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AN ASSESSMENT OF ALTERNATIVE POLICY RESPONSES TO FINANCIAL STRESS IN AGRICULTURE

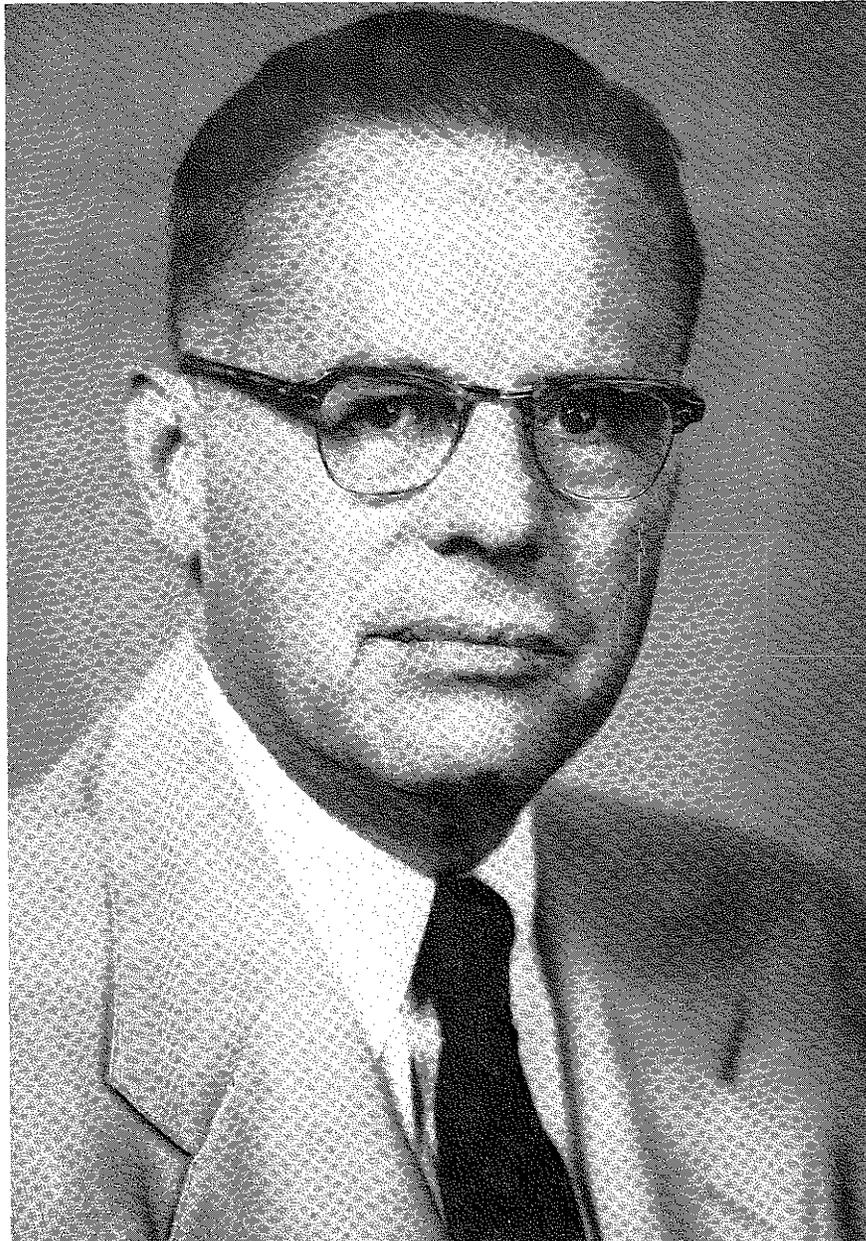
Michael D. Boehlje
Iowa State University

W. J. Myers
Memorial Lecture

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Department of Agricultural Economics
Cornell University Agricultural Experiment Station
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York, 14853

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William I. Myers (1891-1976) was one of the early agricultural economists who worked on problems of agricultural finance. He was appointed a full professor of farm finance at Cornell University in 1920. In 1932, Professor Myers was asked to prepare recommendations for a legislative program to solve the agricultural finance problems of those times. His proposals found approval from President-elect Roosevelt, and his ideas formed the foundation for the creation of the Farm Credit Administration and the present Federal Cooperative Farm Credit System. Then, at the request of President Roosevelt, he was granted a leave of absence from Cornell in March, 1933, to serve as assistant to Henry Morgenthau, then chairman of the Federal Farm Board. Morgenthau was appointed the first governor of FCA, and Myers became Deputy Governor. Then, when Morgenthau became Secretary of the Treasury in September, 1933, Myers was appointed governor of the Farm Credit Administration. He served in that capacity until 1938 when he returned to Cornell University as head of the Department of Agricultural Economics. In 1943, he became Dean of the College of Agriculture serving until 1959.

The purpose of the W. I. Myers Memorial Lecture is to bring to this campus an outstanding agricultural finance economist to lecture on a timely topic. The lecture is sponsored by the Cornell University Department of Agricultural Economics as a part of its continuing emphasis in agricultural finance.

ACKNOWLEDGMENTS

This discussion draws heavily from a paper entitled "Agricultural Policy and Financial Stress" by Michael D. Boehlje, R. Thamodaran, and Alan D. Barkema published by the American Enterprise Institute, January, 1985.

INTRODUCTION

Many farmers are currently facing severe financial stress resulting in asset liquidations, problems in obtaining credit, and even bankruptcy. An important question in policy analysis is the applicability of traditional farm policy approaches to the problem of financial stress in agriculture. This is a particularly relevant question given that the 1983 PIK program was one of the most expensive and largest government transfer programs for agriculture in recent history, and yet many farmers are still facing severe financial problems. In this discussion the causes of current financial stress in agriculture and the role of past price and income support, credit and tax policies in mitigating or contributing to this stress will be assessed. Then alternative policy options to relieve the stress will be identified and evaluated. Finally, conclusions will be drawn.

FINANCIAL STRESS: EXISTENCE AND CAUSES

Existence

Melichar [January, 1984] has documented the financial condition of the agricultural sector; that data will not be repeated in detail here. A key dimension of this documentation is the distribution of debt (Table 1). This distribution indicates that approximately 58 percent of the farms in the United States have leverage ratios of 10 percent or

less, 24 percent have ratios from 11-40 percent, 11 percent have ratios of 41-70 percent and eight percent have leverage ratios in excess of 70 percent. This highly leveraged category (greater than 70 percent) control 31 percent of the debt and eight percent of the assets in U.S. agriculture. With current price, cost, and productivity relationships in agriculture, these highly leveraged farms are unable to make interest payments on their indebtedness, let alone repay any principal. In fact, Melichar's calculations suggest that farms with debt-to-asset ratios exceeding 30 percent will likely encounter some financial stress at current interest rates and rates of return on assets.

Survey data from individual Iowa farms corroborates Melichar's results and implications [Jolly, 1984]. Of the 1,231 farmers surveyed, 31 percent had no real estate or nonreal estate debt and exhibited debt-to-asset ratios averaging 1.8 percent; these farmers are not financially stressed by the current economic conditions in agriculture. In contrast, 40 percent of the farmers have both real estate and non-real estate debt and a debt-to-asset ratio averaging 41.7 percent. Of those with real estate loans (57 percent of the sample), 90 percent were current on interest and principal payments, 3.7 percent were current on interest payments only, and 6.3 percent were delinquent on both principal and interest payments. For those with operating loans (51 percent of the sample), 73 percent were current on principal and interest payments, 18 percent were current on interest only, and 9 percent were delinquent on principal and interest.

Table 2 indicates the distribution of operators, assets, and liabilities for the Iowa sample by debt-to-asset category; the distributional results are very similar to those in Table 1 from Melichar's work. Size classification of the data (Table 3) suggests that financial stress problems are not unique to a particular size firm--firms of all sizes are encountering such stress.

Financial management strategies and enhanced farm and off-farm income can be used to relieve the stress for many farms, but those with higher leverage ratios (for example, 70 percent or greater) will likely not be able to obtain sufficient relief from various financial and farm management strategies to stave off asset liquidation or default. In essence, at least 8-10 percent of U.S. farm assets must find a new owner in the next year or so, or the debt secured by those assets will not be serviced. Even those with debt-to-asset ratios of 40-70 percent will experience declining equity (even if land values stabilize) unless commodity prices rise, interest rates and other input prices fall, or productivity increases. In essence, the financial stress is significant for a subset of the farm population.

Causes

To evaluate the relevance of public policy and, in particular, traditional farm income and price support programs, to the current financial problems in agriculture, it is important to understand the broader dimensions of today's "farm problem." Clearly, farm incomes

are lower than they were during a large part of the 1970s, but similar income levels were encountered in prior years without the severity of the financial pressures currently being felt. In fact, there are six additional characteristics of the current financial stress in agriculture, and some of them will be only indirectly impacted by price and income support programs.

In addition to lower incomes, farmers have a much higher debt-to-income ratio than in prior years. Based on USDA data, aggregate debt of the U.S. agricultural sector was approximately 90 percent of net farm income in 1950, resulting in a debt to income ratio of less than one. This ratio rose to two in 1960, to approximately three in 1970, and now stands in excess of ten to one [Economic Indicators of the Farm Sector: Income and Balance Sheet Statistics, 1982].¹ Although non-farm income of farmers has increased in relative importance in recent years, this income is concentrated on smaller farms that have lower debt loads, so does not significantly improve the debt carrying capacity of those farmers with the majority of the debt [Melichar, November 1984]. Thus, farmers are attempting to carry a much larger debt load per dollar of debt servicing capacity (i.e., income) which adds to

¹Melichar has recalculated this ratio for 1983 by adjusting total income and debt by an estimate of the amount attributable to landlords [Melichar, November 1984]. The result is a lower debt to income ratio in 1983 than that obtained with unadjusted data. However, similar adjustments must be made in earlier years to obtain comparable data, suggesting that the trend of a significantly rising debt to income ratio over time still occurs.

their financial pressure. In fact, to obtain a debt-to-income ratio representative of the mid-1970s would require incomes to more than triple, not a realistic possibility in the near future. Furthermore, the maturity structure on debt has shortened; farmers with lower incomes and higher debt loads are being required to repay that debt more rapidly. Institutional lenders such as banks and PCAs have shortened maturities to reduce their interest rate risk exposure. Although Federal Land Banks and other long-term institutional lenders have not adjusted terms significantly, land contracts, which comprise a substantial portion of farm real estate debt, have become shorter in maturity in recent years.

Another balance sheet adjustment which has occurred on many farms is that of reduced liquidity. In 1950 approximately 27 percent of the asset base on the typical farm firm was liquid (i.e., financial assets or crop and livestock inventories); in 1980 only 11 percent was liquid [Economic Indicators of the Farm Sector: Income and Balance Sheet Statistics, 1982].² In the past, liquidity provided a safety valve for that farmer who did not generate sufficient income to meet the debt servicing requirement; he or she could sell part of the liquid asset base without sacrificing part of the productive plant--the land,

²Melichar has argued that the USDA Balance Sheet of Agriculture significantly understates financial assets in the agricultural sector, but even with his adjustments the proportion of total assets that were liquid (financial assets plus crop and livestock inventories) in 1980 is not altered substantially [Melichar, 1983].

machinery or breeding stock. Today, liquidity is gone--forcing some farmers to consider selling part of the fixed asset base to service their indebtedness.

In reality, farmers dramatically restructured their balance sheets during the 1970s, increasing the amount of fixed assets compared to inventories and other assets easily converted to cash in times of financial stress; and increasing the amount of current liabilities compared to longer term obligations, thus adding to the current debt servicing requirements. Improved farm incomes will help reduce the financial stress in agriculture, but will only eliminate this mismatching of assets and liabilities if farmers use the additional income to either pay down debt or increase liquidity rather than purchase fixed assets. Even if farmers use their improved incomes to restructure their balance sheets, the process will be slow--thus suggesting that financial stress will be a long-run problem for the agricultural sector.

An additional characteristic of the current financial stress in agriculture is the increased income and collateral risk faced by most farmers. A significant change in government policy in the 1980s resulted in a reduced safety net for agriculture and a movement to gradually transfer the responsibility for managing risk from the government to the individual farmer. This change in philosophy is reflected in the substitution of crop insurance for disaster programs, the changing role of the Farmers Home Administration, and the approach to government farm programs that provides incentives for participation but is not

structured to necessarily benefit those who do not participate and pay the "insurance premium." Although the income risk in agriculture may not be significantly larger this decade than last, the responsibility for managing that risk is being transferred from the public to the private sector. Some farmers still have not accepted this concept.

In addition to income risk, farmers are now facing collateral risk as well. During the three decades from 1950 to 1980, even when farm incomes turned down, the lending community was willing to extend credit to the agricultural sector because collateral values (specifically land values) were stable or rising. A key reason lenders have turned conservative during the last four years is that in addition to income risk, they are facing reduced collateral values and deteriorating security positions. Legitimately so, the borrower who has financial losses combined with declining collateral is perceived to be less credit-worthy than one who has financial losses but stable or rising collateral values.

A further consequence of declining collateral values is that the traditional safety valve of the 1970s for farmers who could not meet the cash flow--that of refinancing--is either no longer available, or is quite costly because of higher interest rates. In reality, the agricultural sector no longer has a financial safety valve; adjustments on the liability side of the balance sheet to reduce financial pressure by extending the terms on the debt are no longer possible for many operators, and liquidity is nonexistent in many cases. Thus, a signif-

icant number of farmers are having to consider asset liquidations as a means of reducing or eliminating the financial pressures they are facing.

A seventh characteristic of today's financial stress in agriculture is that of higher and more volatile interest rates [Melichar, January, 1984]. When queried as to what is the fundamental reason why they have encountered financial difficulties, many farmers respond that they did not anticipate the dramatic rise in interest rates that occurred from the mid-1970s to 1980. A shift from relatively low real and nominal interest rates to relatively high rates is particularly devastating for an industry like agriculture that has a large proportion of its total debt used to finance fixed assets on a variable rate. In other industries with a larger proportion of the debt used in inventory financing, it is easier to adjust debt utilization to rising interest rates. Because of the dominance of fixed assets in the asset base of the agricultural sector, and the necessity to finance those fixed assets with longer term financial obligations, it has been much more difficult for the farm sector to adjust to rising rates than other sectors of our economy.

IMPACT OF PAST POLICIES

A fundamental question in evaluating the future direction of agricultural and economic policies is whether or not past policies have

contributed to the financial stress of agriculture; if so one should be careful that such policies are not continued or repeated. The three areas of policy that merit evaluation in answering this question are price and income support policy, federal credit and interest rate policy, and tax policy.

Price and income support policy

In recent years, government support prices for agricultural commodities have been formally or informally indexed to the cost of production—as costs of production (variously defined) rose, support prices rose. In terms of financial stress, the issue is how have such indexed support prices affected price expectations of producers, resource values, and debt-carrying and debt-servicing capacity.

Analysis of the impact of government price and income support programs on asset values, particularly land, indicates that such programs have put upward pressure on prices. Hedrick [1962] documented that peanut price support and allotment program benefits have been capitalized into land values. Similar analyses have been completed by Boxley and Gibson [1964] and Boxley and Anderson [1973] for peanuts and tobacco, respectively. A more recent study by Reynolds and Timmons [1969] confirms that government farm program payments have resulted in higher land values in the Midwest as well.

However, the cost-of-production approach to specifying support prices provides a much more direct linkage between government pro-

grams and land values than previous policies. Using an income capitalization model, Boehlje and Griffin [1979] indicate that cost of production indexed price supports not only increase the expected income, thus generating higher land values, but they also truncate the left tail of the price distribution, thus decreasing the price risk and the capitalization rate which results in further upward pressure on land values. Furthermore, the guaranteed cash flow of such a support price system increases the debt carrying capacity of the firm. These results strongly support the argument that government farm programs of the past decade have increased the guaranteed cash flow of the farm business and reduced the financial risk, resulting in increased bid prices for durable assets such as land, increased debt-carrying capacity and thus financial leverage, and a more rapid rate of growth of the farm. Thus, such programs have contributed to the financial stress in agriculture.

Credit and interest rate policy

Public sector lending to farm firms has been a reality for many years, but with the recent economic and financial stress in agriculture, pressures have developed for larger public sector lending programs for farmers. However, various analysts have suggested that part of the current financial stress of some farmers can be attributed to indiscriminate public sector lending in the past, and that additional credit will do little to relieve the financial stress for those farmers who are already highly leveraged.

To most people, public credit in agriculture means the Farmers Home Administration (FmHA). The FmHA program has undergone dramatic changes in recent years. In 1960, FmHA administered eight programs of which farm operating loans accounted for 64 percent and farm ownership loans accounted for 14 percent of loan volume. By 1982, FmHA operated 23 grant and loan programs, with farm operating loans accounting for 15 percent and farm ownership loans accounting for eight percent of loan volume [Economic Research Service, U.S. Department of Agriculture, 1984]. Emergency disaster, economic emergency, individual housing, rural rental housing, water and waste loans and grants, and business and industrial development loans each accounted for larger shares of FmHA activity in recent years.

This does not necessarily mean that FmHA has neglected its traditional role. The absolute level (as opposed to percentage share) of farm operating and farm ownership loans has been at a record high in recent years. What the current situation does indicate is that the FmHA has become a giant, many-faceted agency that perhaps has been absorbing programs and mandates (many unrequested) faster than it can maintain a clear sense of purpose and direction. More than \$8 billion in loan and grant obligations were made by FmHA in 1982, a decrease from the high of nearly \$14 billion in 1979 and 10 times the amount of 1962 [Lee, Gabriel, and Boehlje, 1980].

Who is served by FmHA's farmer oriented programs? By design, the agency is a lender of last resort; that is, its borrowers are supposed

to be those unable to obtain funding elsewhere. A recent study of borrower characteristics suggests that in 1979 the farm operating and farm ownership loans were heavily directed to young farmers and those with small net worth and low incomes [Lee, Gabriel, and Boehlje, 1980]. Over 68 percent of the money loaned in the farm ownership program that year went to farmers with less than \$12,000 in net cash income and less than \$120,000 in net worth. Over 74 percent of farm operating loan money went to farmers in the same category. In the same year, 50 percent of the money loaned in each of these programs went to people under the age of 30.

However, the economic emergency loans were distributed a bit differently. The borrowers tended to have low income (presumably, that is what put them in an "emergency" situation), but over a third of the money loaned in 1979 went to farmers with more than half a million dollars in assets. Farms with gross value of sales of over \$40,000 represented one-fifth of all farms, but received more than two-thirds of the money loaned under the Economic Emergency Program in 1979.

The FmHA share of total farm debt has grown rapidly in recent years with FmHA holding 15 percent of the nonreal estate farm debt in 1984. Regionally, the Southeastern states are much more dependent upon FmHA debt than other regions of the United States. This rapid growth in volume, combined with the current economic stress, has resulted in severe repayment problems on the part of FmHA farm borrowers. A total of 24.6 percent of all farm program borrowers were delinquent at fiscal

year-end 1982; 31 percent of active farm program borrowers totaling approximately 84,000 clients had missed their scheduled payments as of July 31, 1983 [Farmer Home Administration, 1984]. These delinquency rates are clear cause for alarm as to the viability of FmHA farm lending programs. A fundamental issue is whether such high delinquency rates are a function of inadequate procedures in loan extension and supervision, or whether such performance is "normal" in times of economic stress. Irrespective of the answer, extension of significant amounts of credit (much of it at subsidized rates) by FmHA has contributed to the high debt load in agriculture.

Providing public credit through FmHA or other agencies to preserve the normally healthy, moderate-size farm temporarily caught in adverse conditions could be consistent with the long-term goals of agricultural policy. Present trends suggest that about two-thirds of the land sold each year is bought by farmers and consolidated into existing farm units. This is the primary source of increasing concentration in the farm sector. If the normally-healthy-but-temporarily-in-trouble farms are allowed to go out of business, it is reasonable to assume that some portion of them will be consolidated into other existing units. Thus, assuring that such farms obtain the funds needed to stay viable would be consistent with the goals of efficiency, preserving a pluralistic agriculture for resiliency and future flexibility, providing economic opportunity for more people, and ultimately assuring food security. But there are some risks to the public sector. This problem can be

minimized by reducing the subsidy as much as possible, thus reducing the attractiveness of the emergency credit.

If, instead of a moderate-size family farm, the farm in temporary trouble is very large, it is not clear that the same arguments for public credit assistance hold. If the farm was much larger than necessary to achieve efficiency, and if the odds favored some or all of the land being sold in smaller tracts to new farmers or moderate-sized existing farmers, there would be no particular public interest in saving the larger farm.

There would appear to be no direct economic reason for offering subsidized public credit to preserve those farms that are submarginal even under normal economic conditions and for whom that does not appear to be a temporary phenomenon. Both the subsidy in the credit program and the inefficient use of resources implied by the farm being submarginal are social costs. However, perhaps one more question should be asked: Is the social cost ultimately greater if the farmer goes out of business? This is not likely if there is alternative gainful employment. But if the displaced farmers or workers end up as a public liability anyway, social costs may be minimized by extension of public credit to keep them in business, at least until better opportunities are available.

The same general comments apply to the farmers in trouble because of natural disasters. That is, it would be consistent with goals of efficiency, competitiveness, and future flexibility to provide public

credit assistance to efficient-size family farms. For larger farms the question is how far the public should go in sharing the risks and protecting the interests of the wealthy.

For a third group, those who need specialized help or terms, the appropriateness of public credit assistance depends on the likelihood that the operator will successfully graduate to private credit and eventually repay the public investment through taxes; on efficient use of resources; and on contribution to pluralism in the farm sector. It is in these programs, more than any other, that social objectives and economic objectives of credit policy come face to face.

Little need be said about the impact of interest rate policy on agriculture. Stimulative fiscal policy and tight monetary policy combined with deregulation of interest rates and implementation of monetary policy by controlling the money supply rather than pegging interest rates has resulted in higher and more volatile costs of money for farmers. We have moved from an extended period of low and predictable real rates of interest to high and volatile rates, and because of the fixed asset based in agriculture and the long-term financing needs, farmers have not been able to adjust borrowing levels to the higher rates. In fact, some would argue that government fiscal and monetary policy as it impacts interest rates is the major contributor to financial stress in agriculture, and that policies that will lower interest rates are more important to the long run financial health of agricul-

tural than credit or price and income support policy. This argument will be evaluated further later in this discussion.

Tax policy

Numerous studies have shown that taxes and tax management play a significant role in the choice among various production, marketing, and financial strategies by farmers. These studies also indicate that tax policy has influenced purchasing patterns for capital assets and exerted upward pressure on farm asset prices, particularly farmland [Davenport, et al. 1982]. This pressure comes about because land provides an ideal tax shelter. The return obtained from appreciation or increases in land value is not taxed until the property is sold. And if the land is held until death, this return is exempted. Carrying costs in the form of interest are fully deductible and may offset income from other sources. In essence, income taxed at low rates, or perhaps even exempt from tax, is combined with fully deductible costs--the classic tax shelter. Furthermore, farmland under the Tax Reform Act of 1976 has become an estate tax shelter as well as an income tax shelter.

At the same time, the provisions of both the income and estate tax law contain features that tend to restrict the supply of land offered for sale. In the case of the income tax, the exemption from tax of gains on property that passes at death encourages the holding of land until death. In regard to estate tax, the ownership requirements that

must be met to qualify for the estate tax preferences discourage sales both before and after death. The greater demand for land and the restriction of its supply have operated to keep upward pressure on prices of farmland.

Tax laws appear to have also encouraged the growth of individual farm firms. The use of cash accounting allows farming to be a tax sheltered industry. So long as there is other income that would be subject to tax except for the tax shelter, taxpayers in a higher tax bracket have more funds for growth and expansion than they would if the tax sheltered asset did not exist. Furthermore, however great is the advantage of cash accounting, it is augmented if some of the income produced through deductions can be reported as capital gain which is taxed at lower, preferential rates. Investment tax credit provisions, accelerated depreciation, and the tax deductibility of interest have also encouraged firm expansion and the substitution of capital for labor. By encouraging growth of the firm, increased use of debt, the substitution of capital for labor, and higher land prices, tax policy has contributed to the current financial stress in agriculture.

POLICY OPTIONS

Given the financial stress faced by the agricultural sector, a relevant question is what should be the appropriate policy response? The agricultural sector is facing a new financial and economic environment, and adjusting to that environment may require government assist-

ance to make sure that the process of adjustment is not too costly in terms of financial and human losses. However, most analysts believe that in the intermediate-term agriculture must also adjust to excess production capacity and lower values for some agricultural resources, particularly land. If this is the case, then a public policy that impedes that adjustment will not only be very costly, but may result in long-term dependence on government assistance as well as continued government interference. What kind of policy response is targeted to the problems of financial stress, is politically acceptable in an environment of fiscal restraint, and does not impede the long-term adjustments that are necessary to maintain a productive, efficient, and financially healthy agriculture.

Much of the past debate concerning the public response to assist farmers in financial stress has focused on the traditional approach to agricultural policy--various forms of price and income supports. However, when one views the current financial crisis in agriculture in the broader prospective suggested earlier, it is clear that farm income and price support policy will not alone solve the "problem." An income oriented policy, a policy that focuses on price and income supports alone, will have fairly minor impacts on financial stress. Furthermore, such a policy may not only be an extremely high cost alternative, but if improperly implemented might result in disincentives to adjust the resource use in agriculture to the slower growth in demand for its products. We do need to have improved incomes for a healthy agricul-

tural sector, but the financial stress problem in agriculture is much more complex. In fact, an income policy focusing on surpluses and supply control may not only miss the target from a prospective of the problem, but because most of the support will go to larger farms, whereas farms of all sizes are exhibiting financial stress, such a program may miss the target audience as well. Other means for enhancing the income of agriculture through subsidizing and promoting exports, devaluing the dollar, expanding domestic consumption including bio-mass production and fuel use, and converting grainland to grassland also have similar problems--they only focus on one dimension of today's financial crisis in agriculture. A broader set of policies and a broader perspective of the problem is essential to develop an adequate solution to today's "farm problem."

Public policy currently does encumber a set of rules to receive severe financial stress problems--the bankruptcy rules. Although bankruptcy may involve immediate liquidation of the assets and a discharge of the indebtedness of the farm [Chap. 7 of the Bankruptcy Act of 1978, Public Law No. 95-593, 92 Stat. 2549, 1978], it can also involve restructuring and rehabilitating the business under Chapter 11 or 13 of the bankruptcy law. Farmers can not be forced into an involuntary bankruptcy. A farmer who chooses Chapter 11 (or possibly Chapter 13) bankruptcy proceedings becomes a "debtor in possession"--generally the farmer continues to manage and operate the farm, possibly under the surveillance of a creditor's committee [Looney, 1980]. A trustee to

manage the property is appointed only in rare cases, so the farmer can continue to operate the farm as long as he develops an acceptable debt reduction plan.

The bankruptcy rules specify how the private sector will share financial losses in case of a default by a creditor, but two fundamental issues remain. First, should the private sector--the creditor, the debtor, and others who have or are doing business with the debtor absorb the full loss, or should the public sector share in part of this loss through some type of government transfer payment program? And second, and probably most important, is the question concerning who in the private sector under the current provisions will typically be required to absorb the majority of the loss? Because of the extensive use of merchant and dealer credit in agriculture provided by input supply firms who are usually unsecured creditors, the bankruptcy rules will likely transfer the major losses from the production sector and the lending institutions to the input supply firms. In many cases the financial losses will be transferred from those who have been directly involved in the financial management and debt utilization decisions (i.e., the producer and his lending institution) to those who have only been peripherally involved in those decisions (i.e., the input supply firm and other unsecured creditors including many landlords). A fundamental question can be raised as to the equitability of this sharing of the financial losses due to debtor default.

A second rather blunt policy instrument that might be used to respond to the current financial stress in agriculture is a debt moratorium. This alternative would deny the use of foreclosure procedures against farmers who cannot make their principal and interest payments, cancel or defer interest and principal payments for a time specific, write down a portion or all of the indebtedness, deny deficiency judgments for those who cannot make their payments, or various combinations of the above. The purpose of such a policy response would be to enable the financially pressed producer to temporarily be relieved of the financial obligations associated with excessive debt. Most debt moratorium proposals include a temporary, time limited period where debt obligations need not be met, but they do not eliminate the eventual and definite commitment to repay indebtedness. Consequently, a key to the success of such proposals is the assumption that the financial condition of the firm and the industry will improve sufficiently in the intervening period so that the obligations can be repaid. Debt moratoriums have been used with limited success in previous periods of financial stress, specifically the 1930s, to relieve the financial pressure faced by farmers.

The major direct cost of a debt moratorium is the income foregone by the lenders during the moratorium period. But in addition to this cost, there is serious concern about the implications of such programs on the long-run performance of the financial markets. The implementation of a debt moratorium would likely result in the lending institu-

tions concluding that such a prospect has a higher probability in future periods of financial stress. Consequently, lenders who feel their earnings flow may be interrupted by future moratoria will likely judge that there is more financial risk in credit extension and would expect to be compensated for that risk through higher rates of interest. Furthermore, some borrowers would no longer be able to obtain credit even if they have adequate collateral because a debt moratorium has negated the value of collateral in the credit extension decision. In essence, the use of this particular alternative would likely result in chaotic conditions in the financial markets, higher interest rates for the agricultural sector, and the definite prospect that many firms would no longer be able to obtain credit.

Another possible public policy response is the provision of loan guarantees from a federal or state agency to indemnify the lending institution from potential default on the part of a borrower. The provision of a government loan guarantee would reduce the risk faced by the lender, thus encouraging forbearance and loan restructuring. A loan guarantee might be conditional upon an approved plan of liquidation or other more permanent solutions. Such a program is currently available from the Farmer's Home Administration; additional funding could be made available for this program which would eliminate the need for unique legislation.

To be a permanent and effective solution, a loan guarantee program must be combined with other alternatives such as systematic asset or

liability restructuring to reduce the debt obligation or increase the cash flow of the business. Properly structured, a loan guarantee program may provide the time necessary to implement other more permanent solutions and protect the resource markets from collapsing in the process. Without such a long-term solution, a loan guarantee program might be perceived as simply a "lender bailout." A variation of the loan guarantee program is to offer the lender a federal or state bond in exchange for the loan; such a program transfers the responsibility for collection as well as the debt obligation to the government and quite likely would result in higher cost than the traditional Farmer's Home Administration, SBA, or other government guarantee.

A proposal which has received wide-spread attention recently is that of federally assisted debt restructuring. In fact most of the current legislative proposals are variations of the debt restructuring theme. The premise of this approach is that providing additional time to repay the principal would reduce annual obligations, thus enabling some farmers to cover these lower principal and interest payments. And for those who still cannot meet their debt obligations, restructuring would give them some additional time to rearrange the financial structure of their business including possibly the sale of assets. Most restructuring proposals involve the potential of a write-down of the debt obligation as a condition to obtain a federal or state guarantee [Harl, May, 1984]. The key concept is to provide a government incentive for the private sector to implement workout plans and to "buy time" so that

these plans can be implemented rather than forcing the sale of assets and collapsing the resource markets. For many producers who are facing financial stress, such a program again may not be a permanent solution, but the first step in a longer-run plan to adjust the asset and liability structure of the business so that the firm can survive.

As noted earlier, one of the severe problems faced by agriculture has been higher interest rates. Consequently, various proposed policy responses include interest rate buy-downs or subsidies which are focused at reducing this component of the cost structure for farmers. Interest rate buy-downs can be implemented in many ways including a direct government subsidy of interest rates for farmers, an increased tax write-off for farm interest payments, a public guarantee to reduce the risk faced by the lender and therefore allow him (her) to charge a lower interest rate to the borrower, and the use of tax exempt revenue bonds to obtain lower cost funds for agriculture. Temporary interest rate reductions would benefit farmers in the short-run, because interest has become a major component of the cost of production, particularly for those who are highly leveraged. However, a better alternative than interest rate buy-downs for agriculture would be responsible monetary and fiscal policy that reduces the size of the government deficit and the demands of the federal government on the capital markets. Such policy would result in lower market rates of interest throughout the U.S. economy, which would have similar benefits to farmers as an interest rate buy-down plan in terms of reducing their cost of produc-

tion. Furthermore, lower interest rates in general would have a significant impact on the demand for agricultural commodities by making U.S. investments less attractive to foreign investors, thus reducing the demand for the dollar which would result in lower exchange rates and increased export demand for agricultural commodities. The consequences of interest rate buy-down alternatives will be quantitatively assessed in a later section of this paper.

As suggested earlier, debt restructuring may not be adequate for some producers and asset restructuring including liquidation may be required to improve the chances of survivability of the firm. Much of the current asset restructuring involves liquidation of real estate and other capital items for cash, but there is only so much liquidity in rural communities, and cash liquidations frequently result in substantial liquidation losses. Other means of liquidation must be investigated and could be facilitated by public policy. For example, lending institutions might be encouraged to take the title of real property in lieu of debt obligations, and then lease this property back to the original debtor. Such an arrangement would keep the property off the market and thus reduce the chance of resource markets being depressed further. In addition, by leasing the property back to the original operator, other resources such as machinery and equipment could be efficiently utilized rather than also being in excess. The lender through this process can convert a nonperforming asset into one that generates at least some rate of return in the form of rental payments.

To reduce the possibility that the lender must tie up its liquidity in such assets, a government program of providing funds to the lender in the amount of the assets taken back in lieu of debt could be implemented. In fact, government funds could be provided to the institution at a cost which would typically be lower than the cost of funds from the private sector, which would thus partly off-set the lower yield being earned by the asset. Such a program might require the lender to remove the assets from its portfolio over a two or three-year period with the original debtor having a first option to buy. A similar program might be implemented by a state agency or a newly formed private sector firm funded through state or federal revenue bonds.

Again, one of the purposes of such a program is to stabilize resource values. A critical issue today is whether the public sector should play a role in asset liquidations in the form of regulating, monitoring or facilitating the process. Legitimate concerns have been expressed about the attitudes of some lenders who are encouraging cash sales of assets without recognition of the implications for the producer or the asset markets. Collateral values are declining in part because of forced sales of assets for cash into a market where there is no cash. We need to be much more innovative in the liquidation process, and we need to evaluate whether there is something that should be done in the public policy arena to assist in this financial stress environment.

A final alternative that might involve public policy is that of recapitalization. In many cases, the financial structure of the business could be significantly improved through an infusion of equity from outside the firm, either by a debt holder exchanging his obligation for an equity position in the firm, or an outside investor providing additional funds which are used to reduce indebtedness. An equity infusion may at first glance appear to be difficult to orchestrate. Who would want to put equity into a financially troubled firm? In some cases family members may be willing to provide such an infusion to protect the integrity of a family business. An expected future inheritance of nonbusiness assets could be converted into current cash through sale to other family members. A nonfamily investor might be willing to contribute capital for a larger-than-proportionate share of the ownership of the firm. Some investors may be attracted by the tax shelter available from operating losses; under certain conditions, an operating loss is, in reality, an asset for a high tax bracket investor. And unused tax credits may be available to make the equity infusion more attractive for the investor.

The third source of an equity infusion is the lender. In some cases, the financial condition of the firm is such that the lender will incur a significant loss if the note is called, foreclosure occurs, or the operator takes advantage of the bankruptcy procedures. If the firm has current cash flow problems because of high leverage and aggressive growth, but strong management and the potential for reasonable future

earnings, the lender may minimize losses or increase the chances for recovery by converting debt obligations into equity. This conversion reduces the current cash flow burden of excessive debt servicing and releases resources (both funds and management) to use in more productive activities that will enhance current and future income.

The role of public policy in this area of outside equity infusions or recapitalization may be one of reassessing current legislation which discourages such arrangements. Many states have passed laws that restrict or prohibit outside equity investments in agriculture. Such prohibitions or restrictions should be reassessed in the current financial stress environment. Alternatively, a government financed venture capital entity might be formed to make the necessary equity capital infusion into agriculture under terms that are more acceptable to both farmer and investor. Such an arrangement could be financed with state revenue bonds or federal funding. An institution not all that dissimilar from Agricultural Development Banks used in many Third World countries which involves a combination of public and private sector funding might be a viable institutional innovation in the U.S. capital markets at the present time.

A final role of public policy in the current environment would be one of providing information to facilitate the adjustment process. Programs to facilitate the merger of business firms, to retrain and relocate people, and to disseminate the best information on adjustment strategies and resource availability might make the adjustments less

painful for those involved. However, it is not clear that such programs would be an adequate response to the current financial stress problem in agriculture.

CONCLUSIONS

Data from Iowa and other states along with that from the U.S. Department of Agriculture indicate that a significant number of farmers are suffering financial stress. This stress is a result of the many changes in the financial environment for agriculture, and is not simply a result of lower incomes. Other factors that contribute to the financial stress problem of the U.S. agricultural sector are a higher debt load, shorter maturities on debt, reduced liquidity, higher and more volatile interest rates, increased income and collateral risk, limited availability of refinancing alternatives, and asset liquidations. Government policies of the past have contributed to today's financial stress by encouraging higher land values, more debt utilization, growth in farm size, and higher interest rates.

Given the complex nature of the financial stress problem, a public policy approach that focuses only on one characteristic of that problem will probably be ineffective. Specifically, price and income support programs which have been the major component of agricultural policy in the past may be quite ineffective in solving the current financial stress problem--such programs do not focus on some of the major dimensions of the stress problem (i.e. loan maturities, liquidity, collat-

eral risk, etc.), and furthermore quite likely will not be targeted to those individuals who have financial stress. Such programs may in fact compound and contribute to the longer run financial problems in agriculture.

Various policy options that are more targeted to the financial stress problem have been identified including interest rate buy-downs, debt moratoriums, debt restructuring, bankruptcy, asset restructuring, recapitalization, etc. While spiraling farm debt suggests that debt restructuring is the answer to the current financial stress, a restructuring of agricultural assets remains the key to a long-term solution. The rearranging of liabilities is not a permanent solution to the current financial stress, because even with more time to repay, many farmers will not be able to service their debt with current or expected interest rates, productivity, and input and commodity prices. However, debt restructuring is an important mechanism for buying time to implement more permanent solutions. Asset restructuring, including liquidation, debt reductions, and equity infusions will be required to improve the chances of long-term survivability of many farm businesses.

One of the key objectives of any public policy to alleviate financial stress should be to protect the resource markets from collapsing-- stabilizing resource values is critical to maintaining the stability of the agricultural production sector and rural communities. If resource values decline precipitously because of excessive supplies being offered to a market that has no liquidity to absorb them, many farmers

who were a "good credit risk" will no longer be so because of declining collateral values. But using government intervention to stabilize resource values at levels that are not supportable in the long-run by market prices can result in very high government costs, inefficient resource allocation, and higher consumer prices for food products. Such a result is also clearly not desirable.

The agricultural sector has suffered significant wealth losses during the recent years. An important public policy concern is how those losses will be shared among the various firms in the private sector (farmers, lenders, input supply firms, landlords, etc.) and between the public sector and the private sector. A related concern is how to keep the losses from becoming more severe than they need be. What may be needed is a public sector contingency plan that can provide a safety net in case the farm economy continues to be stagnate and/or the resource markets began to collapse. A strategy of doing nothing today could, if the financial condition of agriculture continues to deteriorate, very easily result in irresistible political and economic pressures to implement drastic options later such as a general and extended debt moratorium or significant increases in commodity support prices. But inappropriate action now may interfere with the longer-run adjustments in resource values and utilization that must occur to retain an efficient and financially sound agricultural sector.

REFERENCES

- Bankruptcy Act. 1978. Chapter 7 of the Bankruptcy Act of 1978. Public Law No. 95-593, 92 Stat. 2549, 1978.
- Boehlje, Michael D. and Steven Griffin. 1979. "Financial Impacts of Government Support Price Programs." *American Journal of Agricultural Economics* 61:285-296. May.
- Boxley, Robert F. and William D. Anderson. 1973. "The Incidence of Benefits from Commodity Price Support Programs: A Case Study of Tobacco." *In* C. Lowell Harriss (ed.), *Government Spending and Land Values*. Madison: University of Wisconsin Press. pp. 79-103.
- Boxley, Robert, Jr. and W. L. Gibson, Jr. 1964. *Peanut Acreage Allotments and Farm Land Values*. University of Virginia Agricultural Experiment Station Technical Bulletin No. 175. Blacksburg, Virginia. September.
- Davenport, Charles, Michael D. Boehlje, and David B. H. Martin. 1982. *The Effects of Tax Policy on American Agriculture*. Economic Research Service, Agricultural Economic Report No. 480. February.
- Doye, Damona and Michael D. Boehlje. 1984. "A Flat Rate Tax: What it Means for Farmers and Agriculture." Staff Paper Series No. 142. July.
- Farmers Home Administration. 1984. *Farm and Housing Activity Report*.
- Harl, Neil E. 1984. "Restructuring Debt in Agriculture." Department of Economics, Iowa State University, Ames, Iowa. May 7, 1984.
- Hedrick, James L. 1962. "The Effects of the Price-Support Program for Peanuts on the Sale Value of Farms." *Journal of Farm Economics* 44(1962):1749-53.
- Jolly, Robert W. 1984. *Farm Finance Survey: Asset and Debt Structure*. Cooperative Extension Service, Iowa State University, Ames, Iowa. June.
- Lee, John E., Jr., Stephen C. Gabriel, and Michael D. Boehlje. 1980. "Public Policy Toward Agricultural Credit." *In* *Future Sources of Loanable Funds for Agricultural Banks*. A Symposium Sponsored by the Federal Reserve Bank of Kansas City, December 8-9, 1980. pp. 83-106.

- Looney, J. W. 1980. "The Bankruptcy Reform Act of 1978 and the Farmer: A Survey of Applicable Provisions." *South Dakota Law Review* 35(1980):509-27.
- Melichar, Emmanuel. 1984. "A Financial Perspective on Agriculture." *Federal Reserve Bulletin*. pp. 1-13. January.
- Melichar, Emmanuel. 1984. "The Incidence of Financial Stress in Agriculture." Presented at the Agricultural Seminar, Congressional Budget Office, U.S. Congress, November 13, 1984. Revised November 21, 1984.
- Melichar, Emmanuel. 1983. "Trends Affecting and Exhibited by Commercial Banks in Agricultural Areas." Presented at a symposium, *Agricultural Communities: The Interrelationship of Agriculture, Business, Industry, and Government in the Rural Economy*, sponsored by Congressional Research Service, Library of Congress, Washington, D.C., May 19, 1983.
- Moldes, John E. and John F. Timmons. 1969. *Factors Affecting Farmland Values in the United States*. Iowa State University Agricultural Experiment Station Bulletin 566. February.
- Thamodaran, R., Earl O. Heady, and Satheesh V. Aradhyula. *Impacts of Pricing and Crop Acreage Policies on Farm Spending*. Forthcoming CARD Report. Center for Agricultural and Rural Development, Iowa State University, Ames, Iowa.
- U.S. Department of Agriculture. 1982. "Economic Indicators of the Farm Sector: Income and Balance Sheet Statistics." National Economics Division, Economic Research Service.
- U.S. Department of Agriculture. 1984. "Federal Credit Programs for Agriculture." Economic Research Service, *Agriculture Information Bulletin* No. 483. November.
- Wickham, A. B. 1984. *Agricultural leasing: the lease versus buy decision and its implications on farm firms capital structure*. Unpublished M.S. Thesis. Iowa State University, Ames, Iowa.

Table 1. U.S. Farms: Debts and Assets by Leverage

	Debt to Asset Ratio (percent)				Total (%)
	0-10	11-40	41-70	71+	
Operators (%)	58	24	11	8	100
Debt (%)	5	32	32	31	100
Assets (%)	47	32	14	8	100

Source: Melichar Jan. 84 Federal Reserve Bulletin.

Table 2. Estimated Percentage Distributions of Sample Farm Operators Their Assets and Liabilities by Relative Debt Levels*

	Debt-to-Asset Ratios			
	0-10	11-40	41-70	71+
Percent operators	36	35	18	10
Percent Assets	30	40	21	9
Percent Liabilities	3	32	40	25

Source: Farm Finance Survey, March 1984, Iowa Department of Agriculture.

*Totals may not equal 100 due to rounding errors.

Table 3. Estimated Percentage Distributions of Iowa Farm Operators, Their Debt and Assets by Farm Size and Debt Level Categories*

		Debt-to-Asset Ratio (%)			
		0-10	11-40	41-70	#71
Farm Size **					
Very small	Number in Sample	13	7	7	5
	% Operators	41	22	22	16
	% Assets	39	25	25	11
	% Debt	0	25	41	34
Small	Number in Sample	61	45	25	17
	% Operators	41	30	17	11
	% Assets	41	31	18	11
	% Debt	3	25	33	38
Medium	Number in Sample	211	199	95	58
	% Operators	37	35	17	10
	% Assets	34	37	18	11
	% Debt	3	31	35	31
Large	Number in Sample	29	55	33	6
	% Operators	24	45	27	5
	% Assets	24	45	26	5
	% Debt	4	35	47	14
All	Number in Sample	314	306	160	86
	% Operators	36	35	18	10
	% Assets	30	40	21	9
	% Debt	3	32	40	25

Source: Farm Finance Survey, March 1984, Iowa Department of Agriculture.

*Totals may not equal 100 due to rounding errors

**Size Category	Assets
Very Small	Under \$50,000
Small	\$50,000 - \$199,999
Medium	\$200,000 - \$999,999
Large	\$1,000,000 and over