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ILLINOIS AGRICULTURAL ECONOMICS STAFF PAPER

EVALUATING COSTS OF GOVERNMENTAL
FOOD AND AGRICULTURAL POLICIES

by
R. G. F. Spitze

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EVALUATING COSTS OF GOVERNMENTAL FOOD AND AGRICULTURAL POLICIES

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Introduction

Purpose and Organization

The purpose of this paper is to identify for the United States the costs of governmental agricultural and food policies and evaluate their impacts. These costs can be viewed as direct budget outlays, income transfers, and indirect economic burdens, but emphasis here will be on the first. Economic impacts can be evaluated in terms of costs borne by various groups and in terms of benefits to be realized by others; emphasis in this analysis will be on taxpayer costs and on farmer and low income consumer benefits.

Governmental programs are directed at food and agricultural problems at all levels, local as well as city or county, state, and federal, but the emphasis in this paper will be on the federal. Food and agricultural policies range over a wide array of problems and types of programs, including land use, research and education, credit, markets, and environment, as well as on farmer incomes and food distribution; emphasis here will be on the latter. Governmental policies have been developed by the public in response to concerns about its food and fiber from the very beginning of the nation over two centuries ago and many of these have had and still do have profound effects upon the total society. Emphasis in this paper will be on those policies of the past thirty-five years. Finally, policies are shaped by a variety of values, such as social, moral,

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aesthetic, political, economic, etc., but emphasis here will be on the latter.

The organization of this paper will include five sections: (1) introduction to definitions, scope of the analysis, and nature of public policy; (2) evolution of food and agricultural policies of the U.S.; (3) estimates of Treasury costs of these policies; (4) consideration of indirect costs and benefits of policies; and (5) summary and implications. Relevant literature will be cited but its thorough evaluation will not be attempted.

Definitions and Scope

Nature of Public Policy. Policy commonly is used to convey the meaning that a decision has been made by someone or group resulting in an action to be taken to achieve a desired result or goal for the decision maker. Such decisions or actions can be taken by an individual (as a farmer), by an interest group (as a voluntary association of corn producers), or by a government (as a state or federal). Since all of these policies are designed to achieve some desired end, they are first evaluated and then chosen by whoever makes the policy. Even though decision makers prior to acting may consider the consequences of their policies upon others, the latter's own concerns and desires will likely be only partially achieved. Rather, their desires are more likely to be achieved by their own choices. Most economic actions in our contemporary, highly interdependent economies are between two or more decision makers, and the degree to which the resulting transactions achieve the desires of each party is dependent upon relative levels of knowledge, values held, degrees of freedom in the choice, and economic power base (Commons).

When the governmental policies are made in a participatory way so as to attempt to represent the views and desires of the people included in that sovereign unit, the decisions simultaneously express the desires of the decision makers, citizens being represented, and also the citizens being impacted by the policies. These kinds of participatory governmental policies are usually called public policies, that is, policies made by the public to impact them as they desire. Since there will inevitably be differences in views and desires among any citizenry, the policies chosen will be those representing the majority, or most, of the citizens participating in the resolution of the particular public problem. Thus, the cost of a policy to some people may be realized as a benefit of policy to others (Buchanan and Tullock). This makes the assessment of policies difficult, both theoretically and empirically (Parsons).

Nature of Food and Agricultural Policies. Governmental (public) policies have been developed in every conceivable sphere and sector of the U.S. economy. Wherever problems have arisen persistently and significantly enough -- whether in the area of freedom of movement, control of property, health, education, defense, recreation, commerce, market organization, communications, religion, or food -- public policies have, and are still, emerging. Yet, most economic policies and transactions are private in nature, between individuals and groups.

Food and agricultural governmental (public) policies are those arising out of problems surrounding the production of food and fiber, the ownership and use of resources to produce them, the marketing and distribution of those products, their prices, and the economic returns to their factors of

production. Thus, even though attention is often given to current pricing policies, agricultural and food policies were some of the first decisions of the nation over two centuries ago about its land and rural people.

Furthermore, even though these current discussions are often focused on farm issues, food and agricultural policies now also encompass a comprehensive food stamp program, grains reserves, national conservation reserve, and export initiatives.

Conceptualization and Measurement of Policy Costs and Benefits.

Policies can be analyzed both as costs and as benefits. Since public policies are always a compromise among differing interests and desires, the flow of funds associated with any program may be considered a cost by some and a benefit by others. Costs are variously conceived and measured as Federal Treasury outlays, higher consumer costs, lesser quantities of consumer goods or services, lower earnings to adversely affected producers, or foregone opportunities for choice or control. Due to the soundness of the theoretical base, the accuracy of the measurements, and the reliability of the implications, the direct Treasury costs will be primarily used in this analysis.

Benefits are variously conceived and measured as payments received, higher seller prices, greater volume of production or sales, reduced costs for transactions, lower prices or greater quantity or improved quality of consumer food and fiber, more comprehensive and reliable information, and expanded opportunities such as food supply security or preservation of resources for the future. For reasons similar to those previously identified, the direct payments received by farmers and by low income food program recipients will be used primarily in this analysis.

Evolution of U.S. Food and Agricultural Policies

Evolution of Public Policy

Governmental (public) policies emerge when the public through its policy development processes decide some action is a desirable response to a perceived problem in the economy (Talbot and Hadwiger). That is, the private transactions normally handling a production, marketing, or consuming activity are perceived as functioning inadequately, and the government intervenes to alter those transactions in some manner. Since changing economic conditions, as well as desires of people, continually precipitate new and unpredictable public problems, policies continue to change. Yet, the difficulty in shaping the necessary consensus, majority choice to actually develop a policy means that these changes come slowly and incrementally. They do change but not very fast nor abruptly. Thus, in essence they slowly evolve during which some areas of intervention may be discontinued, and similarly, policies for new problem areas will be added. Such has been the evolutionary nature of food and agricultural policies.

The very first policies, which provided the foundations for subsequent sector specific policies, dealt with such fundamental issues as nature of private property, right of preemptive public domain, governmental services, limited corporate liability, private contracts, market transactions, and individual freedoms of choice. Just as policy specific to any sector is continuously evolving, so also is this fundamental policy that undergirds the entire economy, the political system, and society.

Developmental Policies for Agriculture and Food

For the first century of the nation's history, governmental policies were chosen that essentially set the pattern for the structure, organization, and operation of the agricultural sector. These are usually called developmental policies. They helped determine the character of the farms, the flow of knowledge for their functioning, the source of their financing, and the kind of markets for their products. Policies contributing to this development of the farming sector included: (1) Common Schools Provision of the Northwest Territorial Ordinance of 1787, Homestead Act of 1862, Morrill Land Grant College Act of 1862, Hatch State Experiment Station Act of 1887, Smith-Lever Cooperative Agricultural Extension Service Act of 1914, National Farm Loan (Federal Land Bank) Act of 1916, Smith-Hughes Vocational Agricultural and Home Economics Education Act of 1917, Capper-Volstead Agricultural Cooperative Act of 1922, Farm Credit Administration Act of 1933, Soil Conservation Technical Assistance Service Act of 1935, Farm Security (and later Farmers Home Administration) Credit Act of 1937, and the Rural Electrification Act of 1936 (Benedict). Both costs and benefits still emanate from most of these policies.

Price and Income Policies for Agriculture and Food

Following this century and a half of developmental policies, and the development of the agricultural sector which they helped shape, another type of intervention policy commenced, usually called price and income policies. They are actually much more comprehensive than that term implies since they generally involve policies directly affecting the amount of farm production, minimum product market prices, producer incomes, food aid to low income

domestic consumers and low income foreign countries, food reserves, and trade of agricultural products.

Price and income policies emerged in response to the persistently perceived problems of: (1) unstable prices and farmer incomes; (2) periodically depressed farmer prices and incomes; (3) imbalances between farm product supply and demand; (4) threats to the entrepreneurial family farm system associated with higher capitalized and commercialized units; (5) pockets of inadequate food consumption and malnutrition among the domestic population and nations of the world; and (6) conflicts among agricultural trading nations. It was as though the public's attention was first centered for over a century on helping establish a rather efficient, innovative farming system, and then subsequently, became centered on preserving that system, stabilizing its functioning, and insuring that its economic returns were "equitable".

Following the loss of foreign markets after World War I, the subsequent depreciation of farm assets, and the deteriorating farm price and income situation, the first price and income policy was launched with the Agricultural Marketing Act of 1929 establishing the ill-fated Federal Farm Board. Since that milestone of policy, some version of price and income policy for the agricultural and food sector has evolved through a succession of some nineteen separate Acts to the current Food Security Act of 1985, adopted on December 23, 1985 (Spitze, 1978, 1983). Although this stream of policies still exhibits remnants of its earlier provisions half a century ago, it also continues to change. Not only is it evolving, but also becoming more comprehensive in its provisions and emerging from the

participation of a wider array of urban as well as farm interest groups in its development.

Many different approaches to price and income intervention have been tried and are combined in the current Act. In general, there has been a shift from a policy of compulsory production control, high price supporting, and a different program for each commodity toward a policy similar for all crops of voluntary land retirement, low price supports, and deficiency target payments. Similarly for domestic food distribution programs, the shift has been from the distribution of surplus commodities and a partial purchase requirement for food stamps by eligible low income consumers toward the outright granting of food stamps and targeted assistance for school children, young mothers and children, and the elderly. In Table 1, there is a brief summary of the primary provisions of the current Food Security Act of 1985, and some comparisons with the previous 1981 Act (Spitze, 1986; USDA).

Estimates of Treasury Costs of Food and Agricultural Policies

Comparisons of Costs, Budgets, and the Total Economy

In Table 2, data in current dollars for the costs of agricultural and food policies along with relevant comparisons are presented for the period 1950-1985 (Spitze and Brewer). They reveal the following overall trends: (1) increase in current dollar Treasury outlays for farm price and income commodity programs, for domestic food distribution programs, and for the total USDA budget (including many developmental policies); (2) relative increase in the food distribution component in the mix of farm price-

TABLE I. SUMMARY OF PROVISIONS OF THE FOOD SECURITY ACT OF 1985

ITEM	PROVISIONS	COMPARISON WITH 1981 ACT
DURATION	5 YEARS	One year longer, beyond next election
FOOD AID	Food stamps, emergency aid, education	Similar; states must offer
Domestic	continued; slightly higher funding	employment help
Foreign	P.L. 480 continued; more restrictions	Similar
GRAIN RESERVES	Farmer owned reserve continued; both maximum and minimum quantity levels	Maximum added to avoid its use to support prices
COMMODITIES Grains	Voluntary production control; minimum set- aside; discretion for cross-compliance and paid diversion; moving bases	Similar but with more options at discretion of Secretary
	Price supports related to 5-year moving average price; maximum 5% change per year; discretion to lower 20% if prices low	Initial support lower; more discretion to drop; new moving price base
	Target prices slightly lower each year; advance deficiency and PIK payments	Initial level similar; declines instead of rises
Soybeans	Price supports set similar to grains; no target prices or production controls	Similar
Sugar	Price support \$.18/lb.; strict imports	Similar; no Treasury Cost
Dairy	Price supports slightly lowered; pro- duction control by whole herd buyout	Support declines instead of rises; new herd buyout
Payment Limits	\$50,000/year per producer with some waivers if support lowered to maximum	Similar
CONSERVATION	Sodbuster program denies program benefits if erodible land plowed;	New
	Conservation reserve of 40 mil. ac. of erodible land by competitive bids for annual rental; shared cover costs	New
EXPORTS	Export enhancement with credits, PIK bonuses, subsidies, and trade promotion; over \$5 bil. annually in outlays or guarantees	More programs aimed at competitor policies; more direct subsidiza- tion; higher funding
CREDIT	Continued FmHA for farmers; funding shifts from direct to guaranteed loans	More emphasis on farm and less on community services
RESEARCH AND EDUCATION	Continued formula, matching, and competitive grants programs	More restrictions; emphasis on technology, new uses
MISCELLANEOUS	Promotion checkoffs; advisory commis- sions; aquaculture, animal welfare, etc.	More special programs and mandated studies

TABLE 2. TREASURY COSTS AND RELATIONSHIPS OF FEDERAL AGRICULTURAL AND FOOD PROGRAMS
(all dollars in current terms)

YEAR	FARM PRICE & INCOME PROGRAMS				DOMESTIC FOOD PROGRAMS			USDA BUDGET			FARM CASH MARKET- ING RECEIPTS		TOTAL NON- DEFENSE BUDGET OUTLAYS	TOTAL U.S. BUDGET OUTLAYS	GNP
	Total Outlays ^a	As Percent of USDA Budget Outlays	As Percent of Non- Defense Budget Outlays	As Percent of U.S. Budget Outlays	Total Out- lays ^b	As Percent of USDA Budget Outlays	As Percent of U.S. Budget Outlays	Total Outlays	As Percent of Non- Defense Budget Outlays	As Percent of U.S. Budget Outlays	Total	As Percent of GNP			
	(mil. \$)	(%)	(%)	(%)	(mil. \$)	(%)	(%)	(mil. \$)	(%)	(%)	(bil. \$)	(%)	(mil. \$)	(bil. \$)	(bil. \$)
1950	1,666	51.1	5.6	3.9	179	5.5	.4	3,262	11.0	8.1	28.5	9.9	29,582	42.6	288.3
1951	*	*	*	*	129	11.3	.3	1,140	5.0	2.6	32.9	9.9	23,029	45.5	333.4
1952	*	*	*	*	122	8.1	.2	1,505	6.4	2.3	32.5	9.2	23,663	67.7	351.6
1953	1,894	55.9	7.4	2.5	165	4.9	.2	3,390	13.2	4.6	31.0	8.3	25,658	76.1	371.6
1954	1,399	46.0	5.9	2.0	262	8.6	.4	3,044	12.7	4.5	29.8	8.0	23,914	70.9	372.5
1955	3,397	69.6	12.3	5.0	142	2.9	.2	4,881	17.6	7.6	29.5	7.3	27,705	68.4	405.9
1956	3,621	66.9	12.1	5.1	262	4.8	.4	5,412	18.1	7.8	30.4	7.1	29,877	70.6	428.2
1957	2,684	51.4	8.1	3.5	270	5.2	.4	5,226	15.7	7.5	29.7	6.6	33,232	76.6	451.0
1958	1,114	21.7	2.9	1.4	292	5.7	.4	5,132	13.5	7.1	33.5	7.3	37,939	82.4	456.8
1959	2,862	38.8	6.3	3.1	359	4.9	.4	7,384	16.2	9.2	33.6	6.8	45,483	92.1	495.8
1960	1,647	30.0	3.6	1.8	324	5.7	.4	5,684	12.3	6.2	34.2	6.6	46,292	92.2	515.3
1961	1,403	23.7	2.8	1.4	357	6.0	.4	5,929	11.8	6.1	35.2	6.6	50,319	97.7	533.8
1962	2,196	32.9	3.9	2.1	384	5.8	.4	6,669	12.0	6.2	36.5	6.4	55,703	106.8	574.6
1963	2,997	38.7	5.1	2.7	377	4.9	.3	7,735	13.1	6.9	37.5	6.2	59,043	111.3	606.9
1964	3,335	42.2	5.1	2.8	548	6.9	.5	7,897	12.2	6.7	37.3	5.7	64,909	118.5	649.8
1965	2,761	37.8	4.0	2.3	573	7.9	.5	7,298	10.5	6.2	39.4	5.6	69,619	118.2	705.1
1966	1,471	24.7	1.9	1.1	481	8.1	.4	5,949	7.6	4.4	43.4	5.6	78,644	134.5	772.0
1967	1,769	33.4	2.0	1.1	563	10.6	.4	5,292	6.0	3.4	42.8	5.2	88,399	157.5	816.4
1968	3,279	44.9	3.3	1.8	681	9.3	.4	7,308	7.4	4.1	44.2	5.0	98,691	178.1	892.7
1969	4,187	50.3	4.0	2.3	1,002	12.0	.5	8,330	8.0	4.5	48.2	5.0	104,182	183.6	963.9
1970	3,875	46.6	3.3	2.0	1,410	17.0	.7	8,307	7.1	4.2	50.5	5.0	117,047	195.6	1,015.5
1971	2,863	33.4	2.1	1.4	2,581	30.2	1.2	8,560	6.4	4.1	52.7	4.8	134,392	210.2	1,102.7
1972	4,186	38.3	2.7	1.8	3,217	29.4	1.4	10,935	7.1	4.7	61.1	5.0	154,150	230.7	1,212.8
1973	3,716	37.1	2.2	1.5	3,641	36.3	1.5	10,028	5.9	4.1	86.9	6.4	171,159	245.7	1,359.3
1974	1,095	11.2	.6	.4	4,433	45.4	1.6	9,767	5.1	3.6	92.4	6.3	191,619	269.4	1,472.8
1975	671	6.9	.3	.2	6,643	68.3	2.0	9,722	4.0	2.9	88.9	5.6	245,791	332.3	1,598.4
1976	1,069	8.4	.4	.3	7,959	62.2	2.1	12,796	4.5	3.4	95.4	5.4	282,181	371.8	1,782.8
1977	3,819	22.8	1.2	.9	8,527	50.9	2.1	16,738	5.4	4.1	96.2	4.8	311,959	409.2	1,990.5
1978	5,656	27.8	1.6	1.2	8,926	43.8	1.9	20,368	5.8	4.4	112.9	5.0	354,205	458.7	2,249.7
1979	3,611	17.5	.9	.7	10,787	52.3	2.1	20,636	5.3	4.1	131.8	5.3	387,158	503.5	2,508.2
1980	2,751	11.2	.6	.5	14,016	57.1	2.4	24,555	5.4	4.2	139.8	5.1	456,905	590.9	2,732.0
1981	4,036	15.5	.8	.6	16,204	62.2	2.4	26,034	5.0	3.8	142.1	4.7	520,687	678.2	3,052.6
1982	11,652	32.2	2.1	1.6	15,581	43.0	2.1	36,213	6.5	4.9	142.9	4.5	560,391	745.7	3,166.0
1983	18,851	40.6	3.2	2.3	17,872	38.5	2.2	46,392	7.8	5.7	136.3	4.0	598,397	808.3	3,401.6
1984	7,315	19.5	1.2	.9	17,996	48.0	2.1	37,471	6.0	4.4	141.8	3.8	624,387	851.8	3,774.7
1985	17,683	31.8	2.5	1.9	18,470	33.2	2.0	55,523	8.0	5.9	133.8**	3.4**	693,552	946.3	3,992.5**

* Due to surplus disposal for the national war effort, no costs were incurred.

**Preliminary

^a Includes outlays for CCC Price Support and related programs, National Wool Act and Sugar Act.

^b Includes outlays for food stamp program, Special Milk Program, School Lunch Program, WIC, food donations and removal of surplus agricultural commodities (Section 32 funds).

SOURCES: Budget of the United States Government, FY 1952-1987; Economic Report of the President, 1986.

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income and food programs which together dominate the total direct cost of all USDA programs; and (3) a relative decline in the proportion of the total federal budget associated with farm price-income and other agricultural programs. Thus, even though current expenditures for such programs have risen, partly due to inflation, the costs of all other federal programs have risen much faster, as has the Gross National Product (GNP) of the nation. As an example, comparing 1984-85 with twenty years earlier (1964-65): average farm price and income program costs as a percent of U.S. total budget outlays dropped from 2.6% to 1.4%; average domestic food programs costs as a percent of total budget outlays increased from .5% to 2.0%; and average USDA budget outlays as a percent of total budget outlays declined from 6.4% to 5.2%.

Similarly, in most economic terms, the agricultural and food sector has continued to decrease relative to the more rapidly expanding nonfarm economy. As an example, in the same 1964-65 to 1984-85 period, the average total value of farm product sales as a percent of GNP has declined from 5.6% to 3.6%. Thus, for 1985 in the U.S., the farm population (including part-time operators) accounted for 2.2% of the total population, marketed products (including value added by nonfarm inputs) worth 3.4% of GNP, and received direct price and income program benefits valued at 1.9% of total national budget outlays.

Most of these farm price and income policy budget outlays represent direct payments to voluntarily participating and hence eligible farmers. However, other budget costs are incurred through carrying costs of stored government stocks of "surplus" commodities, losses on disposal of such government stocks, and administration of the programs. In Table 3, the magnitude of the direct transfers from the Treasury to producers is indicated.

TABLE 3. Direct Government Payments to Farmers by Program, 1950-1984.

Year	Conservation	Feed Grain	Wheat	Rice	Cotton	Wool	Misc.	Total
(average annual million dollars for period)								
1950-54	188.4	N.A.	N.A.	N.A.	N.A.	N.A.	36.4	262.8
1955-59	217.2	N.A.	N.A.	N.A.	N.A.	40.6	455.8	714.0
1960-64	231.2	723.8	189.6	N.A.	N.A.	44.6	366.4	1,563.8
1965-69	225.0	1,311.6	708.0	N.A.	678.0	41.6	250.6	3,215.0
1970-74	168.6	1,129.2	629.8	N.A.	662.8	58.6	143.2	2,792.0
1975-79	233.2	465.6	435.2	38.4	129.4	23.4	227.8	1,553.0
1980-84	194.6	610.2	829.2	126.0	426.2	62.2	2,638.6	4,887.0

N.A. = No program

SOURCE: Economic Indicators of the Farm Sector: National Financial Summary, 1984, USDA, ERS, January, 1986.

Direct Costs for Consumer Food Policies

Federal Treasury outlays to support domestic food distribution policies for low income consumers have continued since the initial dispensing of surplus staple food products in the depths of the Great Depression. This policy has also been evolving through a variety of approaches and targeted programs including: commodities distribution, school lunch, school milk, food stamps (being by far the largest, now reaching almost 10% of the total population), school breakfast, special food for the elderly, and women-infants-children (WIC) programs. Purposes of these policies have also varied including: supplementing food intake of poor people generally, improved nutrition, surplus product disposal, increasing farm product demand and hence prices, enhancing education via balanced food consumption at the schools, improved child mortality, and better health among the aged.

To achieve these benefits, there were marginally increased costs to all consumers associated with the bolstered demand. There were also direct Treasury costs as depicted in Table 4. During the past twenty-five years, the cost of food stamp programs rose rapidly in the late 1960s and throughout the 1970s. However, they began declining in the 1980s with an even greater downturn in real dollar terms. Commodities distribution to needy families has essentially terminated, while aid through school programs has grown rapidly and WIC has expanded most rapidly. Overall direct budget outlays for all domestic food programs has peaked at about \$18 billion in current dollars.

Table 4. Federal Cost of USDA Food Programs (50 States and District of Columbia),
(million dollars)

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Year	Food Stamps	Bonus Stamps		Food Distribution			Child Nutrition				Total		
	Total Issued	Current	Constant	Needy Families	Schools	Other	School Lunch	School Breakfast	Special Food	Special Milk	WIC	Current	Constant
1960FY	—	—	—	59	132	16	94	—	—	80	—	381	(1,233)
1961FY	1	neg.	neg.	140	133	34	94	—	—	84	—	485	(1,554)
1962FY	35	13	(41)	227	183	26	99	—	—	89	—	637	(1,997)
1963FY	50	19	(59)	204	180	29	109	—	—	94	—	635	(1,960)
1964FY	73	29	(88)	197	195	38	121	—	—	99	—	679	(2,064)
1965FY	85	33	(98)	227	272	30	130	—	—	97	—	789	(2,334)
1966FY	174	65	(186)	134	175	17	141	—	—	97	—	629	(1,797)
1967FY	296	106	(295)	101	188	15	150	1	—	99	—	660	(1,838)
1968FY	452	173	(459)	124	276	23	160	2	—	102	—	860	(2,281)
1969FY	603	229	(575)	224	272	26	204	5	2	101	—	1,063	(3,889)
1970FY	1,090	550	(1,345)	282	266	30	300	11	8	101	—	1,548	(3,785)
1970	1,925	1,104	(2,629)	275	234	34	337	14	15	96	—	2,109	(5,021)
1971	3,103	1,699	(3,827)	261	311	37	628	22	34	92	—	3,084	(6,946)
1972	3,615	1,980	(4,258)	225	275	39	785	28	43	91	—	3,466	(7,454)
1973	4,049	2,209	(4,463)	152	253	48	939	43	52	63	—	3,784	(7,644)
1974	5,868	3,498	(6,478)	87	355	36	1,137	67	87	90	33	5,390	(9,981)
1975	7,680	4,602	(7,761)	11	364	33	1,340	94	116	134	106	6,800	(11,467)
1976	7,818	4,657	(7,380)	8	448	33	1,505	118	240	147	182	7,337	(11,628)
1977	8,273	5,014	(7,450)	12	506	52	1,717	157	241	152	289	8,139	(12,094)
1978	8,347	5,261	(7,287)	14	577	64	1,877	191	246	139	422	8,790	(12,175)
1979	7,108	7,108	(9,043)	23	720	85	2,101	243	288	146	569	11,969	(14,464)
1980	9,004	9,004	(10,506)	24	967	115	2,395	311	338	137	783	14,179	(16,545)
1981	10,968	10,968	(11,668)	31	832	111	2,283	330	401	72	863	16,010	(17,032)
1982	10,376	10,376	(10,376)	33	781	161	2,245	327	358	20	1,002	16,128	(16,128)
1983	11,120	11,120	(10,713)	36	823	234	2,443	357	401	17	1,194	18,701	(18,016)
1984	10,677	10,677	(9,877)	48	837	233	2,550	378	452	16	1,418	18,634	(17,238)

NOTE: All data are in current dollars except those in parentheses which are in constant 1982 \$. Source of all data is USDA, National Food Review.

Assessing Indirect Costs and Benefits of Food and Agricultural Policies

Indirect Costs

Economists have searched through the centuries for theories adequate to provide "scientific" answers to normative questions, such as whether governmental policies produce benefits commensurate with their costs or whether they can be judged desirable against some objective criteria. Such quests grew out of several motives: (1) to produce a more definitive means for selecting the "good" or "better" policy as an alternative to the apparent inevitably cumbersome, imprecise, indeterminate public policy process of reaching a compromise choice through majority rule that characterized the emerging representative political system; (2) to bring the rigors of logical theorizing and quantitative prediction of the maturing discipline of economics to the important policy issues of the time; and (3) to give expression to the insatiable quest of the human intellect to produce policy prescription as well as predictive reliability among variables.

One of the most common approaches to such an assessment of the merits of policy appeared as a logical application within the classical tradition of economics and is known as welfare economics. Built upon the refined theories of the equilibrating forces of the perfectly competitive market, welfare analyses have progressed through conceptualizations of "Pareto Optimality" and the "Compensation Principle" to that of a net social product being increased or decreased by the comparative measurement of producer surpluses and consumer surpluses. The implications of the theories and measurements is that one policy alternative can be judged superior to another by the gains in this net social product. Difficulties have continued in this approach, such as relevance of the strict competitive

assumptions, problems of measurement of the net social gains and losses, and the persistent questions of interpersonal comparisons of utility from transfers valued in monetary terms. However, these have not deterred the pursuits of welfare economics.

In agricultural economics, Wallace made one of the earliest estimates of the comparative social costs of compulsory production control and compensatory policies for all of agriculture assuming various supply and demand elasticities, levels of controls, and total revenues under free market conditions. With numerous caveats questioning either the validity or usefulness of this method of estimating costs, he found them to range from a maximum of 4% of gross farm revenue to a minimum of .03%. Gardner pursues his estimate of net social cost of all farm commodity programs for 1978-79 by netting the differences between the added gross returns to farmers and the added taxpayer and consumer food costs with a resulting estimate of \$2 billion or a little over 1% of gross farm sales. Konandreas and Schmitz conclude from the traditional welfare analysis approach that net social gain for the U.S. would result from feed grain price stabilization, but a net loss would occur for wheat. Just theorized about the net social costs of reduced federal outlays for agricultural data generation. Paarlberg, Webb, Morey, and Sharples also explored the logical consequences in net social costs or benefits of welfare analysis when applied to several alternative price and income policy approaches involved in altering the terms of international trade.

Hoagland argues that under the new Congressional budget process the major budgetary tradeoffs of producer-and consumer-oriented programs will occur within USDA, not within the budget committees. Paarlberg, Webb,

Dunmore, and Deaton compared the government assistance to agriculture in eighteen agricultural trading countries for 1978-80 and found generally that only for Japan and the EC countries did such expenditures as a proportion of agricultural production and on a per capita basis exceed those of the U.S. Heien estimated only for the dairy price support program for 1949-74 that the indirect costs to consumers due to higher prices essentially equalled that of the direct expenditures for the program. This average of about \$300 mil./year was approximately 5.6% of the value of total farm sales of dairy products. Several studies using general national economic models of the economy have estimated the predicted impacts of alternative policies on farm product prices, consumer prices, etc. An example was the CAST report as input into the development of the recent 1985 Act (CAST).

Of all the costs of federal policies for agriculture and food, the direct Treasury outlays are certainly the easiest to estimate; indirect are much more difficult. One conceptualization of the indirect costs for consumers of such programs is to conclude that all additional incomes flowing to producers as a result of higher prices associated with farm programs are simply passed on to consumers. However, comparisons between actual prices and estimated prices that would otherwise have prevailed in the absence of programs must rest upon heroic assumptions about effectiveness of production control programs, elasticities of demand, and competitiveness of the markets.

Not only are indirect costs of federal policies for agricultural and food difficult, if not impossible to measure, but so are the benefits. Again, the net direct benefits to producers accompanying payments can be ascertained by deducting the opportunity costs of idled resources plus costs

of maintaining the set-aside acres. However, estimates of indirect benefits to producers of higher and more stable prices are fraught with difficulties, some of which were identified above. Similarly, the indirect benefits to consumers, and the economy in general, of any increased efficiencies, higher total production, more secure food supplies, greater trade surplus earnings, better quality of food and fiber, improved rural family and community life, or gains to agribusinesses associated with developmental and with price and income policies are difficult, if not impossible, to estimate.

In Table 5, changes in selected indicators of possible public economic welfare associated with such agricultural and food policies since 1950, in conjunction with private economic forces, are indicated.

Table 5. Changes in Selected "Welfare" Characteristics of the U.S. Agricultural and Food Sector*

Years	Proportion of Consumers Disposable Income Spent for Food	<u>Net Trade Surplus</u>		Farm as Proportion of Total Population	<u>Increase in Productivity Per Man Hour</u>	
		Agri-culture	Non-Agri-culture		Farm	Nonfarm
	%	Bil. \$	Bil. \$	%	%	%
1950-54	22.4	-1.1	+5.0	13.5	+4.8	+3.1
1980-84	15.8	+22.0	-74.8	2.5	+3.2	+1.0

* Annual averages for periods indicated; current dollars.

SOURCES: U.S. GPO Economic Report of the President, 1986; USDA. Food Consumption, Prices and Expenditures, Annual Summaries.

SUMMARY AND IMPLICATIONS

Public agricultural and food policies have evolved, similar to others in the economy, around a variety of problems experienced by that sector throughout the two century history of the U.S. For over a century, the early policies were primarily developmental, helping to establish the basic structure of a productive, higher capitalized, entrepreneurial family farm system of farming. During the past half century, price and income policies have been added, directly affecting the production, prices, and incomes of farm producers, the food availability for low income consumers, and agricultural trade.

In a participatory system for developing governmental policy, the difficult decisions are usually majority compromises among the multitude of preferences of different interests and among many alternative policies. As a result, those individuals and private groups favoring the policy will often view its benefits as outweighing its costs, while the minority opposing the policy will emphasize its costs.

Economists have also been interested in the costs and benefits of agricultural and food policies, but found both their theoretical and empirical analyses formidable. The concepts are not clearly defined and the data are illusive. Direct Treasury outlays for farm commodity and consumer food distribution programs are the most readily available. On the other hand, indirect costs, as well as benefits, to the various segments of the public are ill-defined, fragmentary, and fraught with methodological dilemmas. Economists have striven for decades to fashion theories that would guide analyses toward an evaluative conclusion about the net value

between a policy's costs and benefits, or at least a basis for a relative net comparison among policies. Currently recognized as the field of welfare economics, the contributions and acceptance of these efforts are mixed.

In this paper, costs were estimated primarily through total Treasury outlays for farm commodity price and income policies and for food distribution policies. These budget outlays over the past thirty-five years were found to have increased in current dollar terms but generally to have decreased as a proportion of total national budget outlays and of GNP. That decrease paralleled the decline of the relative proportions of the population and total production associated with the agricultural sector. This is to be expected for a basic, relatively low demand elasticity economic sector which is functioning in the midst of a growing market economy.

A useful measure of the indirect costs of agricultural and food programs as well as the indirect benefits to producers, consumers, and others is not available. However, development and dissemination of consistent time series of the direct costs data, along with a review of the fragments from indirect cost and benefits analyses, can make a contribution to public policy formation. Furthermore, one possible proxy source of the net social value between costs and benefits of agricultural and food policy alternatives are the actual policy choices made by a relatively informed and active participatory political system.

Thus, the search for better information, the discussions both within and outside of economics about the costs of public agricultural and food policies, and the quest by the public for the best solution to the perceived

public problems at hand will continue. More precise evaluation must await an improved theory, data source, and professional base of knowledge.

References

- Benedict, M. R. Farm Policies of the United States, 1790-1950. The Twentieth Century Fund. 1953.
- Buchanan, J. M. and Gordon Tullock. The Calculus of Consent: Logical Foundations of Constitutional Democracy. University of Michigan Press. 1965.
- CAST (Council for Agricultural Science and Technology Task Force). Expected Impacts of Agricultural Legislation: Comparison of the Administration's Proposed Food and Agriculture Program With an Extension of the Agriculture and Food Act of 1981 as Amended. Report No. 104. May, 1985.
- Commons, John R. Legal Foundations of Capitalism. MacMillan Co. 1924.
- Gardner, Bruce L. The Governing of Agriculture. Studies in Government and Public Policy. The Manhattan Institute for Policy Research and The Institute for the Study of Market Agriculture. 1981.
- Heien, Dale. "The Cost of the U.S. Dairy Price Support Program: 1949-74." The Review of Economics and Statistics. 59(1977):1-8.
- Hoagland, G. William. "The New Congressional Budget Process: Impact on Food and Nutrition Policymaking." Agricultural-Food Policy Review: Proceedings of Five Food Policy Seminars. USDA, ESCS AFPR-2, (1978):133-141.
- Just, Richard E. "The Impact of Less Data on the Agricultural Economy and Society." American Journal of Agricultural Economics. 60(1978):872-881.
- Konandreas, Panos A. and Andrew Schmitz. "Welfare Implications of Grain Price Stabilization: Some Empirical Evidence for the United States." American Journal of Agricultural Economics. 60(1978):74-84.
- Paarlberg, Philip L., Alan J. Webb, John C. Dunmore, and J. Larry Deaton. "The U.S. Competitive Position in World Commodity Trade." Agricultural-Food Policy Review: Commodity Program Perspectives. USDA, ERS. Agricultural Economic Report No. 530. July, 1985.
- Paarlberg, Philip, Alan Webb, Arthur Morey, and Jerry Sharples. Impacts of Policy on U.S. Agricultural Trade. USDA, ERS Staff Report No. AGES840802. December, 1984.

- Parsons, K. H. "The Logical Foundations of Economic Research." Journal of Farm Economics. 31(1949):656-686.
- Spitze, R. G. F. "The Food and Agriculture Act of 1977: Issues and Decisions." American Journal of Agricultural Economics. 60(1978):225-235.
- _____. "The Agriculture and Food Act of 1981: Continued Policy Evolution." North Central Journal of Agricultural Economics. 5(1983):65-75.
- _____. "Food Security Act of 1985 -- Process and Product." Illinois Research. 28(1986).
- Spitze, R. G. F., and J. A. Brewer. Treasury Costs of U.S. Agricultural and Food Policy -- A Perspective. University of Illinois Agricultural Economics Staff Paper 85 E-318. July, 1985.
- Talbot, R. B. and D. F. Hadwiger. The Policy Process in American Agriculture. Iowa State University Press. 1968.
- USDA. The Food Security Act of 1985: Major Provisions Affecting Commodities, by B. C. Stucker and K. J. Collins. NED ERS Agriculture Information Buletin No. 497. January, 1986.
- Wallace, T. D. "Measures of Social Costs of Agricultural Programs." Journal of Farm Economics. 44(1962):580-593.