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Public Policy and the Control of Agricultural Production

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The control of agriculture, and its relationship to the economic organization of agriculture, has become a widely discussed issue, but with little of factual or analytical substance on which to draw conclusions. The effect of U. S. public policy upon structure and control has been central to the discussion. This paper is a review and assessment of the present state of knowledge about the relationships between agricultural policy and structure, and between policy and control, in the United States.

The main policy areas which are likely to have influenced the structure and control of agricultural production are: (1) commodity programs, (2) tax policy, (3) public research and extension, (4) allocation of publicly-owned or subsidized resources, and (5) credit and insurance programs. In addition, policies directly aimed at corporations in farming, regulatory activities in the environmental, transportation and labor areas, and policies relating to agricultural cooperatives and bargaining should be considered. For a detailed program list, see Moore. It is impossible to give all of the policy areas the detailed scrutiny they each deserve within the scope of one paper. This paper will focus on several of the most commonly discussed.

Farm commodity programs. There has been substantial work on two structural consequences of commodity programs: the effects on farm size and

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Policies and programs

the effect on the inequality of the distribution of returns. The general view among agricultural economists appears to be that historical and current commodity programs, taken as a whole, work to increase average farm size (Quance and Tweeten; Penn and Boehm; Moore; Dorow; Kyle, Sundquist and Guither) and to widen the distribution of returns (Gardner and Hoover, and references cited therein). However on farm size the evidence is not solid, and on both issues the relevance of structural effects for control of agriculture has not been established.

Two a priori arguments why farm commodity programs should increase average farm size are prominent in the literature. One, as applied by Penn and Boehm to the Food and Agriculture Act of 1977, is that regulated producer prices at a national average cost of production level will improve the economic position of "low-cost" relative to "high-cost" producers^{1/}. On the low-cost side, "the target price levels will allow these producers to secure windfall gains. The smaller, relatively higher cost producers may not be substantially assisted by the program, depending on their actual cost level". (Penn and Boehm, p. 12).

It is true that if it costs a wheat producer more than \$3.40 per bushel to produce a crop, then a \$3.40 target price will not prevent losses. But it does not follow that high-cost producers benefit less from price supports, or that a price support program will encourage a faster replacement of high-cost by low-cost producers than would occur in the absence of price supports. Whether high-cost producers are helped more or less than low-cost producers by a commodity program should be judged by comparing their respective situations with and without the program. Low-cost producers will tend to earn rents with or without price supports. High cost producers may earn (accounting)

losses with or without the program. The change in net returns per bushel caused by the program, however, is the same for both high and low cost producers. Who is helped most depends on to whom a given dollar increase in net return per bushel is worth most. While it is difficult to determine the answer to this question in general, the most plausible case of exceptionally great assistance would be help for a farm which would otherwise go out of business. Such a farm would tend to be among the high-cost farms, suggesting the opposite of Penn and Boehm's position. However, there remains a reason why a target price program may lead to structural change toward larger farms. The low-cost producer should tend to find it profitable to expand production while high-cost producers may not; and the elasticity of supply may be higher for low-cost producers. Ironically, one of the innovations in the Food and Agriculture Act of 1977 is to abolish historical acreage allotments, which tend to restrain structural change due to production response.

A more subtle argument for structural effects of farm programs works through the reduction of price risk. Pope and Gardner discuss three ways in which policies that reduce risk can increase farm size: (1) increased output by risk averse producers with given factor and product prices, (2) increased input supply by factor owners, (3) encouragement of adoption of decreasing cost technologies. In addition, risk reduction under a given technology has been hypothesized to induce increased specialization (among farm enterprises as well as specialization in commercial agriculture as opposed to a mix of on and off-farm work by the operator). The fact that the ratio of net family income to gross receipts becomes smaller as we move to larger-scale operations means that risk increases with size, ^{2/}ceteris paribus. While there are ways

of managing risks besides government price guarantees, such as forward sales, share-leasing, and savings accounts, the fact remains that price stabilization by means of commodity programs does reduce the risk in moving to a larger-risk, specialized operation. However, it is necessary to consider the structural consequences of risk-bearing in the absence of commodity programs. Many of the private-market substitutes for government stabilization programs involve considerable investments of time and money which may themselves contribute to observed economies of size and specialization. Thus it is not clear that risk reduction through government stabilization will induce more rapid structural change than its absence.

Unfortunately, evidence to establish any program effects as empirically important determinants of the structure of agriculture is lacking. And with respect to commodity programs in general there are not reliable estimates of how the size of farms would have grown historically in their absence. One crude test is to compare the experience of commodities with varying programs. The data available suggest, if anything, that the absence of commodity programs is associated with more rapidly increased scale of operation. The clearest case is tobacco, which is a program that is generally recognized as oriented towards small producers by means of its marketing quotas. Cotton is also suggestive in that the average acreage per farm grew more rapidly in the 1969-74 period during which the program ceased to have an important impact^{3/}. Corn and wheat show something of the same effect, especially when contrasted with soybeans. In the 1969-74 period, when corn and cotton moved from protected to unprotected status, the rate of growth of average soybean acreage slowed. Since 1930 the average acreage of potatoes, sweetpotatoes, and other vegetable

crops managed to grow more rapidly than any of the major crops despite a lack of commodity program protection in recent years. Granted, caused other than commodity programs are involved in each of these events, and average crop acreage per farm may not be a good indicator of scale. Nonetheless, one would expect that if commodity programs had in fact been an important cause of large-scale farming, this fact would show up more strongly in the acreage data than it does.

There is no necessary connection between reduced numbers of farmers and increased concentration of production on the largest of the remaining farms. For example, if the number of sugar cane producers were reduced to 1000, it would make an important difference whether they each produced roughly equal quantities or whether the largest 5 accounted for 50 percent of output and the rest were small. As a matter of fact, however, concentration of U.S. production on the largest farms, as measured by Gini ratios or the coefficient of variation of the size distribution of farm sales, has increased as U.S. farm numbers have been reduced. Nonetheless, while the effects of commodity programs in increasing the inequality of farm income are fairly well established, the effects on concentration of production are not.

In summary, neither the theoretical nor the factual basis exists at present to establish that commodity programs provide an important impetus toward a large-scale, concentrated commercial agriculture.

Marketing orders and agreements, and their use by agricultural cooperatives, may be thought of as a form of commodity policy. LeVeene says, "There is some evidence that suggests that market orders and the implementation of quality standards are biased against the smaller producers" (p. 30). While Jamison's conclusion may be readily accepted that the management of marketing orders

controls "reflect to a larger degree the desires of some prominent grower leaders" (p. 249), it is not clear that the controls implemented make it more difficult for smaller growers to survive than would be the case in an unorganized market. This is true even if the marketing controls aim at keeping prices high enough for only the lower-cost producers to prosper, in that price presumably would have been lower still in the absence of controls.

In moving from questions of structure to questions of control of agriculture, or from structure to performance in the industrial organization jargon, it seems apparent that the issues are more directly related to marketing than to production. The legislation authorizing marketing orders and the special tax treatment and anti-trust exemption for some aspects of cooperative activities is in part intended to centralize control of agriculture. The economic justification is the necessity to counter concentration among buyers of farms products. The prevailing judgment seems to be that the legal protection provided to producers is more than sufficient to the purpose. If true, this is an illustration that real market control is more readily achieved by having the government on your side than by producing in a concentrated industry.

This notion leads to a different aspect of control in agriculture: control of commodity policy. It could be that in 1978 the American Agriculture Movement's militants have exercised more control over agricultural markets than any other individual or organized group. Analyses of policy tend to be oversimplified in treating policy as exogenous, like the weather. Policy is too often treated in this way until the end of the discussion, at which point it is suggested how "we" could change it if we desire change. It might be more fruitful to examine how the structure of agriculture influences policy

instead of how policy influences structure. There appears at least to be enough mutual reinforcement between structure and policy to cause a certain stickiness in structural change. For example, a small-farm structure of tobacco production influenced the tobacco program, which in turn helped preserve the small-farm structure of tobacco growing. On the whole, it appears that other countries, notably those in the European Community, have been more strongly affected by this source of inertia than has the United States.

Tax policy. The superficially most apparent structural aspect of federal income and estate taxes is their progressive feature, with higher income and wealth taxed at higher percentage rates. This progressivity should be expected to have a damping effect on scale insofar as larger scale generates higher incomes and places operators in higher tax brackets. However, the tax code has incorporated exemptions, deductions and other provisions which enable an operator to increase wealth by investment without incurring the tax liabilities that a first glance at the tax tables might suggest. In 1974, net farm profit according to IRS income tax statistics was \$5.0 billion, while realized net income as estimated USDA was \$27.7 billion. Thus, effective income tax rates are far below nominal rates, and it is quite likely that the progressiveness of the income tax is substantially reduced if not eliminated completely. However, as Baker and Hopkin (p. 1056) show, the growth of the farm firm tends to be hindered by even a proportional income tax. Moreover, the hindrance increases the more highly leveraged and the more profitable the farm.

Another area of taxation which has received considerable attention is the role of federal estate taxes, especially as modified by the Tax Reform Act of 1976. The structural consequences of the 1976 Act's changes are not apparent. The tax rate schedule was made more progressive, and rates increased for larger

estates. For example, the federal estate tax amounted to 29.5 percent on a taxable estate of \$500,000 under prior law but is 31.2 percent under the 1976 Act. Moreover, an estate with the same real taxable value would have been taxed at 26.7 percent ten years ago. The increased rates, however, are more than offset for many by provisions to value farmland at use value and to permit deferred payment of tax bills. The net result should be an increased ability to pass a large farm to one's descendants, without having to sell all or part of it to pay the taxes. Whether this will have any appreciable effect on the size of farming operations remains doubtful, even if it does permit larger fortunes to be accumulated by farm families. Moreover, when judging the effects of taxation there is always the question of the alternatives being considered. Both before and after the 1976 Act, large estates are taxed much more heavily than small ones. The net effect of estate taxes, albeit much moderated by the options for avoiding them via transfers before death, must be to discourage the growth of a farm family's wealth compared to the situation with no estate tax or a flat rate tax.

In sum, neither the theoretical basis nor the empirical evidence to estimate the structural consequences of our tax laws exists at present. While some believe that the tax laws have encouraged large-scale farming,^{5/} I have to concur with Dorow's assessment that "no unequivocal answer may be given to questions about tax advantages for larger or small firms" at our present state of knowledge. (p. 46). It therefore cannot be concluded that tax policy is fostering concentration of the structure of agriculture.

In considering the issue of control of agriculture, concentration of production, while important, is not the whole story. A degree of concentration in agriculture even mildly alarming by the lights of the industrial organization

literature is not on the horizon. Nonetheless, it would be premature to dismiss control issues as psuedo-problems.

The basic idea of "control of agriculture" needs to be looked at more carefully than has typically been done by agricultural economists. There are many forms of control, only some of which become policy issues. In the strict sense of control as determination of events, it is hard to find any instances of control when social interaction is involved. A farmer may be said to control his use of fertilizer or his purchases of feeder cattle, but he is constrained by actions of the fertilizer supplier, the price of fertilizer, the requirements of his banker, his health, and so forth. It would also not be correct to say that the fertilizer supplier controls a farmer's fertilizer use because the farmer may take his business elsewhere, change his production plans, or the economics of fertilizer availability to the supplier may change. An agent's control of an event may be thought of quantitatively as the probability that the event occurs according to the agent's intentions. Control seems to become a policy issue when an individual's ability to influence events involving his own actions is reduced or threatened.

Analysis of control in this sense requires consideration of elements of the economic organization of agriculture other than the concentration of production on large farms. When economic activity is undertaken jointly any individual involved loses control. Suppose two owner-operator farms combine. Even if one of the farmers becomes a hired employee of the other, both would be expected to have less control over the joint operation than either had over his own (although the employee presumably gives up less control than the employer). If an owner-operator sells his land to an urban resident, and then becomes the

urban resident's cash or share tenant, there is a real sense in which farm residents have lost control of agriculture. If a farmer accepts contracting arrangements such have become the norm in some commodities, notably poultry and vegetables, there is an even greater loss of control.

Tax "loopholes" have been cited as an important cause of structural change involving loss of farmer control of farming operations, because non-farm capital is induced into farming activities to take advantage of lower effective tax rates on returns to agricultural investments, especially those for which returns may be treated as capital gains for tax purposes. While the size of the induced capital flows are uncertain, the question remains how the tax provisions change the amount of capital per farm operator or the contractual arrangements governing farming. The effect of an influx of non-farm capital on the choice of combination of inputs or the desired size of farm operations is largely unexplored territory. With respect to contracting, however, it seems self-evident that nonfarm capital in farming by definition involves the kind of joint venture which inevitably involves loss of operator control.

Economists have a set of generally-accepted policy prescriptions for industrial concentration leading to market control, but not for control of production as lost in joint ventures and so forth. This empty box leads to the "people are concerned" approach. An example is the series of publications by the North Central Public Policy Education Committee. The reports begin with the existence of "concern", then present data on structure and discuss future trends. But in the end they are unable to say whether the initial concerns are or appear to be justified, so that one is left not much further along analytically than at the beginning.

However one views the normative issues involving control, recommendations for action to counter the effects of tax policy are or should be restrained by the lack of evidence that tax policy has had any strong effect on the structure or control of U.S. agriculture. Loss of owner/operator control should show up as an increasing importance of hired labor in farming or decreasing importance of land operated by the owner. However, since 1920 there has been a slight trend towards fewer hired farm workers relative to the number of farmers. Despite the substantial changes in economic organization and increase in scale of farming, there were estimated to be .52 hired workers per U.S. farm in 1920 and .46 hired workers per farm in 1974. With respect to land ownership, there was a decline in the percentage of land in farms operated by full owners from 48 percent in 1920 to 36 percent in 1940, but the figure remains at 35 percent in 1974. And the proportion of farm real estate transfers in which the buyer is identified as a nonfarmer has been roughly constant at about 37 percent throughout the post-World War II period^{6/}. The structural changes involving contracting have been more dramatic in broilers and some vegetables. But this specificity by commodity suggests that the U.S. tax laws are not a prime cause of these developments. (Moreover, neither are commodity programs a plausible cause for these changes.)

Public research and extension is thought by many to have increased the size of farm operations, although Breimyer, and Guither, Krause, and Bottum have questioned this view. In a proper examination, the effects of public research and extension must be compared with the relevant alternative. The relevant alternative is the conduct of research and extension in the absence of public activities in these areas. If agricultural research and extension were left in private hands there would be two kinds of consequences, which

work in opposite directions. First, because of its public good character there would be a smaller commitment of resources to research, which would slow down the rate of technical advance and associated structural change. Second, there would be a less wide distribution of research results and instructions for implementing these results, which would increase incentives for large-scale ventures to cover the fixed costs of acquiring information on new techniques for which the producer must pay the full price in a private market. Which would dominate is not clear a priori, and the relevant empirical evidence does not exist. The best systematic investigation of the subject is reported by Welch (1970b), who finds that public research has a small effect taken by itself but that in conjunction with education ^{7/} it accounts for about a quarter of the measured economies of scale which can be explained. However, it is not clear whether farm size growth would be associated with increasing concentration of production or whether small and large farms would tend to grow at the same rate.

In sum, while there appears to be no doubt that technical progress and its diffusion has changed the structure of agricultural production toward larger-scale farming, it is not clear that the marginal contribution of public research and extension has been to accelerate or decelerate the rate of change to larger units, or the movement to increased concentration of production.

Allocation of publicly owned or subsidized resources. Governments at all levels from time to time sell or rent resources and services, sometimes at market prices but more often at subsidized rates. Transactions at market ^{8/} prices, unless in very large quantities, should have no particular structural consequences; they are merely an exchange of value for value, and by themselves would not be expected influence resource allocation, scale, or concentration of farming. Subsidized transactions confer increased wealth on the re-

recipient in the private sector, but the wealth increase would not in and of itself be expected to have a strong influence on structure. The structural effects arise because there always tends to be an excess of willing takers of subsidized resources and services, so that some form of nonprice rationing must be imposed by the government agency in charge. Whenever the rationing scheme has been based upon structural considerations such as size of operation, it seems without exception to have been intended to favor smaller operations as against large-scale farming or wealthy farmers. This approach has been followed in policies ranging from the Homestead Act to the Farm Security Administration^{9/} to the upper limits on deficiency payments in current commodity programs to the recent revival of interest in the 160-acre limitation on an individual's use of some federally-subsidized irrigation water. While these and other programs have undoubtedly targeted wealth gains to some smaller operators, it is not clear that they have seriously hindered structural change toward large-scale operations. The basic reason is that if resources can be combined more efficiently in large units of production, then it will tend to be the case that a small operator who receives a subsidized resource will do better financially to rent or sell the capitalized value of the subsidy rather than use it in a small operation of his own. Be this as it may, there are no grounds for concluding that public policy in this area has actually fostered structural changes toward large-scale farming.

Credit and insurance programs may have more pronounced structural effects because benefits are tied to particular operators and cannot be transferred so easily through a secondary market. The benefits are lower interest rates or insurance premiums than could be obtained in the private sector, and acceptance of riskier loans and insurance of riskier projects than the private sector would undertake.

These programs should encourage more highly leveraged, more specialized, and larger enterprises for the same reasons mentioned with respect to price stabilization programs. Indeed, because price and output risks tend to be offsetting to some degree, the joint provision of price stabilization and production insurance may be more effective in encouraging highly leveraged operations than either type of program alone. The Food and Agriculture Act of 1977 provides joint coverage by means of deficiency payments and the disaster payment program. The issue again arises, however, as to what would happen in the absence of credit and insurance programs. It seems plausible that movement toward contractual arrangement of the sort discussed above which result in loss of operator control over farming would be encouraged if these programs were not available.

Summary and Conclusions

Hypotheses about both structure and control as influenced by policy are abundant. Hard evidence, and even strong a priori reasons to expect particular hypotheses to be correct, are scarce. This paper did not remedy this lack, but did bring in some arguments and data to cast doubt on views about policy and structure which have been advanced. The main general finding is that analysts of determinants and consequences of structure tend, to a degree even greater than in other areas of economic analysis, to make stronger claims than the available evidence warrants. The most that can be said is: compared to policies which have actually been applied, policies could be devised, and have been proposed, which would slow down the rate of structural change toward more concentrated agricultural production. But as compared to the policy environment prior to, or most likely in the absence of the governmental institutions which now exist, historical policies have probably tended to retard the

rate of structural change. The only important exception seems to be the set of policies involving research, extension, and education of farm operators, although here too one may reasonably question the evidence adduced to date.

With respect to control, one problem is the nebulous usage of the term in discussions about control of agriculture. This paper considered three aspects of control: control over market price and quantity, political control over commodity policy, and control of decision-making and resource use in farm operations. With the possible exception of marketing orders and cooperatives for some commodities, policy-induced market control seems to be a non-issue. Political control has probably been a source of policy-induced inertia in structural change and has provided indirect market power for farmers acting collectively. Control over decision-making has undoubtedly shifted dramatically for some commodities, but virtually nothing is known of the role of policy in fostering or hindering these changes.

The current state of affairs, in sum, is that agricultural economists have not been able convincingly to establish a connection one way or the other between policy and the structure of agricultural production, or between policy and control.

FOOTNOTES

1. The terms "high-cost" and "low-cost" are put in quotation marks because their meaning is not obvious. Both "high-cost" and "low-cost" producers should tend in the long term to have average cost equal to price when the value of assets which account for the cost differentials are taken into account. Low-cost producers may best be thought of as "rent-earning" producers who receive above-normal returns to management, land, or another specific factor or production.
2. Example: A one-man operation on 200 acres of owned land in corn might have \$40,000 in normal sales and \$25,000 in normal expenses for a \$15,000 return to operator labor and land. By adding rented land and larger machinery and/or hired labor, the operation might have \$100,000 in normal sales and \$80,000 in normal expenses for a \$20,000 operator return. If there is a 10 percent chance of corn revenues 20 percent below normal, the small operation bears a 10 percent risk of net income of \$7000, while the large operator bears a 10 percent change of net income of zero. Thus, the risk of severe financial pinch is greater for the large than for the small operation, despite the higher normal income for the large farm.
3. The statements in this paragraph are based on crop acreage and numbers of farms producing the specified crops reported in the Census of Agriculture, 1930 through 1974.
4. "I doubt that our present price and income policy will prove compatible with and industrialized food and fiber industry. And, if I am correct, the policy is likely to change rather than the industrialization process" (Hathaway, p. 56).

5. For example, Breimyer (p. 22): "Working most in favor of larger, non-family, farms have been the various income tax rules".
6. The figures in this paragraph are derived from data in the Census of Agriculture, and the USDA publications, Agricultural Statistics and Farm Real Estate Developments.
7. The key element in structural change in agricultural production may well be the human agent. Welch (1970a) and Huffman have provided empirical evidence on the importance of education in determining responses to technical innovation and economic change. The characteristics of farm operators are likely as well to be an important determinant of responses to change in the policy environment. In this context, the structural consequences of policy operate by influencing the demand for human capital. Equally important, from this point of view, are policies which influence the supply of human capital in agriculture. It could be that the most important governmentally directed influence on the structure of agriculture is the number and quality of graduates from land-grant colleges who enter farming. In the absence of government programs and policy intervention, there would be a demand for skills in dealing with uncertainty and disequilibria (see, Schultz). In the presence of the complex set of policy interventions outlined above, the same type of demand exists. The factor limiting structural change in either case could well be the supply of these skills.
8. For large-scale public works projects like dams the same difficulty arises as for research, discussed above. There is an offsetting effect in that if there were not public investment, the number of large irrigation projects would be reduced. Thus, if irrigation projects contributed to economies of scale, even unsubsidized public investment has structural consequences.

9. See Maddox (pp. 90-101) and Quance and Tweeten (pp. 22-25) for discussion of this and related Depression-era programs.

REFERENCES

Baker, C.B., and John A. Hopkin. "Concepts of Finance Capital For a Capital-Using Agriculture", Am. J. of Agr. Econ. 51(1969): 1055-1064.

Breimyer, Harold F. "The Changing American Farm", The Annals, American Academy of Political Science 429(1977): 12-22.

Dorow, Norbert. "Policies Affecting Capital Accumulation and Organizational Structure", in Who Will Control U.S. Agriculture, North Central Regional Extension Pub. 32, University of Illinois at Urbana-Champaign, August, 1972, 44-45.

Gardner, Bruce L., and Dale M. Hoover. "U.S. Farm Commodity Programs and the Inequality of Farm Household Income", Econ. Res. Report No. 35, N.C. State University, Sept. 1975.

Guither, Harold D., Kenneth R. Krause, and Carroll Bottum. "Effects of Access to Technical Knowledge and Commerical Inputs", in Who Will Control U.S. Agriculture? N.C. Reg. Ext. Publ. 32, U. of Ill., 1972, 29-36.

Hathaway, Dale E. "Discussion", in Agricultural Organization in the Modern Industrial Economy, NCR-20-68, Dept. of Agr. Econ., Ohio State Univ., 1968, pp. 55-56.

Huffman, Wallace E. "Decision-Making: The Role of Education", Am. J. of Agr. Econ. 56(1974): 85-97.

Jamison, John A. "Marketing Orders and Public Policy for the Fruit and Vegetable Industries", Food Research Institute Studies 10 (1970): 223-392.

Kyle, Leonrad R., Sundquist, W. B., and Harold D. Guither. "Who Controls Agriculture Now?" in Who Will Control U.S. Agriculture, North Central Regional Extension Pub. 32, Univ. of Ill., August 1972, 3-12.

LeVeen, E. Phillip. "Survival of the Fittest? The Relationship of Size and Viability in California Agriculture" Univ. of Calif., Berkeley, Giannini Foundation Working Paper No. 54, Feb. 1978.

Maddox, James G. "Impacts of Noncommodity Programs on the Structure of Agriculture", in D. Hunter, ed., Food Goals, Future Structural Changes, and Agricultural Policy, Iowa State, Ames, 1969, pp. 86-114.

Moore, Charles V. "Effects of Federal Farm Programs and Policies on the Structure of Agriculture", USDA-ERS, NEAD Working Paper, Jan. 1977.

North Central Public Policy Education Committee, Who Will Control Agriculture?: A Series of Six Leaflets, North Central Reg. Ext. Pubs. 32-1 through 32-6, Univ. of Ill.

Penn, J.B., and William T. Boehm. "Research Issues Reemphasized by the 1977 Food Policy Legislation," Agricultural Econ. Res. 30 (1978): 1-14.

Pope, Rulon D., and B. Delworth Gardner. "The Structure of Agriculture and Risk," in P. Barry, ed., Market Risks in Agriculture: Concepts, Methods, and Policy Issues, DTR 78-1, Texas Agricultural Experiment Station, July 1978.

Quance, Leroy, and Luther G. Tweeten. "Policies, 1930-1970" in A. G. Ball and E. O. Heady, eds., Size, Structure, and Future of Farms, Iowa State U.P., Ames, 1972, 19-39.

Schultz, Theodore W. "The Value of the Ability to Deal with Disequilibria", J. of Econ. Lit. 13 (1975): 827-846.

Welch, Finis. "Education in Production", Jour. Pol. Econ. 78 (1970): 35-59.

Welch, Finis. "Returns to Scale in U.S. Agriculture", mimeo, Dec. 1970.