PASS THE BISCUITS, PAPPY:
Congressional Decision-Making and Federal Grants

GARY W. COPELAND
KENNETH J. MEIER
University of Oklahoma

This article examines the congressional allocation of federal grant funds. Reflecting the decision processes and norms of Congress, federal grant funds are allocated almost completely on the basis of population (or equal share). None of the other factors used to allocate specific federal funds (e.g., income, poverty, unemployment) have a great deal of impact. As a result, most congressional battles are at the margin with only marginal impact on the overall distribution.

Federal grants to state and local governments have been an essential element of federalism for over a century (see Elazar, 1962; White, 1953; Wright, 1968; 1978).[1] As federal aid grew to one-fifth of state and local government expenditures, three major controversies developed: (1) a reduced connection between raising tax money and spending it, (2) increased friction concerning the federal influence on the use of grant monies, and (3) increased political conflict over grant formulas used to allocate funds to state and local jurisdictions. This article addresses the last controversy. Despite the frequent conflict over the nuances of the allocational formulas, the norms of Congress operate to give states relatively equal (when compared to population) shares of federal money.

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PATTERNS OF CONGRESSIONAL DECISION MAKING

Federal grants are examples of particularized benefits, that is, benefits aimed at particular or specific recipients and that are delivered in such a way as to permit members of Congress to take credit for the delivery (Mayhew, 1974: 54). As such, federal grant programs are characterized by universalistic politics (Shepsle and Weingast, 1981) in a manner similar to a variety of distributive policies (Ferejohn, 1974; Rundquist, 1973; Arnold, 1979). Two congressional norms relative to universalistic politics apply to federal grants and enable members of Congress to claim an equal share of grant funds. The norms of building large and fluid coalitions and of program expansion work to insure that each member has something to take back to the constituents.

Congressional coalitions tend to be large—there is no limit on the number of winners (Mayhew, 1974: 113). Coalitions that lead to the creation or extension of federal grant programs are large because grants have historically been allocated on a positive sum basis whereby the size of the appropriation is increased to satisfy member demands (e.g., the 1972 revenue-sharing debate). In addition, coalitions are large because uncertainty in the legislative process encourages building greater-than-minimum winning coalitions (see Dahl and Lindblom, 1953: chapter 12; Barry, 1965: 317-318). Those who are part of the coalition are likely to be satisfied with the grant program—particularly how it treats their district. If they are not satisfied with a specific grant program, they may support it regardless because they know that under the logrolling norm their district will eventually benefit from another program (Kingdon, 1981: 100).

Coalitions in Congress also tend to be fluid; losers on one issue become winners on the next.[2] In fact, they may receive some special consideration to compensate for the previous mistreatment (Ray, 1980: 367-368). Congress has a participation norm that holds that all members are entitled to participate in the legislative process and, in turn, to acquire particularized benefits for their constituents. Neither individuals nor classes of individuals (e.g., based on party) are excluded from the process and payoffs from the federal pork barrel. In fact, it is expected that Congress, as an institution, and that members, individually, should facilitate member activities aimed at serving constituents.

Program expansion, in both dollars and eligibility, has been an additional norm applicable to the grant process. Examples abound: the Elementary and Secondary Education Act (ESEA) programs grew from helping the "poorest" to reaching 80% of the nation's school districts (Stockman, 1975: 23); or the Economic Development Administration aid designed for disasters and conversion of obsolete industries expanded to 84.5% of the nation's counties (Etzioni, 1981). Program expansion, of course, means more members have more benefits to carry back to their constituents. It also solidifies support for programs because it brings more members into the coalition. (The ESEA, to continue the above example, was originally enacted in 1965 over nearly 3:1 Republican opposition but was reauthorized in 1974 with only 15 opposition votes.)

The congressional norms that lead to large, fluid coalitions and program expansion reflect a concern that no member be permanently shut out of the legislative process. Since independently elected members of Congress are of relatively equal status, since the norms of Congress encourage participation in the coalition, and since members have information before they vote on how formulas will distribute grants, the fight over grant monies should be relatively equal. An equal fight should result in a relatively equal outcome so that the overall distribution of federal grants should be closely tied to population. Where this is not possible (e.g., rural electrification loans), logrolling will be used to add coalition members in return for support on other narrowly based programs.[3]

FINDINGS

Our hypothesis is that a state's total federal grant funds are *strongly related* to the state's population. In order to test this hypothesis, the amount of federal grant money received by each

TABLE 1
Relationship Between Federal Aid to States (1978) and Population (1970)

$$\text{Federal Aid} = \$166{,}025 + \$483 * \text{Population}$$
$$r^2 = .95$$
$$t = 28.3$$
$$N = 50$$
$$\text{percentage slope} = 1.08$$
$$\text{standard error} = 506{,}138\text{K}$$

state was regressed on that state's population and several other factors that are generally included in formulas to alter them from a strict per capita distribution.[4] Total federal grant dollars were used rather than dollars per capita, because Congress does not make decisions on total dollar amounts by using per capita figures.[5] To determine whether population is strongly related to the federal grants allocation, we will require the r^2 between population and money to be high (.9+), the percentage slope (see below) to be close to 1.0, that no other variable be able to explain a significant proportion of the remaining variation, and the standard error of the estimate to be fairly small.[6]

Table 1 reveals that population is strongly related to the distribution of federal grants. When total federal grants to state and local governments within each state (for 1978) are correlated with the 1970 population, we find an r^2 of .95. In other words, only 5% of the state-to-state variation in federal funds cannot be explained by population. Although the standard error ($506 million) may seem fairly large, it is a substantial reduction from the standard deviation ($2,142 million). To determine if the allocation of funds among the states was relatively equal, we regressed each state's percentage of the total grant pie on its percentage of the nation's population. If the slope for this equation is close to 1.0, it indicates that the proportional shares are relatively equal.[7] Table 1 reveals a slope of 1.08; state shares, therefore, are relatively equal.

Finally, when a variety of variables that reflect either items in grant formulas or political variables were included in the analysis (results not shown), they had virtually no impact on the allocation. Only a state's tax effort (Halstead, 1978), when combined with the state's population, had any substantively significant[8] effect on the distribution of federal monies. Tax effort explained an additional 3% of the variation in federal aid; no other factor explained as much as 1%.

Although our hypothesis was confirmed, this does not mean our theoretical reasoning is correct. In order to shed more light on the general analysis of congressional decisionmaking in regard to grants, we will derive a series of propositions that flow from that reasoning to test for further confirmation of our theory.[9]

DISAGGREGATING FEDERAL AID

Aggregated federal aid may mask considerable variation across various categories of federal aid or across specific programs. By disaggregating in various ways, new insights can be brought to our understanding of grant allocations. The distribution of aid by functional category, grant type, and specific program will be examined.

If grant allocation decisions are made with the intention of insuring comparable per capita shares, population should be strongly correlated with total dollars of aid for the nine major categories of federal aid—public assistance, Medicaid, revenue sharing, transportation, education, environmental protection, public housing, community development block grants, and CETA. Table 2 reveals that population is a major explanatory factor in each area. Even the weakest correlation, between population and educational grants, accounts for over three-fourths of the variation in aid. The highest r^2, for both CETA and revenue sharing, reaches .97.[10] The percentage slopes, while exhibiting some variation, continue to hover around 1.0. In no case can per capita income, percent of families in poverty, tax effort, unemployment rates, urbanization, or age of the housing stock explain as much variation as population. In fact, none of

TABLE 2
Relationship Between Federal Aid to States (1978) and Population (1970) by Category of Aid

Category of Aid	Variation Explained (r^2)	Percentage Slope	Standard Error
Public Assistance	.87	1.31	210,640K
Medicaid	.86	1.25	117,411K
Revenue Sharing	.96	1.06	31,356K
Transportation	.85	.76	57,993K
Education	.76	.76	25,419K
Environmental Protection	.91	1.08	22,906K
Public Housing	.86	1.10	24,222K
Community Development	.93	.98	13,373K
CETA	.97	1.01	15,941K

these variables adds more than 6% of explained variance to the population figure.[11] In addition, the standard errors remain relatively modest.

Within the nine functional categories, however, there is considerable variation in the types of programs and in the ability of Congress to predetermine the distribution of funds. One of the primary motivations behind the expansion of project grants is that they limit political control and facilitate greater "autonomy and discretion of program professionals" (Wright, 1978: 55). This view suggests that there is a major distinction between formula grants and project grants in the ability of Congress to specify where funds will be spent.[12] Formula grants provide no administrative discretion in the distribution of monies because agencies simply plug the relevant numbers into a congressionally determined formula and allocate funds accordingly. Project grants, however, provide administrative agencies more flexibility in distributing funds. Although Congress maintains considerable control over the allocation of project grants, administrative

TABLE 3
Relationship Between Formula-Based Federal Aid and Project-Based Federal Aid (1978) with Population (1970)

Formula Aid	= −$144,098 + $360 * Population
r^2	= .94
t	= 27.6
percentage slope	= 1.09
standard error	= 338,059K
Project Aid	= $21,927 + $122 * Population
r^2	= .91
t	= 21.2
N	= 50
percentage slope	= 1.04
standard error	= 169,588K
Difference between percentage slope test t = .88	

agencies actually award the grants and can have an impact on their distribution. Money distributed through formula grants, then, should carry more obviously the mark of congressional decisions. Since the mark of congressional decisions is distribution by population, money distributed under formula grants should correlate more highly with population than does project grant money.

Arnold (1979), though, suggests that the autonomy of project grants is not as great as it might seem, and that in the allocation of nearly all grant funds there is considerable interaction between the administrative agency and Congress. If this view is correct, then the ability of Congress to put its mark on project grants would be nearly as great as for formula grants. That finding would also suggest, as Fiorina (1977) has, that the Washington establishment, as a whole, functions very well in serving the needs of the membership of Congress.

To consider this issue, the two types of aid were separated and regressed on population in Table 3. In general, both types of aid are closely tied to population reflecting the ability of Congress to influence the distribution of all grant money; the difference between formula aid ($r^2 = .94$; slope = 1.09) and project aid ($r^2 = .91$; slope = 1.04) is not substantively or statistically ($t = .88$) significant. Congressional controls via legislation and oversight obviously have some influence on project grant distributions. If the congressional institution serves the needs of its members, so, too, do the bureaucratic institutions.

Program Level Analysis

The above results all related population to some aggregation of federal aid programs. Two components of congressional decision-making can explain those very high correlations. First, for any particular program Congress may try to distribute federal outlays on an equal share basis. Second, Congress may engage in logrolling, that is, members trade votes on particular issues so that in the long run inequalities are cancelled out. Either pattern of behavior alone could explain the correlations found to this point. On the one hand, if every program distributed funds on a per capita basis, the aggregation of these programs would yield high correlations between population and aid. On the other hand, if logrolling is used to trade programs that treat districts unequally, the inequalities could be eliminated when the funds are aggregated, thus resulting in high correlations.

To sort out the specific behaviors that are occurring, program level data must be examined. If only the first behavior (decision-making on each issue so that everyone gets a similar share) is present, then we would expect uniformly high correlations between outlays for specific programs and population. These correlations would be consistent from program to program and would approach unity (as did our correlations presented above). If only logrolling is occurring, the correlations at the program level would be uniformly and substantially lower than those seen to this point. Members would sponsor programs designed to aid their constituents, and other members would support that legisla-

TABLE 4
Correlations of Program Dollars with State Population, by Program Type (1978)

Project Grants	r^2
Low Income Housing	.12
USDA Waste and Water Disposal[c]	.26
Local Public Works[c]	.50
Community Action	.95
EPA Waste Water Treatment	.42
Community Health	.70
CDBG--Discretionary	.23
Law Enforcement Project	.70
Urban Mass Transit	.60
Average Projects	.50

Direct Payments	r^2
Food Stamps	.86
Commodity Payments[c]	.05
Military Payroll	.39
DoD Civilian Payroll	.47
Supplemental Security Income	.81
Medicare--Hospitals	.95
Medicare--Supplemental	.87
Social Security--Disability	.96
Social Security--Retire	.95
Social Security--Survivors	.98
Section 8 Housing	.92
VA Disability	.94
VA Readjustment	.69
Average Direct	.76

Other	r^2
USDA Disaster[b]	.03
Veterans Hospitalization	.94
Average Other	.48

Formula Grants	r^2
Food Distribution	.76
School Lunch	.85
Title I Education	.90
Impact Aid[a]	.38
Vocational Education[a]	.75
Rehabilitation[a]	.92
Social Service Low Income	.97
Public Assistance	.81
Medicaid	.86
CDBG	.88
Law Enforcement--Block	.96
CETA[a]	.80
Unemployment[b]	.86
Highways[a]	.59
Revenue Sharing	.94
Anti-Recession Aid	.73
AFDC--Federal	.83
Average Formula	.81

Loans	r^2
Rural Electric	.01
Other Agriculture	.15
Mortgage--Regular	.39
Mortgage--Low Income	.75
Property Improvment	.43
Other HUD	.58
SBA Disaster[b]	.07
SBA[b]	.40
Average Loans	.35

a. Contains some project elements.
b. Contains some direct payments.
c. Contains some loan elements.

tion based on the expectation that the favor will be reciprocated when they offer legislation advantageous to their constituents. If both behaviors are present, correlations at the program level will vary.

Table 4 presents the correlations between state population and federal funds received for 49 federal programs.[13] The projects are grouped according to four major types of intergovernmental transfers—formula grants, project grants, direct payments, and loans. Although our focus is on grants (formula and project), we have included direct payments and loans as a basis for comparison. The correlations in Table 4 support the conclusion that Congress both equalizes and logrolls. For all programs, the range of r^2 is from .01 (for rural electric loans) to seven programs with an $r^2 >$ .95. In the formula grant category the range is from .97 (for social service, low income) to .39 for impact aid. The average formula coefficient is .81.[14] Project grants show more variation. The strongest corrrelation is for community action grants (r^2 = .95), while the lowest is for low-income housing (r^2 = .12). The average coefficient for project grants is .50. Direct payments tend to have high correlations as we would expect, because these programs provide aid directly to individuals. Loans and other programs show no clear pattern of correlation although the correlations are generally low. This pattern of correlation is consistent with the hypothesis that generally Congress tries to equalize aid for specific programs but that it also engages in logrolling. The results of these congressional attempts, as our earlier correlations also indicate, are remarkably successful in providing an equalized distribution of grant monies.

Congress Is Getting Better At It

The nature of the relationship between grant money and population is likely to change along with changes in the importance of grant programs and with changes in Congress. Essentially, several reasons suggest that the distribution of grant money according to population has become more equitable than before.

The number of dollars distributed through intergovernmental grants has increased from $2.3 billion in 1950 to $77.9 billion in 1978. One consequence of this phenomenon is that watching where dollars are headed has become more important for members. Members of Congress realize that even marginal changes have considerable impact on how much money their district will receive. The need for vigilance is greater. At the same time, there is some evidence that current members are more concerned with constituency service and pork barrel activities than were their predecessors (Fiorina, 1977).

Changes within Congress have also improved the ability of members to obtain reasonable funding for their districts. The first change is the decentralization of the body—the growth of subcommittee government. Fiorina (1977: 62-67) suggests that this decentralization is conducive to logrolling. A more significant development is the growth of congressional staff. Members have enough staff to follow more legislation than they were able to in the past. Today, members not on the relevant subcommittee are more likely to play a role in formula deliberations than were their predecessors. Few members of the 97th Congress did not have access to information on how the various revenue-sharing formula options affected his or her district. The larger congressional staffs have increased the number of participants who can bargain over the distribution of funds. More informed participants should result in everyone receiving a fair share.

The computer has also changed the way the bargaining takes place. The use of data processing equipment means that formula after formula can be tried and that every member of Congress can see the results of those trials. An official of the Congressional Budget Office describes the effect of the computer: "Now every side has the new weapon. The level of information is very high and the result is a more even battle" (Stanfield, 1978; 1977). And an even battle leads to a draw—everyone gets an equal share of the spoils.

The preceding analysis suggests that the relationship between population and government aid should be stronger now than in the past. Specifically, we expect that the correlation between the two will increase over time. Moreover, the equity of the distribution should become more obvious: the absolute deviation of the percentaged slope from 1.0 should decrease. Table 5 indicates that both of those expectations are fulfilled. The r^2 for 1952 was "only" .76; ten years later it was .80; in 1972 it was .91; and the r^2 for 1978 was .95. The slopes also moved closer to 1.0. The devia-

TABLE 5
Relationship Between Population and Federal Aid for 1952, 1962, 1972, 1978

1952

Federal Aid = $10,806 + $12.08 * Population

$r^2 = .76$

$t = 12.0$

percentage slope = .76

1962

Federal Aid = $155,773 + $35.25 * Population

$r^2 = .80$

$t = 13.8$

percentage slope = .88

1972

Federal Aid = $65,244 + $146 * Population

$r^2 = .91$

$t = 21.3$

percentage slope = 1.10

1978

Federal Aid = $166,025 + $483 * Population

$r^2 = .95$

$t = 28.3$

percentage slope = 1.08

tion in 1952 was .24; in 1962 it had shrunk to .12; in 1972 it was .10; and in 1978 the deviation was down to .08. The trend is clear: over the last 25 years the distribution of grant money to state and local government has approached a relatively equal per capita share allocation.

CONCLUSION

Before summarizing our findings, we should specify two conclusions that we did not reach. First, we are not arguing that grant allocations do not vary from population, nor that the per capita differences that are present are trivial. Second, we are not arguing that political factors such as position and influence in Congress are unimportant.

At both the program level and when aggregated, some districts are marginally advantaged or disadvantaged. The 5% of the total variation that population does not explain is still a large amount of money. Table 6 shows the amount of money each state received in 1978, the amount it would have received if monies were allocated based on population alone, the amount gained-lost by using the present allocational plans, and that amount as a percentage of the population-based figure. With the strong correlation between population and grant monies, we should not expect the residuals to be very large and, in fact, they are not. There are, however, some relatively big winners and losers in the process. In terms of dollars, the biggest winner is New York, which received about $2.5 billion more than a strict per capitation. Their total allocation, rather than being just over $8 billion, topped $10 billion. California, the only other state to receive $10 billion, was the second most overrewarded state ($1.2 billion). Massachusetts ($1 billion) was the only other state to receive at least $500 million more than its population-based share. The only states to fall short of their population-based share by that amount were Ohio ($1.1 billion), Texas ($900 milliion), Indiana ($800 million), and Pennsylvania ($600 million).

Another way to consider how much states win or lose is to standardize according to their expected allocation. The final column in Table 6 shows that the biggest percentage winners were Alaska, Hawaii, and Wyoming. Massachusetts, New Mexico, Nevada, Oregon, New York, Vermont, and Montana were the only other states to receive a bonus of at least 20% over their expected allocation. The states that fell at least 20% short were Indiana, Kansas, Iowa, Nebraska, and Ohio.

TABLE 6
Winners and Losers in the Formula Game (in millions $)

State	1978 Fed. Aid	Pop. Based	Formula Gain/Loss	Percent Gain/Loss
Alabama	1,420	1,533	-113	-7.3
Alaska	405	134	272	203.4
Arizona	876	788	88	11.2
Arkansas	839	856	-17	-2.0
California	10,076	8,879	1,197	13.5
Colorado	1,082	982	100	10.2
Connecticut	1,211	1,349	-138	-10.2
Delaware	231	244	-13	-5.3
Florida	2,577	3,021	-444	-14.7
Georgia	2,051	2,043	8	.4
Hawaii	528	342	186	54.3
Idaho	355	317	38	11.9
Illinois	5,062	4,946	116	2.4
Indiana	1,511	2,311	-800	-34.6
Iowa	939	1,257	-318	-25.3
Kansas	735	1,000	-265	-26.5
Kentucky	1,457	1,432	25	1.7
Louisiana	1,529	1,620	-91	-5.6
Maine	519	441	78	17.6
Maryland	2,025	1,745	280	16.0
Massachusetts	3,538	2,531	1,006	39.8
Michigan	4,170	3,949	221	5.6
Minnesota	1,593	1,693	-100	-5.9
Mississippi	1,129	987	142	14.4
Missouri	1,703	2,081	-378	-18.2
Montana	384	309	75	24.3
Nebraska	499	660	-161	-24.4
Nevada	295	218	77	35.6
New Hampshire	313	328	-15	-4.7
New Jersey	2,921	3,190	-269	-8.4
New Mexico	632	452	180	39.8
New York	10,662	8,115	2,547	31.4
North Carolina	1,944	2,261	317	-14.0
North Dakota	272	275	-3	-1.1
Ohio	3,600	4,740	-1,140	-24.1
Oklahoma	1,013	1,139	-126	-11.0
Oregon	1,262	930	332	35.6
Pennsylvania	4,628	5,248	-620	-11.8
Rhode Island	474	421	53	12.5
South Carolina	1,019	1,153	-134	-11.6
South Dakota	294	296	-2	-.8
Tennessee	1,588	1,746	-158	-9.1
Texas	4,109	4,983	-873	-17.5
Utah	510	471	39	8.2
Vermont	255	198	57	29.1
Virginia	1,690	2,068	-378	-18.3
Washington	1,587	1,517	70	4.6
West Virginia	834	776	58	7.5
Wisconsin	1,850	1,966	-116	-5.9
Wyoming	244	148	96	65.2

To recapitulate, while the correlation between federal grants to state and local governments and population is quite strong, variation exists beyond that accounted for by population. Furthermore, the nonpopulation-related 5% constitutes a sizable sum of money; it is well worth fighting over.[15] In fact, finding adequate explanation for variations from strictly per capita allocations should continue to be a high priority for future research.

The second point to highlight is that we believe political factors are important in the distribution of federal grants; they can help account for the variation that population cannot explain (see Ferejohn, 1974; Murphy, 1974; Strom, 1975). Grant programs are replete with examples of single members gaining concessions to help their district or similar districts. For example, that Louisiana sheriffs would receive federal revenue sharing funds if the (former) Chairman of the Senate Finance Committee happened to represent any other state is hard to imagine. Former Senator Fulbright was successful in expanding the Economic Development Act to include more aid for areas with rural underemployment, thereby providing considerable assistance to his own state of Arkansas (Davidson, 1966).[16]

We did find, however, that the distribution of federal grant money to state and local governments closely relates to the population of the area. This result is consistent with the behavior and norms of Congress. First, it is the norm not to exclude any member or set of members from sharing the goods that Congress allocates; in fact, the norm is that everyone should receive a reasonable share whenever practical. The other norm is operative whenever it is not practical to distribute funds evenly. In that situation, grants that provide disproportional benefits to one type of district are balanced by programs designed for other districts.

Our findings cannot be attributed to an aggregation effect whereby state totals create an artificial correlation between population and federal grants. The data were disaggregated, yet the strong relationships remained.[17] First, when the grant programs were divided into nine functional areas, the correlation between grant dollars and population in each area remained high ($r^2 = .76 - .97$). Second, when grant monies were disaggregated into nine project grants and seventeen formula grants, the correlation between population and dollars dropped but remained fairly large. Attributing the results solely to the effect of aggregation, therefore, is inconsistent with the data.

The finding that federal grant monies are equitably based on population is hardly trivial. Three reasons indicate the substantive importance of this finding. First, Congress spends a great deal of time debating formula elements, and changes in formula elements have only a marginal impact on the distribution of federal funds. Large changes would result ony if the population-funds relationship is addressed. Second, as tools of analysis have improved, so has the ability of Congress to allocate grant funds more equitably. The proportion of grant funds attributable to population increased from 76% in 1952 to 95% in 1978. If Congress considered the linkage trivial, the strength of the relationship would not increase. Third, the use of population to determine the allocation of funds is consistent with past studies of congressional decision-making. Key variables, such as large, fluid coalitions, focus on constituency benefits, and program expansion explains why the population-funding relationship exists.

NOTES

1. This article examines federal grants funds, not total federal aid or total federal expenditures. Only in Table 4 are any nongrant data presened, and then only for comparison purposes.

2. Very few members perpetually lose in Congress. An examination of Congressional Quarterly's key votes for 1974 and 1975 indicates that in only ten instances (in both the House and the Senate) did members fail to be on the winning side on at least one-fourth of their votes. Conversely, the normal pattern is for two-thirds of the members to be in the majority on two-thirds or better of the votes.

3. The hypothesis that members receive relatively equal allocations for their districts has been stated more colorfully by others. Samuel H. Beer (1976: 149) calls this "one man, one vote, one dollar." Roger H. Davidson (1966: 27) supplied our title with his quote of former Senator Paul Douglas who described this pattern as "pass the biscuits, Pappy." Davidson's description of the coalition-building process in Congress greatly influenced our thinking on how Congress enacts grant legislation and can serve to illustrate graphically a number of our points throughout.

4. The source for federal grant and expenditure data is the appendix of Anton et al. (1980). They provide the cleanest data available as well as a lucid discussion of the components of federal outlays to state and local governments. The data for per capita income, families in poverty, unemployment, urbanization, and age of housing stock are taken from the U. S. census. We use 1970 data for our demographic data because those are the figures that Congress used in its decisions; using 1977 demographic data in no way changes the conclusions of this study.

5. We use total grant dollars, rather than per capita dollars, because our hypothesis suggests that dollar totals are strongly related to population. We wish to identify *how strongly* the two are related and, equally important, to shed light on the model of congressional decision-making that, we have hypothesized, dominates these allocations. It is our intention, therefore, to account for the bulk of the distribution of funds. Since our model states that the acquisition of relatively equal shares of money is of specific and primary concern to members of Congress, the operationalization of the test of that model is, we believe, consistent with the views of both Uslander (1976) and Lyons (1977). We believe there is also reason to consider the 5% of the variation that we cannot explain with our model (and call for such analysis below), but that is not the goal here.

6. These four tests might fail to convince the skeptic because there are no hard-and-fast rules about when a relationship is termed "strong." If population is not the major factor in allocating federal grants, then the results of this article would not be as consistent as they are. No other logical determinant has been found.

7. This approach was suggested by Robert S. Erikson. The coefficients of determination are the same for both equations because the second regression used variables that are linear transformations of the first. The fit for the second equation, therefore, is fairly high. This approach is consistent with Ward's (1981) emphasis on use of slopes to assess policy equity.

8. The concept "substantive significance" is used here because statistical significance has little meaning when a population is analyzed. In general, we define any explanation of less than 1% as lacking in substantive significance.

9. Although this article focuses on total dollar figures rather than per capita figures, the explanation of per capita figures merits some discussion. Four variables were significantly related to per capita federal aid. These variables and their regression coefficients are percentage of pre-1950s housing (–8.86), tax effort (4.62), percentage of urbanization (–4.05) and percentage of population below poverty (–11.51). The four variables explain 52% of the variation. Using per capita figures, however, controls for population size and eliminates most of the variation.

10. The very high correlation for revenue sharing is the result of some very interesting compromises. The first was between those who represented wealthy districts (generally Republicans) who wanted to reward tax efforts, and those from poorer districts (generally Democrats) who wanted to redistribute wealth. The formula ultimately included both factors, which essentially cancelled each other out. The other major compromise was between the House and the Senate. The House formula rewarded urban, populous areas, while the Senate formula rewarded rural areas. In a unique compromise, the conference committee kept both formulas and let each state choose the formula that provided them the most funds. See Beer (1976: 127-196) on the first point, and the 1972 *Congressional Quarterly Almanac*, pp. 636-652, on the second point.

11. Tax effort explains 6% of the variation in Medicaid and public assistance levels. No other variables even approach this level of explanation.

12. Here, again, we follow Anton et al. (*Moving Money*) who identify five categories of federal domestic expenditures. These two are the ones relevant to our analysis of federal transfers to state and local governmental units.

13. Again, these data are from Anton et al. (1980).

14. These averages are different from the correlations presented in Table 3 because these average the correlations for each program without weighting them for the size of the program.

15. An interesting question is what explains the residual variation in Table 6. Four variables are significantly related to the residual variation—tax effort, population, number of unemployed, and proportion of persons living in poverty. Together these variables explain 62% of the residual variation. Collinearity however, is a major problem in this regression, resulting in slope coefficients that are difficult to interpret.

16. One indication that political factors play a role in allocating grants is that the residual variation in Table 6 is correlated with residual of total federal expenditures (r = .47). If political skills procure a greater-than-equal share of grants, they should also procure a greater-than-equal share of all federal expenditures. A second indication is that the residual variation in grant allocations is not related over time. Since political factors are unlikely to be related over time, that finding is consistent with the notion of political influence.

17. Grant allocations to the nation's 70 largest cities were also analyzed with the results being virtually identical to the state-level findings.

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Gary W. Copeland is an assistant professor in the Carl Albert Congressional Research and Studies Center and the Department of Political Science at the University of Oklahoma. His current research interests include congressional elections and representation.

Kenneth J. Meier is an associate professor in the Department of Political Science at the University of Oklahoma. His current research interests include government regulation of business and the impact of black representation on educational policy.