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# DISTRIBUTIONAL ISSUES IN FOOD AND AGRICULTURAL POLICY: CONCEPTS AND ISSUES

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Issues in equity have arisen with growing frequency over the last decade. They have not received the attention they deserve, either in the profession or agricultural policy. Today equity issues are being forced upon us, like it or not.

## Concepts

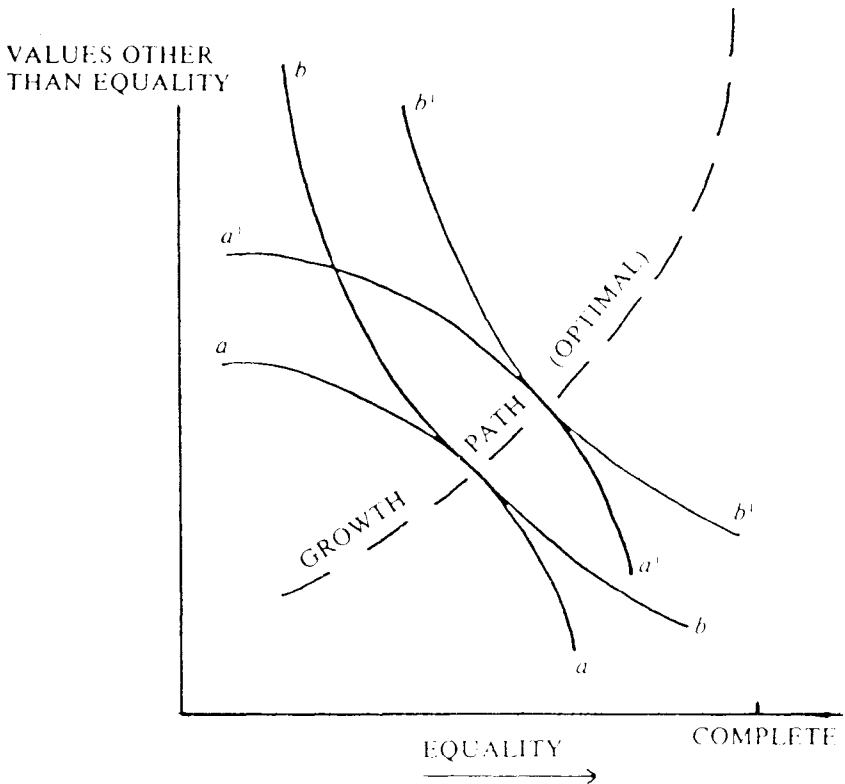
Economic welfare is a function not only of the amount of goods and services available but also of their distribution. As all economists do (or should) know, the efficiency of any combination of resources used to produce a given output depends not only on the law of variable proportions but on a socially accepted, or equitable, distribution of the goods and services produced.

What is equitable depends on society's social preferences (indifference function) and the possibilities that exist for tradeoffs in society between various degrees of equality and the other values held in society. Here I shall follow Glenn Johnson's interesting treatment of the growth and equity theme of the 1982 Indonesian meetings of the International Association of Agricultural Economists (IAAE) [4]. He views growth as "the creation of increased capacity to attain all conditions, situations and things which people (as individuals and as members of societies) find valuable." Equality is one valued condition. In Diagram 1, equality is plotted on the horizontal axis with complete or perfect equality at the right end of that axis. Other values are plotted on the vertical axis. The "possibilities lines" (aa and a'a') show the combinations of equality and other values attainable with a given amount of a society's capacity. The social indifference curves (bb and b'b') measure the tradeoff between equality and other values at given levels of social welfare. The growth curve running through the points of tangency of "possibilities" and "indifference" curves expresses the three way tradeoff between varying combinations of attainment of equality, other values and growth of society's capacity to attain equality and other values. This growth curve is "optimal" in the sense that, at any given societal capacity, no other combination of possible values achieves as high a level of social welfare.

In a sense, the degrees of equality or inequality found along an *optimal* growth trajectory are *justified* socially and economically by the social indifference curves. The degrees of equality along the optimal growth trajectory *can be regarded as equitable* [4,p.597].

An assumed distribution of power is implicit in this diagram representation of distributional or equity tradeoffs. Changes in the distribution of power affect both the value possibilities and indifference functions of society.

DIAGRAM 1



As Johnson points out, while this is an orderly way of viewing these tradeoffs, there are many conceptual and empirical difficulties in the approach, “not the least of which is their gross oversimplification and, even misrepresentation, of the complex phenomena they purport to represent.” Issues of intergenerational equity, like changes in the distribution of power, are not easily handled. Nevertheless, I find the approach useful at a very general level in thinking about these issues. The problem is that neoclassical theory is not that useful in ordering personal income and wealth distribution issues. Ed Schuh observes:

The greatest deficiency of neoclassical theory is its treatment of personal income distribution, particularly its failure to present a theory that handles the resource acquisition problem in a satisfactory way and that enables us to use knowledge about the functional distribution of income in mapping the personal distribution of income [6,pp.108].

Struggles in the American Agricultural Economics Association's (AAEA's) postwar literature review, with the conceptual base for addressing low income and poverty as well as rural development, demonstrate this problem [1; 3]. Thus, after stirring the theoretical bucket thoroughly, I find myself left mostly with organizational schemes that are either overly general or arbitrary and partial. The best organizing principle I can offer you is Johnson's approach to the disparate distributional issues in American agriculture. The treatment of specific issues below is also necessarily more general than one might prefer.

### **The Current Policy Context**

United States (U.S.) agriculture has changed greatly since the origins of most of the current programs. With few exceptions, commodity programs and the programs that subsidize water, conservation, electricity, credit, and other farm inputs, have been in place for many years. However, the original goals now often are obsolete, confused, or have been politically subverted in operation so that the programs clearly fail to address today's problems.

Agricultural markets are now interdependent worldwide. This means that the demand for U.S. farm output has become more responsive to price and that the supply of farm output is more responsive to the prices that U.S. farmers pay for their inputs and receive for their product. Our agricultural commodity markets are no longer separated from domestic or international markets in securities, foreign exchange, or capital. A disturbance today in any one of these markets is quickly transmitted to all of them. This is primarily the result of the revolution in computers, electronic communication, and transportation that has shrunk the world to a small interdependent village. It is also a consequence of flexible exchange rates and U.S. deregulation of financial markets.

Commodity programs built around voluntary production controls are now very costly and generally fail to reduce farm input due to slippage. Diversion payments have little more effect on farm income per dollar of cost than payments without production controls. The U.S. faces a "prisoner's dilemma" on production control. When imposed on commodities traded internationally, production controls lead to a self-defeating decline in the U.S. market share.

The structure of U.S. agriculture has become exceedingly heterogeneous. The postwar advances in productivity in U.S. agriculture have produced a small but growing number of large farms accounting

for nearly two-thirds of farm output and 95 percent of net farm income (300,000 each with over \$100,000 in sales in 1982). They can compete on international markets without federal subsidies, although they face substantial market instability. Their income from all sources in 1982 averaged \$89,171 as compared to a national average of \$21,063 for all Americans. At the other end of the size distribution of farms is a large and (since the mid 1970s) a slowly growing number of much smaller farms (1.7 million, each with under \$40,000 in annual sales). These farms produce about 17 percent of all farm output, usually, however, with a negative net farm income but substantial nonfarm income. In 1982 this large group of small farms averaged \$17,800 in income from all sources. There is also a group of middle-sized family farms that is growing so slowly in both numbers and farm output that it is approaching incipient decline. These 400,000 farms had income from all sources averaging \$16,155 in 1982 [8,pp.84-97].

We are headed toward a bimodal distribution if nothing is done to protect this middle range of family farms, many of which are not fully competitive economic units. Off-farm employment and income constitutes the primary income source for the large group of small farms and often provides important protection against the risks of farming and low returns in the other two groups. Farming in the U.S. is no longer the homogenous, low-income, low-return sector it was in the 1930s; major differences now exist between farms in efficiency and economic needs. The price support programs provide limited assistance to the average farmer while producing major windfalls for the largest farms.

Our present economic difficulties in farming arise out of failures of macroeconomic policy that have created an interest driven explosion in farm costs while undermining demand for agricultural exports. It leaves the world with a substantial excess capacity for agricultural production. This has deflated U.S. farm assets, especially land values, in turn eroding the net worth and financial capacity of all commercial farms. Those who are highly leveraged are exposed, if not in serious trouble, and have substantial cash flow problems. The problem varies greatly across regions and by type of farm enterprise. Except for the middle-size group of farmers, who are not earning adequate returns, the long-term problem of commercial agriculture is a destructive macroeconomic policy and excessive market instability. Hanging over any recovery and growth, however, is the exceedingly large third world debt structure and an unprecedented and growing U.S. trade deficit which will make the U.S. a debtor nation by 1985. Much potential economic misery is stored up in these matters for the world and for U.S. agriculture.

### **Distributional Issues**

Current distributional issues differ greatly from the past. In the

19th century agriculture and rural society were perceived not only as disadvantaged but falling behind the urban sector in an industrializing society. As a consequence policies and programs were initiated to offset this disadvantage by investing in the infrastructure of agriculture. Social investments were made in rural and agricultural education, agricultural R&D, rural free delivery of mail, land and water development and, in the early decades of this century, in extension education, highways, rural electrification, soil conservation, subsidized credit, and heavily subsidized land and water development. The agricultural commodity programs were established in the 1930s. All of this had the effect of encouraging growth by transferring resources into agriculture.

As the scope of agricultural markets grew and agriculture developed, some individuals and communities were winners and some were losers. A very low income subsistence agriculture, earning quite inadequate returns for its resources, was transformed into the industrialized agriculture of today. This, however, created a migration of labor out of agriculture of an immense scale. During the 1950s there were several years in which over a million people a year left agriculture. Thirty-three million people migrated out of agriculture between 1930 and 1974 [7,p.356]. The losers were primarily the central cities that were impacted by the flow of very poorly prepared, low income rural people, especially blacks with little education and few options. Some uneducated low income blacks and whites who migrated, and some who stayed, did not gain from these economic changes. In some substantial degree these social and private losses were due to discrimination. Many smaller rural communities declined and died. The winners, of course, were the better educated, particularly whites, who migrated, and the remaining farmers and rural businessmen who successfully adapted to the economic transformation of agriculture. Net, most individuals and society gained greatly.

Over the 1964-1980 period the civil rights of racial minorities and women moved significantly toward greater equality, expanding opportunity sets and creating new resources and societal capacity. Rural society with its older agrarian and nativist values carries a significant burden of racism and prejudice and stands to gain substantially from a release from that burden. It remains to be seen whether Reagan administration efforts in both rhetoric and action succeeds in halting this shift toward greater equality of social and economic opportunities for minorities and women.

While the early social investments in the development of rural America had distributive effects generally favoring rural and farm people, there was a very large spillover to the rest of society. Labor was released for industrial employment, and most of the benefit from increasing agricultural productivity has accrued to the consumer. Thus, in terms of Johnson's diagram, growth allowed substantial net in-

creases in attainment of equality as well as other values. A far smaller portion of the U.S. population today lives at a bare subsistence level of human welfare. The opportunity set of individuals has grown; there are fewer barriers to individual's access to human and biophysical resources. Human as well as biophysical capital per person has risen. The capacity of society to solve conflicts between equality and other values has grown.

What kind of distributional issues accompany the current configuration of policy? Probably the most important is that raised by the commodity programs. These programs originally transferred income from an advantaged to a disadvantaged sector of the population. The justification was intersectoral equity. Today the same programs transfer income from middle income taxpayers to many farmers with much higher incomes and even greater wealth. At the end of 1982 the large commercial farmer (over \$100,000 in sales) had a net worth of well over a million dollars. The average net worth per farm in the "\$500,000 and above" sales class was \$2.65 million. Even the middle-sized family farm group (\$40,000 to \$100,000 gross sales) had a net worth of \$500,000 [8, pp.84,136]. The PIK program dropped the \$50,000 payment limitation that constrains most commodity program payments. As a consequence many payments of more than a million dollars resulted. Since voluntary production controls no longer work well (if at all), paid diversions that reward the rich at the expense of the average taxpayer are likely to be the center (along with the deficits) of the controversy that finally kills these programs.

Another major distributional issue is that of publicly developed water provided to western farmers at a fraction of its cost. This, combined with commodity price support subsidies, transferred farm income and production from the low income south to the higher income west over the 1940s-1960s. It continues to be a major regional distortion in resource use and an immense subsidy primarily for large wealthy farmers. The commodity programs and subsidized water development for agriculture were once defensible investment decisions, but in their current form and in the present economic environment they make commercial farmers part of the welfare population. In the long-term these income subsidies are internalized in land values and benefit land owners, many of whom are wealthy nonfarm people.

A third distributional issue in current policy is that of subsidized credit. Credit provided by Farmers Home Administration (FmHA) and through certain features of the commodity programs, such as the Farmer Owned Reserve, are highly subsidized. Subsidized credit in the 1930s was quite defensible. Under current conditions it is far more difficult to defend. Subsidized credit for the larger commercial farms is not defensible. Agriculture is no longer an underdeveloped "infant industry." In addition, under political pressure FmHA has managed to make the current debt-to-equity problems of many large highly leveraged

farmers worse than they would otherwise be. FmHA continued to finance already bankrupt farmers over the last several years, in the end adding greatly to their debt and creating larger bankruptcies.

In general it can be argued that the successful, large commercial farm of today does not need any public subsidies. This does not mean we do not need a public policy for agriculture or that many farmers are not in trouble today. It is just that the financial structure and capability of successful commercial farms have been completely transformed and subsidizing this sector tends to transfer income from middle income families to the wealthy.

Another set of distributional issues are created by the externalities generated by the agricultural sector for which today political accountability is being pressed. These externalities to agricultural policy and production impair the welfare of present and/or future generations. This includes most importantly soil erosion, as well as problems of salinity and sedimentation. In addition, nonpoint pollution of land, streams, and lakes by herbicides, pesticides, insecticides, and fertilizer are creating very substantial pollution problems. The industrialization of agriculture and the increasing use of chemicals have also created issues involving the displacement of labor, the health of farm workers, as well as consumer health and nutrition issues. In addition, the confinement and use of animals in agriculture has raised issues about animal welfare. Around many of these issues today are organized single-interest advocacy groups that have increasing impact in Washington.

Existing institutional mechanisms seem to fall well short of internalizing the social costs of environmental degradation. Externalities affecting the quality of life and the resource base are difficult to address, since common property resources are involved. We are not well prepared as a discipline to treat distributional issues that involve the tradeoffs between agricultural production and conservation, environmental quality or other such issues. Institutional and disciplinary innovations are needed.

A second set of externalities is generated by the nonagricultural sector and impact agriculture. This includes point pollution of streams, lakes, and underground water supplies by manufacturing, petroleum, and chemical firms. Air pollution, as a result of industrialization and energy generation, is creating two important impacts on agriculture. One is acid rain, which is destroying forests in both North America and Europe. Agricultural yields presumably are also affected. The other is the "greenhouse effect" of rising levels of CO<sub>2</sub>. While CO<sub>2</sub> accelerates plant growth, the effect is quite differential. For example, soybean yields have been found to increase much more rapidly with rising levels of CO<sub>2</sub> than corn yields. In the long run this could have substantial economic effects.

Finally, a number of distributional issues are raised by the impact



on agriculture of the macroeconomic policies of the U.S. Currently the Federal Reserve Board refuses to monetize our run-away deficits so that interest rates are driving highly leveraged farmers into negative cash flows and bankruptcy. Even conservatively leveraged commercial farmers have experienced, and continue to suffer, substantial income losses not only due to higher credit costs but to losses of export sales caused by a dollar made excessively strong by the deficits. The real force behind this dynamic, however, is the fiscal policy of the Reagan administration, which has created these immense deficits.

In 1981 while the Federal Reserve Board had its foot on the brake of monetary policy, the Reagan administration initiated the largest tax cut in the history of the Republic, at the same time accelerating net federal expenditures through rapid expansion of the military budget and ever larger payments of interest on a national debt, which they almost have managed to double in four years. They put their foot on the accelerator of fiscal policy and pushed it through the floor while the "Fed" had its foot on the monetary brake. The economic engine stalled and the resulting recession was the deepest since the Great Depression. The deficits are peacetime records. The calendar 1984 federal deficit is estimated at \$187 billion and projected to grow to more than \$260 billion by 1989 with no change in policy. The current trade deficit is running at \$126 billion.

I note with interest that Neil Harl recently reclassified the Economic Recovery Tax Act of 1981 from "the most irresponsible Congressional act in this century" to "the most irresponsible . . . in the history of the Republic" [2,p.203]. The adverse impact on agriculture of this poorly conceived macroeconomic policy perhaps partially justifies the otherwise indefensible commodity programs. We have managed to follow the double-digit inflation of the 1970s, which redistributed income to the wealthy, with double-digit interest rates and a change in the tax structure, both of which are also redistributing income to the wealthy.

While the reduction of inflation would represent a shift to a higher indifference curve in Diagram 1, the loss of output and the unemployment generated is an offset. The reduction in equality, however, is so substantial that no matter the gain in other values and in societal capacity, the inequality introduced produces an inequitable or non-optimal result. In response, some might argue that the earlier movement toward greater equality in the late 1970s had been at the expense of output and other values that reduced society's capacity and forced it to a lower indifference curve. All of this is without introducing the destructive effect our growing deficits will have on the welfare of future generations. Today's economic growth has been achieved at the expense of the welfare of our children and their children. Their future has been mortgaged.

Another set of redistributive issues surround the Carter and Reagan deregulation efforts. Deregulation has distributional consequences that

seem to impair the welfare of low to middle income people and, in my judgment, the welfare of rural areas. The evidence is not entirely in on these matters, but there are several serious questions that can be raised at this point. In banking, it appears that individuals and firms with large accounts and assets are being advantaged while those with small accounts are being further disadvantaged in access to banking services and credit. One can also raise a question whether or not medium-sized and smaller family farms will have as good access to intermediate and long-term private credit in the future, when many smaller banks are branches of large urban bank holding companies. In addition, deregulation of previously segmented financial markets and institutions now throws rural banks into an undifferentiated credit market in which farmers will have to compete with large industrial and commercial accounts for credit. It remains to be seen whether the same access to credit can be maintained.

It is likely that the deregulation of trucking will aid farmers and rural firms. However, in the case of air transportation and the deregulation of railroads and buses, the low volume routes that invariably serve rural areas are being dropped out of the system. This has a particularly important impact in the plains and the west where large urban centers are few and far between. Again, the evidence is not conclusive, but there is a fair presumption that an impairment of the welfare of rural people and some parts of agriculture will result. One might, perhaps, add to this the effect of the AT&T decision and the defacto deregulation of telephones, which has already reduced access to phone repair service, especially for rural people. Rising local charges threaten to price lower income families out of the market, while reduction of long distance toll charges makes a net contribution to business and higher income individuals.

Deregulation, like macroeconomic policy, probably represents an increase in efficiency and a higher indifference curve but a net decline in equality in distribution of income and wealth. Large commercial farmers probably have gained, but for the smaller, full-time farmers it is likely a net loss.

The rising tide of protectionism has substantial negative redistributive consequences for commercial agriculture. Protection for steel, autos, textiles, and other manufactured products constitutes a tax on agricultural and other exports. Protection of U.S. industry reduces the capacity of importers to purchase U.S. exports, a substantial part of which are agricultural. Agriculture will be the big loser in any trade war. Protectionism imposes major welfare losses on the consumer and export industries and a net loss on the taxpayer while protecting poor management and employment in declining industries.

The changing structure of agriculture is an artifact of past, private and public policies and power distributions that work to the greatest advantage of progressively fewer large farms and landowners. With

no change in current policies, 78 percent of all farm output is projected to be produced by no more than 200,000 farms by the year 2000, with 63 percent of output accounted for by only 50,000 farms [5,pp.13]. Today, 300,000 farms produce 64 percent of all farm output. Whether this is good or not is a complex distributional issue.

In my judgment the central causal factor in concentration of agricultural production is tax policy. U.S. tax policy has been modified to benefit commercial farmers, especially the larger and wealthier farmers and nonfarm investors. Tax policy provides most of the financial incentive for the expansion of farms beyond the size where there are any additional social returns to scale. Tax laws are also a source of farmers' tendency to over invest in productive capacity adding to the instability of U.S. agriculture. These incentives include special treatment of assets, accelerated depreciation, cash accounting, and special expense rules. Also, as was noted in the 1984 Economic Report of the President, the tax laws giving agriculture special treatment create a major incentive for high income nonfarm people to invest in farming as a tax shelter. The "losses from farm operations reduce taxes on other income by more than the total federal tax revenue from farm profits." In other words, the taxpayer would be better off if farming were not taxed at all [9,p.130]. But, of course, that too would be a tax shelter.

Finally, the failure of many states to finance higher education adequately has begun to shut off access for children from moderate income families. Tuition increases at public institutions, while usually offset for the very low income family with student financial aid, have outrun the availability of such aid for middle income families. Indeed, rising pressure on available student aid funds has caused many institutions to shift available resources from direct financing toward loans. The loan programs, except in the case of highly paid academic majors in very short supply, can create a heavily mortgaged future for students. Faced with such a future many do not even enter college. Such is the case at many land-grant institutions as room and board, and especially tuition, have risen much faster than inflation or average incomes. It is no longer possible, while attending college, to work your way through as one could through the 1950s into the 1960s. Thus, the access to opportunity once offered to farm and rural families and others by the land-grant acts is slowly slipping away. Clearly we are seeing a decline in equality of access to education and with it some decline in the capacity of society and its ability to create human capital. The land-grant commitment is slowly slipping away.

In the strife over policy and the tradeoff between efficiency, growth, equality, and other values, there is an ebb and flow in the conflict between interests. As greater growth and efficiency are achieved, distributional effects build until some threshold is passed that elicits an organized effort to remedy perceived inequities. Redressing the bal-

ance between equality and other values will then produce another set of responses. Groups in society pursue goals in a continuing conflict that is an elemental struggle for power. For any society to be civilized, the outcome of this struggle over time must be informed by the moral and ethical values that sustain the pursuit of equality. No democratic society can accept less.

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