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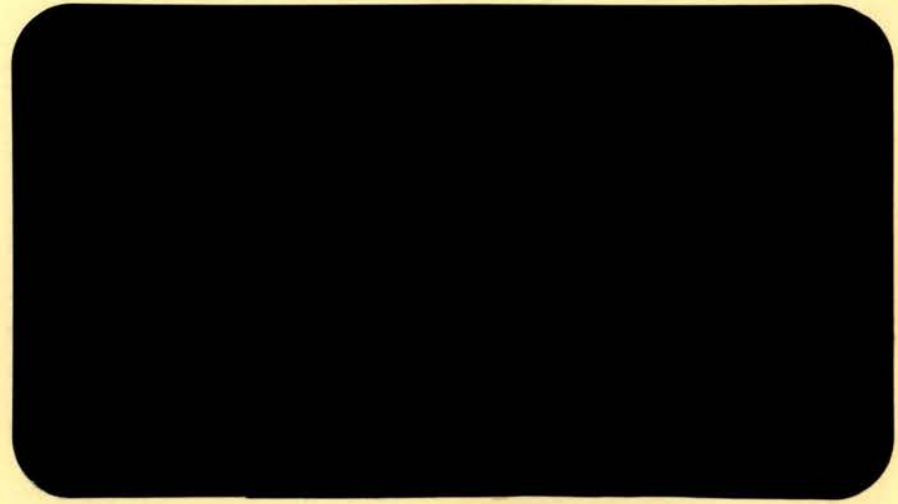
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UNITED STATES FOOD-ASSISTANCE PROGRAMS AND  
THEIR APPLICABILITY AS A MEANS OF  
AGRICULTURAL SURPLUS DISPOSAL FOR THE  
EUROPEAN COMMUNITY

by

Rolf Alter and Sylvia Lane

Working Paper No. 78-16

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United States Food-Assistance Programs and Their  
Applicability as a Means of Agricultural Surplus Disposal  
for The European Community

by

Rolf Alter\* and Sylvia Lane\*\*

INTRODUCTION

Food assistance programs in the United States originated some five decades ago. During these five decades, their economic underpinnings, the programs' purposes and their administrative regulations have undergone substantial change. Originally implemented as a means of distributing agricultural surplus commodities and farm oriented, food assistance programs have moved toward becoming low-income consumer-oriented programs. The Food Stamp Program of 1977 is more a general income assistance program than a means of augmenting food consumption. Despite this development, if and how the agricultural sector of the European Economic Community could be supported by adopting the idea of food subsidies paid to consumers and utilizing the experience of the United States remains a legitimate question. To answer this question, it is basically necessary to understand the history, the administration and the economic effects of the major food subsidy program in the United States, the Food Stamp Program. Other United States food assistance programs also have relevance. Then the economic targets and the relevant economic background of the United States and the European community will be compared so that appropriate policy implications may be discussed.

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## I. HISTORY OF THE FOOD STAMP PROGRAM

The first governmental food assistance effort in the United States was the organization of the Federal Surplus Relief Corporation (FSRC) on October 4, 1933. At this time, American agricultural surpluses were aggravated by the Great Depression, and the economy was characterized by a lack of consumer buying power, dislocations in foreign trade, and serious unemployment. One of the tasks of the FSRC was "to relieve the existing national economic emergency by expansion of markets for, removal of, and increasing and improving the distribution of agricultural and other commodities and products thereof" ([1], p. 390). Purchasing agricultural surplus commodities to help farmers and distributing them to support the unemployed and their families were the two aspects of this activity.

In the Agricultural Adjustment Act of 1935, the name and purpose of this governmental organization changed. Renamed the Federal Surplus Commodities Corporation (FSCC), its funds, 30 percent of the receipts from United States Customs, were to be used to encourage the export of agricultural products, to finance adjustment in capacity for production, and to "encourage the domestic consumption of such commodities or products by diverting them, by the payment of benefits or indemnities or by other means, from the normal channels of trade and commerce" (Section 32 of Public Law 73-320, The Potato Control Act of 1935). Instead of providing for the needs of the unemployed, the primary aims of the FSCC were the removal of agricultural surpluses and the encouragement of domestic consumption in order to support farm prices. "Because the FSCC was controlled by the Department of Agriculture's Agricultural Adjustment Administration, the emphasis on strengthening agricultural markets is

hardly surprising" ([2], p. 2). By fiscal year 1938, \$54 million worth of food was distributed by the FSCC.

Producers' complaints, consumer dissatisfaction and food retailers' denunciations provoked an intense discussion of alternatives for the reform of the surplus commodity program. One alternative was Secretary Wallace's proposed "two-price plan." Surplus foods would be sold at one price to most consumers, while a lower grade of the same food would be sold to the needy, the price difference being paid by the FSCC. This plan was rejected because it was expected the public would only buy the lower-priced, lower-quality food; there was only one grade of some surplus foods and differentiation could only be effected by cheaper packaging; and there was fear of a substitution effect between low priced foods and other commodities.

#### The First Food Stamp Program

The idea of a food stamp program emerged between 1936 and 1938. The advantages of this program seemed obvious. Many of the problems of the food distribution program could be avoided. Some of these problems were recipients' problems in budgeting food consumption, because of unexpected distributed foods or lack of distributed foods, since the foods distributed were whatever happened to be in surplus. Under the Food Stamp Program, food consumption was responsive to food stamp recipients' needs. Moreover, under the Food Stamp Program, food would be distributed through normal trade channels, channels bypassed by the FSCC.

The most important provisions of the Food Stamp Program were the sale of orange stamps to persons on relief and the provision of "free" blue stamps on a 2 to 1 orange to blue stamp ratio for all welfare recipients who bought orange stamps. Orange stamps could then be used at grocery stores

to buy any type of food. The blue stamps represented a federal subsidy that could only be used to purchase food appearing on a monthly list of surplus commodities declared by the Secretary of Agriculture to be purchasable with blue stamps. By only selling orange stamps to recipients in an amount approximately equal to their normal average food expenditures, it was thought income normally spent on food would not be used for nonfood items. Recipients not purchasing orange stamps would be foregoing the federal subsidy - the free blue stamps.

The first food stamp program was introduced in Rochester, New York on April 22, 1939. Its high degree of public acceptance and widespread success is illustrated by the fact that by June 1940, over eight hundred cities had asked for the extension of the stamp plan to their areas. The main problems encountered by the program were the insuring of compliance with program regulations and the lack of participation of some eligible households. Twenty-one thousand persons participated in May 1939. In December 1942, the number of participants was 1,825 million. Peak participation was 3,969 million persons in May of 1941 ([1], p. 428).

At first World War II increased the agricultural sector's need for the Food Stamp Program because it choked off a large part of United States' export markets. War-time prosperity then ended the need for the program. The termination of the Food Stamp Program was announced on December 31, 1942. The conditions which had brought the program into being no longer existed: unmarketable food surpluses and widespread unemployment had vanished. "Although the first Food Stamp Program was not large even by the standards of public welfare expenditures during the 1940's, its impact on subsequent food assistance policy may have been substantial" ([2], p. 4).

Food Assistance Programs from 1949 to 1964

Section 416 of the Agricultural Act of 1949 authorized a food distribution program under which the United States Department of Agriculture made surplus food commodities available to local governments for distribution to needy persons. By the mid-1960's, the extent of the food distribution program was largely determined by the availability of surplus foods ([2], p. 5) (Table 1.1).

After the demise of the first Food Stamp Program, Senator George Aiken (Vermont) and Congresswoman Leonor Sullivan (Missouri) led the effort to initiate a new food stamp program. Some of the arguments raised in the discussion of the proposal are listed ([1], p. 453). The proponents argued: (1) a food stamp program could accomplish two goals concurrently: the disposal of surplus farm commodities and the alleviation of distress among needy people; (2) a food stamp program could be instrumental in guiding food consumption so as to improve diets and concomitantly make use of surplus commodities; (3) a food stamp program could be seen as an extension of assistance to needy people who are ineligible under existing laws; (4) a food stamp program could improve the health and welfare of millions of families and contribute to farmers' incomes; (5) a food stamp program could lead to a higher farm income level by enlarging and stabilizing food demand; (6) the existing food-distribution program was ineffective in collecting and distributing food; (7) with a food stamp program normal trade channels could be used, so reducing administrative costs, providing retail grocers with additional income and enlarging tax revenues; (8) a food stamp program would enable recipients to secure food allotments without being stigmatized.

TABLE 1.1

Participation in and Federal Costs of the Commodity  
Distribution Program, Selected Years through 1970 (Peak Values)

<i>Fiscal year</i>	<i>Number of persons (in thousands)</i>	<i>Federal government costs* (in thousands of dollars)</i>
1936	10,114	31,792
1938	8,801	35,375
1939	12,690	66,264
1943	2,426	12,589
1945	360	1,800
1946	58	75
1950	248	6,038
1951	1,225	6,812
1953	114	360
1955	3,291	61,948
1957	3,485	77,918
1961	6,384	139,988
1963	7,019	204,391
1964	6,135	197,144
1966	4,781	134,060
1968	3,491	124,016
1970	4,129	289,423

SOURCE: [2], p. 4

The objections of the opponents to a food stamp program were, among others, that (1) a food stamp program could not solve the problem of inadequate diets and poor nutrition because established food habits would not be changed and many families would not feel the need for additional food; (2) the use of food coupons in retail stores would differentiate food stamp program participants from others hurting the pride of many and deterring some from participating; (3) a food stamp program would require many controls; and (4) a food stamp program would limit freedom of consumer choice. The efforts of Representative Sullivan, supported by the fact that there were accumulated food surpluses following the Korean War, resulted in the enactment of Section 201 of Public Law 84-540, the Agricultural Act of 1956. The Secretary of Agriculture was directed to analyze plans for a new food stamp program.

The major findings of this study were, first an expansion of food consumption would require that low and middle-income households participate in the program and second, that the existing food distribution program seemed to be more effective in disposing of seasonal or localized surpluses than of nation-wide surpluses. A food stamp program could contribute to the alleviation of the latter. The question of whether the program would improve nutrition was not raised.

Thereupon, eight pilot food stamp programs were initiated in the summer of 1961. The programs, except for the use of stamps of one color, were quite similar to the first food stamp program. Although it was demonstrated that diets of participants improved substantially after the introduction of a food stamp program, a nation-wide program could not be enacted at this time. Congressional Republicans and Southern Democrats refused "to endorse a public assistance effort in the guise of an agricultural program" ([2], p. 7).

But when President Johnson requested legislation to make the food stamp program part of his "war on poverty" on a permanent legislative basis, the Food Stamp Act of 1964 (Public Law No. 88-525) was enacted. A 3-year program was initially authorized. ". . . the Food Stamp Act was to be implemented with cooperation at all levels of government to achieve two goals: (a) utilization of the nations food and (b) promotion of the nutritional well-being of low-income persons" ([2], pp. 7-8). Although the two objectives seemed to be equally weighted, it was foreseeable that the ability of the food stamp program to dispose of surplus foods was limited; an actuality that could be more easily accepted as surpluses disappeared in the following years.

The Food Stamp Act of 1964 enabled any household meeting the eligibility requirements regarding income and assets to purchase food stamps at a price below their face value. The difference between the face value of the stamps and the purchase requirement (the amount the household paid for stamps) were "bonus stamps." All households of the same size in the same region of the country (Southerners received less) received stamps with the same money value but the purchase requirement for different size households and different income levels, differed. The federal government established the purchase requirement for the full stamp allotment, but individual states set eligibility standards resulting in some inequity ([5], p. 4).

#### The 1971 Food Stamp Act Amendments

The program was amended in 1971 (Public Law 91-671) to require national standards and benefits and to permit certain elderly persons to purchase delivered meals with food stamps. The 1971 amendments allowed households with little or no income to receive coupons free and there was a requirement

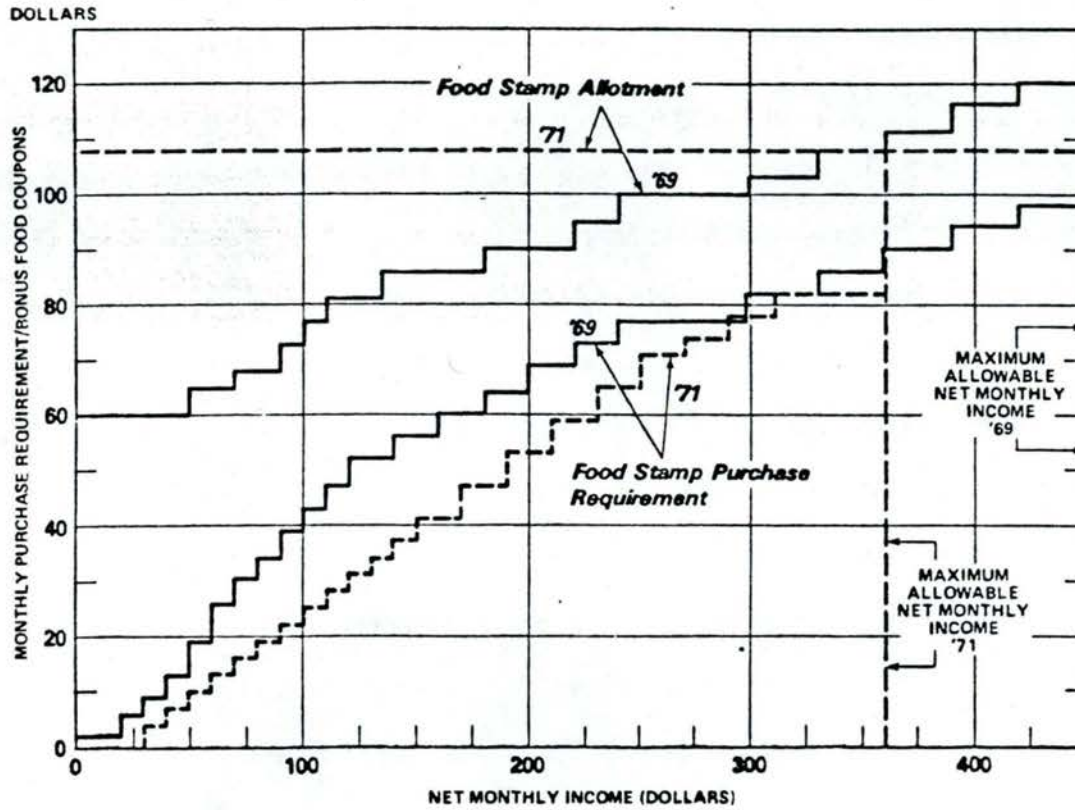
that a household pay no more than 30 percent of its income for food stamps. Food coupon allotments were changed from levels providing recipients an "opportunity more nearly to obtain low cost nutritionally adequate diets" (Section 4a, Public Law 88-525, August 31, 1964, The Food Stamp Act of 1964-1978 Statutes 703-709) to "an opportunity to obtain a nutritionally adequate diet" (Section 3a, Public Law 91-671, January 11, 1971, The Food Stamp Act of 1964 (Amendments) 84 Stat. 2048).

The 1971 amendments have to be viewed in the light of public awareness which had grown in previous years. The so-called "hunger lobby" had tried to convince President Johnson to take steps that would increase the size of the food stamp program recipient population wherever conditions of acute hunger and malnutrition might exist. They were supported by a study entitled "HUNGER, U.S.A." which identified 256 counties in which chronic hunger and malnutrition could be found. In addition, participation rates in the Food Stamp Program of 1964 decreased sharply — by an average of 40 percent — in counties switching from the Food Distribution to the Food Stamp Program during the years 1961-1968 ([2], p. 8).

As a result of the 1971 Amendments, the Food Stamp Program became the first universal national welfare program with national eligibility standards based on need and not on particular household characteristics. Furthermore, an increased income supplementation effect was introduced. Households with normal food expenditures above their food stamp purchase requirements realized "freed" income in the amount of the difference between their normal expenditures and the lower purchase requirement. The influence of the 1971 amendments for a household of four persons are depicted in Figure 1.1.



FIGURE 1.1 Comparison of 1969 and 1971 Food Stamp Issuance Schedules for Four Person Households<sup>1/</sup>



<sup>1/</sup> Monthly coupon allotment and purchase requirements for a family of four in 1971, applies to 48 states and District of Columbia. Monthly coupon allotments and purchase requirements for a family of four in 1969, applies to Northern States Issuance Schedule. A Southern States Issuance Schedule had a slightly lower allotment level.

SOURCE: [5], p. 6

### The 1973 Program Modifications

The Agriculture and Consumer Protection Act of 1973, enacted August 10, 1973, as Public Law 93-86, provided for implementation of a nation-wide food stamp program by July 1, 1974, as well as semi-annual adjustment of coupon allotments and income eligibility standards to reflect changes in food prices. SSI (Supplementary Security Income) recipients became eligible to continue receiving food stamps if benefits from SSI and state supplementations were less than the sum of December 1973 welfare benefits and food stamp program benefits. Public Law 93-347 (July 12, 1974) raised the federal share to 50 percent of all of the program's administrative costs.

The 1973 and 1974 amendments have to be viewed in the light of the controversy over President Nixon's Family Assistance Plan (FAP). A "congressional motive for mandating a nation-wide food stamp program could have been a desire to alleviate a generally recognized need for a guaranteed family income. In other words, extending food stamps to all areas can be interpreted as a gradual welfare form" ([2], p. 10).

The increase in food prices from late 1972 to mid-1975, combined with high unemployment rates during that period, increased the need for food stamps on the part of low-income households. The number of households participating in the program rose from 15 million in the third quarter of 1974 to 19.2 million in the second quarter of 1975. Part of the increase was due to the extension of the program, as of July 1974, to Guam, Puerto Rico, and the Virgin Islands. Program costs increased from \$3.0 billion in fiscal year 1974 to nearly \$5.6 billion in fiscal year 1977.

A reexamination of the food stamp program seemed to be urgently needed (Tables 1.2 and 1.3). President Ford's proposals for changes in the administrative regulations for the program were blocked by the United States Court

TABLE 1.2

Food Price Changes, CPI Changes, Food Stamp Allotment, Food Stamp Program Income Eligibility Levels, Poverty Levels, and Unemployment Rate (First Half 1971 to First Half 1976)

Calendar Year: Half	Percentage change from preceding period at compound annual rate		Family of Four				Unemployment Rates <sup>c/</sup>
	Food	All-Items	Food Stamp Allotment	Food Stamp Net Income Eligibility Level <sup>a/</sup>		Official Poverty Threshold <sup>b/</sup>	
			Monthly	Monthly	Annual	Annual	
71:I	3.2	4.0	\$108	\$360	\$4,320	\$4,137	} 5.9
71:II	3.8	3.6	108	360	4,320	4,137	
72:I	4.2	3.0	108	360	4,320	4,275	} 5.6
72:II	4.7	3.6	112	373	4,476	4,275	
73:I	16.2	5.9	112	373	4,476	4,540	} 4.9
73:II	20.7	9.2	116	387	4,644	4,540	
74:I	14.7	10.6	142	473	5,676	5,050	} 5.6
74:II	9.2	12.9	150	500	6,000	5,050	
75:I	8.0	8.3	154	513	6,156	5,500	} 8.5
75:II	7.9	7.3	162	540	6,480	5,500	
76:I	1.2	4.9	166	553	6,636	5,815 (est.)	} 7.7
76:II	--	--	166	553	6,636	5,815	

a/ Eligibility for the FSP is based on a net income concept, i.e., gross income less authorized deductions.

b/ The official poverty line is based on a gross income concept. Official poverty threshold levels are published in the spring for income levels of the previous year. Therefore, the official federal poverty threshold published in April 1976, \$5,500 for a family of four, applies to income in 1975. Threshold levels for 1976 are estimated using July 1976 projections from the Congressional Budget Office.

c/ Of persons 16 years old and older.

SOURCES: [3], p. 379, [5], p. 13.

TABLE 1.3

## Food Stamp Benefit Schedule for January-July 1977

Monthly Coupon Allotments and Purchase Requirements—48 States and District of Columbia								
For a household of—								
	1	2	3	4	5	6	7	8
	person	persons	persons	persons	persons	persons	persons	persons
The monthly coupon allotment is—								
Monthly net income	\$50	\$92	\$130	\$166	\$198	\$236	\$262	\$298
And the monthly purchase requirement is—								
\$0-19.99	0	0	0	0	0	0	0	0
\$20-29.99	1	1	0	0	0	0	0	0
\$30-39.99	4	4	4	4	5	5	5	5
\$40-49.99	6	7	7	7	8	8	8	8
\$50-59.99	8	10	10	10	11	11	12	12
\$60-69.99	10	12	13	13	14	14	15	15
\$70-79.99	12	15	16	16	17	17	18	19
\$80-89.99	14	18	19	19	20	21	21	22
\$90-99.99	16	21	21	22	23	24	25	26
\$100-109.99	18	23	24	25	26	27	28	29
\$110-119.99	21	26	27	28	29	31	32	33
\$120-129.99	24	29	30	31	33	34	35	36
\$130-139.99	27	32	33	34	36	37	38	39
\$140-149.99	30	35	36	37	39	40	41	42
\$150-169.99	33	38	40	41	42	43	44	45
\$170-189.99	38	44	46	47	48	49	50	51
\$190-209.99	38	50	52	53	54	55	56	57
\$210-229.99	40	56	58	59	60	61	62	63
\$230-249.99	40	62	64	65	66	67	68	69
\$250-269.99		68	70	71	72	73	74	75
\$270-289.99		72	76	77	78	79	80	81
\$290-309.99		72	82	83	84	85	86	87
\$310-329.99		72	88	89	90	91	92	93
\$330-359.99			94	95	96	97	98	99
\$360-389.99			102	104	105	106	107	108
\$390-419.99			111	113	114	115	116	117
\$420-449.99			112	122	123	124	125	126
\$450-479.99				131	132	133	134	135
\$480-509.99				140	141	142	143	144
\$510-539.99				142	150	151	152	153
\$540-569.99				142	159	160	161	162
\$570-599.99					168	169	170	171
\$600-629.99					170	178	179	180
\$630-659.99					170	187	188	189
\$660-689.99					170	196	197	198
\$690-719.99						204	205	207
\$720-749.99						204	215	216
\$750-779.99						204	224	225
\$780-809.99						204	225	234
\$810-839.99							220	243
\$840-869.99							226	252
\$870-899.99							226	258
\$900-929.99								258
\$930-959.99								258
\$960-989.99								258
\$990-1,019.99								258

SOURCE: [2], pp. 28-29

for the District of Columbia. Although the House Agriculture Committee approved a food stamp program reform bill in late August 1976, and although legislative authorization for the food stamp program expired in 1977, no bill affecting the program was enacted by the 94th Congress.

## II. THE CURRENT FOOD STAMP PROGRAM

In 1977, a coalition of antipoverty organizations, advocacy groups, union, and religious organizations interested in the Food Stamp Program joined in support of a proposal submitted to Congress by President Carter. After an intensive congressional debate, the Food and Agriculture Act of 1977 (Public Law 95-113) was passed effecting major reforms in the Food Stamp Program and extending its authorization until 1981. The most dramatic reform was the elimination of the purchase requirement "which is expected to extend benefits to an estimated 3 million needy people who were eligible under the old law but did not participate because of the purchase requirement" ([4], p. 3). This reform is a return to the pre-1970 program regulations and provides participating households an opportunity to secure a nutritionally adequate diet ([5], pp. 74-75). The 1977 program changes moved the program farther along toward becoming an unalloyed income supplement program.

### Administrative Structure of the Food Stamp Program of 1977

Table 2.1 depicts the administrative responsibilities shared by federal, state, and local governmental units in operating the Food Stamp Program ([2], p. 22). The program's effectiveness is obviously highly dependent on the knowledge, skill and attitudes of food stamp program caseworkers and their supervisors, among others.

TABLE 2.1

## Administrative Structure of the Food Stamp Program

Level of Government/ Responsibilities	Federal USDA Food and Nutrition Service	State	Local County Food Stamp Agencies
	<ul style="list-style-type: none"> <li>-Instituting program rules and structure</li> <li>-Producing, handling distributing, and refunding food stamps</li> <li>-Supervising data collection and quality control procedures</li> </ul>	<ul style="list-style-type: none"> <li>-Conducting outreach campaigns to inform eligibles</li> <li>-Collecting data on program characteristics</li> <li>-Maintaining federal standards of administrative efficiency</li> </ul>	<ul style="list-style-type: none"> <li>-Dealing directly with stamp recipients</li> <li>-Serving stamp recipients</li> </ul>

### Mean Test for Food Stamp Eligibility

To qualify for food stamps, households must satisfy certain financial and nonfinancial criteria. The financial criteria include income and assets tests.

The income test is based on the federal poverty guidelines set by the Office of Management and Budget. The low income level or poverty threshold is adjusted annually to reflect changes in the cost of living. Only the net income of a household is considered in determining food stamp program eligibility and that income level has to fall below the "poverty-level" after subtracting authorized deductions from the household's gross income. Three deductions are authorized. First, is the standard deduction for all households, adjusted twice a year in accordance with changes in the consumer price index for items other than food? Second, is the earned income deduction of 20 percent of total monthly earned income, to compensate for taxes and other mandatory deductions such as Social Security? Third, is the \$80 maximum deduction for both actual dependent care (to be deducted in their entirety, first) and excess shelter costs? This deduction can only be claimed if (1) the household has to pay someone to care for the dependent; and/or (2) the household is spending more than 50 percent of its net income — income after other deductions have been made — on shelter. Included in shelter costs are rent, mortgage payments, utility payments, property taxes and the cost of insurance on the home. Shelter costs above 50 percent of net income may be deducted to the \$80 limit.

To be eligible to participate in the Food Stamp Program, a household may not have assets of more than \$1,750 unless there are two or more persons in the household and at least one person is over 60 years of age. The limit will then be \$3,000. In calculating the value of a household's assets, any

licensed vehicle with a blue book value over \$4,500 must be counted, but only the value of the vehicle above \$4,500 is taken into consideration. Vehicles used to produce earned income are exempt. The same provision applies to houses and lots with an average value for the community.

#### Other Requirements

In order to prevent persons from relying on food stamps instead of seeking employment, persons in the household between the ages of 18 and 65 who are physically and mentally fit must register for work and satisfy job search requirements prescribed by the Secretary of Agriculture. Exceptions are possible under mitigating circumstances.

#### Benefit Determination

The amount of the "bonus value" of the household's food stamp allotment depends on both household size and household net income as previously noted. The food stamp allotment is based on the cost of foods in the Thrifty Food Plan menus for families of that size. The Thrifty Food Plan was developed after determining which urban households in the 1965 food consumption survey had the lowest food costs per person and the dietary deficiencies in the food consumption patterns of these households. Food stamp benefits are theoretically capable of providing a nutritionally adequate diet if the household follows the Thrifty Food Plan menus and if the Thrifty Food Plan menus provide for a nutritional diet. The latter contention, has been challenged [60].

Thirty percent of the household's net income has to be subtracted from the household's monthly stamp allotment to calculate the benefit reduction rate. The difference between the stamp allotment and the benefit



reduction rate is the amount of bonus stamps the household receives. The purchase requirement is scheduled to be eliminated in January 1979 in California and thereafter in the rest of the nation.

#### Receiving and Using Food Stamps (Figure 2.1)

The three steps involved in receiving and using food stamps are:

- Step 1 - The household has to submit a Food Stamp Program Application form.
- Step 2 - An eligible household must be certified and given the opportunity to receive food stamps within 30 days. Certification period: 3-12 months.
- Step 3 - Food stamps may be used for the purchase of any domestic or imported food in retail stores that meet USDA standards.

#### Maintaining Program Integrity

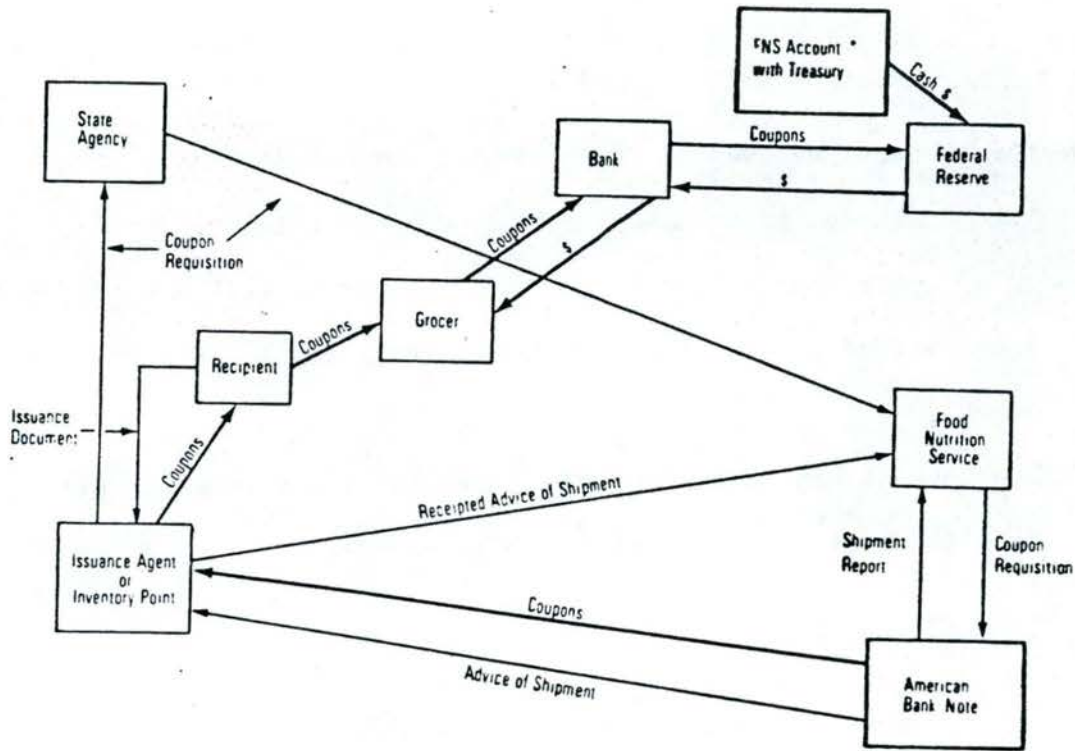
Quality control surveys of samples of households receiving food stamps, investigating and prosecuting fraud, and a sanction/incentive system for the state's administrative personnel concerned with the food stamp programs are measures used to enforce program regulations ([2], pp. 39 ff).

#### Evaluation of the Food Stamp Program

##### Profile of Food Stamp and All United States Households

In September 1975, Food Stamp Program participant households averaged about 3.3 persons; nearly 45 percent were living inside central cities. Sixty-five percent were headed by females (for all United States households: 23.6 percent were headed by females). A larger proportion than nationally of Food Stamp Program participant households was in the South (Table 3.1).

FIGURE 2.1 Coupon Supply and Redemption



SOURCE: [2], p. 45

TABLE 3.1

## Profile of Food Stamp and Total U.S. Households

	Food Stamp	U.S.
	July-Sept. 1975 Percent Distribution <sup>a/</sup>	March 1975 Percent Distribution <sup>b/</sup>
Household Size		
TOTAL	100.0	100.0
One	24.0	19.6
Two	20.5	30.6
Three	17.1	17.4
Four	14.5	15.6
Over Four	23.9	16.8
Region Census		
TOTAL	100.0	100.0
Northeast	24.4	22.5
North Central	21.7	26.7
South	38.6	32.7
West	15.2	18.0
Residence		
Nonfarm	98.2	96.2
Metropolitan	64.7	68.6
Inside Central Cities	44.8	31.4
Outside Central Cities	19.9	37.2
Nonmetropolitan	33.5	31.4
Farm	1.8	3.8
Family Type		
TOTAL	100.0	100.0
Male head	35.6	76.4
Female head	64.3	23.6
Age of Head of Household		
TOTAL	100.0	100.0
Over 65	17.2	20.1
Under 65	82.8	79.9
Race		
TOTAL	100.0	100.0
White	62.7	88.5
Non-White	37.3	11.5
Employment Status of Head <sup>c/</sup>		
TOTAL	100.0	100.0
Employed	28.8	68.3
Unemployed	12.5	4.9
Not in Labor Force	58.6	26.8

<sup>a/</sup> Distributions developed from CBO tabulations from USDA September 1975, Food Stamp Survey tape. Race, region, employment status, and residence distribution source Characteristics of Households Purchasing Food Stamps, Current Population Reports, Series P-23, No. 61, July 1976.

<sup>b/</sup> Data based on household information for March 1975, source: Household Money Income in 1974 and Selected Social and Economic Characteristics of Households, Current Population Reports, Series P-60, No. 100, August 1975. Region data based on family data, source Money Income and Poverty Status of Families and Persons, Current Population Reports, Series P-60, No. 103, September 1976.

<sup>c/</sup> Employment status refers to employment during week prior to interview.

SOURCE: [5], p. 25

TABLE 3.2

Distribution of Gross Monthly Income for Food Stamp  
Households and for All United States Households

Income Class (Monthly Income)	Food Stamps 50 states & D.C. (Percentage of Households)		For all U.S. (Percentage of Households)
	USDA <sup>a/</sup>	CENSUS <sup>b/</sup>	
Under \$100	7.1	7.1	2.8
\$ 100 to \$199	26.6	24.8	5.7
200 to 299	25.6	26.7	7.4
300 to 399	18.4	17.8	7.1
400 to 499	10.1	11.3	7.6
500 to 599	5.6	6.1	7.1
600 to 749	4.3	3.2	9.6
750 to 999	1.9	1.9	12.3
\$1000 or over	0.4	1.1	29.3

a/ SOURCE: CBO computer tabulations from USDA September 1975 Food Stamp Survey tape. Gross monthly income in the USDA tabulations was defined as gross salaries, wages and training allowances (before taxes), roomer and boarder payments, self-employment income, student loans, grants, scholarships, AFDC, GA, SSI, Social Security, veterans, Railroad Retirement, and all other monetary payments such as workmen's compensation and unemployment benefits.

b/ SOURCE: Characteristics of Households Purchasing Food Stamps July 1975, Current Population Reports, Series P-23, No. 61, July 1976. Tabulations were on the basis of monthly money income defined to include essentially all sources as listed above in footnote 1. All income data were collected before taxes. U.S. totals were based on monthly income in July 1974.

SOURCE: [5], p. 27

The mean annual income of a Food Stamp Program participant household in 1975 was \$3,576, approximately 23 percent of mean family income in the United States in that year. Compared with the population as a whole, the Food Stamp Program participants population's income distribution was weighted heavily toward the lower income levels (Table 3.2).

### Participation

Maximum levels of income and assets that a household of a particular size may have and still qualify for food stamps are specified as previously noted (page 10-11). Since most of the participating households (78 percent in 1976) had no liquid assets, the household's income level has been seen as the more fundamental determinant of eligibility. Estimated Food Stamp Program participation rates for each state in 1974 are depicted in Table 3.3. They reveal large differences in participation levels, ranging from 14.9 percent in Wyoming to 55.7 percent in California. Even states with quite similar social structures differ in Food Stamp Program participation rates. The same variations may be found at the local level ([2], p. 96). The absolute level and growth of participation as shown in Table 3.4 reflect the impact of the 1971 amendments, the mandatory wider geographic dispersion of the program in 1973, and the influence of unemployment and inflation in 1975 and 1976 (Table 1.2). There are several reasons for the low rates of program participation ([67], p. 75 ff). Aside from the purchase requirement, in effect until its rescission in the Food and Agriculture Act of 1977, "perhaps the most obvious potential reasons that persons eligible for sizable benefits do not enroll is ignorance, either about the existence of food stamps or about the amount of benefits to which their household is entitled" ([2], p. 98). In addition, nonmonetary costs, including the time and trouble

TABLE 3.3  
State Food Stamp Participation Rates

State	Estimated number of persons eligible in 1974 (1)	Peak monthly number of participants Jan. - Sept. 1974 (2)	Estimated 1974 participation rate (3) = (2) ÷ (1)
Alabama	1,177,139	338,762	28.8
Alaska	71,968	21,769	30.2
Arizona	421,552	111,520	26.5
Arkansas	754,353	249,514	33.0
California	2,412,481	1,404,824	58.2
Colorado	411,554	138,567	33.6
Connecticut	291,513	145,313	49.8
Delaware	85,458	21,214	24.8
D.C.	150,783	117,830	78.1
Florida	1,713,309	514,847	30.0
Georgia	1,318,000	424,830	32.2
Hawaii	160,839	71,540	44.5
Idaho	161,812	33,794	20.9
Illinois	1,569,158	878,455	56.0
Indiana	771,298	194,791	25.5
Iowa	510,030	116,020	22.7
Kansas	425,533	53,107	12.5
Kentucky	1,053,952	401,992	38.1
Louisiana	1,269,096	530,589	41.8
Maine	212,394	96,133	45.3
Maryland	560,352	258,710	46.2
Massachusetts	612,749	284,966	46.5
Michigan	1,156,822	581,754	50.3
Minnesota	599,682	184,142	30.7
Mississippi	982,632	351,117	35.4
Missouri	1,074,852	290,932	27.1
Montana	147,786	33,393	22.2
Nebraska	299,628	50,447	16.8
Nevada	65,924	27,168	41.2
New Hampshire	102,000	32,000	31.3
New Jersey	833,394	435,187	52.2
New Mexico	351,627	149,831	42.6
New York	2,447,536	1,195,785	48.9
North Carolina	1,484,562	341,397	23.0
North Dakota	155,072	18,361	11.8
Ohio	1,517,172	750,774	49.5
Oklahoma	691,202	155,463	22.5
Oregon	346,542	163,617	47.2
Pennsylvania	1,814,010	744,896	41.1
Rhode Island	143,388	77,881	54.3
South Carolina	859,161	354,484	41.3
South Dakota	204,789	30,273	14.8
Tennessee	1,247,504	329,456	26.4
Texas	3,007,732	1,057,976	35.2
Utah	188,742	39,829	21.1
Vermont	82,382	38,165	46.3
Virginia	1,030,544	215,338	20.9
Washington	475,084	228,898	48.2
West Virginia	543,888	213,774	39.3
Wisconsin	609,985	129,403	21.2
Wyoming	62,325	9,272	14.9
<b>Total U.S.</b>	<b>38,623,810</b>	<b>14,411,501</b>	<b>37.5</b>

SOURCE: [2], pp. 94-95

TABLE 3.4

Participation in Food Stamp Program, Fiscal Years 1961-1976

Year	Participation (Thousands)
1961	N.A.
1962	143
1963	226
1964	367
1965	424
1966	864
1967	1447
1968	22M
1969	2878
1970	4340
1971	9368
1972	11103
1973	12154Y
1974	13536Y
1975	15800Y
1976	15800Y

N.A. = Not Available

Y = Year End

SOURCE: [7], pp. 28-29

it takes to be certified for and to use food stamps and "intangible stigma costs" discourage Food Stamp Program participation.

#### Prices of Food Stamps

The average price for food stamps paid by participants in different income classes is depicted in Table 3.5. The data reveal both the price discriminatory policy embedded in the program as it applies to low and higher income food stamp program participant households and the influence of the 1971 Amendments on the food stamp program structure. In 1964, households with higher per-capita incomes had to pay higher prices; households with lower per-capita incomes lower prices. The price structure of 1969, due to the pressure of the "hunger-lobby" favored the lower income households. Prices for the poorest were lowered more than prices for other households. Since 1971, the poorest households have not had to pay anything while participating households with higher income levels pay more. Although there will no longer be a purchase requirement as of 1979, the price discrimination policy is still in effect because the value of bonus stamps received by a participating household will depend on household income.

#### Expenditures on the Food Stamp Program

Food-Aid Program expenditures comprised the largest share of United States Department of Agriculture Outlays in 1976 (Figure 3.1). Between 1960 and 1976, federal outlays for the Food Stamp Program as a percent of welfare expenditures had increased from 0.7 percent to 2.8 percent (Table 3.6). The major federal Food Stamp Program outlay covers the value of bonus stamps. Bonus stamp costs rocketed from about \$300 million in 1969 to \$5.2 billion in 1976 (Figure 3.2).



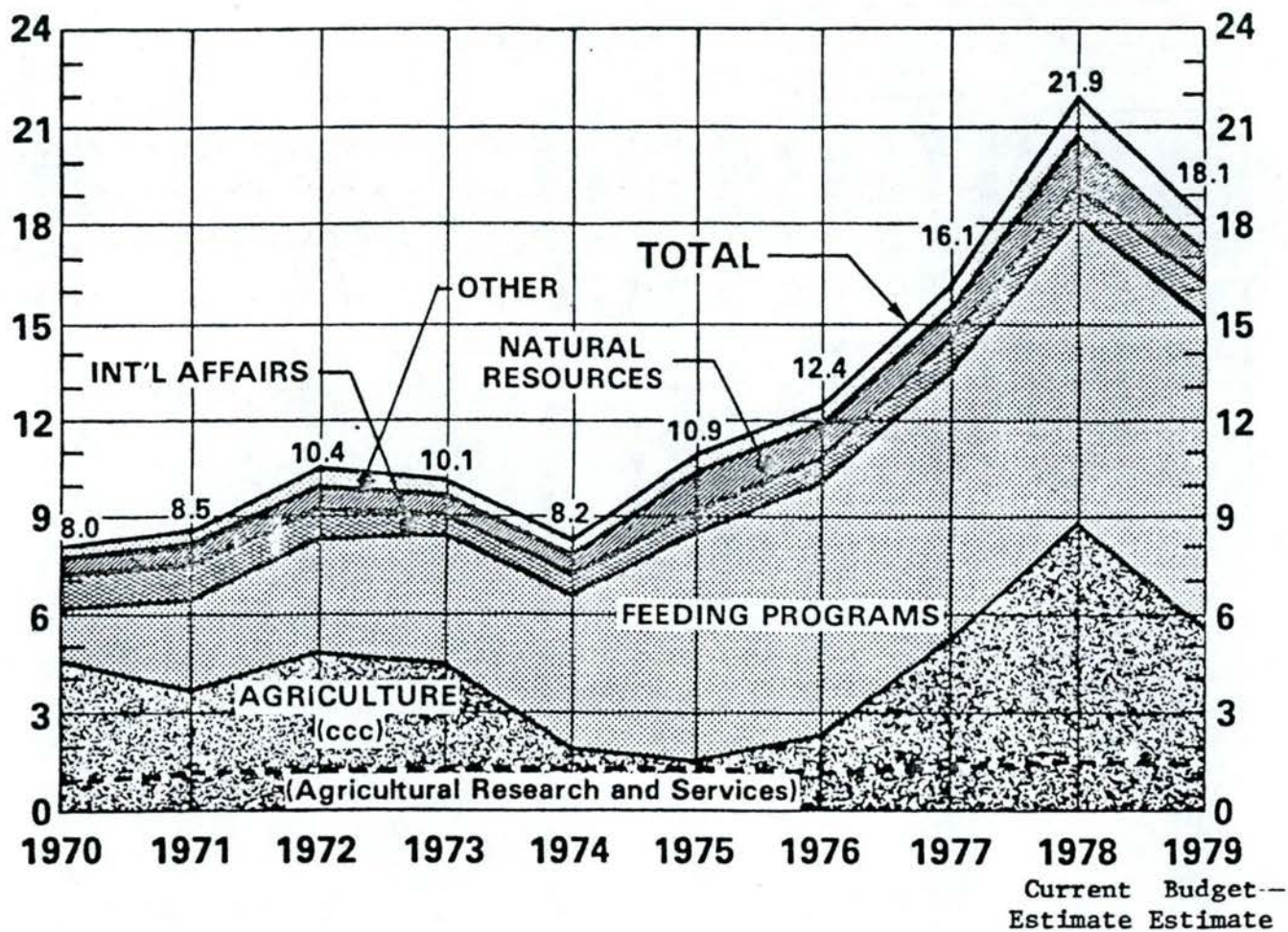
TABLE 3.5

Average Price Per Stamp in Food Stamp Program by Per Person Household Income and Household Size, 1964, 1969, 1971, and 1972

Per person household income per month	-----number of persons per household-----							
	1	2	3	4	5	6	7	8
	-----1964-----							
0-19	.29	.28	.31	.31	.35	.36	.39	.40
20-29	.50	.49	.55	.55	.57	.59	.62	.62
30-39	.56	.57	.63	.64	.65	.68	.71	.70
40-49	.60	.64	.71	.70	.73	.73	.74	.74
50-59	.64	.67	.76	.75	.75	.76	.76	.75
60-69	.73	.75	.79	.77	.77	.78	.82	.80
70-79	.73	.72	.80	.78	.81	.84	.87	.87
80-89	.73	.77	.80	.80	.86	.90	.95	.93
90-99	.73	.77	.81	.85	.92	.96	1.00	1.00
	-----1969-----							
0-19	.02	.03	.06	.07	.09	.11	.12	.13
20-29	.04	.20	.19	.22	.26	.29	.32	.34
30-39	.14	.30	.29	.34	.40	.44	.46	.48
40-49	.21	.40	.39	.45	.49	.53	.57	.58
50-59	.29	.49	.51	.57	.63	.62	.64	.63
60-69	.36	.55	.58	.66	.68	.68	.72	.70
70-79	.43	.64	.73	.72	.73	.74	.76	.75
80-89	.50	.64	.78	.75	.77	.78	.78	.78
90-99	.57	.64	.79	.77	.78	.78	.78	.78
	-----1971-----							
0-19	0	.03	.05	.07	.09	.09	.11	.12
20-29	.03	.15	.19	.22	.25	.27	.29	.32
30-39	.13	.23	.27	.33	.38	.39	.43	.45
40-49	.19	.33	.38	.44	.47	.51	.54	.58
50-59	.25	.41	.49	.55	.61	.61	.65	.70
60-69	.31	.50	.56	.66	.70	.75	.82	.85
70-79	.38	.59	.70	.77	.82	.87	.92	.93
80-89	.44	.65	.77	.85	.91	.94	.95	.95
90-99	.50	.75	.88	.92	—	—	.95	—
	-----1972-----							
0-19	0	.03	.05	.06	.08	.09	.11	.12
20-29	.03	.14	.17	.21	.25	.26	.28	.30
30-39	.11	.21	.26	.32	.36	.38	.42	.42
40-49	.17	.31	.36	.42	.45	.47	.52	.54
50-59	.22	.39	.47	.53	.59	.61	.62	.65
60-69	.28	.47	.57	.63	.68	.69	.73	.72
70-79	.33	.55	.67	.73	.74	.75	.77	.77
80-89	.39	.61	.73	.77	.78	.79	.79	.79
90-99	.41	.69	.80	.79	—	—	—	—

SOURCE: [20], p. 691.

FIGURE 3.1 United States Department of Agriculture  
Outlays 1970-1979 (Excluding Revolving  
Loan Funds) \$ billion



SOURCE: [64], p. 137

TABLE 3.6

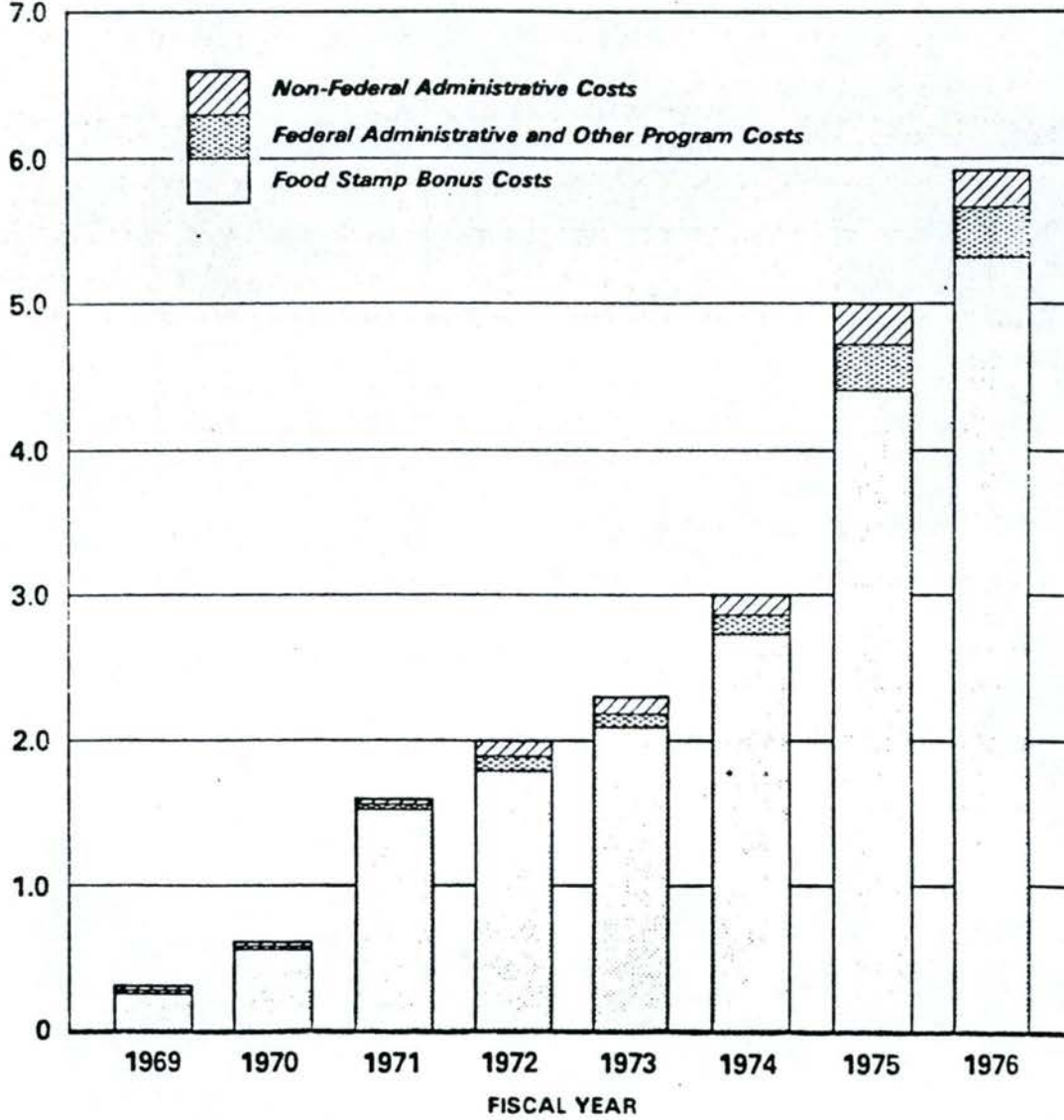
Food Stamp Expenditures as A Percentage of Welfare Expenditures, 1960-1976 (in millions of dollars)

Year	Welfare Expenditure		Food Stamps (Federal)	Percentage of Federal Welfare Expenditure
	Federal	State Local		
1960	24.957	27.337	X	
1970	77.337	68.519	517	0.7
1971	92.588	79.320	1.576	1.6
1972	106.327	85.031	1.876	1.7
1973	122.566	91.376	2.213	1.8
1974	137.155	102.159	2.839	2.0
1975	167.237	119.285	4.694	2.6
1976	198.328	133.038	5.692	2.8

SOURCE: [10], p. 319 and author's calculations.

FIGURE 3.2 Total Federal and Non-Federal Cost (Obligations) of Food Stamp Program

BILLIONS OF DOLLARS



SOURCE: [5], s. 20

### Distributional Equity of the Program

"Distributional equity for the Food Stamp Program is achieved if the per-capita county-level benefits of the program vary only with those characteristics affecting program eligibility, viz, family size, income and unemployment indicators" ([8], p. 1006). The per-poor person outlays should also fall within a narrow range across classes of counties aligned along an urban rural spectrum. A study by Martin and Lane [8] indicates that (1) rurality does decrease bonus stamp outlays per-capita and per-poor person; (2) variables that measure the extent of poverty and public assistance participation are the most important determinants of bonus stamp outlays in the various counties; (3) local attitudes as expressed by partisan political choices and county participation in a voluntary human resources program are significant determinants of per-capita bonus stamp outlays, and (4) economic and demographic variables have their expected effects on bonus stamp outlays ([8], p. 1009).

### Other Program Costs

Other program costs consist of federal operating costs and costs such as issuance and certification costs which are shared with state and local governmental units (Table 3.7). Operating costs per participant are estimated to have conservatively ranged from \$12 to \$24 per year from 1969 to 1974, including costs at all levels of government ([9], p. 19). Figure 3.3 contains an overview of Food Stamp Program outlays compared to outlays for other food programs.

TABLE 3.7

Total Federal, State, and Local Expenditures for Federal Food Stamp Program, Fiscal  
Years 1969-1977 (In thousands of dollars)

	1969	1970	1971	1972	1973	1974	1975	1976	Transition Quarter	1977
<b>A. Total Budget Authority a/</b>	280,000	596,963	1,670,000	2,289,214	2,500,000	3,000,000	5,300,236	5,874,876	1,438,844	5,542,468
<b>B. Federal Obligations:</b>										
1. Bonus Food Stamps	228,587	550,806	1,522,904	1,842,466	2,135,655	2,727,658	4,395,983	5,305,985	1,230,202	5,180,000
2. Federal Share of Administrative Costs	6,585	9,488	20,121	26,874	30,654	47,536	206,774	255,507	72,192	268,793
3. Printing & Production	4,672	4,261	15,370	12,380	10,837	23,970	35,203	38,860	3,138	
4. Shipment of Coupons	59	74	258	658	1,028	2,287	1,997	1,891	42	
5. Processing of Food Stamps	88	108	222	280	598	1,904	4,382	3,653	1,679	101,207
6. Employment Registration	--	---	---	8,500	15,000	17,371	28,233	27,200	7	
7. Federal Administration (including investigations & Audits)	10,413	13,426	21,399	25,043	27,714	32,152	41,134	43,093	12,421	
Subtotal (2-7)	21,817	27,357	57,370	73,735	85,831	125,220	317,723	370,204	89,479	370,000
Total Obligations	250,403	578,162	1,580,273	1,916,201	2,221,485	2,852,878	4,713,706	5,676,193	1,326,675	5,550,000
<b>C. Total Federal Outlays c/</b>	247,766	576,810	1,567,767	1,909,166	2,207,532	2,844,815	4,598,956	5,631,954	1,325,159	5,508,933
<b>D. Nonfederal Operating Costs d/</b>	21,700	27,200	53,900	74,300	111,000	137,100	287,000	255,507	72,192	268,793
<b>E. Total Federal, State, and Local Obligations</b>	272,103	605,362	1,634,173	1,990,501	2,332,485	2,981,915	5,000,706	5,931,700	1,398,862	5,818,793

a/ Budget authority for 1969 to 1976 includes regular and supplemental appropriations. For 1969 through 1971, no carry-over funding included. For 1972 through 1976 authority includes carry-over and unused funding (recoveries). Carry-in funds for transition quarter of \$201,403,000; new budget authority for transition quarter of \$1,237,441,000.

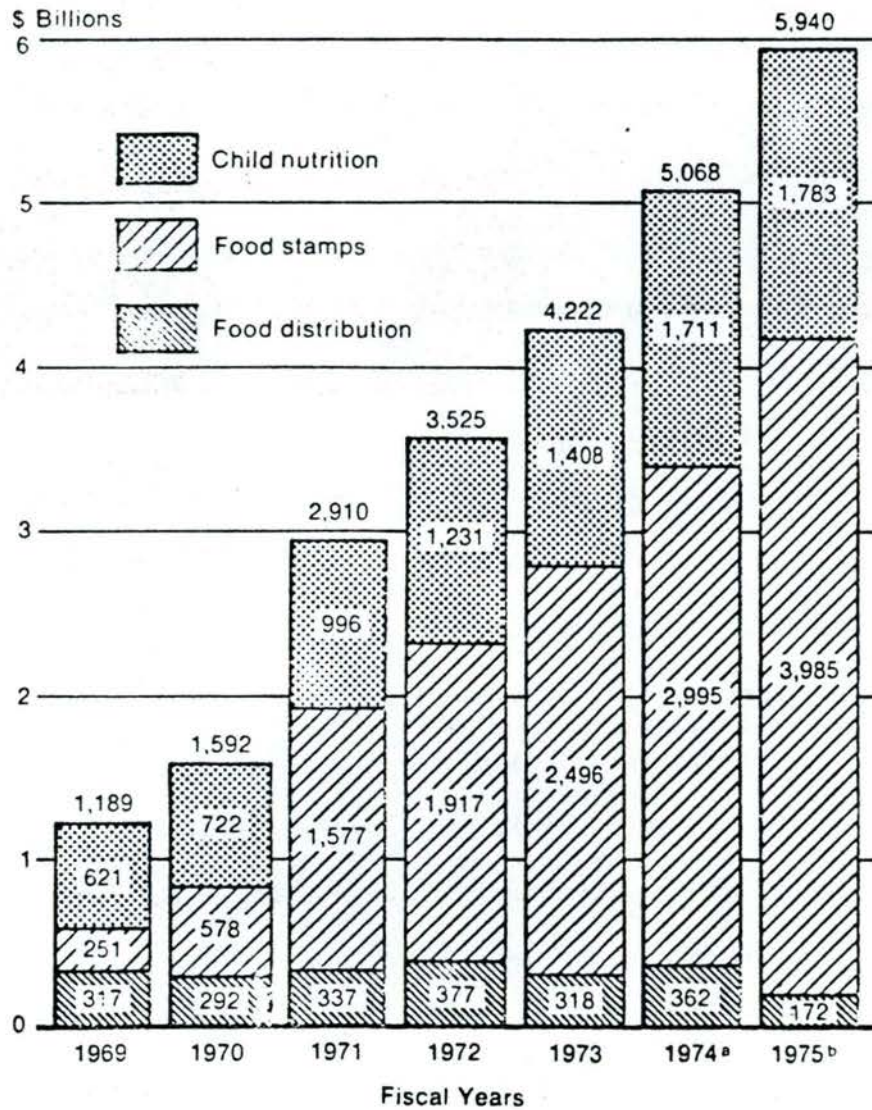
b/ Budget authority for 1977 includes regular appropriation of \$4,794,400,000 under Public Law 94-351. Carry-in authority from transition quarter of \$112,170,000 and anticipated supplemental appropriation of \$643,830,000.

c/ Federal outlays are taken from Office of Management and Budget, The Budget of the United States Government, 1969 through 1977. Transition quarter outlays provided by USDA, Food & Nutrition Service.

d/ Estimates for 1969 through 1975 are those as developed by USDA reported by Kenneth W. Clarkson, Food Stamps & Nutrition, Evaluation Studies 18, American Enterprise Institute for Public Policy Research, Washington, D.C., April 1975. CBO estimates for 1976 and transition quarter based on estimated federal share of administrative costs.

SOURCE: [5], pp. 90-94

FIGURE 3.3 Food Program Funding, 1969-1975



<sup>a</sup> Estimated

<sup>b</sup> Budget request

SOURCE: [7], p. 20

### The Attainment of Program Objectives

The Food Stamp Program, initiated to raise farm income and alleviate malnutrition among the poor may be evaluated in the light of its achievement of these two goals.

In the period 1960-1976 per-capita disposable income of the farm population rose from 54 to about 82 percent of nonfarm disposable income per-capita ([10], p. 686). How much did the Food Stamp Program contribute to this improvement? In 1975, the peak year for Food Stamp Program participation, the total value of food stamps in circulation represented about 4.4 percent of the total expenditure on food (\$185 billion). Approximately \$4.9 billion in bonus food stamps were issued in that year representing an implicit increase in food expenditure not available before implementation of the Food Stamp Program. But since it has been liberally estimated that 57 percent of the income received as bonus stamps is used to purchase additional food ([5], p. 40), the increased demand for food generated by the Food Stamp Program may be estimated as approximately \$2.8 billion. The farmers' share of retail food expenditures in 1975 was 42 percent.<sup>1/</sup> Therefore, the addition to farm income in 1975, as a result of the Food Stamp Program, was approximately \$1.1 billion, representing 1.1 percent of the gross farm income in 1975 ([5], p. 40). In 1978, total food expenditures were estimated to be \$220 billion. A food stamp program with a purchase requirement could have accounted for an estimated \$2.75 billion, i.e., 1.25 percent of the total 1978 food expenditures. A food stamp program without the purchase requirement would have increased food expenditures by an estimated \$2 billion,

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<sup>1/</sup> Identifying and estimating the farmer's share of the food dollar is a relatively difficult task ([71], pp. 13-14). Depending on the definition of "food" and related expenditures, the farmer's share ranged from 26 to 39 percent in 1978.



but because of the expected expansion in participation, the estimated increase amounted to 2.34 billion ([65], p. 48). "When one considers that less than eleven cents of an additional dollar spent on food for home consumption becomes disposable personal farm income and that additional food purchasing power is more often spent on food convenience services, the fact that the Food Stamp Program does not significantly raise agricultural incomes is not surprising" ([7], pp. 36-37).

The question of whether the Food Stamp Program has met its second goal of improving diets of low income households does not have a simple answer because the expansion of food consumption does not necessarily imply an improved level of nutrition. Several studies have been addressed to this subject [11, 12, 13, 14]. West and Price found "bonus food stamps significantly increased the value of food consumed" ([14], p. 728). Lane stated that "the programs (Food Stamp Program and Food Distribution Program) apparently affect nutrition through increasing the amount of food available to participants and through increasing real income, part of which was spent on additional food" ([13], p. 114).

Generally speaking, bonus stamps increased food expenditures by about 40 to 60 cents per dollar ([32], p. 3). The current Food Stamp Program's \$5 billion in bonus stamps therefore adds about \$2.5 billion to retail food purchases of low income households which means an increase in food expenditures by these households of about eight percent. To calculate the net increase in retail food expenditures, one has to subtract about \$500 million of reduced food expenditures by higher income households who are taxed to pay for the program.

When food stamp users' shopping habits were compared with those of non-stamp users, differences depended more upon age and education levels than

upon income differences ([12], p. 19). A final judgment about program effectiveness in improving diets does not seem possible but "evidence on the dietary consequences of the Food Stamp Program supports the conclusion that the nutritional objectives of the program are generally not being satisfied and that the program in fact makes little positive contribution to diet improvement" ([7], p. 50). On the other hand, allegations that the stamps are being used to purchase non-nutritious foods or more expensive convenience products do not seem to be justified. "Available evidence now indicates that food stamp households allocate their food budgets in about the same way as do other households" ([32], p. 10) (Table 3.8). Food stamp households spent a slightly higher percentage for fresh milk and cream and for pork and poultry products. The conclusion that "more direct intervention to change the nutritional efficiency of low-income households is needed" ([2], p. 76) has to be regarded with caution.

#### Economic Effects

Because of the Food Stamp Program's magnitude, particularly since 1971, its effects on the United States economy warranted study. An input-output model was used to estimate the economic effects of the transfer of stipulated amounts of income from taxpayers to Food Stamp Program participants. The assumption made in the study was that federal taxes of the nonparticipant household sector were increased and the sector's disposable income decreased by an amount equal to the value of the bonus stamps issued in calendar year 1972 and in fiscal years 1974 and 1976 ([15], [61]). Table 3.9 presents the increased business receipts (output) and gross national product generated during fiscal year 1976 by the injection of \$5,313 million of bonus stamps. It was assumed 55 percent was spent for food and 45 percent

TABLE 3.8

Distribution of Food Expenditures for Food Stamp Program  
Participant and Nonparticipant Households, 1974

Food item	Food stamp households	All other households
	<u>Number</u>	
Households	553	10,007
	<u>Percent</u>	
All meat products	36.5	36.3
Beef and veal	12.2	15.4
Pork	10.8	8.7
Poultry	6.4	4.7
Other	7.1	7.5
Dairy products	13.8	13.7
Milk and cream	10.5	8.8
Other	3.3	4.9
Eggs	3.5	2.6
Fruits and vegetables	13.7	14.2
Flour and cereal products	5.2	3.2
Bakery products	7.7	8.7
Fats and oils	3.3	3.0
Sugars and sweets	2.7	3.0
Snacks	.6	1.5
Nonalcoholic beverages	7.1	7.2
All other	5.9	6.6

SOURCE: [32], s. 8

TABLE 3.9

Changes in U.S. Business Receipts and Gross National Product with Income Transfer from Taxpayers to Food Stamp Households in Fiscal Year 1976:  
 Column A - Purchase Requirement to Obtain Bonus Stamps, Column B -  
 Bonus Stamps Received without Purchase Requirement<sup>1/</sup>

Changes in business receipts by industry sector <sup>2</sup>			Change in gross national product (GNP)		
	A	B		A	B
	Thousand dollars			Thousand dollars	
Agriculture, forestry, and fisheries . . . .	+796,772	+244,815	Participant household sector:		
Mining . . . . .	-16,552	+13,164	Bonus stamps received . . . . .	5,313,000	5,313,000
Construction . . . . .	-10,548	+16,334	Plus income from new jobs . . . . .	20,998	31,854
Manufacturing:			Minus increase in savings		
Food manufacturing -			and taxes . . . . .	148,439	415,485
Meat and poultry products . . . . .	+562,342	+82,219	Equals change in consumption		
Dairy products . . . . .	+200,503	+4,929	expenditures . . . . .	5,185,559	4,929,983
Grain mill products . . . . .	+174,832	+30,442	Nonparticipant household		
Bakery products . . . . .	+115,520	+492	sector:		
Canned and preserved foods . . . . .	+336,051	+70,073	Income received from new		
Other foods and beverages . . . . .	+191,370	-118,733	jobs . . . . .	548,268	189,683
Total . . . . .	+1,580,618	+72,422	Plus decrease in savings		
Nonfood manufacturing . . . . .	-551,894	-195,026	and taxes . . . . .	417,235	499,824
Total manufacturing . . . . .	+1,028,724	-122,604	Minus tax to fund bonus		
Local and suburban transportation . . . . .	-6,876	+17,713	stamps . . . . .	5,313,000	5,313,000
All other transportation . . . . .	-10,813	-55,530	Equals change in consumption		
Communications . . . . .	-30,344	+13,879	expenditures . . . . .	-4,347,497	-4,623,493
Gas, electric, water and			Sum of change in consumption		
sanitary utilities . . . . .	-1,246	+197,706	expenditures equals GNP . . . . .	838,062	306,490
Wholesale trade . . . . .	+486,811	-100,989			
Retail trade . . . . .	+901,443	+315,713			
Finance, insurance, and real					
estate . . . . .	-414,884	+147,716			
Personal services . . . . .	+89,493	-62,442			
Physicians and dentists . . . . .	-71,425	+880			
Hospitals and laboratory services . . . . .	-29,380	+111,987			
Education (private) . . . . .	-46,940	-30,586			
Other sectors <sup>3</sup> . . . . .	-153,251	-163,351			
Total change in business receipts . . . . .	+2,331,998	+544,405			

<sup>1</sup>The nonparticipant household sector was taxed \$5.313 billion to fund bonus stamps. The expenditure of bonus stamps was treated as an increase in final demand of this amount. Meeting this increase in final demand required additional economic activity. This increased economic activity resulted in a contribution to gross national product of \$838.062 million for fiscal year 1976, when households which participated had to buy stamps to participate. The simulation for the ending of the requirement to purchase stamps yielded a corresponding figure of \$306.490 million. <sup>2</sup>As a result of the injection of bonus stamps, the final demand for the products and services of some sectors rose more than it would have risen without the program. Agriculture, forestry and fisheries, for example, received \$796.772 million more in business receipts (output) than without the program. For other sectors, output was less than it would have been without the program. Mining, for instance, would have received \$16,552 million more in business receipts without the program. <sup>3</sup>Other sectors is an aggregate composed of direct and transferred imports; business travel and gifts; office supplies; Federal, State, and local government enterprises; and other services.

SOURCE: [61], p. 90.

TABLE 3.10

Shares of Food Stamp Redemptions, Cash/Check Receipts for Food,  
and Total Food Sales, by Size of Store, Fiscal 1976

Size of store (annual sales) <sup>1/</sup>	Food stamp redemptions	Cash/check receipts for food	Total food sales
	<u>Percent</u>		
\$0-24,999	1.3	0.2	0.2
\$25,000-49,999	2.2	.5	.6
\$50,000-99,999	4.4	1.8	2.0
\$100,000-249,999	8.6	6.2	6.4
\$250,000-499,999	6.8	6.1	6.2
\$500,000-999,999	6.9	6.1	6.1
\$1,000,000- 9,999,999	65.3	72.6	72.1
\$10,000,000 and over	4.5	6.5	6.4
Total	100.0	100.0	100.0
	<u>Billion dollars</u>		
Total food sales	8.2	99.8	108.0

<sup>1/</sup> Includes only stores that participated in the program throughout the year. Annual sales are measured in terms of gross sales, food plus nonfood. Stores participating for only a part of FY 76 accounted for an additional \$500 million in food stamp redemptions.

SOURCE: [32], p. 7

for nonfood items. Under these assumptions, business receipts rose about \$2.3 billion more than if there had been no program; gross national product grew by \$838 billion more. Increased output was associated with an increase in the number of jobs needed to meet the increase in final demand. In 1974, these were an estimated 76,561 more jobs with the program than there would have been without it. Table 3.9 also contains data pertaining to the 1976 program without a purchase requirement. Business receipts would have increased by \$544.4 million and the GNP by \$306.5 million under these assumptions.

The question remains of whether increased food sales affect food prices ([7], p. 53). A recent study shows "that the Food Stamp Program has likely had a statistically significant but rather small positive influence on the prices for most food groups, other things remaining constant" ([32], p. 7). Meats, cereals and bakery products prices were especially influenced [70]. Schrimper ([68], p. 106) found that each 10 percent increase in participants' demand for food might result in an 0.08 to 4.0 percent increase in food prices depending on the price elasticity of the retail supply for food and the share of the total food market accounted for by program participants. There is also a structural impact on the food retailing sector. The smaller stores benefit proportionately more from the Food Stamp Program in terms of absolute dollars (Table 3.10) [33]. A study of the Food Stamp Program's effects leads to the conclusion that "the program's impact upon patterns of resource allocation is of sufficient magnitude to merit particular consideration in policy deliberations reflecting food assistance and publicly sponsored income transfers" ([16], p. 1005).

### Welfare Implications

The net benefits of the Food Stamp Program are difficult to measure especially if we accept the theory of interdependent preferences which indicates "that analyses of the net gains from transfers include recipient valuations and external joint consumption of public benefits of the program" ([18], p. 64). Benefits are not only received by recipients, but also by contributors to the program, the taxpayers. Their valuations are incapable of being supported or refuted with existing information. Benefits to food producers and costs to nonparticipating food consumers are also difficult to quantify. But with this in mind, attempts have been made to estimate benefits received by participating recipients ([7], [18]). The following assumptions were made: (a) the Food Stamp Program does not alter market prices; (b) food stamps are not used for the purchase of nonfood items; and (c) resale of food stamps is effectively prohibited.

Food Stamp Program participants' bonus may be divided into three parts: (1) a transfer in general purchasing power. This is the difference between the recipients' expenditure on food in the absence of the Food Stamp Program and the purchase price of the food coupons. Since in 1979, the "bonus" value of stamps will be given to recipients without requiring payment, the value of the bonus which is restricted to the purchase of food will be the only relevant transfer in purchasing power (see p. 22). (2) A transfer in specific or food purchasing power. This is the difference between the recipient's subjective valuation of the food stamps received (the dollar amount he/she would voluntarily accept in place of the bonus stamp portion of the food stamp allotment) and the value of the general purchasing power transfer. (3) An amount which, to the recipient, measures waste. If the subjective valuation

placed on bonus food stamps is lower than the market value of the stamps, there is "waste" equal to the difference between the market value and the recipient's subjective value of the food coupons.

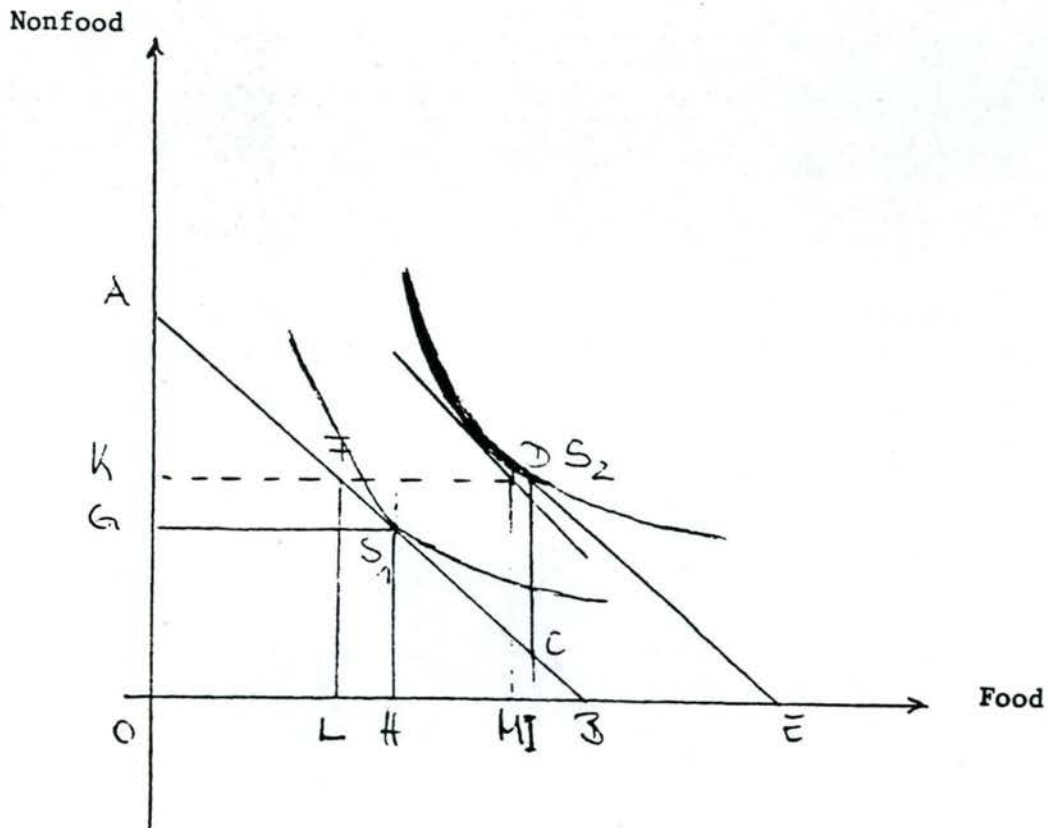
For a geometrical interpretation of participants' benefits, we assume a preference function with food and nonfood commodities having equal utility, as depicted in Figure 3.4. Naturally, different preference structures and differently shaped indifference curves are possible. However, for low income people, this may not be an unreasonable assumption. In Figure 3.4, the quantity of food is measured along the vertical axis so that the slope of the budget line before any subsidies are received, (AB), is  $-P_F$ , the relative price of food. A food stamp program with a purchase requirement determined by family size under which stamps cost R -- approximately 30 percent of income net of several deductions -- raises the recipient's feasible consumption set to the area bounded by ACDE, where the "bonus value" of the stamps measured in terms of food is the length of the line segment FD.

Participants with preferences represented by  $S_1$  would choose OG units of nonfood and OH of food without the existence of the Food Stamp Program. The Food Stamp Program bonus permits the consumption of OI food and OK nonfood items, valued at  $S_2$ , a level of utility higher than  $S_1$ . The transfer in general purchasing power is LH; in specific (food) purchasing power HM, and the "waste" is MI, all multiplied by the price of food.

If the "bonus" stamps are given to recipients "free," the feasible consumption set is bounded by ANE, including D (Figure 3.5). One possible output can be O which implies an improvement compared to D, if the Marginal Rate of Substitution of food for nonfood is not equal to the price at D ( $MRS_{F/NF} \neq P_F$ ) ( $S_3 > S_2$ ). The recipient becomes better off by reducing food consumption ([19], p. 560). Note when there is no purchase requirement,

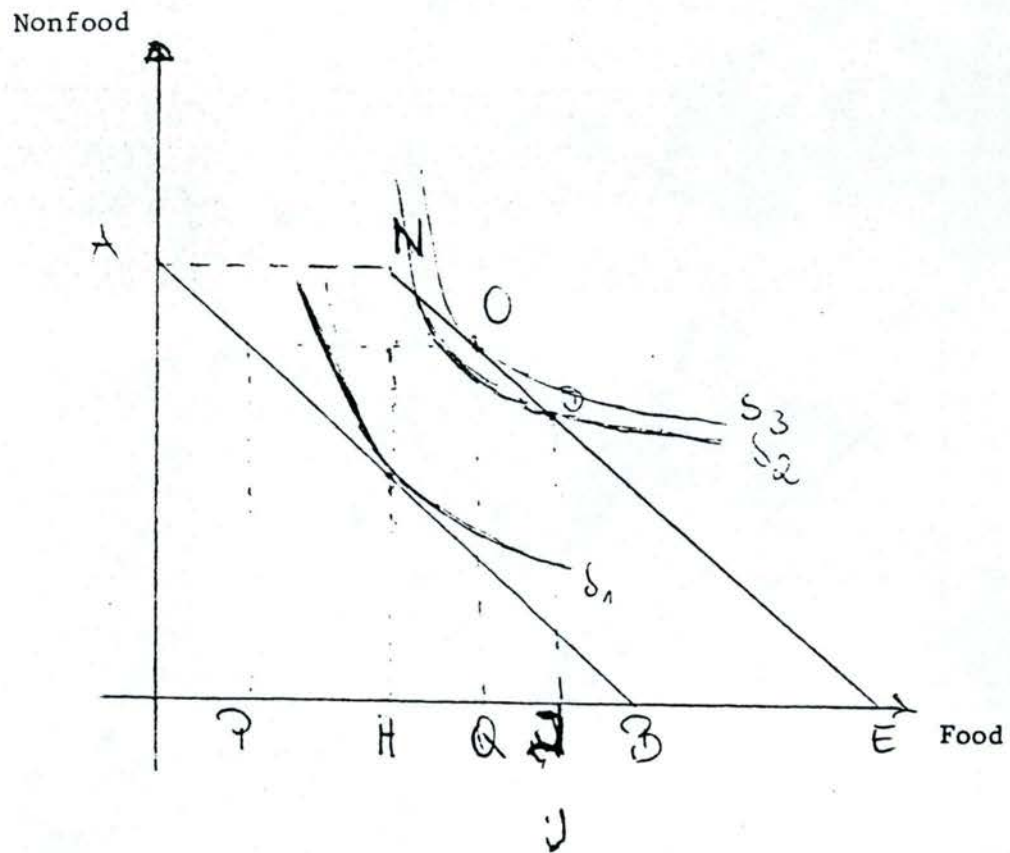


FIGURE 3.4 Recipient Benefits - Purchase Requirement



SOURCE: Adapted from [7], p. 68.

FIGURE 3.5 Recipient Benefits - "Bonus" Free



SOURCE: Adapted from [19], p. 561

TABLE 3.11

Distribution of Bonuses, Calculated Recipient Benefits and Waste  
By Income Class and Household Size, June 1973

Monthly Income	Household Size - - -					
	1 Person	2 Persons	3 Persons	4 Persons	5 Persons	6 Persons
	Bonus = Benefits + Recipient's Waste <sup>a</sup>					
Under \$29	35.00 = 21.05+13.95	63.00 = 28.59+34.41	92.00 = 36.46+55.54	112.00 = 39.91+72.09	132.00 = 42.97+89.03	152.00 = 45.73+106.27
\$30-\$39	32.00 = 26.41+5.59	60.00 = 39.25+20.75	88.00 = 48.69+39.31	108.00 = 54.30+53.70	127.00 = 57.23+69.77	147.00 = 61.63+85.37
\$40-\$49	30.00 = 26.62+3.38	57.00 = 40.10+16.90	85.00 = 50.92+34.08	105.00 = 57.36+47.64	124.00 = 61.15+62.85	144.00 = 66.20+77.80
\$50-\$69	27.00 = 25.72+1.28	53.00 = 40.90+12.10	80.00 = 52.18+27.82	100.00 = 59.70+40.30	119.00 = 64.60+54.40	139.00 = 70.54+68.46
\$70-\$99	22.00 = 21.99+0.01	46.00 = 39.43+6.57	73.00 = 53.86+19.14	92.00 = 61.66+30.34	112.00 = 69.83+42.17	131.00 = 75.53+55.47
\$100-\$149	14.00 = 14.00+0.00	35.00 = 33.34+1.66	62.00 = 52.23+9.77	81.00 = 62.78+18.22	99.00 = 70.41+28.59	118.00 = 78.23+39.77
\$150-\$249	---	20.00 = 20.00+0.00	40.00 = 38.53+1.47	59.00 = 53.38+5.62	78.00 = 66.27+11.73	97.00 = 77.68+19.32
\$250-\$359	---	---	18.00 = 18.00+0.00	30.00 = 29.99+0.01	48.00 = 46.52+1.48	67.00 = 62.16+4.84
\$360-\$419	---	---	---	24.00 = 24.00+0.00	32.00 = 32.00+0.00	46.00 = 45.66+0.34
\$420-\$479	---	---	---	---	28.00 = 28.00+0.00	38.00 = 38.00+0.00
\$480-\$539	---	---	---	---	---	32.00 = 32.00+0.00

<sup>a</sup>  $B = \hat{V} + W$  where  $B$  is the monthly bonus,  $\hat{V}$  is the calculated net recipient benefits and  $W$  is the waste from the recipients's viewpoint.

SOURCE: [18], p. 869. Refer to Appendix for method of calculation.

TABLE 3.12

Distribution of Benefits, Eligible U.S. Households and Participating Households by Income Class for the Food Stamp Program, 1973

Annual Income	Mean Annual Benefits <sup>a</sup>	Percentage Increase in Income <sup>b</sup>	Number of Eligible U.S. Households	Number of Households in Food Stamp Program	Percentage of Eligible Households Served by Program
Under \$1,000	\$405	81.0%	1,523,000	525,000	34.5%
\$1,000-\$1,999	362	24.1	3,605,000	1,604,000	44.5
\$2,000-\$2,999	515	20.6	4,276,000	1,047,000	24.5
\$3,000-\$3,999	578	16.5	1,069,000	404,000	37.8
\$4,000-\$4,999	531	11.8	768,000	129,000	16.8
\$5,000-\$5,999	555	10.1	474,000	82,000	17.3
\$6,000-\$6,999	581	8.9	263,000	36,000	13.7
\$7,000-\$9,999	567	6.7	454,000	46,000	10.1
All Households	\$444	22.1%	12,432,000	3,873,000	31.2%

<sup>a</sup> Average benefits are weighted by participation in each household size for each income class.  
<sup>b</sup> Based on median income in income class.

SOURCE: [18], p. 870.

the transfer in general purchasing power increases ( $HP > LH$ ) (Figures 3.4 and 3.5); the transfer in specific (food) purchasing power decreases ( $HQ < HM$ ) and there is no waste from the recipient's viewpoint.

Estimates of net recipient benefits for families of up to six persons with disposable incomes of less than \$6,500 in 1973 appear in Table 3.11. Table 3.12 contains data concerning mean annual benefits and the aggregate distribution of participation by income class. Estimates of recipients' benefits are sensitive to the initial assumptions chosen. Modifications of assumptions and assumed preferences will alter the estimated level of benefits substantially. Therefore, statements concerning benefits have to be interpreted carefully. Emphasis should be put on the interpretation of the geometric analysis of the removal of the purchase requirement from the Food Stamp Program. The improvement in recipient welfare comes from recipients reducing their food consumption below the "nutritionally adequate" level of J (Figure 3.5).

The most obvious argument for the removal of the purchase requirement is the hoped-for increase in participation. But the new participants will probably not, given their preference functions, consume a "nutritionally adequate diet." "The potential for substantially increased participation suggests the existence of an additional set of interested parties: the agricultural industry" ([19], p. 562).

In addition to the recipients' benefits, there may be benefits to the "donors" of the funds for the Food Stamp Program. These members of society value the ability of low-income households to purchase an adequate diet, so that the transfer from the higher to the lower income groups increases overall welfare. The transfer of food may be looked upon as a public good. All individuals who place a positive value on the transfer may share its

benefits without exclusion ([7], p. 48). Negative benefits are also possible, as for example "the participation of certain groups (college students, teachers on summer vacation and strikers) that have low incomes during certain periods, but high levels of wealth (either current or discounted future incomes)" ([7], pp. 50-52). A negative general welfare effect may be the result of a negative general purchasing-power transfer (due to the purchase requirement when it was in effect) implying that Food Stamp Program recipients reduce their expenditures on all nonfood items including housing and medical care. "Thus, if the government has housing and medical care programs, the benefit structure of the Food Stamp Program could hinder attempts to reach the objectives of such nonfood programs and could reduce overall general welfare" ([7], p. 47).

Modification of the Food Stamp Program: "Cashing Out" Bonus Stamps

After the elimination of the purchase requirement in 1979, the logical next step seemed to be the "cashing out" of bonus stamps. The advantages of this procedure had been discussed during the debate on the reform of the Food Stamp Program. They consist of (1) the elimination of any stigma attached to the use of stamps; (2) an increase in participation in the Food Stamp Program; (3) a lowering of administrative costs; and (4) the preservation of the cash aspect of the current program without directly establishing a cash program, thus effecting a compromise among political groups with diverse interests. Consumers' support for this proposal could also be expected, for if bonus stamps were cashed out, each eligible household could decide for itself what proportion of total income should be spent on food ([66], p. 56). On the other hand, the possibility of the household's purchasing a lower quantity of food is connected with free choice. In that

case, an increase in utility from the household's point of view is associated with an undesired effect on the consumption of food and perhaps on nutrition from the taxpayer-donor's point of view. The latter forego the satisfaction they may derive from the increased consumption of food by the poor. If nutritional patterns are worsened, the effect of healthier and more productive people on the society's general level of well-being are also foregone. But, despite the possible reduction in individual food consumption, overall consumption of food may increase because of greater participation in the program.

To compare today's Food Stamp Program (after the elimination of the purchase requirement) with the cash-out-alternative, refer to the previous discussion (pp. 19, ff). The boundary lines of the possible consumption sets are (Figure 4.1):

AB in the absence of any kind of subsidy;

ACDE (or ACFDE) under a food stamp program with a purchase requirement (alternative I);

AGE (including D) under a food stamp program without a purchase requirement (free bonus stamps)(alternative II); and

HE under the program if bonus stamps are cashed out (alternative III).

To estimate effects on consumption and utility of the three program alternatives and still consider the previous program with its purchase requirement, it is necessary to consider five different optimal outcomes of adjustments in participants' consumption vectors. We have to differentiate between restricted and unrestricted adjustments ([2], p. 52). The adjustment of consumption considering various preference functions under program alternatives I - III would produce the following outcomes (Figure 4.1):





Adjustments from point C to a point --

- along HG: unrestricted consumption only under alternative III;
- along GD: unrestricted consumption only under alternatives II and III;
- along DE: unrestricted consumption under all alternatives;
- G: "a" optimal adjustment under III and II;  
"b" suboptimal adjustment under II (restricted);
- D: "a" optimal adjustment under I, II, and III;  
"b" suboptimal adjustment under I (restricted).

Table 4.1 shows the possible combinations of situations I - V (Figure 4.1) and alternatives I - III and the nature of the possible consumption adjustments.

Situations III, IV, and V imply a food consumption level below that providing an "adequate nutritional diet," KD. Situations I and II meet nutritional requirements. Situation V is not very probable: "Realistically one would not expect any household participating in a public assistance income transfer program to spend less on food than it did prior to the program" ([65], p. 47). Which of these situations, i.e., I - V, will be the most probable is of particular interest. Empirical studies have revealed, that, conservatively estimated, two-thirds of all recipient households were not constrained by the program in 1974. They had consumption vectors like those in situations I or II ([2], pp. 53 ff). Similar results were obtained in a study in 1970 [22]. Although it is contended that the Food Stamp Program constrains recipients in keeping with its food consumption objective, "the naive view that food stamps are restricted, in-kind transfers is largely incorrect . . ." ([2], p. 58). Consequently, the program is much more effective as a provider of income than as a stimulus to the demand for food ([2], p. 58).

TABLE 4.1

## Consumption Adjustments Under Various Types of Food Stamp Programs

Situation/ Alternative	Situation I	Situation II	Situation III	Situation IV	Situation V
I. Purchase Requirement	u	a) u b) $\sigma$	n.p.	a) n.p. b) n.p.	n.p.
II. No Purchase Requirement	u	a) u b) n.p.	u	a) u b) $\sigma$	n.p.
III. "Cash Out" of Bonus Stamps	u	a) u b) n.p.	u	a) u b) n.p.	u

u = unrestricted adjustment

$\sigma$  = restricted adjustment

n.p. = not possible

### III. OTHER FOOD CONSUMPTION SUBSIDY MEASURES

#### Population-Group and/or Institution-Oriented Food Donation and Cash Programs

The Food Distribution Program mentioned in Chapter I, which is now being phased out, was initiated to make surplus farm products available to needy population groups in the United States. The Federal Government purchased farm products and distributed them through state welfare agencies.

In addition to the Food Distribution Program, there are several other food programs in operation.

#### Child Nutrition Programs

Six separate child feeding programs are currently administered by the USDA Food and Nutrition Service, all with the common goal of safeguarding the health and well-being of the Nation's children.

#### The National School Lunch Program

The National School Lunch Program was designed to (1) safeguard the health of schoolchildren by imposing and/or maintaining satisfactory levels of nutrition; and (2) strengthen the agricultural economy by stimulating food demand ([23], p. 1). Toward these ends, the Federal Government provides some support to public and nonprofit private schools and any public or licensed nonprofit private residential child care institution which serves well-balanced lunches to children. The assistance mainly takes the form of a basic cash and donated food subsidy for all lunches and additional cash reimbursements for meals served free or at reduced prices to eligible children.

The National School Lunch Program food costs increased from \$1.4 billion in 1971 to \$2.2 billion in 1975. The local market food purchases of the schools represent about 1.5 percent of the overall United States food market (Table 5.1). "Their size . . . provides some basis for assuming that the National School Lunch Program strengthens the demand for agricultural products" ([23], p. 57). The possibility of conflict between the program's agricultural and nutritional aims may be noted, but Price et al. ([29], p. 614) found that "children who were full participants in the school lunch program had higher intakes for five of ten nutrients."

Federal expenditures under this program, authorized in 1946, have increased from \$100 million in 1947 to more than \$1.7 billion in 1975 (Table 5.2) and \$2.3 billion in 1979 ([17], p. 5). Cash payments to schools, under the program amounted to \$1,429 billion in 1976. USDA distributed foods comprise about 20 percent of program food costs, a ratio which has not varied widely in recent years. In 1975, about 89,000 schools participated, making school lunches available to almost 88 percent of the nation's schoolchildren. In the 1977-78 school year, approximately 93,600 schools and residential child care institutions participated in the program and nearly 26.5 million children received subsidized meals ([17], p. 6). The number of school children in the three participation categories is presented in Figure 5.1. Table 5.3 contains the absolute numbers of participants.

The Federal Government's cash transfers under this program resulted in increases of \$573 million in business receipts, \$378.6 million in household income and \$397.5 million in gross national product in 1974 ([27], p. 1003). The increase in business receipts of the meat, poultry, and dairy product sectors reflect institutional requirements built into the school lunch program (70.3 percent of the total increase). There were also 26,383

TABLE 5.1

NSLP Food Costs, Fiscal Year 1971-75

<u>Fiscal year</u>	<u>USDA commodity distributions</u>	<u>Local market food purchases</u>	<u>Total</u>
	(millions)		
1971	\$277.3	\$1,132.5	\$1,409.8
1972	312.1	1,250.8	1,562.9
1973	260.2	1,408.4	1,668.6
1974	316.1	1,615.2	1,931.3
1975 (est.)	421.3	1,808.4	2,229.7

SOURCE: [23], p. 57

TABLE 5.2

Sources of National School Lunch Program Funding,  
Fiscal Year 1970-75

<u>Fiscal year</u>	<u>Federal contribution (millions)</u>	<u>Percent</u>	<u>Children's payments (millions)</u>	<u>Percent</u>	<u>State &amp; local contribution (millions)</u>	<u>Percent</u>	<u>Total (note b)</u>
1970	\$ 565.5	25.5	\$1,105.0	49.8	\$546.6	24.7	\$2,217.1
1971	809.5	32.5	1,090.2	43.7	593.3	23.8	2,493.0
1972	1,050.8	38.5	1,080.4	39.5	599.0	21.9	<u>b/2,730.3</u>
1973	1,142.4	38.6	1,123.7	38.0	692.7	23.4	2,958.8
1974	1,401.4	41.6	1,174.2	34.8	796.8	23.6	3,372.4
1975(est.)	1,702.0	44.3	1,290.0	33.6	850.0	22.1	3,842.0

b/The program operates on a nonprofit basis. Variations between funding and costs are carried forward as a surplus/deficit to the succeeding year's operation.

c/Differences due to rounding.

SOURCE: [23], p. 127

FIGURE 5.1 Student Participation, Lunch Service and Expenditures, National School Lunch Program, 1947-1976

Fiscal Year	Enrollment	Participant	Lunches services			Expenditures		
			Total	Full price	Free and reduced price	Total	Federal	State local, and children
1947	26.6	6.6	910.9	801.6	109.3	221.1	70.4	150.7
1950	27.5	a.6	1,275.9	1,063.7	212.2	367.6	119.7	247.9
1955	34.0	12.0	1,806.6	1,616.7	189.9	611.6	152.3	459.3
1960	40.6	14.1	2,142.3	1,925.1	217.2	1,001.7	225.8	775.9
1965	48.1	18.7	2,892.3	2,606.5	285.8	1,492.8	402.8	090.0
1970	52.1	23.1	3,565.1	2,826.6	738.5	2,217.0	565.4	651.6
1971	51.9	24.6	3,848.3	2,842.6	1,005.7	2,493.0	809.5	1,683.5
1972	51.9	24.9	3,972.1	2,686.8	1,285.3	2,730.3	1,050.8	1,679.5
1973	51.3	25.2	4,008.8	2,606.4	1,402.4	2,956.1	1,139.8	1,816.3
1974	51.3	25.0	3,981.6	2,503.5	1,478.1	3,372.4	1,401.4	1,971.0
1975	51.0	25.3	4,063.0	2,425.1	1,637.9	3,863.0	1,705.7	2,157.3
1976	50.5 <sup>1</sup>	25.8 <sup>1</sup>	4,145.8 <sup>1</sup>	2,362.8 <sup>1</sup>	1,783.0 <sup>1</sup>	4,133.5 <sup>1</sup>	1,893.5 <sup>1</sup>	2,240.0 <sup>1</sup>

<sup>1</sup> Preliminary.

SOURCE: [63], p. 128

TABLE 5.3

Children in School Lunch Program Receiving  
Benefits Through Cash Payments 1960-1976 (peak months, thousands)

1960	14.078
1961	14.752
1962	15.553
1963	16.400
1964	17.548
1965	18.666
1966	19.781
1967	20.237
1968	20.614
1969	22.079
1970	23.127
1971	24.640
1972	24.941
1973	25.075
1974	24.988
1975 <sup>1/</sup>	25.257
1976 <sup>1/</sup>	25.857

<sup>1/</sup> preliminary

SOURCE: [39].



more jobs because of the cash transfers (Table 5.4). These estimates were made using the United States Department of Commerce (1967) input-output model. The cash and commodity contributions were treated as additional demand. The federal commodity purchases for school lunch distribution generated a \$403.2 million net increase in business receipts, \$50.2 million increase in gross national product, and an increase of 12,052 jobs in 1974 ([28], p. 11).

#### School Breakfast Program

The aim of this program is to assist states in initiating, maintaining or expanding nonprofit breakfast programs in schools. The breakfast program was available to about 10.3 million children in 23,000 schools and had an average daily participation rate of 2.7 million children in 1978 ([24], p. 2). The schools receive 11.50 cents for each breakfast served to paying children, an additional 21.75 cents for each reduced-price breakfast served, and an additional 28.75 cents for each breakfast served to children qualifying for free meals. For "especially needy" schools, the reimbursement rates are higher.

A school, to start a program, must apply to the State Department of Education and agree to certain basic rules. Cash payments under this program amounted to \$108,177 million in fiscal year 1976 (Table 5.5) and \$170 million in 1977 ([17], p. 9).

#### Child Care Food Program

A three-year program entitled the Special Food Service Program for Children was introduced in 1968. In 1975, this form of assistance was extended to all nonprofit day care centers for children to enable them to offer meals and snacks free or at reduced prices. Family and group day care homes can also qualify for aid under the program ([25], p. 2). In July 1978,

TABLE 5.4

Net Economic Effects of a Transfer from Taxpayers to  
Schools by Means of a Federal Cash Contribution, Fiscal Year 1974

Sector	Changes in Job (number)	Changes in Business Receipts (1,000 \$)	Sector	Change in GNP (1,000 \$)
Agriculture, forestry, and fisheries	26,389	331,535		
Mining	15	710		
Construction	269	9,126		
Food manufacturing			<u>Combined Household Sectors</u>	
Meat and poultry products	1,942	137,662	Income from new jobs	378,648
Dairy products	4,665	255,161	Plus decrease in taxes and savings	28,002
Grain mill products	304	26,236	Minus tax increase to fund federal school contribution	1,085,000
Bakery products	815	21,282	Equals change in consumption expenditures	-678,350
Canned and preserved foods	2,447	100,649		
Other foods and beverages	272	18,084		
Subtotal	10,445	559,074		
Nonfood manufacturing				
Clothing	-2,744	-27,025		
Other manufacturing	-945	-29,270		
Subtotal	-3,689	-56,295		
Local and suburban transportation	-276	-3,453		
All other transportation	584	17,952	<u>School Lunch Sector</u>	
Communications	-372	-8,600	Change in school lunch expenditures	1,083,382
Gas, electric, water, and sanitary utilities	56	3,618	Minus increase in factor payments <sup>b</sup>	7,498
Wholesale trade	2,392	51,994	Equals change in consumption expenditures	1,075,884
Retail trade	-11,265	-106,109		
Finance, insurance, and real estate	-2,694	-134,115		
Personal services	-2,648	-17,726		
Physicians and dentists	-613	-18,086		
Hospitals and laboratory services	-2,121	-16,703		
Education (private)	-262	-9,132		
School lunch	11,806	—	Net change in combined sector consumption expenditures	
Other sectors <sup>a</sup>	-1,633	-30,596	Equals change in gross national product	397,534
Total change in business receipts	26,383	573,194		

Note: The nonparticipant household sector was taxed \$1,085,000 to fund the federal contribution to schools. The schools' expenditure of the cash contribution was treated as an increase in final demand of this amount. Meeting this increase in final demand required additional economic activity. This increased activity resulted in a contribution to gross national product of \$397,534,000.

<sup>a</sup> Other sectors is an aggregate composed of direct and transferred imports; business travel, gifts; office supplies; federal, state, and local government enterprises; and other services.

<sup>b</sup> In this sector, it is composed primarily of depreciation of school lunch equipment.

SOURCE: [27], p. 1004.

19,010 units participated serving 428,000 children [56]. Participating centers and homes receive cash reimbursement based on the number of meals served and, in addition, the USDA offers a variety of donated foods for use in the program. States may choose to accept these foods and distribute them or receive a cash equivalent (Tables 5.5a and b).

#### Special Milk Program for Children

The Special Milk Program was initiated in 1954 to support milk prices. Consumption of fluid milk by children in nonprofit schools and nonprofit institutions devoted to the care and rearing of children has been encouraged by providing free milk for eligible children or milk at reduced prices for other children. In fiscal year 1977, over 2.1 billion half pints of milk were served, 348 million of them, free ([57], p. 8). Cash payments under this program tripled between 1974 and 1976 (Tables 5.5a and b).

#### Summer Food Service Program for Children

The Summer Food Service Program for Children spans the gap in the school food programs by providing meals to children during extended vacation periods. USDA's Food and Nutrition Service reimburses participating units for the full operating costs of the food service, up to specified maximum rates for meals.

#### Nonfood Assistance Program

The Nonfood Assistance Program provides funds for eligible schools and residential child care centers to help them acquire adequate food service equipment.

TABLE 5.5a

Food-Cash Payments Under Food Assistance Programs  
and Value of Commodity Distribution

(in 1000 dollars)

	Fiscal year 1974	Fiscal year 1975	Fiscal year 1976
Program			
Special Food Service	61.408	98.248	145.846
Special Milk	49.158	123.726	144.173
National School Lunch	1.052.827	1.252.162 <sup>1/</sup>	1.429.149 <sup>1/</sup>
Breakfast	57.266	81.737 <sup>1/</sup>	108.177 <sup>1/</sup>
Commodity Distribution	478.814	458.553	363.531

<sup>1/</sup> preliminary

SOURCE: [39].

TABLE 5.5b

## Appropriations for Domestic Food Programs, 1977 and 1978

Program	1977	1978, current estimate
	<i>Million dollars</i>	
Child nutrition	586	591
Food donations	27	31
Elderly feeding	27	35
Institutions	22	24
Total, commodities	622	671
Cash and other	7,942	8,556
Total	8,604	9,227
	<i>Percent</i>	
Commodities as a percentage of total	8.3	7.2
Commodities as a percentage of child nutrition	22.0	20.4

SOURCE: [62], p. 96.

### Special Supplemental Food Program for Women, Infants and Children

Initially begun as a pilot program in 1974, WIC is now a permanent program ([26], p. 2). The target groups for this program are pregnant and lactating women, infants and children up to four years of age who are determined, by competent professionals, to be at nutritional risk because of inadequate nutrition and income. Table 5.6 contains an estimate of the number of persons potentially eligible for the WIC Program as of August 1977. Actual participation figures appear in Table 5.7; the program's funding in Table 5.8. In fiscal year 1978, WIC provided benefits to over 1.3 million women and children at a cost to the federal government of about \$380 million ([17], p. 10). Participants are given vouchers with which they can purchase prescribed supplemental foods in retail stores. Average monthly program benefits per person increased from \$15.68 in fiscal year 1974 to \$18.58 in 1975 (Figure 5.2).

### Nutrition Program for the Elderly

Under this Department of Health, Education Welfare's program, persons 60 years of age and older who meet certain criteria are provided with low cost, nutritionally adequate meals served in strategically located centers. Project groups are encouraged to use USDA designated "surplus foods" and abundant foods whenever practical.

### Institutional Feeding Programs

Some of the programs listed are institutional feeding programs. If no additional persons are fed, a subsidy to an established meal program must be reflected in (1) lower prices to recipients; (2) higher quality of menus; (3) higher quality service; or (4) a reduction of funds provided by the

TABLE 5.6

Estimation of Eligible Persons for the WIC Program 1977<sup>1/</sup>

Pregnant Women	1,367,850	5,471,400 total women, infants, and children 1 to 2 years of age
Infants (to 1 year of age)	1,367,850	
Children (1 to 2 years of age)	2,735,700	
<hr/>		
Children (3 years of age)	1,453,650	6,925,050 total women, infants, and children ages 1, 2 and 3 years of age
<hr/>		
Children (4 years of age)	1,453,650	8,378,700 total women, infants, and children ages 1, 2, 3 and 4 years of age

<sup>1/</sup> At 200% of poverty level.

<sup>2/</sup> Listed in priority order by critical group.

SOURCE: [58], p. 11.

TABLE 5.7

## Participation in the WIC Program

	June FY 1974	June FY 1975	June FY 1976	Transition Quarter (Sept.)	June FY 1977
Women	38,137	77,367	97,793	118,386	187,233
Infants	62,092	150,474	146,307	162,181	240,975
Children	105,282	270,358	348,168	375,843	520,182
Total	205,511	498,199	592,268	656,410	949,390

SOURCE: [58], p. 28.



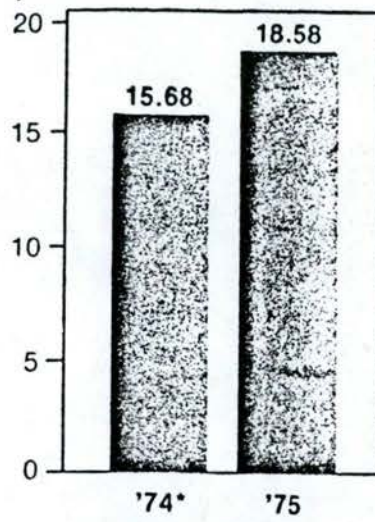
TABLE 5.8

## WIC Program Funding

	Authorizations	Program Expenditures (Rounded)
FY 1974	\$20 million	\$10.4 million
FY 1975	\$100 million	\$89.2 million
FY 1976	\$250 million	\$142.7 million
TQ	\$62.5 million	\$44.8 million
FY 1977	\$250 million	\$275.6 million Preliminary
FY 1978	\$250 million	Unknown

SOURCE: [58], p. 28.

FIGURE 5.2 Average Monthly Benefits Per WIC Participant (Dollar)



\*Data is for last six months of fiscal year.

SOURCE: [57], p. 14.

sponsors ([21], p. 58). The effect of a subsidy in food stamps or in-kind, a cash grant or the subsidization of lower food prices is determined by the institutions' management policies. Depending on the purpose of the subsidy, management has to be influenced by contract, or otherwise, to help to realize the program's objectives. The effectiveness of the subsidy in increasing food consumption can be enhanced if the subsidy enables additional programs to feed more persons and promotes the development of new feeding projects. A negative influence of extended institutional feeding on home consumption does not seem probable because participants in these programs are mostly from low-income families. "From the nutritionist's standpoint, a well-managed institutional feeding program provides, in any event, an opportunity for improving, if not increasing, the participants' food consumption" ([21], p. 58).

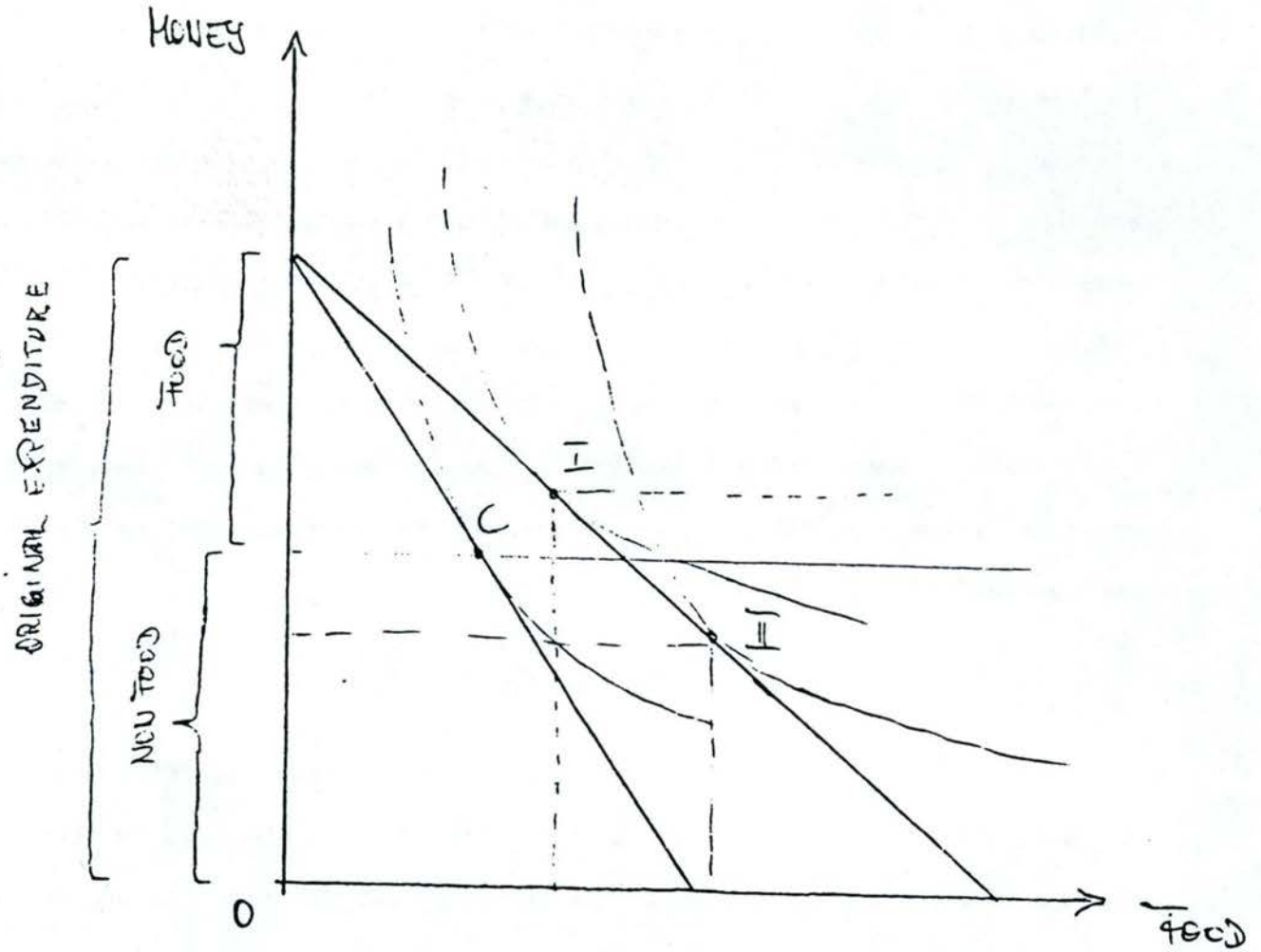
#### Price Subsidies for Food

A subsidy to encourage food consumption and improve nutrition may be given in the form of a reduction in the price of food. We have to differentiate between subsidies restricted to groups of participants and a general price subsidy.

The effects on a family's consumption vector,  $C$ , of a price subsidy is shown in Figure 5.3. As long as food is not an inferior good, there will be an increase in food consumption, normally accompanied by an increase in nonfood-consumption (situation I). However, a reduction in nonfood consumption is also possible (situation II). The increase in food consumption depends on the price elasticity of the family's demand for food if

$\eta_{FP} < 1$ : a price subsidy results in more consumption of food and nonfood; the price subsidy is less than 100 percent effective;

FIGURE 5.3 Effects of a Price-Subsidy on Consumption of an Individual Family



$\eta_{FP_F} = 1$ : the price subsidy would be 100 percent effective since the family spent the same amount of money for food;

$\eta_{FP_F} > 1$ : the price subsidy is more than 100 percent effective since the family increases its expenditure on food.

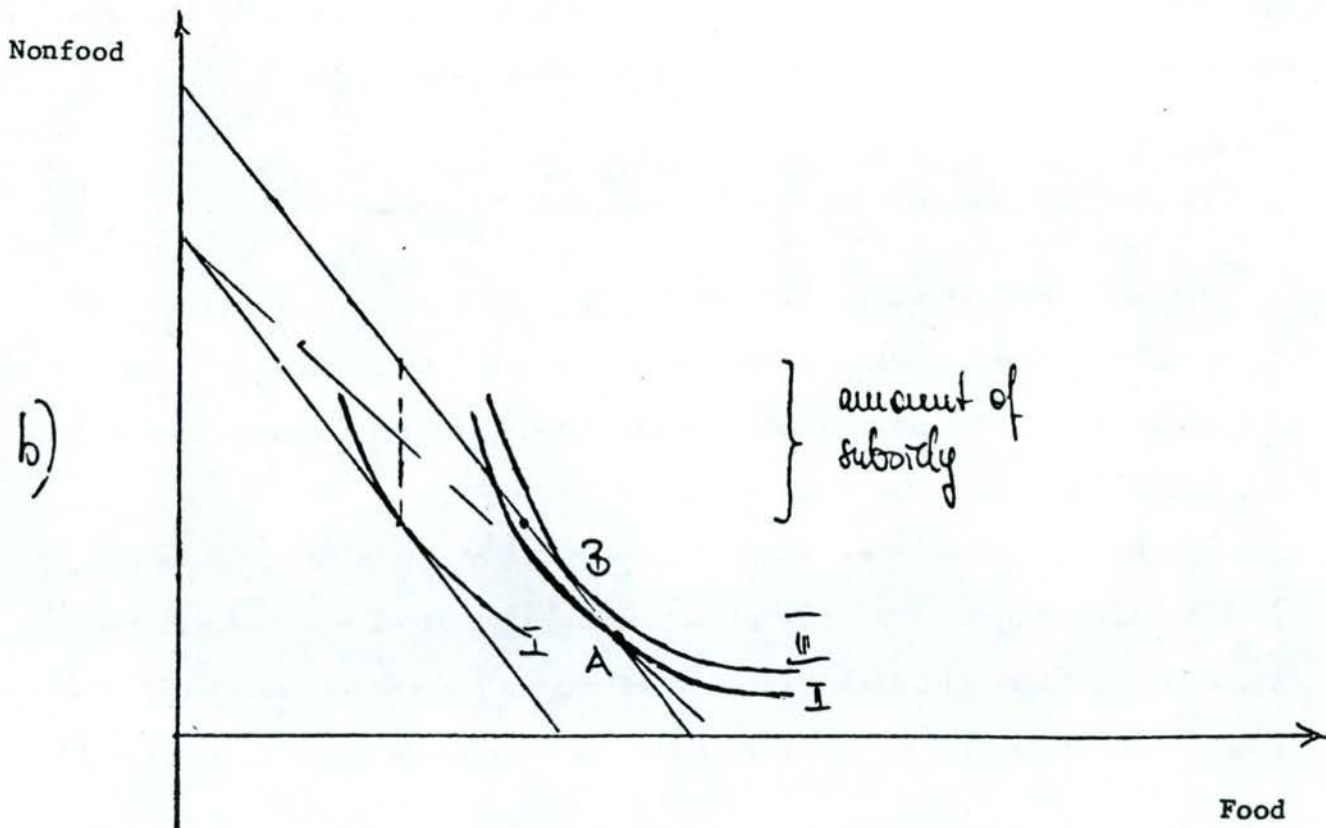
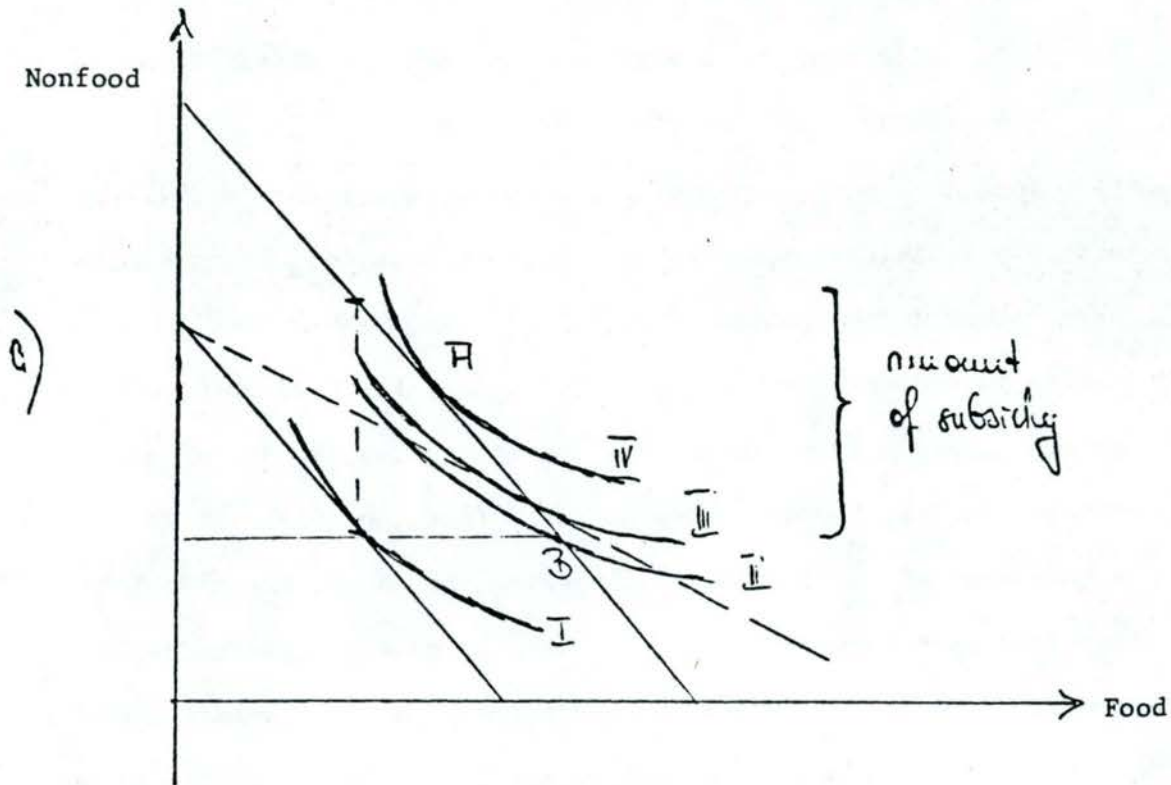
The demand for food in the aggregate probably has an elasticity of  $< 1$ , but there are probably individual foods for which the demand is  $\geq 1$ , at least for families in lower income groups ([4], p. 25). An unrestricted price subsidy, that is price subsidies for all and not only for households who may meet certain eligibility criteria, "is itself a selective device as between consumers in its effects on consumption" ([21], p. 63). If we neglect the influence of the subsidies' financing and assume the elasticity of demand for food decreases with income, a general subsidy affecting all food prices will increase consumption relatively more among low-income households. But, the aggregate benefit to low-income households, measured by an equivalent increase in income, will probably be smaller because their aggregate consumption will be less than that of high-income households.

#### IV. COMPARISON OF ALTERNATIVE METHODS OF SUBSIDIZING FOOD CONSUMPTION (EXCEPT FOOD DONATION AND INSTITUTIONAL PROGRAMS)

Different methods of subsidizing food consumption, holding the amount of subsidy constant, should be compared with respect to their effects on (1) food consumption; (2) the diversion of the subsidy to nonfood uses; and (3) households' incentives to participate.

Two different indifference-curve systems are shown in Figure 6.1a and b, with b representing the unrestricted consumption adjustment even in the case of a purchase requirement for food stamps as previously mentioned. The same amount of subsidy is least effective in increasing food consumption if

FIGURE 6.1a,b Effects of Different Methods of Subsidizing Food Consumption

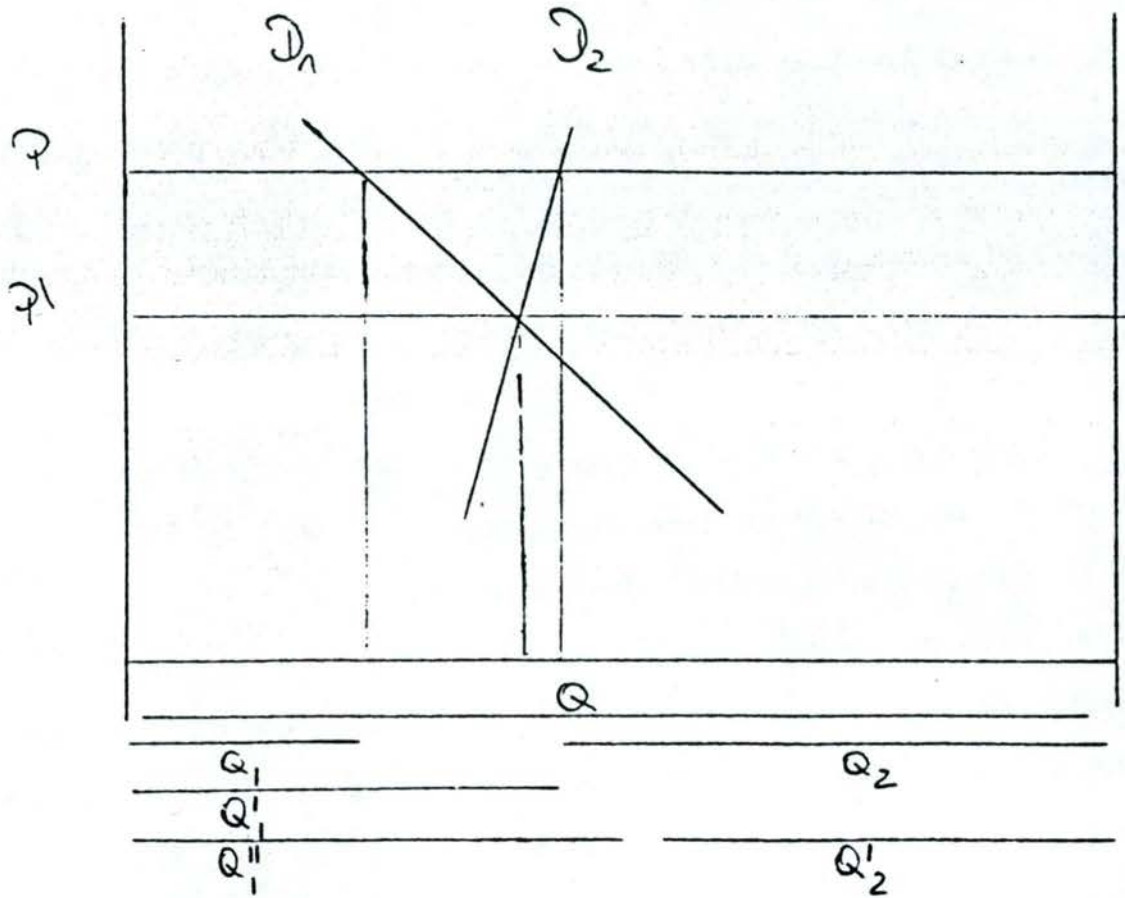


it is given in the form of a cash transfer (Figure 6.1a (A)). In that case, the greatest diversion to nonfood consumption occurs; the greatest increase in the demand for food can be effected by imposing a purchase requirement CD (Figure 6.1a (B)). Referring to the second indifference-curve schema (Figure 6.1b), the most effective method of subsidizing and increasing food consumption is the price subsidy (A); the effects on food consumption of a cash transfer and of a measure with a purchase requirement (CD), and bonus stamps (DB), are identical (B) since the adjustment of the consumption patterns falls along the lower part of the "new" consumption boundary. No diversion to nonfood items will occur. The incentive to participate in the subsidy-program is greatest in the case of a cash grant, which in Figure 6.1b leads to the same level of utility as the purchase requirement adjustment ( $III > I$ ).

If we prefer the consumer-participant decide the amount of various goods he/she wants to consume, and if we consider the different price demand elasticities of individual food commodities, the results of the above analysis lead to the recommendation of price subsidies as being "the most feasible for increasing family consumption of individual foods for which demand is not too inelastic" ([21], p. 59).

The effects of a price subsidy, or more exactly of that part of the subsidy that is not directed to nonfood uses ("effective subsidy") on market prices will be examined in a supply-surplus-market situation, where the supply-price,  $P$ , is supported at a certain level (Figure 6.2). First we consider a subsidy program with restricted participation. In that case, we have the demand curves of participants,  $D_1$ , and nonparticipants,  $D_2$ . At the supported price level, the participants, without subsidy, buy  $Q_1$  of food and the nonparticipants,  $Q_2$ . The surplus consists of  $Q - Q_1 - Q_2$ . The subsidy, if it is large enough, enables participants to buy some or all of the surplus ( $Q_1^1$ ).

FIGURE 6.2 Food Price Subsidies, Market Price and Surplus Disposal





In the case of a general price subsidy, the subsidy will lead to more consumption of the food supply surplus. At  $P^1$  the entire surplus will be kept off the market. If we can differentiate between the two demand elasticities of the buying public ( $D_2$  is less elastic than  $D_1$ ), more of the surplus will accrue to the group with the more elastic demand, normally the low-income groups ( $Q_1^2 > Q_2^1$ ).

#### V. APPLICABILITY OF SELECTED FOOD SUBSIDY MEASURES TO THE EUROPEAN COMMUNITY

##### Aims and Posture of the European Community Agricultural Policy as Reasons for Consumer Subsidies

Article 39 of the European Community Foundation Treaty (Rome 1957) enunciated, among others, the aim of securing "appropriate consumer prices" for food. However, the main thrust of European Community agricultural policy, until the present, has been the securing of appropriate farm incomes.<sup>1/</sup> The main instruments of this policy have been (1) target prices for agricultural commodities which have been above world market prices in most years (a notable exception: 1974-75); and (2) border protection measures.<sup>2/</sup> The use of these instruments resulted in high farm prices being correlated with high consumer prices for food. Since a substantial reform of the agricultural policy, such as a conversion to a system of direct income transfers for farms [36] [38], is not foreseeable in the near future, consumption subsidies may be justified as a means of realizing one of the treaty's objectives and, equally

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<sup>1/</sup> An exact definition of an "appropriate income" cannot be given. It is widely interpreted as an income which enables people working in the agricultural sector to participate in the development of the other economic sectors.

<sup>2/</sup> A variable levy-system is established at the community-frontier which covers the differences between the (higher) community prices and world market prices ([41], p. 6).

important, rectifying distortions on the demand side caused by artificially high prices for food relative to other nonagricultural goods and services. The relation of consumer prices within the agricultural sector may also be distorted by farm-income oriented producer prices so that consumer-subsidies which attempt to stimulate market (price) performance abjuring EC-price policy, may lead to a higher level of welfare in the European Community.

The relatively high farm prices have stimulated a rapid increase in the production of farm commodities accompanied by rapid growth in agricultural-productivity and a slowly increasing demand for food.<sup>1/</sup> The consequence of the high-farm-price-policy is a growing surplus of agricultural products. Many studies have been addressed to the measures required to dispose of these surpluses by policies affecting the supply side of the food market. Consumer subsidies could be a measure to help cope with this problem on the demand side.

Furthermore, agricultural policy is an integrated part of general economic and social policy of the European Community. "The extent to which definite objectives are established for food subsidy programs in connection with aims of over-all government economic policy depends on how definite a content is given to these aims" ([21], p. 41). Without discussing the content of the European Community policy aims, it is obvious that consumer

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<sup>1/</sup> Total food consumption within the European Community has not increased markedly because: (a) as total population has increased only very slightly in recent years, trends in consumption are affected, above all, by consumers' habits. (b) There has been a slight increase in per-capita consumption of vegetables, citrus fruits, cheese, wine, eggs and meat; total consumption of sugar, fresh milk products and butter has remained stable; a drop in total consumption has taken place in bread grains, potatoes, all fruit and vegetable oils; per-capita consumption of milk products (except cheese), sugar, some apples, pears, and vegetable fats (market-sectors with the structural surpluses) has decreased ([40], p. 98-99).

subsidies have to be seen in the context of an anti-inflation policy, a full-employment policy, a broader income redistribution policy and a health policy.

### Food Price Subsidies for the European Community

Since the comparison of alternative methods of subsidizing food consumption has pointed to the superiority of a price-subsidy, if it meets certain criteria (see pp. 69 ff.), we will first consider a general price-subsidy and some variants thereof.

#### General Price Subsidies

The effects of a general price subsidy on the consumption of an individual household has been discussed. The most important piece of information needed to determine the effect on the aggregate changes in demand is the price elasticity,  $\eta$ .

The price elasticity for food will vary among different income groups, income elasticities vary, as well. Egbert and Hiemstra ([30], p. 62) using data from the 1965 United States Household Food Consumption Survey, found the income elasticity to be 0.1 for households with incomes under \$3,000 and 0.35 for households with incomes between \$3,000 and \$5,000. Therefore, a weighted average of price-elasticities has to be constructed.

Assume there are two income groups ( $R$  = rich,  $P$  = poor,  $S = R + P$ ) with different consumption shares ( $\sigma_P$  and  $1 - \sigma_P$  respectively). The overall elasticity is

$$(1) \quad \eta_S = \sigma_P \cdot \eta_P + (1 - \sigma_P) \eta_R .$$

If the initial price is equal to 1, the price reduction, and from this the amount of price subsidy necessary to stimulate more consumption  $C$  as a fraction of previous total consumption can be determined

$$(2) \quad C = \eta_s \cdot dp^d$$

$$(3) \quad dp^d = \frac{C}{\eta_s},$$

where  $dp^d$  is the percentage change in the demand price ([35], pp. 40-41). Since realistically a surplus situation (and no imports) and constant farm prices are assumed, there will be no change in the supply and the supply price.

The fiscal cost,  $S$ , of the subsidy as a fraction of the initial expenditure on the commodity can be ascertained from equation (4):

$$(4) \quad S = dp^d (1 + \eta_s \cdot dp^d).$$

Referring to equations (3) and (4):

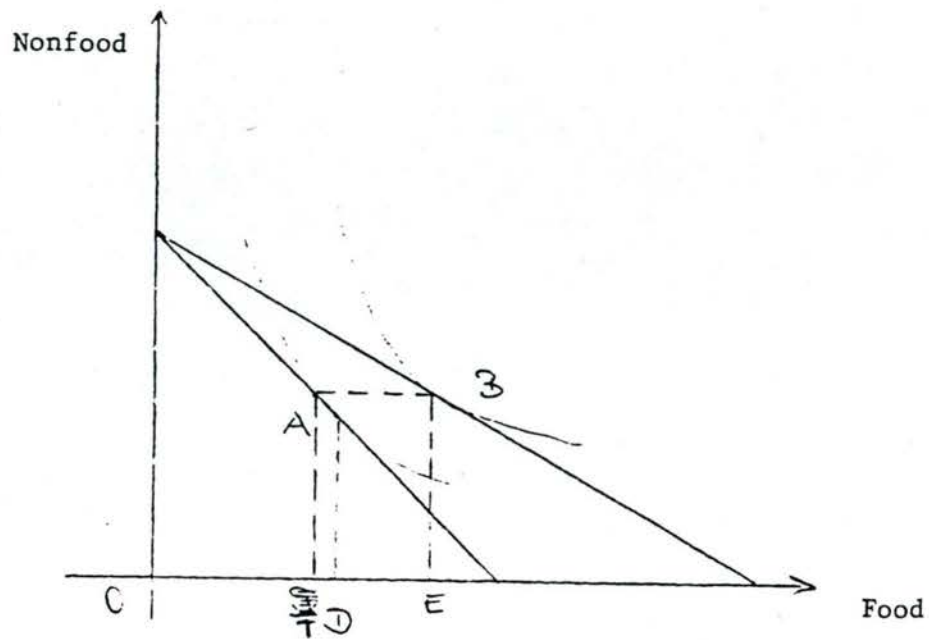
$$(5) \quad S = \frac{C}{\eta_s} (1 + \eta_s \cdot \frac{C}{\eta_s}) \text{ and}$$

$$(6) \quad S = \frac{C}{\eta_s} (1 + C).$$

Graphically, the cost of increasing food consumption from OD to OE are represented by FE (Figure 7.1). The overall costs are equal to FE times the number of households.

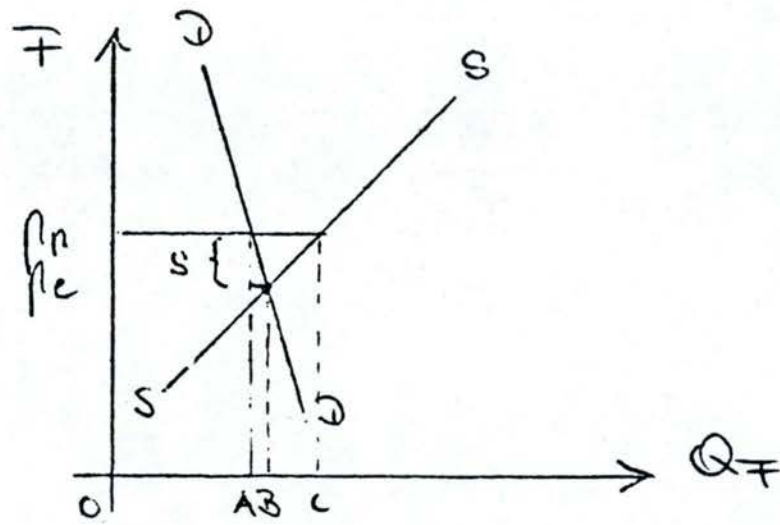
Judging from the simulating of market results as they would occur in the absence of a producer-price policy, thus alleviating distortions at least on the demand side of the agricultural "market," effects of a general price subsidy for food would have a quite different character from effects of present policy tenets. The aim of a general price subsidy is not to stimulate consumption by a certain amount, but to realize the market price for consumers which would result from a "free agricultural market." In Figure 7.2, the impact of a subsidy for consumers is shown schematically. The support of the producer-price  $P_p$  induces a reduction in the consumption

FIGURE 7.1 Fiscal Cost of a Price Subsidy to an Individual Household



SOURCE: [35], p. 48.

FIGURE 7.2 Effect of a Consumer Subsidy



in the consumption of food by AB; since the supply at price  $P_p$  is equal to OC, a surplus of BC results from the price support. A subsidy (S) would enable the consumers to buy the amount of food (AB) which equals the "market quantity" without producer-price support.

#### General Price Subsidy with Respect to the Target Group

The case of reaching a certain target group is included in the process of reaching all segments of the population through a general price subsidy to stimulate consumption. This general subsidy policy may be used whenever it is impossible to subsidize consumption of the target group without subsidizing the nontarget group.<sup>1/</sup> The fiscal costs of increasing the consumption of the target group through a general price subsidy are, however, generally prohibitively high. If we work out an example using the following assumptions:

$$\eta_P = -0.2$$

$$\eta_R = -0.1$$

$$\sigma_P = 0.2$$

$$\sigma_R = 1 - \sigma_P = 0.8$$

$C_P = 0.1$ , implying an intended expansion of the food consumption of group P by 10 percent,

the fiscal costs S are 0.53.<sup>2/</sup> The cost per additional unit of food consumed by the target group as a fraction of the food's pre-program price, written as

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<sup>1/</sup> If it is possible to subsidize the target group separately, the considerations are principally the same as in the case of a general price subsidy, differing only in the use of the demand elasticity.

$$\underline{2/} \quad dp^d = \frac{C}{\eta_P} \times \frac{0.1}{0.2} = 0.5$$

$$\eta_S = 0.2 \times 0.2 + 0.8 \times 0.1 = 0.12$$

$$S = 0.5 (1 + 0.12 \times 0.5) = 0.53$$

$$s_P = \frac{S}{C\sigma_P}$$

is 26.5.<sup>1/</sup>

The value of  $s_P$  shows that the cost of delivering a unit of food to the target group exceeds the unit price of that food, substantially, a result which is not surprising. "Both in theory and by hard evidence it has been found impossible to fine-tune food assistance programs so that every additional unit of food delivered is converted into a full additional unit of food consumed" ([35], p. 42). Furthermore, the result reveals that the fiscal cost of an additional unit of consumption will increase the smaller the target group's share of overall consumption is. "The application of such a program (general price subsidy to increase the consumption of a target group) would be least desirable in a middle-income country with a large share of the population already receiving adequate nutrition . . ." ([35], p. 42), a situation which we can assume for the countries of the European Community.

#### General Price Subsidy with Respect to Selected Products

Instead of subsidizing food in the aggregate, selected products may be subsidized. The criteria for their selection may vary depending on the main objective of the subsidy. The food's character as a "basic need" for adequate nutrition, the surplus supply of a product, the nutrition and health related aspects of the commodity, the possibility of controlling subsidized prices, the degree of product-homogeneity or the market structure of the

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$$\frac{1/}{s_P} = \frac{0.53}{0.1 \times 0.2} = \frac{0.53}{0.02} = 26.5$$



food's distribution channels (referring to the number of potential subsidy recipients) are possible criteria individually or in combination. "Consumption, production and marketing objectives may diverge, however, when narrowed to individual commodities" ([21], p. 65).

Using a formula similar to the one used previously, we now have to determine the price-elasticities of the selected products to find out the necessary price reduction to stimulate an increase in consumption of these products  $C_n$  with  $n = 1 \dots n$ .

$$(9) \quad dp_n^d = \frac{C_n}{\eta_n} .$$

Two modifications may be considered. First, if the selected products are not surplus-products, the increase in the supply price has to be calculated as well ( $E$  = elasticity of supply).

The aggregate equilibrium condition may then be viewed as:

$$(10) \quad \eta_n dp_n^d = \sum_n \cdot dp_n^s ,$$

so that the fiscal costs  $S$  are

$$(11) \quad S = (dp_n^d + dp_n^s)(1 + \eta_n \cdot dp_n^d) .$$

Second, if the subsidized product  $n = 1$  and the unsubsidized product  $m = 1$  are substitutes (butter and margarine, for example), the price subsidy necessary to stimulate an increase in consumption of  $C_n$  will be smaller; a part of the increase in consumption is the result of the directed demand from  $m$  to  $n$ .

$$(12) \quad C_n = \eta_n \cdot dp_n^d - \frac{dx_{n/x_n}}{dx_{m/x_m}} \cdot \frac{dx_{m/x_m}}{dp_{n/p_n}} \cdot dp_n^d$$

with  $\frac{dx_n/x_n}{dx_m/x_m}$  as the relative change of the quantity purchased of the subsidized product (n) induced by the relative change in the quantity purchased of the unsubsidized product (m).

$\frac{dx_m/x_m}{dp_n/p_n}$  is the cross-price-elasticity of demand with respect to  $p_n$ .

An example of a selected product oriented subsidy program, although it was not intended to increase consumption, can be found within the European Community. In 1974, a subsidy program "for the purpose of reducing, or preventing or limiting increases in food prices in the United Kingdom" (Prices Act of 1974) was instigated covering six basic food products: milk, ordinary white bread, butter, cheese, tea and household flour. They represented about 14 percent of the food component of the retail price index in 1975.

This policy has to be seen in the context of the United Kingdom becoming a member of the European Community, ([37], p. 54). The application of the Common Agricultural Policy not only influenced the cost of living because of increasing food prices, but also had secondary effects which arose from demands for higher wages and impacts on income distribution.

In the 1974-75 fiscal year, subsidy expenditures amounted to 518 million £, in 1975-76, to 572 million. Under the scheduled phase-out of the subsidy program, 43.4 million £ were devoted to food-subsidies in 1977-78, augmented by about 180 million £ in July 1977 ([34], p. 5).

The subsidy program payments were generally made to firms at the processing stage with the greatest degree of market structure concentration,

in order to minimize the number of recipients. Several control mechanisms were introduced to ensure subsidy payments resulted in a reduction of retail prices.

The effect on the retail-price-index increase is shown in Table 7.1. The highest point reduction for all items and for food was achieved in the first quarter of 1975. The indirect effects of limited (food) price inflation on wage demands should not be forgotten, since this is one source of cost-push inflation. One may expect an income redistribution effect from food subsidies because of different households expenditures on subsidized foods by different income classes (Table 7.2 and 7.3). "Distribution of subsidy benefits is far more sensitive . . . to family size, particularly the number of adult members, than it is to income" ([34], p. 10). But, since the subsidy benefits are a greater proportion of low-income consumers' income and the program's funding is assumed to come from the steeply progressive income tax revenues, "the policy tends to redistribute income from households with higher incomes to those with lower incomes" ([34], p. 10).

#### Group Oriented Food Assistance Programs for the European Community

##### Food Stamp Program

A food stamp program is a possible means of increasing food consumption of a limited population group, defined by income and family size [31]. If the desired level of food consumption of the considered household is  $OF_1$ , the household will receive a food stamp allotment of  $OF_1$  by paying  $OA$  (Figure 7.3). The cost per unit of food delivered to the target household would be less than the price of the food ([35]). Considering that this optimal food stamp plan would require perfect knowledge of the preference-patterns of all target households, a suboptimal plan could be adopted which

TABLE 7.1

Recorded Retail Price and Food Price Indices, 1974 to  
First Quarter 1977, and "Point Reduction" Achieved by Food  
Subsidy Expenditures

(January 1974 = 100)

Recorded <sup>a/</sup>			Reduction <sup>a/</sup>	
1974	RPI	Food	RPI	Food
QI <sup>b/</sup>	101.4	101.0	.4	1.5
QII	107.5	104.5	1.0	3.9
QIII	110.2	106.4	1.1	4.6
QIV	115.1	112.7	1.5	5.9
<u>1975</u>				
QI	122.0	121.9	1.6	6.5
QII	133.6	133.1	1.4	6.0
QIII	139.4	136.6	1.4	6.0
QIV	144.2	141.4	1.4	5.9
<u>1976</u>				
QI	149.4	151.4	1.4	5.7
QII	154.9	156.8	1.2	5.3
QIII	158.5	158.7	.9	4.0
QIV	165.8	172.7	.5	2.0
<u>1977</u>				
QI	174.1	184.7	.4	1.9

a/ Average of monthly figures.

b/ First quarter figures for 1974 reflect effect of existing subsidies on milk and butter.

SOURCE: [34], p. 6.

TABLE 7.2

Household Expenditures on Subsidized  
Foods According to Income Groups, 1974

(Pence per person per week)

Expenditure on subsidized Foods	Gross Weekly Income of Head of Household				
	100 & over	70 & under 100	41 & under 70	23 & under 41	Less than 23
Milk	24.19	23.43	22.93	22.00	23.22
Natural Cheese	10.90	9.82	7.99	7.13	7.41
Butter	7.94	8.20	7.59	7.61	7.19
Bread	12.32	12.73	15.77	17.49	17.99
Flour	1.26	1.93	1.96	2.19	2.61
Tea	4.00	3.61	4.83	5.63	6.39
Total	61	60	61	62	65
As a percentage of total food expenditure	17.6	18.2	19.9	20.4	22.2

SOURCE: [34], p. 8.

TABLE 7.3

Absolute Subsidy Benefits Realized According to Income Class, 1974<sup>a/</sup>

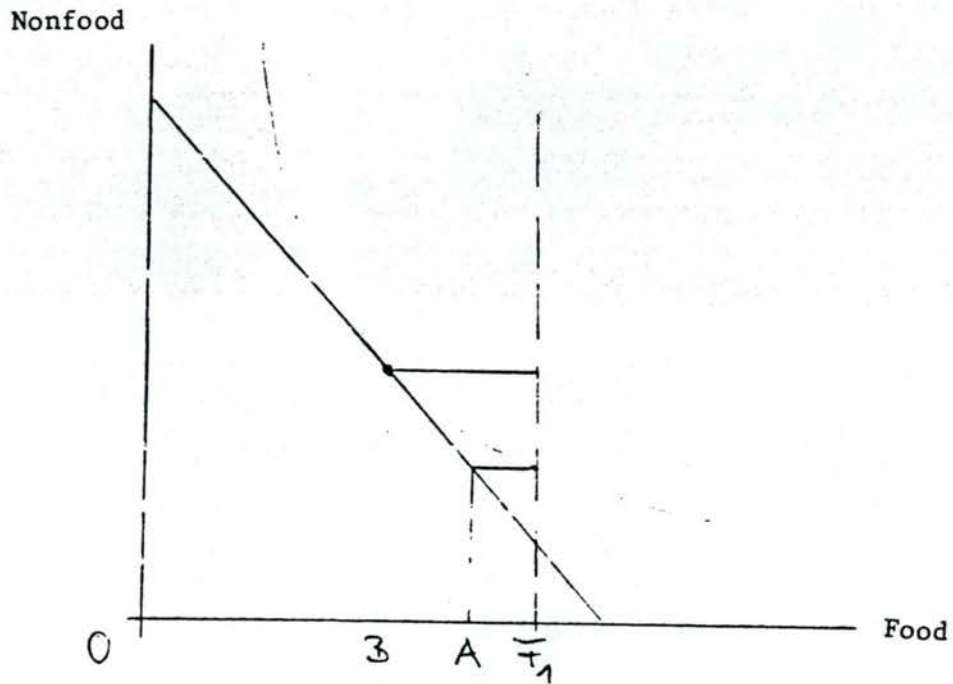
( per year)

Non-retired household	Annual Household Income						
	381-566	557-815	816-1193	1194-1748	1749-2560	2561-3749	3750-5489
1 adult	9	9	8	9	8	8	8
2 adults	19	19	16	17	16	17	15
2 adults, 1 child	-	-	17	19	20	21	21
2 adults, 2 children	-	-	-	26	27	27	27
2 adults, 3 children	-	-	-	27	31	34	32
2 adults, 4 children	-	-	-	45	29	38	40

<sup>a/</sup> The two extreme income categories have been deleted.

SOURCE: [34], p. 9.

FIGURE 7.3 Optimal and Suboptimal Food Stamp Program



SOURCE: Adapted from [35], p. 47.

would contain the same allotment, but a charge (= purchase requirement) of only OB, equal to the household's normal expenditure on food. As the previous analysis of the United States Food Stamp Program has shown, even this "suboptimal" approach cannot be realized if a large number of households are involved. There will be households whose customary level of food expenditures is higher than the stamp allotment and households whose level is lower.

In the first case, the bonus stamps release income previously spent on food for other purposes. The increase in the amount of food purchased is the result of an effective increase in disposable income (by the value of the bonus stamps). Because of a marginal propensity to consume food out of this "income grant" ([34], p. 21) ( $MPC_F$ ) smaller than one,  $\frac{1}{}$  every unit of bonus stamp value would result in an increase in food consumption of these households according to their  $MPC_F$ . If the normal expenditure on food is smaller than the allotment, then food expenditures rise by the difference between the allotment and the normal expenditure since all of the increase in disposable income in form of the bonus stamps has to be spent on food. "The consumption choices for this category of stamp recipients might then be expected to be somewhat similar to those made by households with higher earned disposable incomes, i.e., greater consumption of more price-elastic items such as meat" ([34], p. 22).

Altogether, estimates for the United States indicate that bonus stamps may be effective in increasing food demand by as much as 50 percent for user households; this effectiveness can reach 65 percent, if the households who have income "freed" by bonus stamps (were spending more than the purchase requirement on food), spend about 30 percent of this income supplement on food.

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$\frac{1}{}$  Estimates for the United States range from 0 to 30 percent ([34], p. 22).



The fiscal cost of a food stamp program depends on the cost of bonus stamps, the participation rate, and the administrative costs. The economic effects, described in the chapter evaluating the United States Food Stamp Program, may be expected to be similar.

#### Cash/Food-Donation Programs for Particular Population Groups

One could think of programs similar to the National School Lunch Program or the School Breakfast Program in the European community. One can also put special programs for elderly people, for hospitals, or the military in this category. All would increase food consumption and reduce food surpluses unless they provided equivalent or higher quantity replacements for food consumed at home.

#### Summary/Conclusions

In view of the objectives of the European Community as enunciated in its foundation-treaty of Rome and under the present and future circumstance of growing European Community surpluses of farm commodities, the introduction of food subsidy programs appear to be indicated. After analyzing the United States Food Stamp Program as the most important example of food subsidy program in an advanced economy and discussing other selected measures designed to subsidize food consumption, we considered some aspects of the applicability of these instruments to the European Community. It should have become obvious that the first step in the consideration of a subsidy program or programs has to be an intensive discussion of its (their) intended target(s), because certain forms of subsidies reach specific targets better than others. Potential conflicts between targets should at least be noted and if possible, be avoided to improve the degree of realization of

the targeted objective. The most important piece of information needed to calculate the amount of the subsidy to be paid individual households and the fiscal costs of the programs are the price-elasticities of demand for food and individual foods by consumers and population groups, mainly defined by income classes and family size.

Referring to the individual instruments, we may say (1) that general price subsidies to increase consumption to a certain level, perhaps by a specific small population group, do not appear to be desirable in a middle-income society like the European Community. They result in additional market distortions on the demand side, and may be very cost-intensive.

(2) Instead of subsidizing all food products, the support of consumption of selected foods may be a more applicable type of consumer subsidy. For the selection of subsidized products, the single most important principle to consider is "that it is easier to increase the consumption of foods people want than of foods that they do not want" ([2], p. 66). The establishing of a European Food Stamp Program would probably have a small but measurable expansion effect on the demand for food. The advantage of such a program lies in its greater aptitude of reaching people for whom a lack of purchasing power imposes a primary limitation on the adequacy of diets. But the experience gained under the United States Food Stamp Program indicates that nutritional benefits of such a program may be ambiguous. (3) A combined food donation/cash program for specific groups of the population can be a supplemental program, but its impact on the expansion in the demand for food should not be overestimated. These programs can be a part of demand policy but nutritional, nutrition-educational, and social objectives will be the most important reasons for introducing these instruments.

2  
The operation of a subsidy-program for selected foods in the United Kingdom, relatively successful in fighting one source of inflation, the so-called "Christmas-Butter-Action" of the European Community at the end of 1977<sup>1/</sup> and the initiation of reduced prices for school milk, indicate the willingness of the European Community to accept and use consumer subsidies. The applicability of consumer subsidies as part of an integration policy can be augmented with the enlargement of the European Community to twelve countries, including Spain, Greece, and Turkey. Temporary limited subsidies for (selected) food(s) sold in these countries may ease the process of consumer adjustment to the new price level of the European Community.

ke  
11/29/78

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<sup>1/</sup> During the period from November 21, 1977 to December 24, 1977, butter was sold at a reduced price to all consumers in the European Community. The reduction amounted to 70 u.a./100 kg; 70000 t were allocated to this measure. (FRG 24000 t, France 27000 t, Italy 6000 t, Denmark 2500 t, Ireland 2000 t, Netherlands 3000 t, Belgium/Luxembourg 5500 t)([59], p. 394).

Appendix: Estimating Participant Benefits<sup>1/</sup>

The distribution of the food stamp bonus into general purchasing power, specific purchasing power, and waste can be determined using a Cobb-Douglas utility function assuming identical preferences of the eligible households; constant and unitary price and income elasticities for the participants; constant work-leisure patterns; neither resale of the in-kind transfers nor use for nontransferred goods and services.

The Hicksian equivalent variation of net recipient benefits  $V$  can be stated as

$$(1) \quad V = \left(\frac{p_f q_f}{\delta}\right)^{\delta} \left(\frac{Y + B - p_f q_f}{1-\delta}\right)^{1-\delta} - Y$$

with

$\delta$  = proportion spent on food in the absence of an in-kind transfer program;

$p_f q_f$  = food expenditures by food stamp participants, assumed equal to the food coupon allotment (A);

$Y$  = participant's household income (median income);

$B$  = bonus stamps value;

$Y + B - p_f q_f$  = nonfood expenditures (determined by the difference between median income  $Y_M$  and the purchase requirement (R)).

Equation (1) can therefore be written as

$$(2) \quad V = \left(\frac{A}{\delta}\right)^{\delta} \left(\frac{Y_m - R}{1-\delta}\right)^{1-\delta} - Y_m$$

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<sup>1/</sup> ([7], pp. 71-72; [18], pp. 867-868).

if  $A > \delta (Y + B)$

$$(3) \quad V = B$$

if  $A \leq \delta (Y + B)$ .

Waste occurs if there is a difference between the food stamp bonus (= potential benefit) and  $V$ , the equivalent variation estimate of recipient benefits:

$$(4) \quad W = B - V.$$

