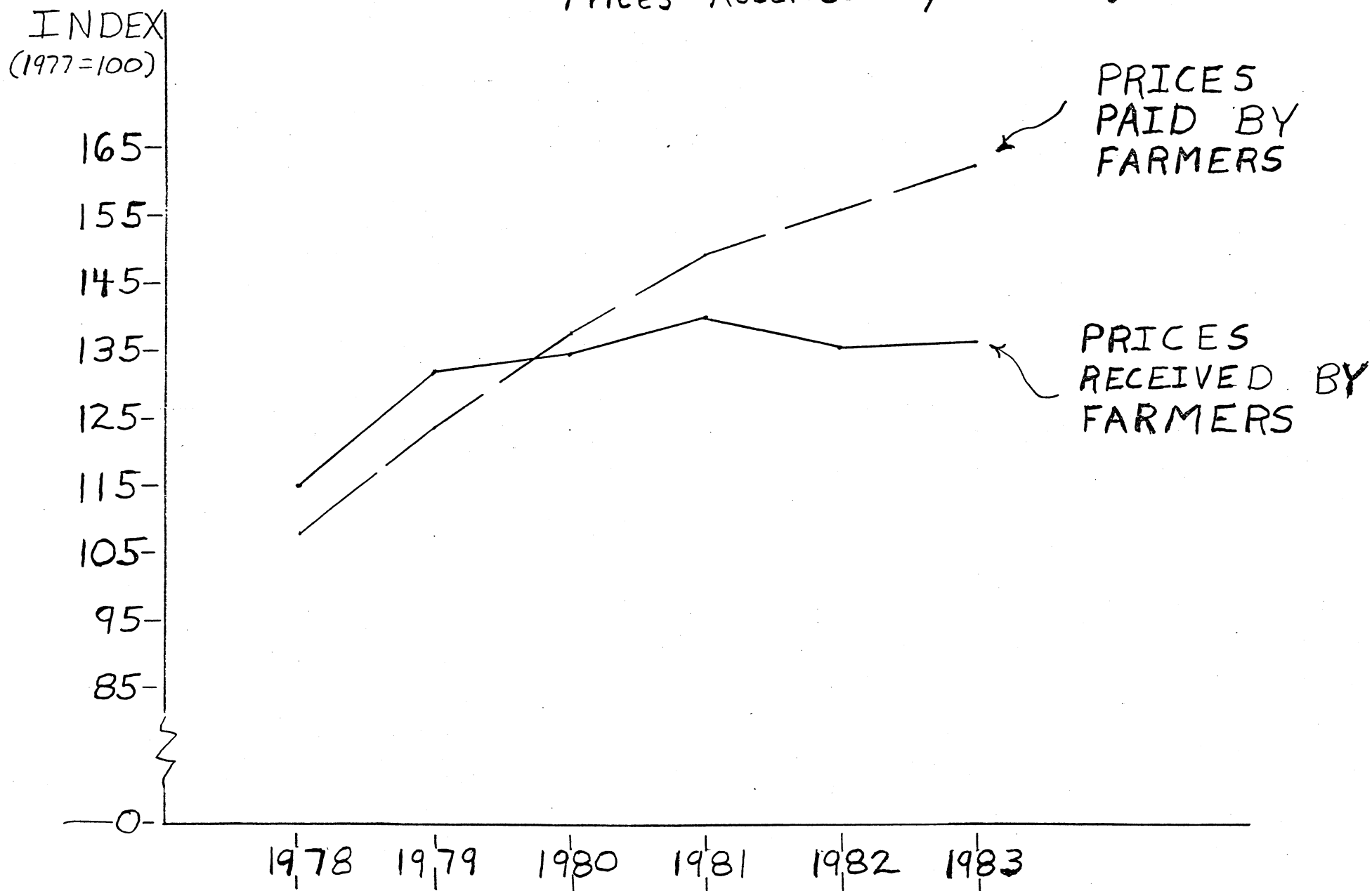


Fig. 2

PRICES RECEIVED BY U.S. FARMERS--
SELECTED COMMODITIES
ANNUAL AVERAGES

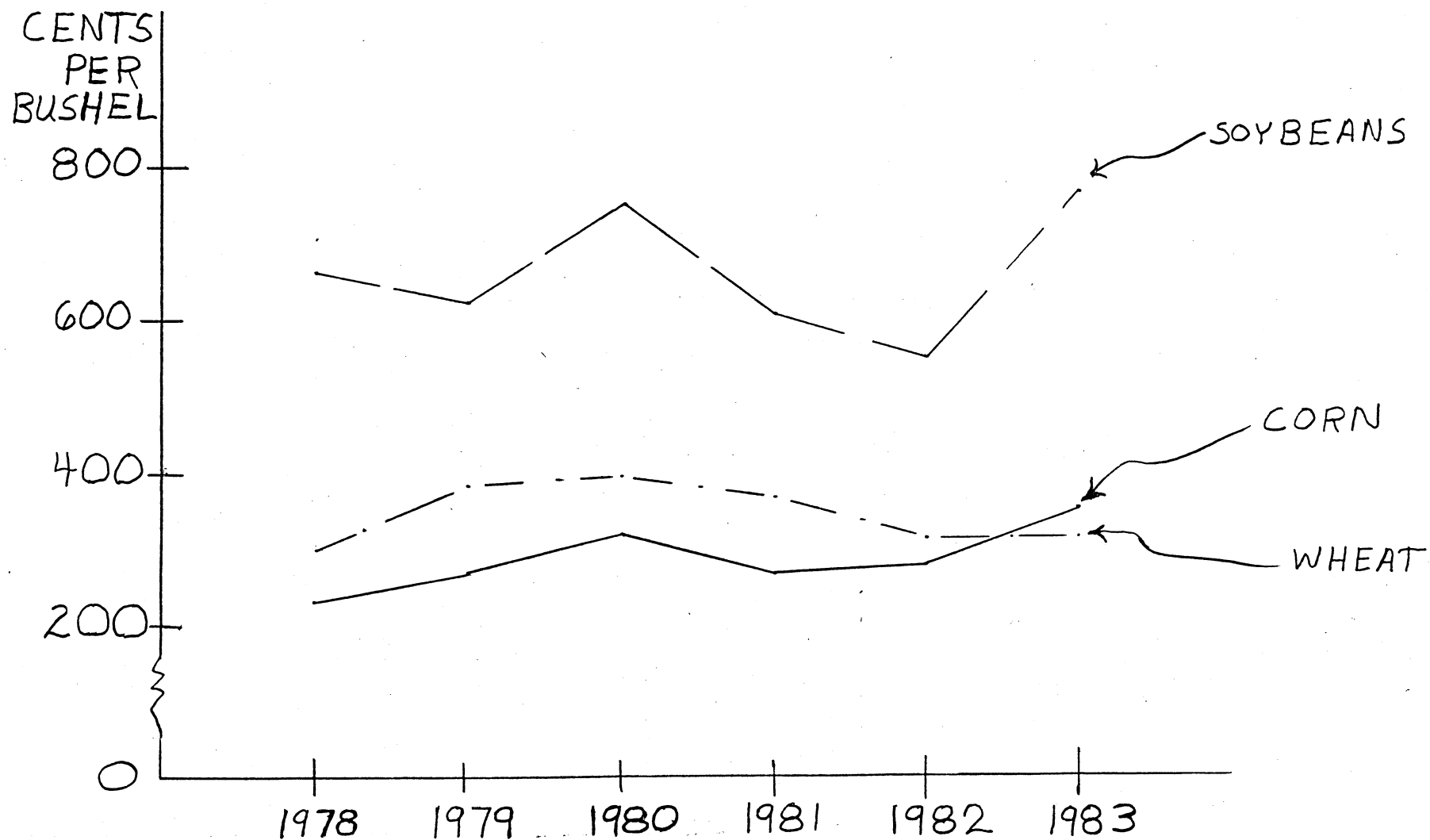
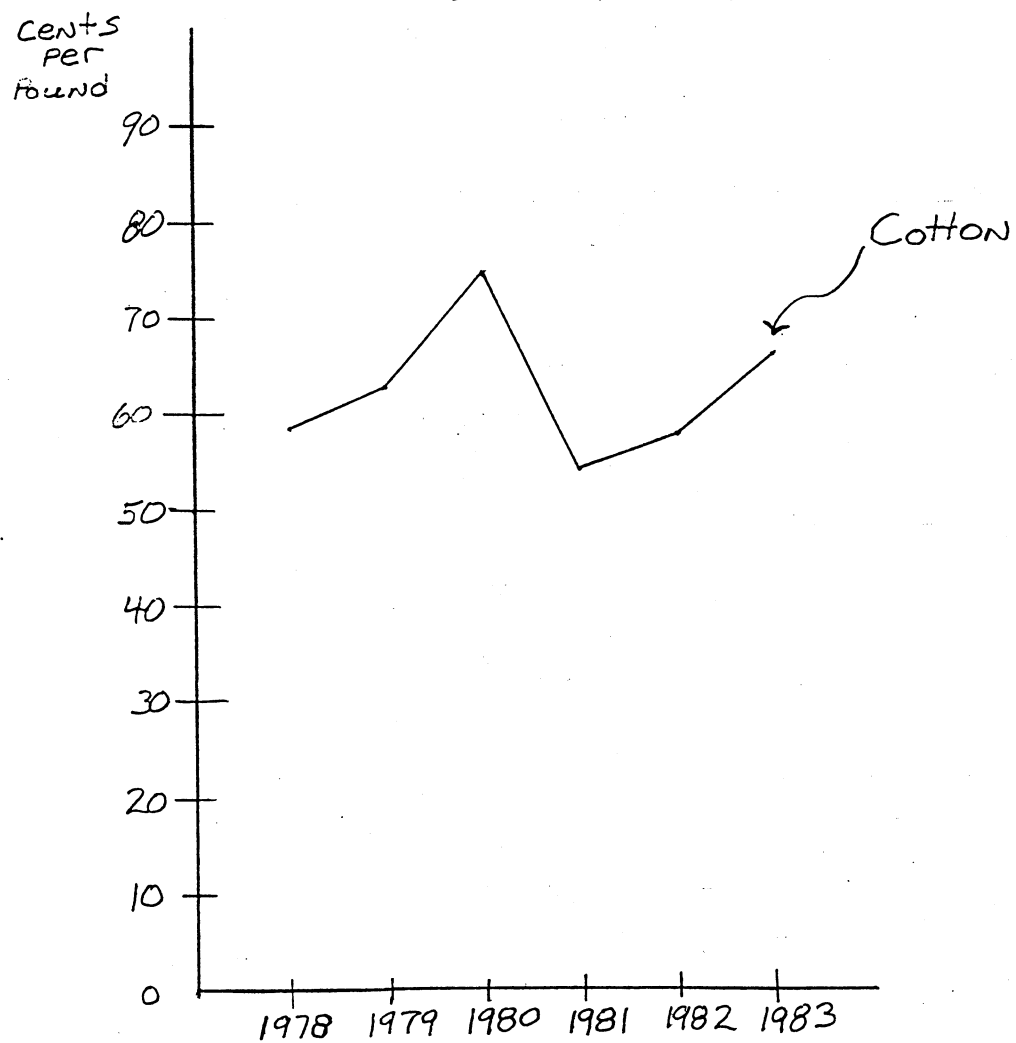
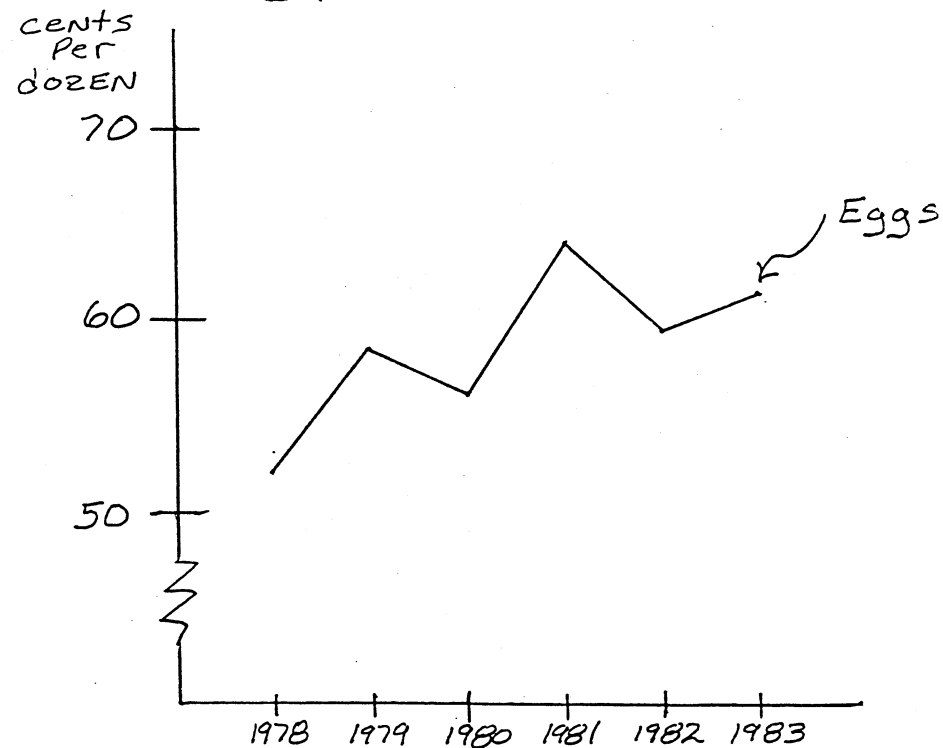


Fig. 3

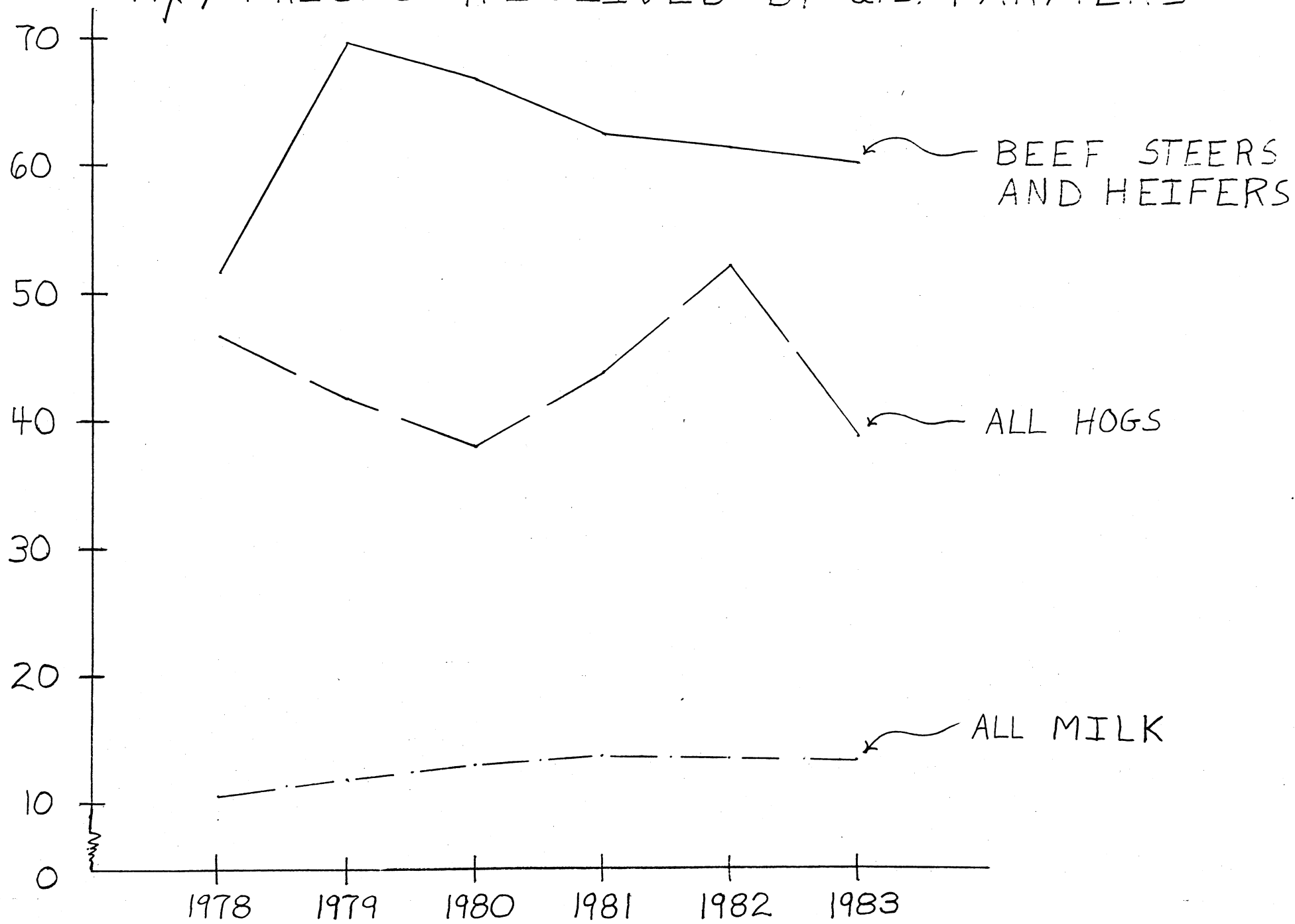
PRICE RECEIVED BY U.S. FARMERS



PRICE RECEIVED BY U.S. FARMERS



Per C.W.T. Fig. 4 PRICES RECEIVED BY U.S. FARMERS



LONG TERM "REAL" INTEREST RATES, U.S. 1974-84^a

%
real
interest
rate

10 —
9 —
8 —
7 —
6 —
5 —
4 —
3 —
2 —
1 —
0 —
-1 —
-2 —
-3 —

1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984

(Most Recent)

^a Corporate AAA
Bonds less C.P.I.

Source: U.S. News and
World Report, July 30, 1984,
p. 51.

