INSTITUTE FOR RESEARCH ON POVERTY DISCUSSION PAPERS

305-75

THE DISTRIBUTIONAL IMPACT OF THE STATE AND LOCAL
FISCAL ASSISTANCE ACT OF 1972

William B. Neenan

UNIVERSITY OF WISCONSIN ~ MADISON

THE DISTRIBUTIONAL IMPACT OF THE STATE AND LOCAL
FISCAL ASSISTANCE ACT OF 1972

William B. Neenan

March 1976

The Distributional Impact of the State and Local
Fiscal Assistance Act of 1972

William B. Neenan

Introduction

The State and Local Fiscal Assistance Act of 1972 is legislation that

was shaped by a decade of discussion. According to the Act, $30.2 billion

of federal funds are to be disbursed to all state and local general purpose

governments during the five years 1972-76. During 1972 this meant that in

addition to the government of the 50 states and the District of Columbia,

38,552 local governments were eligible to receive the $5.3 billion of shared

revenue funds to be allocated in that year. Of these governments 3,044 were

counties, 18,517 municipalities, and 16,991 townships. 15,781 indepen-

dent school districts and 23,885 special purpose districts, not being

general purpose local governments, were not eligible to receive funds.[1]

Since the renewal of this legislation is currently under active consideration

by Congress, an evaluation of its effectiveness seems appropriate at this

time.

The principal focus of this evaluation will be on the redistributive

impact of the shared revenue program, an item frequently mentioned by the

Act's supporters. For example, it has been observed that "general revenue

sharing has also provided for far more financial aid to the Nation's central

cities than to their rich suburban neighbors. Detroit, for example, received

a per capita entitlement of $27.79 as compared to Grosse Pointe Farms' per

capita payment of $3.83....This rather impressive equalization performance

should win over to the side of revenue sharing many persons with a pro poor

concern who had originally taken a rather dim view of this program."[2] The

judgement that will emerge from the analysis in this paper, however, is that

indeed there are substantial grounds for believing that general revenue

sharing is not particularly advantageous for poor citizens.

The specific question to be addressed is this: Is general revenue

sharing to be considered a success if viewed as a redistributive program?

To provide insights into this one aspect of the general revenue sharing program

we will 1) examine the complex five-step allocation process to determine the

relative significance of the various allocation variables in the distribution

of the grants. 2) Per capita grants received by cities in California and

Michigan will be regressed on several variables serving as profiles for normative

bases of revenue sharing and some inferences concerning the effective-

ness of the program will be drawn from these results. 3) Implications

will be drawn from an analysis of the redistributive effects of the

program in terms of grants to jurisdictions judged to be poor rather

than in terms of income grants to poor individuals. 4) Finally, the

distributional impact on city entitlements from changing the allocation

formula will be examined and one illustrative policy change will be

outlined.

Effects of Revenue Sharing

The 1972 Act stipulates that "funds received by units of local

governments....may be used only for priority expenditures," with the

Act also interpreted as permitting tax reduction.[3] There are nine

"priority" expenditures. In addition to capital expenditures, operating

expenses in eight categories are enumerated: 1) public safety, 2)

environmental protection, 3) public transportation, 4) health, 5)

recreation, 6) libraries, 7) social services for the poor or aged,

and 8) financial administration. In an attempt to monitor the use of these funds Congress has required the jurisdictions to submit planned and actual use reports to the Treasury Department concerning their disposition of the funds. There is general agreement, however, that such a reporting procedure may not accurately reflect the use to which these funds have been put. Because funds are fungible it is difficult to determine the actual impact of a general revenue sharing program. For accounting purposes shared revenue funds may well be assigned to a particular function in the budget but the funds that would otherwise have been used to support this function may be allocated for some other purposes. Thus the net effect is to increase funds for these other purposes rather than the function to which the funds have been assigned.

Several major studies have attempted to determine the actual fiscal impact of the program. The Brookings Institution has conducted a field research survey covering eight state governments, fifty-six local governments, and one Indian tribe concerning their use of the shared revenue funds up to July 1, 1973. From this survey it is estimated that 20.6 percent of the funds to these jurisdictions were used for new capital expenditures; 44.8 percent used either for tax relief or avoidance of borrowing; with only 4.6 percent allocated for expanding operations, including increased wage payments. The remainder of the funds were reportedly used for miscellaneous purposes, with nearly 15 percent "unallocated."[4] The reliability of these estimates however, is questionable on several grounds. They are derived from the initial period of the program when the recipient governments may

not have fully incorporated the funds into their budgetary process. Further there appears to be no scientific basis for the selection of jurisdictions included in the Brookings survey. Consequently it is risky to generalize from any patterns discovered in these jurisdictions to all governments receiving shared revenue.

NSF/Rann has sponsored nine studies of the impact of general revenue sharing. These projects have examined a wide range of issues associated with revenue sharing and employed various research techniques. Some generalizations concerning the use of shared revenue funds have been drawn from these studies. "In general, the NSF/Rann-sponsored studies found that in the largest cities the preponderance of GRS funds was used for operating expenses; in smaller jurisdictions, GRS funds tended to be used preponderantly for capital improvements.... Overall, abatement of state and local taxes or prevention or moderation of tax increases was seen to be one important use of GRS funds, but researchers disagreed on the extent of this use."[5] These studies offer even less evidence as to whether shared revenue funds have been used in ways that specifically benefit low income citizens. "To estimate how much different segments of the population have benefited from the GRS program has proved to be extremely difficult, if not impossible."[6]

The use to which funds are put by recipient governments is obviously a major consideration in determining the distributional impact of the program. But until more sophisticated analyses are available we will be unable to judge this matter with any degree of confidence.[7] However, some insight into the distributional impact of the program can be derived by analyzing another important facet

of the distributional question, namely, the process by which the funds
are divided among the various governments.

Allocation of Funds: An Overview

The shared revenue funds are distributed through a five-step
procedure: 1) determination of the aggregate sums for each of the
50 state areas and the District of Columbia; 2) division of these
aggregate sums between the state and local general purpose governments;
3) allocation of each state's local share to its various county areas;
4) division of the county area's share among the various classes of
general purpose local jurisdictions within the county; and 5) allo-
cation of each class' share to its member units.

1) The aggregate sum for a state area is the larger of the amount
provided under either the "Senate" or "House" formula. The Senate
formula is defined in the 1972 Act in terms of three factors, an area's
population, its "general tax effort," and its relative income. Generally,
this formula favors the less populous and lower income states. The
House formula includes five components, an area's population, its
urbanized population, its population weighted by relative income,
its general tax effort, and a factor reflecting state personal income
tax collections. The House formula favors the urbanized and the
more heavily populated states.

2) Once the entitlement for a state area is determined, one-third
of this amount is set aside for the state government and two-thirds
made available for local distribution. 3) This latter amount is then
allocated to the county areas within the state on a basis similar to

the state-area allocations under the Senate formula. 4) The county
area funds in turn are divided among the county, township, and
municipal governments in proportion to the nonschool tax revenue
collected by these various classes of governments. 5) Finally,
allocations to the various township and municipal governments are
determined by the Senate formula.

Three constraints have a significant impact on the allocations
of funds: 1) the shared revenue grant to any local jurisdiction may
not be more than 50 percent of the sum of its nonschool tax revenue
plus receipts from intergovernmental transfers (other than the shared
revenue itself); 2) the grant to any township or municipality may
not be more than 145 percent nor less than 20 percent of the per
capita amount available statewide for local distribution, with the
total savings from this provision shared with all local governments
in the state in proportion with their previous entitlement; and
3) if a local jurisdiction's entitlement is less than $200 a year or
if it chooses not to receive an entitlement, this amount reverts
to its county government.

An Illustrative Example

Dayton, Ohio will be used as an illustration to clarify the
significance of the various provisions of the 1972 State and Local
Fiscal Assistance Act.[8] 1) In 1972 Ohio's entitlement was $214
million, as determined by the House formula. 2) Of this amount,
two-thirds, or nearly $143 million, was allocated to the various
general purpose local governments in the state. 3) The Montgomery
County Area, encompassing Dayton, received $8.4 million. This amount

is based on the evaluation of the three-part formula for the Montgomery

County area which was calculated as follows: the population of the

county multiplied by the <u>relative income factor</u> (state per capita

income/county per capita income) multiplied by the <u>relative tax effort</u>

factor (the county area's total nonschool tax revenue divided by the

county's total money income). In turn the product of this multipli-

cation was divided by the sum of similar products for the other

eighty-seven county areas in Ohio to determine the Montgomery County

area's proportion of the total allocation to local governments in

Ohio. Finally, adjustments were made for the statewide effects of

the 20 percent and the 145 percent provisions.

4) This $8.4 million grant to the Montgomery County area was

then divided between a) the Montgomery County government, b) its

13 townships and c) its 18 municipalities in proportion to the

nonschool tax revenues collected by these three groups of local

governments, with adjustments made to reflect the statewide effects

of the 20 percent and 145 percent ceiling provisions. 5) Finally,

Dayton's proportion of the funds allocated to the municipalities

in Montgomery County was determined by a three-part formula similar

to the formula used to determine the county area's proportion of

the statewide local portion. With allowance being made once more

for the statewide effects of the 20 percent and 145 percent provisions,

Dayton's allocation for 1972 was $4,180,000.

State Area Allocations

Each of the five steps in the disbursement procedure potentially

is a point at which the distributional pattern of the program can be

affected. In the first step of the allocational process, the total

shared revenue is apportioned among the 51 state areas. The allocation

to each state area is the larger of the amounts calculated by the

Senate and House formulas after this amount has been proportionately

reduced so as to satisfy the constraint imposed by the total funds

available.[9] The Senate formula is described in the legislation as

the "three factor formula" even though it will be seen that only

two factors actually contribute to the variance in the per capita

grants to the state areas.[10] The Senate formula can be defined:

$$(1) \quad S_j = F \left[\frac{(P_j)(E_j)(R_j)}{\sum\limits_{i}^{51}[(P_i)(E_i)(R_i)]} \right]$$

where

S_j = grant to jth state under Senate formula

F = total federal funds to be allocated to state areas

P = population of state area

$E = \dfrac{T}{A}$ = index of "general tax effort"

where

T = total state and local taxes in state area

A = aggregate personal income of state area as reported in

national accounts

$R = \dfrac{PCMI*}{PCMI}$ = index of relative income

where

PCMI* = per capita money income in U.S. as reported by Bureau

of Census

PCMI = per capital money income in state area = $\dfrac{C}{P}$

where

  C = aggregate money income in state as reported by Bureau of

    Census

  P = population of state area

If the index of "general tax effort" and the index of relative income

are substituted into equation (1), if PCMI* is cancelled out of

both the numerator and denominator, some terms rearranged, and we

assume "personal income" as measured in the National Accounts and

"money income" as reported by the Census Bureau are the same $(Y)^{11}$,

we have:

$$(2) \quad S_j = F \left[\frac{\left(\frac{P_j}{Y_j}\right)^2 T_j}{\sum\limits_{i}^{51}\left[\left(\frac{P_i}{Y_i}\right)^2 \left(T_i\right)\right]} \right]$$

Thus instead of having three operative variables the Senate formula

reduces to a two-part formula which simply weights tax collections (T_j)

by the inverse of per capita income squared $\frac{P_j}{Y_j}^2$ since the denominator

of the formula is the same for each of the 51 areas. In other words,

under the Senate formula the higher an area's tax collections and the

lower its income <u>ceteris paribus</u> the greater will be its allocation

of federal shared revenue.[12]

  The five-part House formula can be defined:[13]

$$(3) \quad H_j = .22F\left(\frac{\frac{P_j}{T}}{P}\right) + .22F\frac{\frac{Urban_j}{T}}{Urban^T} + .22F\left(\frac{P_j \frac{PCMI^*}{PCMI_J}}{\sum\limits_{i}^{51} P_i \frac{PCMI^*}{PCMI_i}}\right)$$

$$+ \ .17F\left(\frac{\frac{T_j^2}{A_j}}{\overset{51}{\underset{i}{\Sigma}}\frac{T_i^2}{A_i}}\right) + \ .17F\left(\frac{YT_j}{\overset{51}{\underset{i}{\Sigma}} YT_i}\right)$$

where

H_j = grant to jth state under House formula

P^T = total U.S. population

Urban = urbanized population

YT = state income tax collections[14]

For the 1975-76 entitlement period the Senate formula (S)
provides the larger allocation for 34 states while for 16 states and
the District of Columbia the House formula (H) proves to be more
advantageous, as seen in Table 1, column 1.[15] In general the Senate
formula favors states with lower per capita incomes and smaller
urbanized populations. On the other hand, three of the five most
populous states, California, New York, and Illinois, are favored
by the House formula. These states have relatively high average
per capita income, even though they also have large urban con-
centrations of poverty populations.

The actual entitlement to a state area must be less than the
amount originally calculated under the more favorable formula due
to the adjustment required to keep the sum of the allocation equal
to the constrained amount of available shared revenue. The actual
total and per capita shared revenue payments in 1975-76 to the
various state areas are shown in Table 1, columns 2 and 3. In

column 4 each area's per capita grant is expressed as a percentage
of the average per capita grant for all states areas in 1975-76.
Vermont received the largest per capita $41.84, which was 138.7
percent of the average for all the state areas, while Ohio received
only $24.16 per capita, or 80.3 percent of the U.S. average.

The principle of Occam's razor suggests that the complexity
of the allocation formulas be reduced, especially if this can be
achieved with little or no effect on the outcome. For example,
two of the five factors [H_2(Income) and H_3 (Tax Effort)] appear to
be redundant since in conjunction with the other factors they do not
affect the per capita variation in entitlements. Thus if the
three House factors, population, urban population, and state income
taxes, are each used to allocate one third of the available revenue,
otherwise maintaining the present state area allocation process,
the state area entitlements are little changed. This outcome can
be seen in Table 1 from a comparison of the actual per capita
entitlements in 1975-76.(column 3) with the per capita entitlements
that would result from allowing the state area to chose either the
Senate formula or the just suggested, three-factor House formula
(column 5).

Redistribution at State Area Level

As would be expected from the manner in which income enters
into the allocation procedure, entitlements are redistributive at
the state area level. The coefficient of rank correlation between
1972 per capita income and the state area per capita entitlements

Table 1

Total, Per Capita, and Percent of U.S. Average Shared
Revenue by State Area, July 1975-June 1976

State Area	Most Advantageous Formula (1)	Total (2) (000s)	Per Capita (Actual) (3)	Percent of U.S. Average (4)	Per Capita (S, 3-Factor H) (5)
Total U.S.		$6,350,714	$30.04	100	$30.04
Alabama	S	101,863	28.48	94.6	28.42
Alaska	H	9,138	27.12	90.2	27.10
Arizona	S	65,251	30.31	100.2	30.10
Arkansas	S	65,918	31.97	106.5	32.00
California	H	659,211	31.53	104.9	31.51
Colorado	H	69,154	27.71	91.7	27.56
Connecticut	H	85,529	27.70	92.1	27.68
Delaware	H	19,141	33.40	111.4	33.47
District of Columbia	H	26,649	36.86	123.3	37.04
Florida	S	200,669	24.80	81.9	24.60
Georgia	S	133,398	27.32	90.4	27.15
Hawaii	H	27,830	32.86	108.9	32.74
Idaho	S	25,289	31.65	104.6	31.42
Illinois	H	321,729	28.90	96.4	28.97
Indiana	S	128,859	24.18	80.6	24.22
Iowa	S	82,852	29.02	98.0	29.45
Kansas	S	58,221	25.65	85.5	25.79
Kentucky	S	102,899	30.65	102.4	30.78
Louisiana	S	136,853	36.36	121.6	36.54
Maine	S	40,715	38.89	128.0	38.46
Maryland	H	126,177	30.82	102.5	30.81
Massachusetts	H	206,461	35.60	118.7	35.65
Michigan	H	267,103	29.36	97.6	29.33
Minnesota	S	132,850	33.92	113.1	33.98
Mississippi	S	94,872	40.82	133.7	40.17
Missouri	S	122,260	25.59	85.1	25.57
Montana	S	23,713	32.26	106.0	31.84
Nebraska	S	42,160	27.32	91.5	27.48
Nevada	S	14,705	25.66	85.2	25.61
New Hampshire	S	20,001	24.75	82.3	24.74

Table 1
(Continued)

State Area	Most Advantageous Formula (1)	Total (2) (000s)	Per Capita (Actual) (3)	Percent of U.S. Average (4)	Per Capita (S, 3-Factor H) (5)
New Jersey	H	198.475	27.08	90.3	27.13
New Mexico	S	39,611	35.30	118.3	35.53
New York	H	719,208	39.71	132.3	39.76
North Carolina	S	155,258	28.95	95.8	28.79
North Dakota	S	19,265	30.24	101.5	30.49
Ohio	H	259,449	24.16	80.3	24.13
Oklahoma	S	70,393	25.98	86.3	25.92
Oregon	H	66,672	29.42	98.1	29.46
Pennsylvania	S	336,766	28.45	95.0	28.55
Rhode Island	H	27,424	29.27	97.7	29.34
South Carolina	S	89,329	32.09	106.8	32.10
South Dakota	S	25,281	37.07	123.9	37.21
Tennessee	S	117,421	28.44	95.3	28.62
Texas	S	309.036	25.65	85.1	25.58
Utah	S	27.252	31.76	106.3	31.94
Vermont	S	19,664	41.84	138.7	41.68
Virginia	H	128,278	26.14	86.7	26.06
Washington	S	92,607	26.64	88.7	26.64
West Virginia	S	57,280	31.98	106.8	32.10
Wisconsin	S	160,550	35.16	117.8	35.39
Wyoming	S	10,026	27.93	92.97	27.93

Source of data: computed from U.S. Department of the Treasury, Office of Revenue Sharing, Sixth Period Entitlements, Washington, 1975, p. 440; and Initial Data Elements, Sixth Period Entitlements, Washington, 1975, p. 437.

in 1975-76 is -0.26, indicating a slight redistributive impact in

favor of the lower income states.[16] This outcome is net of the

impact of the various allocation factors. The coefficients of

correlation between state per capita income and entitlements based

on the various factors are: 1) Senate formula entitlements -0.71;

2) H_1 (urban population) entitlements +0.70; 3) H_2 (income) entitle-

ments -0.98; H_3 (tax effort) entitlements +0.53; and H_4 (income tax)

entitlements +0.50.

At least two points must be kept in mind for an interpretation

of these measures of the redistributional impact of the program among

state areas. First, the distributional impact depends not only on the

allocational pattern of the grants but also on the distributional

consequences of drawing the funds from one or other source. Are

they derived from increased federal taxes? Reduced outlays for

other federal programs? Or a combination of increased taxes and

reduced outlays? And what are the distributional implications of

financing the shared revenue program from one or other of

these various sources? For example, if the shared revenue program

is assumed to be financed by federal taxes that are derived more

than proportionately from the higher income states, then the overall

incidence of the program would be more redistributive among state

areas than is indicated by the distributional pattern of entitlements

alone. Using federal tax incidence estimates derived by Labovitz for

1969-71 and assuming that the shared revenue entitlements for 1972

were financed by a prorated fraction of all federal taxes, a net

gain (loss) for each state area can be calculated. The coefficient

of rank correlation between this estimated net gain (loss) and per capita income for the state area is -0.81.[17] Thus, assuming that the program is financed from general federal revenue sources, it appears that the shared revenue program is redistributive at least between the state areas. However, many feel that the shared revenue program has been financed largely at the expense of federal categorical aid programs. Under this assumption the redistribution achieved even at the state level would be considerably less.

Second, even if the program is redistributive in favor of low income state areas, this does not necessarily mean that poor citizens or even cities with large dependent populations are beneficiaries of the program. States with low average incomes have many high income residents and include many affluent communities, just as high income states have financially hard pressed communities with large pockets of disadvantaged citizens.[18] Thus to determine more accurately the distributional impact of the shared revenue program, the four steps prescribed for the distribution of funds among the general purpose governments within the state areas must be scrutinized.

Division Between State and Local Governments

One third of a state area's funds are assigned to the state government and two-thirds set aside for distribution to the local general purpose governments in the state. Since the revenue raised by all local governments in 1973 was 46 percent of the revenue raised by both state and local governments in that year the two thirds allocation to local governments might seem excessive.[19]

But such a judgment overlooks a principal avowed purpose of the
shared revenue program, namely, assistance to financially distressed
local governments. If indeed this is a principal goal of the program,
we may question whether the one-third/two-thirds rule is calibrated
finely enough and specifically whether more assistance should not
be designated for those municipalities that are especially distressed.

Furthermore, the allocation of fiscal responsibilities between
state and local governments varies considerably across the states.
Local governments in Hawaii, for example, collected only 24 percent
of the total state and local tax revenues generated in that state
in 1973; while in New Jersey local tax collections constituted 56
percent of the state and local total in that year.[20] Since local
governments in both instances received two thirds of their state
area's allocation, the New Jersey local governments received
relatively less support to meet their fiscal responsibilities than
did the Hawaiian local governments.

Assume, for example, that New Jersey cities tend to have larger
depenedent populations than do Hawaiian cities. Since New Jersey
cities must also finance a larger range of public activities than
do Hawaiian cities, they would then have relatively less of their
shared revenue available to support programs in favor of their
dependent population. Such a consequence would be regressive. In
general, if the shared revenue is to address the fiscal need of
jurisdictions as reflected in their functional responsibilities,
some adjustment in the distribution of the funds is required to
reflect variations in the state-local division of fiscal responsibility.

Nathan, Manvel, and Calkins, for example, have suggested that the state-local fractions be allowed to vary according to one of several possible indices, such as, tax revenue, all general revenue raised, or all direct expenditures.[21] Another possibility that will be developed in the final section is specifically to target those local governments judged in greatest need of assistance.

Allocation Among Local Governments

The two-thirds portion of a state area's shared revenue allocated to local governments is first divided among the county areas according to the "three-factor" Senate formula discussed above (equations 1 and 2).[22] It is at this point that the minimum and maximum provisions are introduced. If, in a preliminary calculation, any county area would receive less than 20 percent or more than 145 percent of the state average per capita entitlement available for local governments, the county area's shared revenue is adjusted to fall within these bounds and the appropriately offsetting adjustments made in other county area allotments.

The total sum for each county area is then allocated to the county government, township governments (if any), and municipal governments in proportion to the noneducational tax revenue raised by these various classes of governments.[23] Finally, the respective township and municipal totals are apportioned to the individual units within these categories according to the "three-factor" Senate formula. Constraints are also imposed on the allocation of these township and municipal totals. 1) No township or municipality may receive less than 20 percent; 2) no more than 145 percent of the

state average per capita entitlement available from the state area's local entitlement, with shortfalls or excesses derived from or added to allocations to all local governments in the state; 3) no unit may receive more than 50 percent of the sum of its noneducation tax revenue plus intergovernmental transfers, with any excess funds allocated to a unit's county government; and 4) no unit may receive an entitlement of less than $200, with disallowed entitlements allocated to the unit's county government.

Distributional Impact on Municipalities

The shared revenue received by any municipality is determined not only by the value of the variables in the allocation formula (see equations 1 and 2) but also by two notable constraints imposed in the allocation process. 1) The total shared revenue allocated to a state and/or county area sets limits to the shared revenue available for distribution to any municipality. Thus city A with a value for its "three factor" formula equal to city B's, nonetheless will receive a smaller entitlement than B if it is situated in a state area whose per capita entitlemtnt is relatively small (say, Ohio) and B is situated in a state area whose per capita entitlement is relatively large (say, Vermont).

2) The 20 percent floor and the 145 percent ceiling rules, both as applied to the county area and to the individual governments also can limit a municipality's entitlement. Thus a city can receive a smaller entitlement either because the 20 percent floor increases entitlements to other governments within the state and so leaves

a smaller amount for distribution from the state area's local portion
of its shared revenue,[24] or because the 145 percent ceiling constrains
either its county's or its own entitlements.[25]

The data for ten selected cities shown in Table 3 illustrate how
the size of per capita entitlements, the magnitude of noneducational
expenditures, and state aid vary across jurisdictions. For example,
the per capita shared revenue entitlements in 1976 vary from a high
of $33.53 in New York to a low of $11.75 in Fort Wayne (column 1).
However, since five of the cities, Boston, New Orleans, New York,
San Francisco, and St. Louis do not have county governments distinct
from the city some adjustments in the figures must be made so that
the entitlements for all the cities are comparable. Thus the 1976
entitlements to county governments have been allocated to the five
cities with overlying county governments in proportion to the city's
fraction of the county's population, with the result that range of
city-county entitlements for the cities is reduced somewhat as shown
in column 2. Since the size of a state entitlement defines the
funds available for local entitlements, Buffalo, New Orleans, and
New York City have larger entitlements than Cleveland, Fort Wayne,
and St. Louis at least in part because New York and Louisiana have
larger state entitlements than Indiana and Missouri (column 3).
The constraint of a smaller state entitlement is especially acute
in the case of St. Louis, whose entitlement is further limited by
the 145 percent rule mentioned above.

Additional difficulties inherent in tailoring a federal program
to aid cities are suggested by the wide variation in 1970 per capita
noneducational expenditues shown in column 4. The range in these

figures, from $560 for New York City to $75 for Fort Wayne, is due

both to different levels of funding for common functions as well as

to New York's responsibility for certain functions, such as public

assistance and higher education, not had by Fort Wayne. In column

5, however, it can also be seen that in 1970 New York received notably

more intergovernmental revenue than did Fort Wayne. Without a

detailed city-by-city analysis, it is impossible to determine the

extent to which such aid offsets the costs of more extensive

functional responsibilities. However, if the shared revenue program

has been financed at the expense of federal programs that had been

assisting the New Yorks more generously than the Fort Waynes because

of their more onerous fiscal responsibilities, then the New York's

fiscal situation has deteriorated with the advent of shared revenue.

The complex pattern of governmental institutions that exists within

and across states is manifested in a bewildering variation in the

functional responsibilities and taxing powers of cities and in the

intergovernmental aid they receive. Consequently federal revenue

sharing must be carefully designed if it is to do more than merely

move resources around indiscriminately. Under any carefully

designed program a city cannot simply be assumed to be a city.

Normative Bases for Intergovernmental Grants

Intergovernmental grants have been justified on various grounds.
The principal ones that will be considered here are assistance with

poverty-related expenditures, reimbursement for costs imposed on a

city by commuters and other nonresidents, and the equalization of

costs of maintaining a given level of public services. 1) The fiscal

Table 3

Per Capita Entitlements (1976), Noneducational Expenditures (1970), and Intergovernmental
Revenue (1970) Pertaining to Ten Selected Cities

City	City Entitlement Per Capita (1976) (1)	City + County Entitlement Per Capita (1976) (2)	State Entitlement Per Capita (1976) (3)	Noneducational City Expenditures Per Capita (1970) (4)	Intergovernmental Revenues as % of Total City Revenue (1970) (5)
Boston[1]	$33.23	$33.23	$35.60	$360.00	20.8
Buffalo	17.73	30.00	39.71	321.00	47.9
Cleveland	20.87	26.81	24.16	159.00	12.6
Fort Wayne	11.75	17.29	24.18	75.00	9.8
Newark	23.67	32.46	27.08	231.00	27.8
New Orleans[1]	31.06	31.06	36.36	140.00	16.0
New York[1]	33.53	33.53	39.71	560.00	45.8
San Jose	12.43	21.12	31.53	98.00	22.6
San Francisco[1]	25.88	25.88	31.53	509.00	36.5
St. Louis[1]	22.20	22.20	25.59	204.00	9.7

[1]In this city either the county government as such does not exist or its offices are part of the city government.

Source of data: Columns 1, 2, and 3: Computed from U.S. Department of the Treasury, Office of Revenue Sharing, Sixth Period Entitlements, Washington, 1975; columns 4 and 5: U.S. Bureau of the Census, County and City Data Book, 1972 (Washington: U.S. Government Printing Office, 1973), Table 6.

resources of a city with a disproportionately large poverty population
are strained not only by financing poverty-related programs but also
because, correlatively, the city has a relatively smaller proportion
of higher-income tax payers. 2) The impact of commuters and other
nonresidents impose net costs on a city unless compensation is made
for the services they receive through some means such as a nonresident
income tax or a local sales tax. 3) The cost of maintaining a given
level of city services, for example, police and fire protection, may
be higher per capita in a densely populated city with an older private
and public capital infrastructure than in a newly developed city.

An offsetting consideration that weakens a claim for shared
revenue is the extent to which a city can export taxes to residents
of other jurisdictions. A principal way in which this can occur
is through the shifting of taxes borne by business property.[26] To
the extent such shifting does take place, the city is in effect
receiving external financial assistance with its claim to inter-
government assistance thereby attenuated.

In order to test whether these various normative factors are
reflected in the distribution of shared revenue, regressions have
been run on data for 39 California and 30 Michigan cities. For
each state sample the 1976 per capita entitlements are regressed
on four variables selected as proxies for the normative considerations
just discussed: 1) percent of the city's taxable property (in 1968
for Michigan and 1972 for California) that is commercial and industrial
(CIP); 2) percent of the city's 1970 population that is poor (POOR);
3) the ratio in 1970 of the employment in the city to the city's
population (EMP); and 4) the precentage of the city's housing stock

that was built before 1950 (OLD). The pattern of entitlements across these cities will meet normative requirements for intergovernmental aid if 1) the coefficient on CIP is negative, indicating that entitlements are smaller to the extent a community has a large commerical and industrial taxable base which permits tax-exporting; and 2) the coefficients on POOR, EMP, and OLD are positive indicating that the entitlements are higher the larger are a city's poverty population, the relative number of workers who commute into the city, and the relative age of its housing stock.

From the regression results shown in Column I of Tables 4 and 5 we see that in most instances these normative expectations are not met. Thus for both California and Michigan CIP is positive and highly significant, indicating that per capita entitlements are higher the larger is the commerical and industrial tax base of a jurisdiction and so presumably its ability to tax-export. Further in both states EMP is negative, indicating that the larger a jurisdiction's commuting population is relative to its resident population, the smaller its per capita entitlement is. Only in California, however, is this relationship statistically highly significant. The results for OLD are mixed. In Michigan the older is the housing stock the larger is the per capita entitlement, as is normatively suggested. In California, on the other hand, the relationship is negative, though not statistically significant. Only for POOR do the results from both states meet the normative prescription. For both California and Michigan the per capita entitlements are positively associated with the percentage of a jurisdiction's population that is poor.

Results are shown in column II of Tables 4 and 5 of regressing per capita entitlements of the California and Michigan cities on the cities' per capita income (PCI) and per capita tax collections (PCT). Since these two variables are factors actually employed in the various steps of the within-state allocation process, although in a different functional form than used here, they are significant predictors of the variation in per capita entitlements across the cities. However, POOR would seem to be a more direct index of the financial burden imposed on a city by its dependent population than PCI. If the alleviation of this fiscal burden is indeed a goal of the shared revenue program, POOR should be used in the allocation formula rather than PCI. That such a substitution would have a notable impact on the distribution of shared revenue can be seen by comparing the regressions results shown in columns II and III of Tables 4 and 5. If POOR replaces PCI and PCT is retained in the regressions, the explained variation in 1976 per capita entitlements is reduced for cities in both states. Actually the impact on the variation in per capita entitlements due to a substitution of POOR for PCI is underestimated by a simple comparison of the $\bar{R}^2$'s of the two regressions. PCI^2 is the form used in the actual allocation formula (see equation 2) and hence if PCI^2 rather than PCI were used as the independent variable in the regressions the $\bar{R}^2$ would fall below 1.0 only to the extent such constraints as the 20 percent and the 145 percent rules were operative.

Finally, in column IV of Tables 4 and 5 results are shown of regressing per capita entitlements on all six variables used in the previous regressions. PCI and PCT are statistically significant in the regressions for both states. However, CIP remains positive for

both states and is statistically significant in the Michigan regression. POOR is also positive in both regressions but significant only in the California regression. The fact that CIP is positive even with allowance made for PCT indicates that cities in California and Michigan receive larger entitlements not only as a reward for collecting higher but also to the extent they have tax bases that permit tax-exporting. Since POOR is positive even when PCI is also used as a predictor variable we have further evidence that POOR and PCI are to some extent measuring different phenomena.

Income Support for Poor Citizens

A principal argument offered by supporters of the federal general revenue sharing program is its alleged redistributive impact. The fact that the allocation formulas used at the various states in the distribution of funds all include income-conditioned variables seems to offer prima facie evidence that the program indeed is re-distributive. However, we have seen from an analysis of the allocation process that the distributional impact of the program at the juris-dictional level is not as strong as might appear at first glance. We will now focus on the further question of whether the program can be expected ultimately to increase the disposable income of poor citizens.

Conceptually we can envision shared revenue being employed by recipient governments to increase the real disposable income of poor citizens through two mechanisms: 1) by directly reducing the tax burden of the poor and/or funding programs that favor low income citizens; and 2) by increasing the fiscal attractiveness of a

Table 4

Regression Results of Per Capita Entitlements (1976), Selected
California Cities, on Various Independent Variables

Variables	I	II	III	IV
Constant	-0.87 (-0.67)	+21.1 (+16.65)	+0.073 (+0.05)	+14.7 (+6.04)
CIP	+0.24 (+5.38)			+0.04 (+1.25)
POOR	+0.69 (+5.74)		+0.66 (+6.26)	+0.30 (3.32)
EMP	-7.93 (-2.45)			+1.03 (+0.47)
OLD	-0.03 (-1.29)			-0.02 (-1.21)
PCI		-0.0046 (-15.51)		-0.004 (-7.26)
PCT		+0.094 (13.57)	+0.35 (+2.76)	+0.07 (+8.41)
$\bar{R}^2$ =	.74	.90	.60	.92

t ratios in parentheses.

Sources of data:
1) Per capita entitlements: U.S. Dept. of Treasury, Office of Revenue Sharing, 6th. Entitlements (Wash.: Govt. Printing Office, 1975, 440 pp.)

CIP (for Calif.): U.S. Bureau of Census, Census of Governments, 1972, Vol. 2, Taxable Property Values and Assessment - Sales Price Ratios, Part I: Taxable and Other Property Values: (Wash.: GPO, 1973), Table 8.
CIP (for Mich.): A. P. Snyder, 1968 Value of Taxable Property in Michigan (East Lansing 1969), 117 pp.

POOR, EMP, OLD: U.S. Bureau of Census County and City Data Book 1972 (Washington: GPO, 1973), Table 6.

PCI & PCT: U.S. Dept. of Treas. Office of Revenue Sharing, Initial Data Elements Entitlement. 6 (Washington: GPO, 1975), 437 pp.

Table 5

Regression Results of Per Capita Entitlements (1976), Selected
Michigan Cities, on Various Independent Variables

Variables	I	II	III	IV
Constant	-1.38 (-0.64)	+28.62 (+ 7.24)	27.39 (+1.34)	+10.4 (+ 2.39)
CIP	+0.26 (+2.57)			+0.219 (+2.64)
POOR	+0.40 (+2.67)		+0.807 (+5.50)	+0.215 (+1.62)
EMP	-11.56 (-0.98)			-10.3 (-1.05)
OLD	+0.09 (+2.34)			+0.051 (+1.65)
PCI		-0.005 (-6.45)		-0.0025 (-3.40)
PCT		+0.079 (+5.24)	+0.511 (+2.89)	+0.038 (+2.97)
$\bar{R}^2$ =	.79	.72	.66	.87

t ratios in parentheses.

Sources of data: (See Table 4)

jurisdiction to high income residents thereby increasing its taxable base, and thus ultimately, through a trickle-down process, allowing the fiscal burden of the poor to be eased. This latter alternative seems to describe the strategic approach that Buchanan recommends to cities. "Fiscal decisions must be made strategically rather than reactively. Translated into practical policy terms this means that potentially-mobile central-city taxpayers who contribute to net fiscal surplus must be deliberately induced to remain in the sharing community by appropriate fiscal adjustments."[27]

Buchanan, of course, envisions a broader range of responses than merely a city's use of revenue sharing; just as revenue sharing itself has been defended on grounds other than increasing disposable income for low-income citizens. Nonetheless it is legitimate to judge the effectiveness of the program against this criterion. Hence, in this section general revenue sharing will be evaluated in terms of its target effectiveness as a redistributive program in favor of the urban poor. The increase in real income to be expected for the poverty population of one city, St. Louis, resulting both directly and indirectly from the use of its revenue sharing grant will be compared with the increased income the same poverty population would receive from an individual income support program of equal dollar cost.

A. The Model

Both the direct and indirect redistributive gain to a city's poverty population resulting from intergovernmental shared revenue can be described in terms of the following simple model.

If 1. $G_i = E_i - T_i$

  2. $T_i = (B_i)(R_i)$

where

G_i = real income gain to i^{th} group i = r (rich) or p (poor)

E_i = expenditures benefiting i^{th} group

T_i = tax burden on i^{th} group

B_i = taxable base of ith group

R_i = tax rate for i^{th} group

If it is assumed 1) that the shared revenue (S) received by a city is

used to reduce the tax rate on the rich (R_r) and/or increase expendi-

tures that directing favor the rich (E_r) and 2) that this policy, by

making the city more attractive to those with high income, thus

increases the city's taxable base,

then

  3. $B_r = B_r[R_r (S), E_r (S)]$

where

  S = shared revenue

and

$$\frac{dB_r}{dS} = \frac{dB_r}{dR_r}\frac{dR_r}{dS} > 0 + \frac{dB_r}{dE_r}\frac{dE_r}{dS} > 0$$

Finally, the larger taxable base resulting from this policy permits

a reduction in the tax rate on the poor in the city (R_p), _ceteris_ _paribus_.

In this way it is possible that the disposable income of the poor can

be increased by using the shared revenue directly 1) to reduce the

tax rate (or increase expenditures) for the poor and/or directly

2) do the same for the rich with the consequence that the taxable

base of the rich is increased thus allowing a reduction in the tax rate and/or increased expenditures for the poor _ceteris paribus_. Thus

$$4. \quad R_p = R_p[S, B_r (S)]$$

with

$$\frac{dR_p}{dS} = \frac{dR_p}{dS} < 0 + \frac{dR_p}{dB_r} \frac{dB_r}{dS} < 0$$

B. An Illustrative Example

Two empirical questions can be examined by this this simple model: 1) How large is the direct income gain to lower income residents of a city if the total shared revenue entitlement is used to reduce their tax rates and 2) How much do lower income residents stand to gain indirectly through the retention within the city of higher income residents with their associated larger taxable base? The answers to these questions will enable us to judge the redistributive effect of general revenue sharing. For an illustrative example let us assume that St. Louis receives a grant of $4 million, approximately the additional amount it would receive if $2 billion additional funds were appropriated for general revenue sharing and distributed according to the present distribution algorithms.[28]

If it is assumed that this $4 million shared revenue grant to St. Louis were used exclusively to reduce property tax rates in the city,[29] the effective property tax rate would be reduced from 2.00 to 1.85 percent and the poverty population of the city would enjoy an estimated direct increase in disposable real income

of $224,000.[30] Thus, 5.5 percent of the shared revenue would directly

benefit the poor in St. Louis. In order to estimate the indirect

gain to low-income residents due to the retention of higher income

residents with their higher taxable base, we would need to know (1)

the elasticity of a high-income residency with respect to property

tax rates combined with (2) the elasticity of the taxable base with

respect to high-income residency (equation 3). Without values for

these relationships we cannot give a precise measure of the indirect

gain to low income residents from the shared revenue program.

Some general parameters can be indicated, however, of the likley

indirect gain to poor citizens in St. Louis from a general reduction

in tax rates. Thus 1) if it is assumed that the effective property

tax rate is 1.78 percent, after revenue sharing, the taxable base

would have to increase by $114 million, or 6.5 percent of the

1970 taxable base, in order to generate property tax revenue equal

to the amount paid by those with less than $5,000 income in 1970.

2) There would have to be an increase in the taxable base of $212

million, or 12.1 percent, to generate sufficient additional property

tax revenue ($3,774,000) to provide an indirect increase in the

disposable income of the poor so that, when added to their direct

gain of $224,000, the total increase in the disposable income of

the St. Louis poor from the property tax reduction would equal the

$4,000,000 revenue sharing entitlement.[31] Although we have no

quantitative evaluation of the variables in equation 3, it scarcely

seems plausible that a relatively modest decrease in property rates

would trigger such sizable increases in the property tax base.[32]

There is also the question of using shared revenue to increase
expenditures for selected city functions. Would such increased
expenditures make the city more attractive to high income citizens
and so increase the taxable base sufficiently to permit financing
indirect income gain for the poor equal in value to the shared
revenue entitlement? We offer no judgment on this question and
it is possible that residency for high income citizens would be
promoted more by an improvement in city-financed amenities than by
a reduction in tax rates.

Evaluation of Revenue Sharing

From the analysis of this paper certain conclusions may be
drawn concerning the effectiveness of the State and Local Fiscal
Assistance Act of 1972. 1) It is very difficult to design an
allocation formula that takes into account the greatly diverse
fiscal situations facing the thousands of state and local govern-
ments in the United States. 2) From the regressions reported
in Tables 4 and 5, we have evidence that the current allocation
procedure does not account for such important factors as tax
exporting, governmental costs associated with a poverty population,
nor the impact of nonresidents on city expenditures. 3) Many
jurisdictions with scant title to intergovernmental aid under any
plausible understanding of externality nonetheless do receive
entitlements thereby reducing the funds available to cities with
such a title. In the light of these findings and judged by the
criterion of target efficiency, the shared revenue program must
be judged deficient as a redistributive instrument. Since other

goals have been proposed for the program, however, its overall

evaluation must also consider criteria pertinent to these other

goals.

An "Urban" Revenue Sharing Program

An illustrative "urban" program will be outlined in conclusion

with a view to correcting some of the deficiencies identified in

the current revenue sharing program. Estimates are shown in Table

6, column 4 of entitlements for selected cities if $2 billion were

distributed to the 384 cities with a 1974 population of 50,000 and

over in proportion to the city's fraction of the total 1970 poverty

population residing in these cities. Since the 1970 poverty population

of these 384 cities was 10,011,158 and New York City's poverty

population in that year was 1,176,333, or 11.7 percent of the total,

New York would receive 11.7 percent of the shared revenue to be

distributed, or $235,109,318 as shown in Table 6, column 4. The

amounts received under such a program by the selected cities can

be compared with 1) the entitlements they are to receive in 1976 under

the present program (columns 1 and 2) and 2) the entitlements they

would receive if the current program were simply to be expanded by

$2 billion and the current allocation procedures maintained (column 3).

Several arguments favor some such urban plan as just outlined.

1) The $2 billion additional funds would be targeted to 384 jurisdictions

whose population includes nearly 40 percent of the nation's poor and

whose eroding fiscal capacity threatens the nation's financial structure.

2) Such an urban formula is simply understood and can be rationalized

in terms of a national policy to channel aid to jurisdictions in

proportion to their numbers of dependent citizens. 3) Since such

an urban program is designed as an add-on to the present program

it would not disturb the allocation of funds to the 38,000 juris-

dictions currently receiving aid and so it should be more politically

acceptable than would a complete revision of the shared revenue

procedures, as justified as such a revision may seem to many. 4)

Finally, it should be noted that a marginal urban shared revenue

program as outlined here does not provide a remedy for many of the

problems inherent in the allocation procedure of the current program,

such as the inequities arising from jurisdictions' differing

abilities to export taxes, those resulting from the one-third/two-

thirds state-local division of the shared revenue, or those caused

by the 20 percent and 145 percent rules for the within-state

allocation. Finally, and perhaps most importantly, such a revision

would not touch what may be the central question facing proponents

of general revenue sharing: Why spread funds more or less indis-

criminately across thousands of small and/or affluent jurisdictions

with no compelling rationale for the largess?

Table 6

(1) Per Capita and (2) Total General Revenue Sharing Entitlements,
1975-76, and Total Entitlements from and Additional $2 Billion
Allocated (3) Under Current Program and (4) Under Urban Program,
10 Largest and Some Selected Cities

Cities	1975-76 Entitlements Per Capita (1)	Total (2)	Additional $2 Billion Current Program (3)	"Urban" Program (4)
New York[1]	$33.53	$264,732,734	$83,370,955	$235,109,318
Chicago	22.44	75,451,176	23,762,406	97,456,747
Los Angeles [1]	14.80	41,698,891	13,132,023	74,858,487
Philadelphia[1]	26.30	51,257,921	16,142,400	59,977,045
Detroit	26.12	39,470,913	12,430,377	45,007,712
Houston [1]	14.80	18,249,898	5,747,349	34,730,649
Baltimore[1]	29.00	26,265,998	8,271,819	33,309,653
Dallas [1]	16.39	13,836,722	4,357,530	22,777,869
Washington[1]	35.40	26,777,442	8,432,895	25,704,149
Cleveland	20.87	15,671,045	4,935,204	25,968,824
San Antonio	14.37	9,400,671	2,960,506	28,507,934
Boston[1]	33.23	21,300,807	6,708,157	20,756,235
St. Louis[1]	22.20	13,851,019	4,350,695	25,245,897
Phoenix	16.60	9,653,047	3,039,986	13,716,586
Pittsburgh	25,26	13,141,074	4,138,453	16,010,436
Buffalo	17.73	8,204,665	2,583,854	14,059,201
Newark	23.67	9,050,976	2,850,379	17,195,465
Oakland	15.10	5,460,298	1,719,584	11,997,528
Green Bay	22.18	1,944,194	612,275	1,349,431
Madison	17.71	3,068,697	966,409	4,085,779
Maple Bluff	4.74	8,926	2,811	0
Middleton	5.23	52,867	16,648	0
Milwaukee	19.15	13,731,555	4,324,410	16,339,499
Monona	4.75	49,971	15,736	0
Racine	17.78	1,528,902	481,489	1,693,303
Shorewood Hills	4.75	9,876	3,110	0
Dayton	18.62	4,533,286	1,427,645	6,909,614
Peoria	16.10	2,044,665	643,916	2,968,972
Sioux City	15.70	1,348,853	424,788	1,871,913

[1]Since this jurisdiction does not have distinct overlying county government it does not
share the "county are's" entitlement with a county government.

NOTES

[1]Richard P. Nathan, Allen D. Manvel, and Susannah E. Calkins, Monitoring Revenue Sharing (Washington: The Brookings Institution, 1975), pp. 38 and 41.

[2]John Shannon, "Federal Revenue Sharing—Time for Renewal?" National Tax Journal 27 (December 1974), p. 456.

[3]See Nathan, Manvel, and Calkins, pp. 188-189.

[4]Nathan, Manvel, and Calkins, p. 199.

[5]National Science Foundation/Research Applied to National Needs, General Revenue Sharing: Research Utilization Project, Volume 4 Synthesis of Impact and Process Research, December 1975, pp. vi and vii.

[6]National Science Foundation/Research Applied to National Needs, p. 41. For a preliminary analysis of the expenditure-incidence of the general revenue sharing program by income class, see Charles Brown and James Medoff, "Revenue Sharing: The Share of the Poor," Public Policy 22 (Spring 1974), pp. 169-188.

[7]For an attempt to develop models for a statistical study of the effect of grants on the allocation of funds among local public sector functions, see Martin McGuire, "An Econometric Model of Federal Grants and Local Fiscal Response," in Wallace E. Oates (ed.) Financing the New Federalism (Baltimore: The Johns Hopkins University Press, 1975), pp. 115-138.

[8]These calculations are derived from Nathan, Manvel, and Calkins, pp. 54-55.

[9]For example, Johnson has estimated that the larger of the two amounts would have cost $5.789 billion in 1972 rather than the $5.3 billion that was available. Hence each state's grant had to be reduced to about 92 percent (5.3/5.789 = .9155) of the larger amount that was originally indicated by the two formulas. (See Marv Johnson, A Discussion and Estimation of the Tax Effort Inducements of General Revenue Sharing (Syracuse: Maxwell School of Citizenship and Public Affairs, 1975), p. 64. I have calculated that in 1976 the larger of the two amounts would have cost $6.84 billion rather the $6.35 billion that was available. Hence in 1976 each state area's grant had to be reduced to 92.9 percent of the larger amount.

[10]As indicated, for example, in Johnson, pp. 4-6. See also Robert P. Strauss and Peter B. Harkins, "The Impact of Population Undercounts on General Revenue Sharing Allocations in New Jersey and Virginia," National Tax Journal 27 (1974), pp. 618-619.

[11]In 1970 "personal income" was $797 billion and "money income" $634 billion. However, the simple correlation between per capita "personal income" and "money income" across states in 1970 was +0.96. (See Johnson, p. 8.)

[12]Johnson has pointed out the similarity between the Senate formula and the original Pechman formula of the 1960s which weighted taxes simply by the inverse of per capita income. (See Johnson, p. 7.)

[13]According to the House formula three components of the formula
each account for the distribution of 22 percent of the available funds:
1) population, 2) population times relative income, and 3) urbanized
population; and two components each account for 17 percent: 1)
general tax effort times state and local taxes and 2) the income tax
collections of the state government relative to all state government
income tax collections, subject to some constraints described in the
next footnote.

[14]For the purpose of this formula "state income tax collections"
are understood to be 15 percent of the revenue from a state-imposed
personal income tax, with the constraints that no state may have
less than 1 percent nor more than 6 percent of the federal personal
income tax collections attributed to that state.

In 1976 10 states would have been affected by the floor
provisions of 1 percent of federal personal income tax collections
if they had chosen the House allocation formula: Connecticut, Florida,
Nevada, New Hampshire, New Jersey, South Dakota, Tennessee, Texas,
Washington, and Wyoming. Minnesota alone was affected by the 6
percent ceiling. Of these 11 states, only 2, Connecticut and New
Jersey chose the House formula.

[15]Estimated from the 1975-76 data. In 1972 only 31 states received
a larger allocation under the Senate formula. See Natham, Manvel,
and Calkins, p. 47.

[16]Calculated from data in I.M. Labovitz, Federal Revenue and
Expenditure Estimates for States and Regions: Averages for Fiscal

Years 1969-71 (Washington: Congressional Research Service, 1975);

and Nathan, Manvel, and Calkins, pp. 70-71.

[17]Estimated from data in Nathan, Manvel, and Calkins, pp. 74-75.

[18]Thus under one set of assumptions, Brown and Medoff estimate

that a revenue sharing program that redistributes grants from high

to low income states leaves the overall condition of poor citizens

unaffected. "...[T]he only redistribution that takes place is a

redistribution of benefits from poor people in high-income states to

poor people in low-income states. The position of all poor people

taken together is unaffected." Brown and Medoff, p. 175.

[19]Tax Foundation, Facts and Figures on Government Finance (New

York, 1975), p. 133. "Local revenue" includes revenue generated by

all local governments, not merely general purpose governments.

[20]Tax Foundation, pp. 134-135.

[21]Nathan, Manvel, and Calkins, p. 169.

[22]The "tax effort" index for the county area allocation differs

in two respects from the "tax effort" index used in the Senate

formula for the state area allocation (equation 1). First, only

county, municipal, and townships taxes for purposes other than educa-

tion are included in the county area index, whereas all state and

local taxes are included in the state area "tax effort" index. Second,

money income as reported by the Census Bureau is used rather than the

personal income measure that is used in the national accounts.

[23]If a county area includes an Indian tribe or Alaskan native

village such a unit received a fraction of the county area's grant

which equals its proportion of the county's population.

[24]In 1972 nearly 9000 governmental units, or 23 percent of all jurisdictions eligible for shared revenue, received increased entitlements from the 20 percent rule. Most of these governments had small populations and the total entitlements to these jurisdictions was only $88 million. However, many of these jurisdictions are concentrated in Ohio and Indiana and, if the 20 percent rule were eliminated, a considerable part of the shared revenue allocated to townships in these states would go to counties and municipalities raising the allocations to these jurisdictions by 6 to 8 percent in Indiana and 3 to 4 percent in Ohio. See Nathan, Manvel, and Calkins, pp. 160-162.

[25]In 1972 443, or 14.2 percent of all counties, were affected by the 145 percent rule. Of these county areas, 27 are served by one composite city-county government, as, for example, Baltimore, Philadelphia, and St. Louis.

In 1972 1,238 municipalities and 416 townships were affected by the 145 percent rule. Thirty-five of the muncipalities had populations of 50,000 or over, including many cities with large dependent populations. See Nathan, Manvel, and Calkins, pp. 156-160.

[26]See William B. Neenan, Political Economy of Urban Areas (Chicago: Markham, 1972), Chap. 6. For a discussion of a local exportable tax as a form of intergovernmental aid, see John J. Bowman, "Tax Exportability, Intergovernmental Aid, and School Finance Reform," National Tax Journal 27 (1974), pp. 163-173.

[27]James M. Buchanan, "Principles of Urban Fiscal Strategy," Public Choice XI (Fall, 1971), p. 1.

[28]See Table 6, column 3 where it is estimated that St. Louis

would receive $4,350,000 additional revenue from such a program.

[29]In 1970 property tax collections were $36.6 million with a

taxable base of $1,758 billion. See U.S. Bureau of the Census,

County and Data Book, 1972 (Washington: U.S. Government Printing

Office, 1973), Table 6.

[30]This estimate is derived in the following manner:

a) The average effective tax rate of the St. Louis property tax

in 1970 in terms of money income was 2 percent. ($36.6 million

property tax collections divided by $1,805 billion total money income

equals 0.02.) Source of data U.S. Bureau of the Census, County and

City Data Book, 1972 (Washington: U.S. Government Printing Office,

1973).

b) If the $4 million in shared revenue is used entirely for

property tax relief, the average effective rate falls to 1.78 percent

($36.6 million less $4 million equals $32.6 million divided by $1,805

billion equals 0.0178.)

c) Pechman and Okner estimate that in 1966 the average effective

property tax rate in the United States was 3.0 percent and the rate

on income under $5,000 per year was 2.7 percent, under the assumption

that the tax is borne by property owners. (Joseph A. Pechman and

Benjamin A. Okner, Who Bears the Tax Burden?) [(Washington: The

Brookings Institution, 1974), p. 59.] Since the average effective

property tax rate in 1970 was 2.0 percent in St. Louis, the rate on

those with annual income under $5,000 should be 1.8 percent before

revenue sharing and 1.6 percent after revenue sharing, if we simply

scale down the national distribution of the rates. (2.7/3.0 is equal to 1.8/2.0 and 1.6/1.78.)

d) On this basis, the total property tax liability of those with income under $5,000 would be $2,026 million before revenue sharing and $1,802 million after revenue sharing, or a gain of $224,000. [It is estimated that the total income received in 1969 by those in St. Louis with less than $5,000 income was $112.6 million times .018 equals $2,026 million and times .016 equals $1,802 million. Source of data: U.S. Bureau of the Census, County and City Data Book, 1972 (Washington: U.S. Government Printing Office, 1973), Table 6.]

[31]These estimates are derived as follows: The local property tax liability borne by the St. Louis poor in 1970 was $2,026,000 (see previous footnote). Thus $2,026,000 divided by the effective property tax rate on the St. Louis poor, 1.78 percent (see previous footnote), equals $113,800,000, which is 6.5 percent of the St. Louis property tax base in 1970 (see previous footnote).

Similarly $3,774,000 divided by 1.78 percent equals $212,000,000 or 12.1 percent of the St. Louis property tax base in 1970.

[32]It should be noted, however, that tax revenues from sources other than the property tax might well be increased by retaining high income residents in the city. Since local sales and payroll tax collections (the other two major St. Louis taxes) would also increase due to a retention of higher income residents, an increase in the property tax base constitutes only one component of the potential

indirect gain to the poor in the city from retaining higher income

residents.