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ANTI-POVERTY DISTRIBUTION OF FOOD STAMP PROGRAM BENEFITS: A PROFILE OF 1975 FEDERAL PROGRAM OUTLAYS*

Marilyn G. Kletke

INTRODUCTION

The Federal Food Stamp Program is consistently under fire for failure to perform according to stated goals. This paper presents a brief overview of the program, and constructs a partial profile of the 1975 federal outlay for bonus stamp coupons. The analysis surveys food stamp benefits across states with the intent of determining whether or not these benefits appear to be reaching states with the greatest numbers of poor people. A cursory review of rural-urban allocations indicates a basic inequity which needs further consideration.

The first food stamp program came about in May of 1939 and lasted for some four years until the war sharply increased demand for food supplies.

The food stamp program as we know it today has its roots in an experimental plan set up by President John F. Kennedy in 1961. This plan was implemented in several pilot areas and was designed to clear the market of surplus food supplies and to raise nutritional food purchasing power of participating low-income families.

The Food Stamp Act of 1964 (P.L. No. 88-525) was synthesized from the earlier groundwork as a part of President Lyndon B. Johnson's "war on poverty" [14] and established basic guidelines under which today's food stamp program operates. Rules are set up which describe how the federal government may distribute food stamp bonus coupons among low income households. As a nation-wide expansion of Kennedy's pilot program, this represents the most important thrust of governmental efforts today to alleviate domestic hunger and malnutrition.

In the early 1960s government expenditures on the program were relatively small. As the program grew and appeared to function reasonably well, government expenditures grew rapidly and in 1975 were in excess of \$4.1 billion. Recently the food stamp program has accounted for approximately 40 percent of the total budget of the Department of Agriculture, and has consequently been the object of extensive congressional and public attention [14].

Much of the voiced concern revolved around whether or not the food stamp program does, in fact, fulfill its stated goals. One of these goals is "... to assure low-income households the opportunity to attain a nutritionally adequate diet ... by increasing their food purchasing power ..." [14].

Extensive research is being carried out in the area of food stamps, and many lines of thought are being pursued by researchers. Hines [7] studied participation in the food stamp program and factors affecting participation. MacDonald [9] also examined the problem of low food stamp participation and reviewed remedial policies. Sullivan [13], Giertz and Sullivan [4], Clarkson [1] and Love [8] approached welfare aspects of food stamps. The USDA published numerous studies on the program's nutritional benefits [2] and expended considerable effort describing characteristics of food stamp households [10]. Food stamps were studied from the economic standpoint by Nelson and Perrin [11]. Some researchers, including Reese, Feaster and Perkins [12], focused on the program's income transfer effects. Feltner [3] summarized much of the problem with the food stamp program as it functioned prior to 1976. He stated that it has been severely criticized

Marilyn G. Kletke is Instructor, Computer/Analyst, Department of Agricultural Economics, Oklahoma State University.

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because it does not confine benefits to the truly poor and maintained that a specific goal of the revised 1976 food stamp program is to confine food stamp benefits to the poor. Other references containing useful bibliographies include Clarkson [1] and Hiemstra [5, 6].

CONCEPTUAL FRAMEWORK AND METHODOLOGY

Data Sources

Relationships discussed in this paper are handled on a state-by-state basis. Data used are on a per county basis, and computer tapes containing raw data were obtained from Fred Hines, ERS, USDA. Since county data are available on a national basis only on census years, 1970 county variables are used in conjunction with 1975 outlays. Effects from changes in county variables between 1970 and 1975, when aggregated over states, appear to have relatively little impact on results obtained. Two tapes were used: the Human Resource Profile Tape (1970) and the Federal Outlays Tape (1975). Computer programs written at Oklahoma State University and the Statistical Analysis System (SAS) developed by North Carolina State University were also used. There were initially 3,102 observations for counties, but 18 were discarded because of missing data.¹

Methodology

Food stamp benefits were surveyed across states with the intent of determining whether or not they are reaching states with the greatest numbers of poor people. Aggregate dollar amounts of benefits were used, and they compare in the same manner as do percentages. Since one goal of the food stamp program is to reach low-income people, it is assumed that areas containing many poor people should receive larger dollar amounts of food stamp benefits than areas where there are few poor people. Five variables defined as in the 1970 population census were used to reflect the relative poverty of states [15]:

- (1) poverty count
- (2) total dollar welfare payments
- (3) unemployment
- (4) number receiving welfare payments and
- (5) number of families below poverty level who are receiving welfare.

The specific procedure followed was:

- (1) Aggregate values over states for each of the above five variables and for food stamp outlays.

- (2) Examine relationships between food stamp outlays and each of the five variables listed above.
- (3) Consider urban-rural implications.
- (4) Summarize results.

EMPIRICAL RESULTS

Federal Food Stamp outlays and the five poverty reflector variables were aggregated over counties to obtain data for the fifty states and Washington, D.C. (Table 1).

If the poverty indicator variables are assumed to be absolutely accurate reflectors of poverty, then states should fall in exactly the same order when arranged by each variable in decreasing order of poverty. Clearly these variables cannot be that accurate. However, if they are reasonably good indicators of poverty, then the top, say, ten states designated by each variable might be expected to contain some of the same states. By the same logic, if food stamp expenditures are allocated equitably, then the top ten recipients should also include some of the top ten states as indicated by the poverty variables. Table 2 shows state rankings in decreasing order of poverty according to each poverty indicator variable and food stamp expenditures.

Table 3 shows, for each state in the top ten food stamp recipients, how many indicator variables hold this state in this position. In other words, for every state indicated by food stamp outlays as being among the ten states having the most poor people, it shows how many indicator variables also rate it in the top ten.

From this aspect, food stamp expenditures appear to be allocated fairly well to states most needing food stamps. Six of the top ten food stamp recipients appear in the top ten in all five indicator variables; one top ten food stamp recipient appears in the top ten of three indicator variables. This indicates that these nine states are properly receiving larger benefits than other states. However, one top ten food stamp recipient does not appear in any indicator variable: Kentucky. At first glance the question of why it should be in the top ten food stamp recipients, since it is not indicated by any poverty variable, is raised.

Equally interesting is Michigan, which appears in the top ten of three indicator variables, yet is not a top ten food stamp recipient. In addition, four states appeared in the top ten of one or two indicator variables, but were not top ten food stamp recipients. These states were Alabama, Massachusetts, North

¹ These 18 observations were comprised of Alaska, 6; Georgia, 1; Nebraska, 3; New Hampshire, 1; New Mexico, 1; Oregon, 1; Texas, 1; Virginia, 2; Wisconsin, 1; and Wyoming, 1.

TABLE 1. COMPUTED AGGREGATES FOR THE FIFTY STATES AND WASHINGTON, D.C.

State	Food Stamp Outlay	Poverty Count	Total Dollar Welfare Payments	Unemployment	Number Receiving Welfare Payments	Number Below Poverty Level Who Are Receiving Welfare Payments
	Dollars	Persons		Persons	Households	Households
1. Alabama	102,841,538	857,248	72,331,750	55,880	96,426	64,244
2. Alaska	4,807,327	31,984	4,016,150	8,123	3,959	1,571
3. Arizona	41,727,829	264,430	27,159,550	26,945	26,941	16,344
4. Arkansas	74,833,698	522,969	49,211,000	28,933	59,668	42,154
5. California	363,920,821	2,152,716	805,776,400	507,478	600,212	184,183
6. Colorado	44,908,587	263,224	48,033,800	36,357	43,888	21,955
7. Connecticut	33,741,546	212,187	57,824,700	45,527	37,260	12,623
8. Delaware	8,216,484	58,155	7,281,450	8,228	7,320	3,505
9. Washington, D.C.	30,000,000	123,109	19,392,200	13,137	15,066	8,687
10. Florida	200,947,996	1,088,225	91,889,950	94,977	119,096	65,205
11. Georgia	130,352,107	923,106	102,208,800	58,234	123,842	79,959
12. Hawaii	24,078,367	68,543	13,174,900	8,928	8,674	3,550
13. Idaho	9,990,122	91,578	10,217,900	14,142	9,427	5,048
14. Illinois	257,376,504	1,112,145	211,384,400	171,719	151,976	79,509
15. Indiana	57,518,938	493,379	37,336,550	87,069	42,715	19,287
16. Iowa	24,250,518	318,605	40,288,900	39,093	33,306	15,612
17. Kansas	12,210,677	275,497	32,403,500	34,311	29,543	15,614
18. Kentucky	133,113,917	718,313	70,178,300	52,836	76,728	51,795
19. Louisiana	149,090,802	932,671	115,425,850	65,941	132,750	89,484
20. Maine	31,285,546	131,271	19,614,500	15,864	17,806	8,071
21. Maryland	76,903,758	386,579	56,625,150	51,328	50,949	27,025
22. Massachusetts	68,779,457	473,200	171,094,550	91,250	119,455	38,057
23. Michigan	124,218,258	819,438	160,823,000	202,516	123,842	58,126
24. Minnesota	41,663,981	397,662	66,449,650	64,163	51,506	21,669
25. Mississippi	105,478,906	766,605	50,423,250	37,439	80,531	62,289
26. Missouri	127,927,258	672,092	101,752,250	78,092	106,795	58,030
27. Montana	10,838,512	91,669	10,236,150	16,041	10,071	5,304
28. Nebraska	11,066,649	187,306	16,723,050	16,052	16,078	7,539
29. Nevada	10,137,953	43,478	4,423,600	11,187	4,827	1,571
30. New Hampshire	11,058,213	59,431	7,149,950	9,809	6,066	2,434
31. New Jersey	127,331,594	573,674	178,310,750	113,594	105,827	38,877
32. New Mexico	47,509,540	226,782	20,597,700	19,443	20,521	13,947
33. New York	208,191,636	1,985,954	696,148,950	297,578	307,864	171,081
34. North Carolina	123,083,560	997,309	68,620,600	70,436	78,878	58,957
35. North Dakota	4,593,443	93,086	9,915,300	9,759	8,116	3,959
36. Ohio	248,241,950	1,041,350	145,602,500	170,678	141,287	73,935
37. Oklahoma	37,519,177	464,931	93,007,500	40,399	85,645	56,476
38. Oregon	56,532,166	234,522	37,763,750	58,300	34,791	16,457
39. Pennsylvania	170,453,431	1,227,794	267,166,400	175,400	192,207	91,130
40. Rhode Island	18,236,307	99,997	25,153,500	15,698	19,147	8,303
41. South Carolina	119,679,650	594,938	25,785,200	37,288	37,370	25,701
42. South Dakota	7,801,769	119,543	9,842,250	9,263	8,910	5,082
43. Tennessee	115,037,614	836,405	70,011,900	67,624	80,137	53,613
44. Texas	318,896,222	2,046,551	177,380,800	156,257	213,895	126,264
45. Utah	10,573,343	118,349	15,931,000	20,600	16,100	7,945
46. Vermont	9,409,953	51,621	9,724,300	7,233	7,808	2,980
47. Virginia	62,779,457	679,171	48,786,300	51,583	44,838	24,718
48. Washington	84,188,166	335,597	83,662,150	105,450	70,665	32,091
49. West Virginia	57,426,673	380,113	33,157,450	29,707	34,839	24,351
50. Wisconsin	29,295,286	420,581	51,571,750	70,379	47,090	20,742
51. Wyoming	2,982,325	37,264	3,430,550	6,091	3,714	1,916
Mean	27,101,347	531,399	89,223,957	68,519	75,615	37,626
Total	4,181,352,712	27,101,347	4,550,421,800	3,494,459	3,856,372	1,918,969

Carolina and New Jersey. It is interesting to note that Kentucky receives more food stamp benefits than any of these, but does not appear to have as great a need.

Table 4 shows correlations between food stamp expenditures and poverty indicator variables. According to these correlation coefficients, food stamp expenditures are most highly correlated with poverty count (.938). The variable least correlated with food stamp expenditure is total dollar welfare

payments, with a correlation coefficient of .735. The top ten poverty states, as indicated by the two variables with the highest correlation with food stamp expenditures, include nine common states and differ between North Carolina and Alabama. Nine of these states are top ten food stamp recipients; North Carolina and Alabama, however, are missing. Kentucky, which is in the top food stamp recipients is ranked 15th and 16th, respectively, by poverty

TABLE 2. STATE RANKINGS IN ORDER OF DECREASING POVERTY ACCORDING TO FOOD STAMP OUTLAYS AND THE FIVE POVERTY INDICATOR VARIABLES

Decending Order of Magnitude Dollar Food Stamp Outlays	Poverty Count	Total Dollar Welfare Payments	Unemployment	Number Receiving Welfare Payments	Number Below Poverty Level Who Are Receiving Welfare Payments
1. CA	CA	CA	CA	CA	CA
2. TX	TX	NY	NY	NY	NY
3. IL	NY	PA	MI	TX	TX
4. OH	PA	IL	PA	PA	PA
5. NY	IL	NJ	IL	LA	LA
6. FL	FL	TX	OH	GA	GA
7. PA	OH	MA	TX	LA	IL
8. LA	NC	MI	NJ	MI	OH
9. KY	LA	OH	WA	GA	FL
10. GA	GA	LA	FL	MA	AL
11. MO	AL	GA	MA	FL	MI
12. NJ	TN	MO	IN	MO	MI
13. MI	MI	OK	MO	NJ	MO
14. NC	MI	FL	NC	AL	OK
15. SC	KY	WA	WI	OK	TN
16. TN	VA	AL	TN	MA	KY
17. MI	MO	KY	LA	TN	NC
18. AL	SC	TN	MS	NC	AR
19. WA	NJ	NC	OR	KY	NJ
20. MD	AR	MN	GA	WA	MA
21. AR	IN	CT	AL	AR	WA
22. MA	MA	MD	KY	MN	MY
23. VA	OK	WI	VA	MD	SC
24. IN	WI	MI	MD	WI	VA
25. WV	MI	AR	CT	VA	WV
26. OR	MD	VA	OK	CO	CO
27. NM	WV	CO	IO	IN	MN
28. CO	WA	IA	AR	SC	WI
29. AZ	IA	OR	MI	CT	IN
30. HI	KA	IN	SC	WV	OR
31. OK	AZ	WV	CO	OR	AZ
32. CT	CO	KA	KA	IA	IA
33. ME	OR	AZ	WV	AZ	KA
34. DC	NM	SC	AZ	KA	NM
35. WI	CT	RI	UT	NH	CT
36. IA	NE	NM	NM	RI	DC
37. HI	ME	NE	ME	RI	DC
38. RI	DC	DC	MT	UT	MN
39. KA	SD	NE	NH	NE	UT
40. NH	UT	UT	RI	DC	NE
41. NE	RI	HI	ID	MT	MT
42. MT	ND	MT	DC	ID	SD
43. UT	MT	ID	NV	SD	ID
44. NV	ID	ND	NH	HI	ND
45. ID	HI	SD	ND	ND	HI
46. VT	NH	VT	SD	VT	DE
47. DE	DE	DE	HI	DE	VT
48. SD	VT	NH	DE	NH	NH
49. AK	NV	NV	AK	NV	WY
50. ND	WY	AK	VT	AK	NV
51. WY	AK	WY	WY	WY	AK

count and number below poverty level receiving welfare payments.

Perhaps Kentucky should be replaced by North Carolina or Alabama if the two variables above are a valid measure of poverty. It is also conceivable that Kentucky should be replaced by Michigan, since Michigan is indicated as being a top poverty area in three indicator variables. At any rate, it seems a valid point to question the equity of Kentucky's location in the top ten food stamp recipients.

Another way of checking the food stamp expenditures is to look at the ten states receiving the least food stamp benefits. Table 5 indicates how many indicators rank these states in the bottom ten as far as poverty is concerned; i.e., rank them as being among the least poor. It also shows two states appearing in the bottom ten of several indicator variables, but not in the bottom ten food stamp

TABLE 3. NUMBER OF TIMES TOP TEN FOOD STAMP RECIPIENTS AND SOME OTHERS ARE RATED AS BEING AMONG TOP TEN STATES IN NUMBER OF POOR PEOPLE BY POVERTY VARIABLES

Ranking	Number of Poverty Indicators Rating This State in Top Ten					
	5	4	3	2	1	0
Top Ten Food Stamp Recipients						
1. California		X				
2. Texas		X				
3. Illinois		X				
4. Ohio		X				
5. New York		X				
6. Florida				X		
7. Pennsylvania		X				
8. Louisiana				X		
9. Kentucky						X
10. Georgia			X			
States not in the Top Ten Food Stamps Recipients, but Indicated by Poverty Variables as Deserving to be There						
1. Michigan				X		
2. Alabama					X	
3. Massachusetts					X	
4. North Carolina						X
5. New Jersey				X		

recipients. Utah is in the bottom ten food stamp recipients, but is not indicated by any of the poverty indicator variables as deserving to be there. Hawaii and New Hampshire, as the indicator variables point out, are deserving to be in the bottom ten food stamp recipients, but are not. It appears that inequities exist on the bottom end of the scale as well as the top.

It is interesting to look at the state outlays in terms of expenditure per poverty person. That is, assume that people classified in the poverty count might reasonably be expected to be receiving food stamps. This assumption is in accord with goals of the food stamp program. If there were a one-to-one correspondence between eligible poverty persons and persons receiving food stamp bonus coupons—if levels of poverty were uniform across states and the

TABLE 4. CORRELATION COEFFICIENTS BETWEEN FOOD STAMP EXPENDITURES AND THE SEVEN POVERTY INDICATOR VARIABLES

	Poverty Count	Total Dollar Welfare Payments	Unemployment	Number of Families on Welfare	Number of Families Below Poverty Level Who are on Welfare
Federal Food Stamp Expenditure	0.938	0.735	0.827	0.839	0.903

TABLE 5. NUMBER OF TIMES BOTTOM TEN FOOD STAMP RECIPIENTS AND SOME OTHERS ARE RELATED AS BEING AMONG THE BOTTOM TEN STATES IN NUMBER OF POOR PEOPLE BY POVERTY VARIABLES

Ranking	Number of Poverty Indicators Rating This State in Bottom Ten					
Bottom Ten Food Stamp Recipients (ranked from lowest to highest)	5	4	3	2	1	0
Wyoming	X					
North Dakota	X					
Alaska	X					
South Dakota		X				
Delaware	X					
Vermont	X					
Idaho		X				
Nevada	X					
Utah						X
Montana			X			
States not in Bottom Ten Food Stamp Recipients but Indicated by Poverty Variables as Deserving to be There						
Hawaii		X				
New Hampshire	X					

program were totally equitable—then food stamp expenditure per poverty person should be exactly equal across states. Allowing that such a one-to-one correspondence does not exist, it still seems reasonable to assume these poverty persons should represent a substantial percentage of the numbers receiving food stamps. If they do not, then a relevant question is why a substantial number of those eligible for food stamp benefits do not receive them. It would also seem reasonable that food stamp recipients not in poverty should be fairly uniformly distributed across states. Following this logic, it would seem that the food stamp outlay per poverty person across states should be reasonably close. In fact, the outlay per poverty person ranged from a low of \$44.40 in Kansas to a high of \$354.09 in Hawaii. The mean outlay per poverty person across states was \$154.71 (Table 6). The wide range of state outlays per poverty person is remarkable, and is sharply emphasized in examining county data. The low food stamp allocation per poverty person was \$2.66 to a county in Nebraska, and the high was \$1,015.73 to a county in Massachusetts. Such a range of food stamp allocations per poverty person certainly indicates room for more study. At the very least, it indicates that the lower the per poverty person outlay, the lower the food stamp participation by presumably eligible persons in an area. Again, this indicates food stamp participation is not consistent with food stamp policy goals.

TABLE 6. PER POVERTY PERSON FEDERAL FOOD STAMP EXPENDITURES FOR THE FIFTY STATES AND WASHINGTON, D.C.

Observation State	Food Stamp Outlay Per Poverty Person	Observation State	Food Stamp Outlay Per Poverty Person
1. HI	\$354.09	27. AK	\$150.19
2. WA	250.56	28. MA	145.41
3. DC	243.90	29. AR	143.09
4. OR	241.59	30. DE	141.66
5. ME	238.82	31. GA	141.23
6. OH	238.47	32. PA	138.81
7. NV	235.77	33. TN	137.61
8. IL	231.45	34. MS	137.52
9. NJ	221.83	35. NC	123.58
10. NM	209.30	36. AL	120.08
11. SC	201.14	37. MT	117.80
12. MD	199.23	38. IN	116.67
13. MO	190.37	39. ID	109.78
14. NH	187.59	40. MN	104.68
15. KY	185.40	41. NY	104.33
16. FL	184.69	42. VA	92.43
17. RI	182.36	43. UT	89.60
18. VT	180.96	44. OK	80.69
19. CA	169.03	45. WY	80.59
20. CO	167.68	46. IA	76.02
21. LA	159.80	47. WI	69.99
22. CT	159.21	48. SD	65.56
23. AZ	158.06	49. NE	59.18
24. TX	155.79	50. ND	49.39
25. MI	151.67	51. KS	44.40
26. WV	151.12		

Much concern centers on whether or not people in rural areas are receiving needed benefits from the food stamp program. Additionally, it is questioned whether urban people receiving food stamp benefits are receiving higher benefits than rural people receiving benefits. In this study, county data were aggregated over states in both rural and urban totals. In this way, dollar amounts and relative percentage figures between urban and rural people may be considered. Variables included were poverty count and food stamp bonus coupon outlays.

Table 7 shows the top ten states in rural and urban poverty counts and food stamp outlays per rural and urban poverty person. In almost all cases the per poverty person food stamp outlay in urban

TABLE 7. RURAL-URBAN CHARACTERISTICS OF FOOD STAMP OUTLAYS FOR SELECTED STATES

Top 10 States in Rural Poverty Count	Outlay per Rural Poverty Person	Outlay per Urban Poverty Person	Top 10 States in Urban Poverty Count	Outlay per Urban Poverty Person	Outlay per Rural Poverty Person
Dollars			Dollars		
TX	116.22	175.98	CA	173.37	127.69
NC	109.65	153.55	NY	109.54	63.99
MS	134.95	154.54	TX	175.98	116.22
KY	155.88	271.59	PA	150.95	100.37
GA	122.13	167.46	FL	191.77	160.39
LA	140.03	179.13	IL	275.98	101.11
TN	114.96	164.69	OH	266.87	149.53
AL	110.04	129.91	MI	159.81	124.78
AR	140.04	152.33	NJ	221.63	227.13
SC	204.19	196.10	LA	179.13	140.03

areas is substantially larger than the per poverty person outlay in rural areas. If this were an equitable distribution, then it would indicate either a low participation in food stamp benefits by rural people or a higher degree of poverty in urban areas than rural areas. Since poverty is clearly a problem in rural areas, this would indicate a need for increased food stamp participation among rural people.

SUMMARY

The 1975 distribution of food stamp outlays could probably be improved in terms of equity. It is not clear that food stamp expenditures are being allocated effectively to the states with greatest need. Kentucky, although ninth in food stamp benefits, is not indicated as being in the top ten poverty states by designated poverty indicators. Likewise, Michigan, Alabama and North Carolina have poverty indicators that would suggest that they be higher recipients of food stamps than they are. Utah is among the ten states receiving the least food stamp benefits, but none of the poverty indicators suggest that it should be. Hawaii and New Hampshire are indicated by certain poverty indicators as being in the ten least poor states, but they are receiving more food stamp

benefits than that would suggest. These characteristics imply, among other things, a basic inconsistency in food stamp benefits policy. Regardless of the reasons for this inconsistency, it points up serious inequities in allocations.

Food stamp expenditures on a per poverty person basis indicate a wide range of values. The range, in turn, indicates food stamp participation is not what it should be, assuming poverty people are eligible for food stamp benefits.

The brief glance at rural-urban characteristics indicates states are allocating their food stamp monies between rural poor and urban poor in proportion to the poverty count in each group. Since poverty is not uniform across the groups, equitable distribution is not being effected. Per person poverty count food stamp allocations indicate that in almost all cases, persons in urban areas are receiving higher benefits than those in rural areas. This emphasizes the low rate of participation in rural areas.

There is much need for in-depth research in the food stamp area. Equitable allocation of benefits is one goal of food stamp policy, and it is only by extensive research that the best method for achieving these food stamp policy goals may be discovered.

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