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General Accounting Office

Including User Charges In The General Revenue Sharing Formulas Could Broaden The Measure Of Revenue Effort

No changes have been made to the formulas for distributing general revenue sharing funds since the program was passed in 1972. One component of the formulas, the tax effort measure, has been criticized as a limited and uneven measure of the burden on residents in providing public services. GAO analysis shows that the tax effort measure could be made more comprehensive by including a measure of user charges in the formulas.

GAO/PAD-82-23
SEPTEMBER 2, 1982

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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

PROGRAM ANALYSIS
DIVISION

B-206915

The Honorable L. H. Fountain
Chairman, Subcommittee on
Intergovernmental Relations
and Human Resources
Committee on Government
Operations
House of Representatives

Dear Mr. Chairman:

This report discusses our review of the measurement of the revenue-raising effort component in the General Revenue Sharing (GRS) formula. In House Report No. 96-1277, September 4, 1980, concerns were expressed that the GRS allocation formula omits nontax revenues, such as user charges and fees. Thus, we were asked to conduct a study of practical methods to improve the measurement of the revenue-raising effort.

As requested by your staff, we did not obtain agency comments. Unless you publicly release its contents earlier, no further distribution will be made of this report until 30 days after the report date. At that time, we will send copies to other interested parties including the Secretary, Department of the Treasury.

Sincerely yours,

Morton A. Myers
Director

GENERAL ACCOUNTING OFFICE
REPORT TO THE CHAIRMAN,
SUBCOMMITTEE ON INTERGOVERNMENTAL
RELATIONS AND HUMAN RESOURCES
HOUSE OF REPRESENTATIVES

INCLUDING USER CHARGES IN THE GENERAL REVENUE SHARING FORMULAS COULD BROADEN THE MEASURE OF REVENUE EFFORT

D I G E S T

General revenue sharing--the State and Local Fiscal Assistance Act--distributed nearly $4.57 billion to local governments last year. The current authorization expires on September 30, 1983. At the request of the House Committee on Government Operations, this report assesses the feasibility of expanding the way revenue-raising effort is measured in the revenue sharing formulas. Specifically, GAO focuses on practical ways to broaden the formulas by including user charge revenue in addition to tax revenue. In this report, GAO does not deal with recently proposed program options that have ranged from dropping the program to greatly increasing the funding if several categorical grant programs are discontinued.

One of the original goals of revenue sharing was to reward those governments that demonstrate relatively high revenue-raising effort. In recent years the measurement of revenue-raising effort used in the formulas (taxes divided by income) has been criticized as limited and uneven. One of the ways to broaden this measure is to include user charges in the formula. There are other ways to improve the measurement of revenue-raising effort, such as adjusting for tax exporting, i.e., taxes shifted onto nonresidents. However, GAO does not address these other ways in this report.

GAO found that user charge revenue could readily be included in the calculations that determine allocations between States. It is possible, with additional data collection effort, to include user charge revenue in the calculations that determine allocations within each State. The Bureau of the Census indicated that the additional effort required to collect annual data for every local government would cost about $300,000 a year. Even with the data, technical and definitional problems, such as how to deal with special district governments, would have to be resolved before it would be practical to include user charge revenue in the allocation process within each State. In view of these considera-

(GAO/PAD-82-23)
SEPTEMBER 2, 1982

tions, GAO focused its analysis on the question of disparities at the one level where annual user charge data do exist--allocations between States.

Before analyzing the formulas, GAO looked at user charge growth since 1972. At the local level, user charges have grown faster than taxes, so that today they are a relatively more important revenue source than in the past. In 1980, local governments collected 57 cents in total charges for every dollar of taxes, up from 38 cents in 1972. Also, local government reliance on user charges relative to taxes varies regionally. In general, governments in the South and West have the heaviest reliance on user charges.

The formulas that distribute general revenue sharing funds to over 39,000 jurisdictions have never been changed, even though local government financing has undergone steady change, such as increased reliance on user charges, in recent years. GAO's analysis of how State and local governments rank on the basis of tax effort and user charge effort provided evidence that disparities do indeed exist (chapter 2). Some State and local governments that rank high in terms of tax effort, rank low in terms of user charge effort; others that rank low in terms of tax effort, rank high in terms of user charge effort. A more comprehensive measure of revenue-raising effort would reduce the effects of these disparities on the distribution of revenue sharing funds.

Further analysis revealed that the disparities were small but growing over time. In 1975, tax effort was a reasonably good measure of revenue-raising effort, but by 1981 GAO's analysis indicated that tax effort was less effective. A small gap had developed between tax effort and broader measures of effort. The gap was partly caused by State imposed tax limitations.

Simulations of how 1981 allocations would have changed if various types of user charges were included in the measurement of effort indicated that no more than $55 million or 1.2 percent of the $4.57 billion in general revenue sharing funds would have been reallocated.

CONCLUSION

GAO concludes that expanding the tax effort measure to include user charges is definitely a fine-tuning device, but such a change would significantly broaden the measure of effort, improving its responsiveness to changes in local government financing. This conclusion is based on GAO's analysis that revealed

--user charge financing is growing relative to tax financing;

--State and local governments rank differently in terms of user charge effort and tax effort;

--the gap between tax effort and broader measures of revenue-raising effort is growing.

Contents

FIGURES

TABLES

TABLES (cont.) Page

ABBREVIATIONS

CGRI	Center for Governmental Research, Inc.
GAO	General Accounting Office
GRS	General Revenue Sharing
ORS	Office of Revenue Sharing
SRI	Stanford Research Institute

CHAPTER 1

INTRODUCTION

The State and Local Fiscal Assistance Act, commonly known as general revenue sharing (GRS), was enacted in 1972 and reauthorized in 1976 and 1980. The current authorization expires on September 30, 1983. By that date, nearly $70 billion will have been distributed to State (1972-80) and local (1972-83) governments. 1/ All of these funds have been distributed by a series of formulas that allocate shares first to State areas, then to county areas, and finally to general purpose governments within each county area. (See appendix I for a detailed discussion of how this tiering process works.)

While these formulas have been subjected to numerous criticisms, this report deals with only one particular criticism--that tax revenues are a limited and uneven measure of revenue-raising effort. We found that tax revenue is not comprehensive enough as a measure of revenue-raising effort and think that effort can be measured better by including user charge revenue in the formula.

GOALS OF THE REVENUE SHARING PROGRAM

One major difficulty in setting up any broad-based grant program is providing an equitable distribution of funds, based on generally accepted criteria. In devising the revenue sharing formula, the Congress selected "need," "fiscal capacity," and "effort to provide public services" as criteria to fulfill many of the major goals of general revenue sharing.

One goal was to assist those governments that demonstrated a relatively greater need. Scale of services provided to citizens reflects differing needs and needs are largely dependent on population size. Thus, population size was chosen as the data element to measure the degree of fiscal need. The larger the population, the larger the need.

Another goal was to aid those governments with low relative capacity to meet their needs. Presumably, communities with an abundance of financial resources have a greater capacity to meet

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1/The States' entitlement was eliminated beginning in fiscal year 1981. Funding for States was not authorized in 1981. In 1982 and 1983 the Administration did not submit a funding request for the States' share.

their needs; thus more aid was targeted to less well-off communities. Relative personal income was chosen as the data element to measure fiscal capacity. 1/

A third goal was to reward those governments that exerted a relatively greater effort to provide their citizens with public services. Effort can be measured by revenue raised relative to a community's ability to pay. Tax revenue divided by income was chosen as the data element to measure effort. 2/ Tax effort also was used as a way to measure differences between local governments in service responsibilities.

CRITICISM OF THE TAX EFFORT MEASURE

The formulas have not been changed since the law was originally adopted. However, a number of studies, reviewed in detail in appendix II, proposed changes to improve the equity, or fairness, of the formulas. Some of the proposals suggested major structural changes. These included eliminating the tiering process within States and changes to the constraints in the formulas, i.e., eliminating or modifying the minimum and maximum amounts that a local government can receive. Other proposals, while retaining the current structure of the formulas, pointed out a need for fine-tuning the formulas by modifying existing measures. While we believe some major changes are desirable, 3/ this report focuses on fine-tuning one of the formulas' measures, viz., the tax effort factor (taxes divided by income).

1/The Advisory Commission on Intergovernmental Relations has developed a more precise measure of fiscal capacity and has proposed it be used in place of relative income. See "Tax Capacity of the Fifty States: Methodology and Estimates," M-134 (Washington, D.C.: Advisory Commission on Intergovernmental Relations, March 1982).

2/In the local government allocation, taxes were "adjusted" downward by netting out taxes for schools and educational purposes. The reasons for this adjustment are discussed in appendix I.

3/"How Revenue Sharing Formulas Distribute Aid: Urban Rural Implications," U.S. General Accounting Office, PAD-80-23, April 22, 1980; "Changes in Revenue Sharing Formula Would Eliminate Payment Inequities; Improve Targeting Among Local Governments," U.S. General Accounting Office, GGD-80-69, June 10, 1980; and "Removing Tiering from the Revenue Sharing Formula Would Eliminate Payment Inequities to Local Governments," U.S. General Accounting Office, GGD-82-46, April 15, 1982. In the latter two reports we recommended that the Congress amend the Revenue Sharing Act to eliminate the tiering procedures for fund allocations.

The tax effort measure by itself may not be a particularly reliable measure to distinguish between relatively deserving and undeserving recipients. High tax effort may indicate above-average preference for public services or below-average fiscal capacity, but it may also be the result of wasteful management, exploitation of a community's taxpayers by a powerful special interest group, differences in service responsibility, or a community's above-average ability to export taxes to nonresidents.

Another criticism of the tax effort measure is that taxes alone are too narrow a measure of revenue-raising effort. There are many sources of nontax revenues which, from the taxpayer's viewpoint, are just as much a fiscal burden as taxes, but are not considered under the current formula.

> User charges and fees are excluded generally, thereby providing some incentive for local governments to move away from direct benefits-received financing. Any significant move in that direction would, in the view of many experts, cause an important loss in the equity and efficiency of state and local financing systems. It is not easy, however, to decide exactly how much the revenue factors should be broadened. 1/

Since the original enactment of the general revenue sharing program, the role of user charges has increased as a share of local revenues. Appendix III presents a detailed documentation of this growth. Reasons for this increase include the desire and need to increase revenue sources, the movement in local governments to manage scarce resources better, and the movement in State governments to mandate tax and expenditure limitations on local jurisdictions.

There are also conceptual reasons for greater reliance on user charge financing. Not all public services can be priced. However, to the extent that direct beneficiaries of local public services can be identified, charging a price acts as a more efficient rationing device than the creation and enforcement of regulations. Through pricing, local public officials can obtain signals of demand intensity and can use this information in making decisions concerning the quantity of services provided. Thus, public sector efficiency can be improved through greater reliance on public pricing.

PREVIOUS GAO WORK

In our previous work on this issue, we found the "adjusted tax" factor to be incomplete, thus resulting in an inaccurate

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1/George F. Break, Financing Government in a Federal System (Washington, D.C.: The Brookings Institution, 1980), p. 151.

measure of revenue raising effort. 1/ We recommended that an expanded defininiton of revenues be incorporated in the measurement of effort. Examination of the effect of this incomplete measure on a sample of local governments in two States, Kansas and Missouri, revealed that if revenues from publicly owned utilities had been included in the tax effort factor, 86 out of 137 cities would have received increases of over 10 percent in their revenue sharing allocations. We recommended that the Congress consider expanding the definition of eligible revenue to include profit transfers and payments in lieu of taxes from publicly owned utilities, sanitation charges collected by governments, and taxes levied by special districts. We also recommended that the Office of Revenue Sharing study the desirability of including service charges for purposes other than sanitation. 2/ This present report adds additional support to our previous analysis.

OBJECTIVE, SCOPE, AND METHODOLOGY

The House Government Operations Committee in its 1980 report 3/ on the reauthorization of the general revenue sharing (GRS) program requested that we review formula weaknesses inherent in the current measure of revenue raising effort, specifically with regard to the exclusion of user charges, and report on practical methods to improve this measure. Thus, our objective is to examine the feasibility of broadening the current revenue-raising effort measure to include user charges. We do not deal with other formula issues, nor with issues of the program's merits or effectiveness.

In the next chapter we address the question of whether excluding user charges creates disparities in the distribution of GRS funds. After finding evidence of disparities, we then consider the following questions:

--What is the magnitude of the disparities, and have they grown?

1/"Adjusted Taxes: An Incomplete and Inaccurate Measure for Revenue Sharing Allocations," U.S. General Accounting Office, GGD-76-12, October 28, 1975.

2/The Department of Treasury's Office of Revenue Sharing (ORS) is responsible for administering the act, including distributing funds to State and local governments; establishing overall program regulations; and providing the accounting and auditing procedures, evaluations, and reviews necessary to insure full compliance with the act. The data used by ORS to compute allocations are provided primarily by the Bureau of Census, Department of Commerce.

3/U.S., Congress, House of Representatives, Committee on Government Operations, State and Local Fiscal Assistance Act Amendments of 1980, House Report 96-1277, 96th Congress, 2d Sess., 1980.

--Are there practical alternatives to reduce the disparities?

Our results are based on an analysis of revenue sharing formula allocations between States. We considered analyzing allocations at the substate level, but found that annual user charge data are obtained from a stratified sample of local governments except during the census of governments conducted every 5 years. Thus, user charge data for every local government do not exist on an annual basis. However, Census officials informed us that reliable estimates of local user charge revenue aggregated at the State level are made annually. More details of the data limitations are present in chapter 2.

The final chapter summarizes the results and presents our conclusions. The four appendixes provide background information, more thorough documentation, and technical details of the analysis.

CHAPTER 2

THE REVENUE SHARING FORMULA HAS NOT ADAPTED WELL TO CHANGES IN RECIPIENT GOVERNMENT REVENUE SOURCES

The share of funds that each government receives under the revenue sharing program fluctuates annually. Any relative change in the formula's data elements will cause a change in the allocations. For example, the formula is designed to reward governments with a high tax effort. Any government that experiences a relative increase in its tax effort (either because of a decrease in aggregate income or an increase in tax revenues) will receive an increase in its revenue sharing allocation, all other factors held constant.

Unfortunately, unforeseen changes have occurred that affect the data elements in unintended ways. For example, tax effort has risen for some governments, not because the jurisdiction's residents have expended more effort, but because revenues from exported taxes have increased. The rapid rise in State severance taxes during the late 1970s was a largely unforeseen structural change that affected revenue sharing allocations by rewarding tax-exporting States (i.e., taxes shifted onto non-residents) based on the effort of citizens in tax-importing States. 1/

Another shift among State and local governments is differing reliance on user charges. As shown in appendix III, user charge revenue relative to taxes has risen steadily for the Nation as a whole. In this chapter we consider whether disparities in the allocation of revenue sharing funds have been created because the revenue sharing formula rewards governments on the basis of a narrow revenue-raising effort measure--taxes--rather than a broader measure of effort--taxes plus user charges.

After discussing data limitations and changes in allocations, we begin the analysis by ranking States on the basis of tax effort and user charge effort. These rankings provide evidence that disparities do indeed exist. Next we measure the gap between tax effort and broader measures of effort, showing that the gap has grown over time. Then we point out which States have been relative gainers and losers, giving possible reasons for the change. Finally, we present simulations of what the 1981 allocations would have been had the broader measures of effort been used to distribute revenue sharing funds. We found that approximately 1 percent

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1/Estimates of tax effort overstatement are as high as 20 percent for some States. See Dennis Zimmerman, "Interstate Tax Exportations, Severance Taxation, and Intergovernmental Policy Issues," Congressional Research Service, September 1981, pp. 13-14.

of total revenue sharing funds would be reallocated at the interstate level. We consider these shifts significant in reducing formula weaknesses inherent in the tax effort factor.

The measure of revenue-raising effort could be broadened to include other tax burdens, such as special tax assessments, taxes levied by special service districts, and cost of exported taxes. However, consideration of these additional tax burdens is beyond the scope of this review because of the lack of data and the inconsistent application of these taxes among the various State and local governments.

DATA LIMITATIONS

Our analysis is restricted to allocations between States. Census officials informed us that an analysis at the substate level is not possible because user charge data are not collected annually for all local governments. However, reliable estimates of State and local aggregates do exist.

These estimates are based on the annual Bureau of Census survey of State finances. Data were derived from a complete (universe) canvass for school districts and estimated from a random sample of approximately 11,000 local units for all other local governments. Using 1975 population as a base, the sample included all county governments having 50,000 or more inhabitants and all municipalities having 25,000 or more population. The sample also included governments whose relative importance in their State based on expenditures or debt was above a specified amount. A random selection of the remaining units was made from a compilation of all local governments within selected large standard metropolitan statistical areas, other major counties, and the balance of the State. From this list a random sample was chosen using probabilities that were based on the ratio of each government's annual expenditure or indebtedness to the State total. Usable replies were received from approximately 85 percent of the panel canvassed. For nonrespondent governmental units and agencies included in the panel, prior year data were used.

Census officials also informed us that the standard errors for these estimates are within 2 percent for most States, and under 1 percent for more than half of the States. A complete canvass of user charge revenue for all eligible local governments would cost approximately $300,000 per year.

We also found that substantial variations in local service delivery methods would make substate allocations technically difficult, requiring more discretionary decisions by Federal officials. Many local governments use special districts to provide certain services. Some use dependent districts, which are administrative arms of general local governments. Others rely on independent districts, which are autonomous bodies with their own taxing authority. However, the distinction between dependent and independent districts is not always this clear and the Census

Bureau, which is delegated by the revenue sharing law to resolve data definitional problems, hesitates to become a case-by-case arbiter in an area where no standards can be established.

Another large stumbling block to including user charges at the county area or local government stages is the potential for creating a substantial intrastate shift of funds. Because there is a wide diversity of methods by which localities choose to finance similar services, including user charges at the local tiers of the formula would create reallocations within each State. One study showed these reallocations would favor municipalities over county governments. 1/

Data limitations prevented a detailed analysis on each of the 17 different categories of user charges reported in the quinquennial census of governmental finances. Only two separate categories of current charges--education and hospital charges--are reported on an annual basis. 2/ Thus, our analysis focuses on current charges and current charges net of hospital and educational charges.

ALLOCATIONS HAVE CHANGED WITHOUT FORMULA MODIFICATIONS

The distribution of revenue sharing allocations has changed even without modifications to the formula. Table 1 shows the percentage distribution of revenue sharing funds to each State area for 1974 and 1980. For most States the change in their share is between +0.5 and -0.5 percentage points, which appears small until it is translated into dollars. If a State's share were reduced 0.5 percentage points it would lose almost $23 million in 1980 allocations. Twenty-three States experienced a decrease in their shares between 1974 and 1980; some States like Alabama, Pennsylvania, and Illinois lost relatively large shares. These changes are due to a number of factors affecting all of the data elements in the formula, such as changes in population and income. However, a past

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1/Reese C. Wilson et al., General Revenue Sharing Formula Alternatives (Menlo Park, California: SRI, 1975), p. 77.

2/In this report we shall use the Census term "current charges" and "user charges" interchangeably. Census defines current charges to include charges for the following: education, hospitals, sewerage, sanitation, parks and recreation, natural resources, housing and urban renewal, air transportation, water transport and terminals, parking facilities, and other. Notice, however, utility charges for water, electric power, gas, and transit are not included in the category of current charges because utility revenue is distinct from the category of general revenue.

Table 1

Percentage Distribution of Revenue Sharing Aid, 1974 and 1980 a/

States	Share 1974	Share 1980	Absolute Difference	Percentage Difference
Northeast				
Connecticut	1.14%	1.26%	0.12	10.4%
Maine	0.59	0.66	0.08	12.8
Massachusetts	3.36	3.05	-0.31	- 9.1
New Hampshire	0.35	0.34	-0.01	- 3.3
New Jersey	3.27	3.32	0.05	1.5
New York	11.32	10.98	-0.33	- 2.9
Pennsylvania	5.36	4.83	-0.54	-10.0
Rhode Island	0.40	0.43	0.02	5.5
Vermont	0.27	0.29	0.03	10.2
Midwest				
Illinois	5.39	4.99	-0.40	- 7.5
Indiana	2.13	2.02	-0.11	- 5.3
Iowa	1.47	1.24	-0.23	-15.5
Kansas	0.99	0.88	-0.11	-11.2
Michigan	3.97	4.19	0.23	5.7
Minnesota	2.09	2.00	-0.10	- 4.6
Missouri	1.80	1.84	0.04	2.4
Nebraska	0.75	0.64	-0.11	-14.1
North Dakota	0.36	0.28	-0.08	-23.4
Ohio	4.16	4.06	-0.10	- 2.3
South Dakota	0.42	0.32	-0.10	-23.6
Wisconsin	2.58	2.33	-0.25	- 9.6
South				
Alabama	2.05	1.55	-0.50	-24.4
Arkansas	1.00	0.98	-0.01	- 1.4
Delaware	0.28	0.32	0.05	17.0
District of Columbia	0.66	0.62	-0.04	- 5.8
Florida	3.38	3.05	-0.32	- 9.5
Georgia	2.05	2.21	0.16	7.6
Kentucky	1.38	1.61	0.23	16.8
Louisiana	2.34	2.18	-0.16	- 6.7
Maryland	1.80	1.97	0.17	9.7
Mississippi	1.86	1.46	-0.40	-21.4
North Carolina	2.32	2.47	0.15	6.5
Oklahoma	0.99	1.08	0.09	8.7
South Carolina	1.23	1.33	0.11	8.6

a/Totals may not add to 100 percent due to rounding.

Table 1 (continued)

South (continued)	Share 1974	Share 1980	Absolute Difference	Percentage Difference
Tennessee	1.73%	1.90%	0.17	9.9%
Texas	5.11	4.91	-0.20	- 3.9
Virginia	1.73	2.09	0.36	20.7
West Virginia	0.76	0.89	0.13	16.6
West				
Alaska	0.12	0.32	0.20	164.7
Arizona	0.87	1.14	0.27	30.5
California	10.11	11.67	1.55	15.3
Colorado	1.06	1.11	0.04	4.1
Hawaii	0.40	0.48	0.08	19.2
Idaho	0.42	0.37	-0.05	-12.1
Montana	0.34	0.37	0.02	6.2
Nevada	0.21	0.25	0.04	20.0
New Mexico	0.52	0.56	0.04	6.7
Oregon	0.89	1.06	0.17	19.0
Utah	0.56	0.61	0.05	8.8
Washington	1.50	1.30	-0.20	-13.5
Wyoming	0.17	0.20	0.03	15.9

study has shown that change in tax effort is the second most important influence in the distribution of aid (population is first). 1/

STATES RANK DIFFERENTLY WITH RESPECT TO TAX EFFORT AND USER CHARGE EFFORT

If State areas having high tax effort also demonstrate high effort with respect to user charges, then excluding user charges from the general revenue sharing formula would not produce significant disparities in relative shares because State rankings would not change. Our analysis shows this is not the case. We ranked States by the revenue sharing formula's tax effort factor in fiscal years 1975 and 1981, 2/ and also ranked States in terms of user charge effort. Table 2 shows that some disparities do exist. For example, in 1981 Massachusetts was 4th highest in tax effort

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1/Reese C. Wilson and E. Francis Bowditch, Jr., General Revenue Sharing Data Study, vol. 1 (Menlo Park, California: SRI, 1974), p. 21.

2/Since the data used in the formula are lagged, the 1975 allocation was based on 1972 data, the first year of the program.

Table 2

State Rankings for Tax Effort and User Charge Effort, 1981 and 1975

	1981			1975		
	Tax effort	State and local user charge effort	Local user charge effort	Tax effort	State and local user charge effort	Local user charge effort
Alaska	1	1	3	51	1	3
New York	2	37	13	1	39	22
Wyoming	3	6	2	12	3	4
Massachusetts	4	47	42	8	49	45
Hawaii	5	32	50	9	26	50
Minnesota	6	18	19	5	17	19
Arizona	7	25	20	10	31	32
Vermont	8	36	49	2	24	48
District of Columbia	9	51	43	47	45	9
Wisconsin	10	9	10	3	33	36
Montana	11	42	32	6	32	34
Rhode Island	12	44	51	22	48	51
Maine	13	46	47	7	44	47
Utah	14	11	35	19	13	37
Nevada	15	14	5	14	8	2
Maryland	16	38	36	27	42	40
Michigan	17	20	15	15	27	16
New Mexico	18	24	29	16	12	12
Colorado	19	10	23	23	10	23
Delaware	20	7	31	25	18	27
New Jersey	21	45	45	31	46	44
Oregon	22	21	22	32	22	25
California	23	35	18	4	40	20
Nebraska	24	8	8	35	20	21
Pennsylvania	25	48	39	20	47	39
Washington	26	23	11	18	11	7

Table 2 (continued)

	1981			1975		
	Tax effort	State and local user charge effort	Local user charge effort	Tax effort	State and local user charge effort	Local user charge effort
Louisiana	27	28	24	13	28	30
West Virginia	28	33	34	30	35	35
Iowa	29	16	21	17	23	17
Connecticut	30	50	48	21	51	49
Kentucky	31	40	38	44	29	31
Idaho	32	19	12	26	21	11
South Dakota	33	22	44	11	6	38
Illinois	34	49	37	29	50	43
Mississippi	35	3	4	24	2	6
Kansas	36	29	25	38	30	29
Georgia	37	5	1	39	7	1
South Carolina	38	12	17	40	15	24
North Carolina	39	31	27	37	37	33
Virginia	40	30	40	42	36	41
Oklahoma	41	13	26	45	5	14
Florida	42	15	6	33	14	5
Tenessee	43	17	9	43	19	10
North Dakota	44	2	41	28	4	42
Alabama	45	4	7	49	9	8
Missouri	46	43	30	41	43	26
Texas	47	34	16	46	34	13
New Hampshire	48	41	46	34	38	46
Ohio	49	39	33	50	41	28
Indiana	50	26	28	36	16	18
Arkansas	51	27	14	48	25	15

but ranked 47th in user charge effort. Alabama, on the other hand, ranked 4th on user charge effort and 45th on tax effort. We also computed correlation coefficients on these rankings and found that no direct relationship exists between tax effort and user charge effort (see appendix IV).

Even though disparities or differences in ranking do exist, this evidence by itself is not enough to argue for a change in the formula. Because relationships between paired rankings do not measure relative differences, they do not show how allocations would change if a broader measure of revenue-raising effort were used, and they do not indicate the effects of changes over time, i.e., whether the exclusion of user charge effort has resulted in a growing gap between the current tax effort measure and a broader measure of effort.

THE GAP BETWEEN TAX EFFORT AND BROADER MEASURES OF EFFORT HAS GROWN

Between fiscal years 1975 and 1981, State and local government revenue sources have been changing. State-imposed limitations on taxation have forced some local governments to shift the relative importance of revenue sources. Effort to raise revenue has increased, but much of this effort is not captured by the revenue sharing formula. Thus a disparity in revenue sharing allocations is created between States that rely heavily on user charges and those that do not.

We found that the tax effort factor used in the revenue sharing formula's 1981 allocations performed worse than in 1975 as a measure of revenue-raising effort. This finding is based on regression analysis that is presented in detail in appendix IV. We compared tax effort to four alternative measures of revenue effort. 1/ Although user charges are not included in the revenue sharing formula, we found tax effort to be a reasonably good proxy for the four alternative measures of revenue effort in 1975. By 1981, however, the gap 2/ between tax effort and the broader measures of revenue-raising effort had widened. Thus, tax effort today is not as good an indicator of government revenue-raising effort as it was back in 1975.

1/We define revenue effort in this report to be the sum of tax and user charge revenue relative to income. The alternatives are based on four different categories of current charges: (1) State and local current charges, (2) State and local current charges net of education and hospital charges, (3) local current charges, and (4) local current charges net of local education and hospital charges. See appendix IV.

2/The gap was measured by changes in the regression coefficients between the two years.

STATES WITH ABOVE AVERAGE INCREASES IN USER CHARGES EXPERIENCE BELOW AVERAGE INCREASES IN THE SHARE OF REVENUE SHARING FUNDS

Because the gap between tax effort and broader measures of revenue effort was growing over time, we assessed whether this underlying structural change was having an effect on allocations. We discovered that some States with above average increases in user charges experienced below average increases in the share of GRS funds. Figure 1 illustrates this finding between 1974 and 1980 1/ for one of our four categories, local current charges. The results do not differ substantially from the other user charge categories. The four quadrants depict the four possible outcomes. States can be either above or below the national average in their change in the share of GRS funds, and States can be either above or below the national average in their change in charges.

Analysis of the 19 States in quadrants II and IV revealed interesting differences in local government taxing powers. Of the nine States in quadrant II (above average increases in GRS funds and below average increases in user charges), seven have no tax limits on their local governments. All other things being equal, we would expect local governments in States that do not limit local government taxation to increase their use of taxes faster than their use of user charges. This would increase tax effort and their share of GRS funds.

We also would expect local governments, in States that impose limits on their local governments' taxation ability, to increase their use of user charges faster than the national average to replace relative losses in tax revenues. This would decrease their tax effort and reduce their share of GRS funds. All 10 States in quadrant IV have tax limits. Thus one of the unintended effects of maintaining the current revenue sharing formulas is that local governments in some States limiting taxation lose out vis-a-vis local governments in some States with no tax limits.

A SMALL BUT SIGNIFICANT REALLOCATION RESULTS WHEN USER CHARGES ARE INCLUDED IN THE MEASURE OF EFFORT

We asked the Office of Revenue Sharing to rerun their 1981 State area allocations using four measures of revenue effort. We found the amount of funds shifted to be small but significant for several States, including those 19 States discussed in the previous section (see tables 3 and 4). All nine States in quadrant II of figure 1 experienced a reduction in their share when local user charge data was included in the effort measure. Of the 10 States

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1/The latest available data for user charges was 1980.

Figure 1

Percentage Change in Local User Charges and Share of Revenue Sharing Funds Between 1974 and 1980

II	I
Above Average Change in GRS Share Below Average Change in Charges	Above Average Change in GRS Share Above Average Change in Charges
Connecticut a/ Rhode Island a/ Vermont a/ Delaware a/ Kentucky Maryland a/ Virginia a/ Hawaii a/ Montana	Maine a/ Michigan Georgia North Carolina Oklahoma South Carolina Tennessee a/ West Virginia Alaska Arizona California Nevada Oregon New Mexico Utah Wyoming
III	**IV**
Below Average Change in GRS Share Below Average Change in Charges	Below Average Change in GRS Share Above Average Change in Charges
Massachusetts a/ New Hampshire a/ New Jersey New York Pennsylvania Illinois Indiana Kansas Missouri North Dakota Ohio South Dakota Arkansas District of Columbia a/ Colorado Washington	Iowa Minnesota Nebraska Wisconsin Alabama Florida Louisana Mississippi Texas Idaho

a/States with no tax rate or levy limitations imposed on local governments, as of 1979.

with above average growth in user charges and below average growth in their share of GRS funds, 7 experienced an increase in their share when local user charge data was included in the effort measure.

Tables 3 and 4 also show that allocations would differ for some States depending on the alternative selected. However, every alternative definition of revenue effort would, in general, shift funds from the Northeast and Midwest to the South and West. Some States are not consistent gainers or losers under all alternatives (e.g., North Dakota, Alabama, and Mississippi). The reason is that these States have a relatively heavy reliance on those charges that differ between alternatives. The regional shift in funds is due to regional variation in reliance on user charges, as is shown in appendix III.

When the shifts presented in table 3 were translated into total dollars reallocated, we found the amount to be small (see table 4). However, this amount would increase if the revenue sharing program were funded at a higher level. Also, the amount will increase if some States continue to broaden their reliance on user charge financing while others continue heavy reliance on taxes. Table 5 illustrates that the range in total GRS funds shifted is between $55 million and $17.7 million. This shift, although small in the aggregate, does make a significant difference for some States that have moved to user charges while limiting their growth in taxes.

In summary, we found disparities when ranking States with respect to tax effort and user charge effort. These disparities were small but have been growing. We developed four alternative measures of effort and found that the reallocation would also be small. However, using these alternatives, the reallocations would be significant for some States that have been losers because of a restricted definition of effort.

Table 3

Percentage Change in 1981 Interstate Revenue Sharing Allocations Using Measures of Revenue Effort Rather Than Tax Effort

State	Revenue effort including: State and local current charges	State and local current charges minus education and hospital charges	Local current charges	Local current charges minus education and hospital charges
Northeast				
Connecticut	- 3.1%	- 0.9%	- 2.9%	- 1.3%
Maine	- 5.5	- 1.7	- 6.7	- 2.9
Massachusetts	- 3.1	- 0.7	- 2.5	- 1.5
New Hampshire	- 0.5	+ 0.1	- 5.1	- 1.5
New Jersey	- 1.9	+ 0.3	- 2.0	- 0.8
New York	- 2.9	+ 0.0 a/	- 1.2	+ 0.1
Pennsylvania	- 4.9	- 0.2	- 4.3	+ 5.0
Rhode Island	- 1.9	- 1.3	- 3.2	- 1.3
Vermont	- 3.9	- 3.7	- 8.6	- 3.8
Midwest				
Illinois	- 2.1	- 0.5	- 1.4	- 0.6
Indiana	+ 0.6	- 0.4	- 0.2	- 0.6
Iowa	+ 1.4	- 1.0	- 0.6	- 1.0
Kansas	+ 0.5	- 0.9	- 0.7	- 1.3
Michigan	- 0.1	- 0.3	- 0.1	- 0.2
Minnesota	- 0.9	- 0.4	- 0.9	- 0.4
Missouri	- 0.7	- 0.4	- 0.3	- 0.3
Nebraska	+ 2.9	- 1.0	+ 2.3	- 0.9
North Dakota	+13.8	+13.6	- 3.2	- 0.2
Ohio	- 0.2	+ 0.1	- 0.6	+ 0.1
South Dakota	+ 1.7	+ 3.3	- 4.5	- 2.0
Wisconsin	+ 0.3	- 0.4	+ 0.1	+ 0.3
South				
Alabama	+13.1	+ 0.0 a/	+ 7.5	- 1.1
Arkansas	+ 3.9	- 1.1	+ 3.5	- 1.1
Delaware	+ 0.9	+ 1.1	- 1.0	+ 0.7
District of Columbia	- 4.3	- 0.8	- 2.2	- 0.5

a/0.0% indicates that change of less than one-half of a percentage point occurred.

Table 3 (cont.)

	Revenue effort including:			
	State and local current charges	State and local current charges minus education and hospital charges	Local current charges	Local current charges minus education and hospital charges
South (continued)				
Florida	+ 4.6%	+ 3.2%	+ 7.9%	+ 2.8%
Georgia	+ 8.7	+ 0.4	+10.8	- 0.0 a/
Kentucky	- 2.1	- 0.9	- 3.7	- 2.2
Louisiana	- 0.3	- 1.1	- 1.2	- 1.9
Maryland	- 1.2	- 0.2	- 1.5	- 0.7
Mississippi	+10.4	- 1.7	+ 7.1	- 2.8
North Carolina	+ 0.8	- 1.9	- 0.5	- 2.1
Oklahoma	+ 4.9	+ 1.4	- 0.1	- 0.4
South Carolina	+ 4.1	- 1.6	+ 1.7	- 2.6
Tennessee	+ 4.2	+ 0.6	+ 4.2	+ 0.9
Texas	+ 1.9	+ 0.7	+ 3.1	+ 1.5
Virgina	- 0.0 a/	+ 0.1	- 1.2	- 0.1
West Virgina	- 1.3	- 1.6	- 2.9	- 2.4
West				
Alaska	- 3.0	+ 6.5	- 2.6	+ 2.2
Arizona	- 2.5	- 1.9	- 2.2	- 1.4
California	- 0.8	+ 0.4	- 0.2	+ 0.3
Colorado	+ 0.7	- 0.3	- 0.6	- 0.2
Hawaii	- 1.8	+ 1.0	- 4.0	- 1.7
Idaho	+ 1.9	+ 0.9	+ 2.0	- 0.4
Montana	- 4.6	- 0.4	- 3.5	- 0.3
Nevada	+ 1.1	+ 0.6	+ 4.7	+ 1.0
New Mexico	+ 0.1	- 1.9	- 2.0	- 1.6
Oregon	- 0.1	+ 0.8	- 0.5	+ 0.2
Utah	+ 1.0	- 1.2	- 3.7	- 0.9
Washington	+ 0.4	+ 3.3	+ 1.4	+ 2.9
Wyoming	+ 0.5	- 0.8	+ 2.0	- 2.3

a/0.0% indicates that change of less than one-half of a percentage point occurred.

Table 4

Change in 1981 Interstate Revenue Sharing Allocations Using Measures of Revenue Effort Rather than Tax Effort

($ in thousands)

States	Revenue effort including: State and local current charges	State and local current charges minus education and hospital charges	Local current charges	Local current charges minus education and hospital charges
Northeast				
Connecticut	$- 1,769	$- 487	$- 1,629	$- 750
Maine	- 1,527	- 497	- 1,870	- 815
Massachusetts	- 4,484	- 980	- 3,589	- 2,160
New Hampshire	- 76	5	- 773	- 223
New Jersey	- 2,836	426	- 3,018	- 1,208
New York	-13,912	392	- 5,547	639
Pennsylvania	-11,268	- 567	- 9,744	11,513
Rhode Island	- 389	- 262	- 637	- 270
Vermont	- 517	- 502	- 1,154	- 512
Midwest				
Illinois	- 4,771	- 1,098	- 3,043	- 1,236
Indiana	550	- 356	- 142	- 494
Iowa	789	- 538	- 320	- 565
Kansas	185	- 357	- 303	- 540
Michigan	- 218	- 563	- 222	- 298
Minnesota	- 799	- 363	- 822	- 372
Missouri	- 540	- 316	- 246	- 282
Nebraska	928	- 306	745	- 286
North Dakota	1,689	1,672	- 396	- 20
Ohio	- 376	220	- 1,048	276
South Dakota	265	509	- 689	- 308
Wisconsin	285	- 444	124	325
South				
Alabama	9,733	30	5,583	- 786
Arkansas	1,720	- 492	1,573	- 477
Delaware	126	150	- 140	94
District of Columbia	- 817	- 158	- 417	- 85
Florida	7,320	5,123	12,605	4,450

Table 4 (cont.)

	Revenue effort including:			
South (continued)	State and local current charges	State and local current charges minus education and hospital charges	Local current charges	Local current charges minus education and hospital charges
Georgia	$ 9,377	$ 483	$ 11,648	$- 45
Kentucky	- 1,580	- 697	- 2,805	- 1,679
Louisiana	- 265	- 1,072	- 1,123	1,767
Maryland	- 1,044	- 171	- 1,302	- 653
Mississippi	6,429	- 1,059	4,373	- 1,705
North Carolina	882	- 2,231	- 587	- 2,418
Oklahoma	2,631	738	- 66	- 219
South Carolina	2,715	- 1,066	1,149	- 1,702
Tennessee	3,654	494	3,675	824
Texas	4,174	1,546	6,890	3,273
Virginia	- 32	100	- 1,134	- 68
West Virginia	- 552	- 680	- 1,263	- 1,048
West				
Alaska	- 392	852	- 345	283
Arizona	- 1,570	- 1,176	- 1,335	- 881
California	- 4,066	1,748	- 1,038	1,473
Colorado	352	- 135	- 295	- 91
Hawaii	- 394	213	- 864	- 374
Idaho	357	172	380	- 77
Montana	- 787	- 63	- 608	- 45
Nevada	146	77	650	133
New Mexico	35	- 575	- 595	- 468
Oregon	- 56	416	- 260	129
Utah	335	- 390	- 1,205	- 296
Washington	303	2,287	968	2,052
Wyoming	56	- 82	207	- 234

Table 5

Amount of Funds Shifted in 1981 State Area Allocations Under Broader Measures of Revenue Effort

	Revenue effort including:			
	State and local current charges	State and local current charges minus education and hospital charges	Local current charges	Local current charges minus education and hospital charges
Dollars shifted (in millions)	$55.0	$17.7	$50.6	$25.5
Percentage of total funds allocated	1.2%	0.4%	1.1%	0.6%

CHAPTER 3

SUMMARY AND CONCLUSIONS

Our objective in this report was to examine the feasibility of broadening the revenue sharing formula's current measure of revenue-raising effort to include user charges. We considered including charges at the various tiers of the formula, which are discussed in detail in appendix I. We found that it was possible to include user charges at the interstate level, but would only be possible to include user charges at the intrastate level if additional data were collected by Census. Even with the data, technical and definitional problems, such as how to deal with special district governments, would have to be resolved before it would be practical to include user charge revenue at the intrastate level. Thus we focused our analysis on the formula's first tier or State-area allocation.

Before undertaking the analysis, we reviewed past literature on the subject and found that several previous studies had recommended revision of the tax effort measure to include various types of user charge revenue (see appendix II). Since the publication of these past studies, user charges have become an even more important source of local government revenue, growing 44 percent relative to taxes between 1972-80. Reasons for this growth include State-imposed tax limitations and the need for local officials to develop more budgetary flexibility.

This growth in reliance on user charges prompted an assessment of whether tax effort adequately measures revenue-raising effort. Our analysis demonstrates the inadequacy of tax effort as a comprehensive measure of revenue-raising effort. We found evidence of disparities when we ranked State and local governments on the basis of tax effort and user charge effort. We also found that the magnitude of the disparity, although small, was growing over time. We then considered four of many possible ways to include user charges in measuring revenue-raising effort. We found that allocations were improved for States having relatively high reliance on user charges.

We conclude that including user charge revenue in the first tier of the allocation formula would improve the measurement of the revenue-raising effort. While each of the four alternatives analyzed in this report could improve distributional equity, we do not have a preference for any particular one. There are advantages and disadvantages to each alternative. We hesitate to suggest one alternative because congressional decisions on other revenue sharing issues have not been resolved.

Currently State governments are ineligible, but State taxes, local education taxes, and special district taxes are included in the interstate tax effort measure. If the Congress decides to fund State governments again, then the more appropriate alternatives would be those that included both State and local user charges. Even if States remain ineligible it may be appropriate to include State and local user charges because State and local taxes are currently used in the interstate allocation formulas. On the other hand, if States remain ineligible and the goal is to reduce local government disparities, then it seems appropriate to include only local user charges in the interstate allocation formula. Although user charge data are not available on an annual basis for every local government receiving revenue sharing funds, aggregate estimates are available.

The issue of whether education and hospital charges should be included or excluded depends on whether the Congress considers these charges to be an even reflection of effort. Hospital charges have been criticized as an uneven measure because some local governments report hospital payments to Census as user charge revenue, while other local governments that contract out for hospitals do not. Education charges include revenues from school lunches, tuition for higher educational institutions, and dormitory fees. It is not clear whether these education charges reflect effort to the same extent as charges for other public services.

TECHNICAL ASPECTS OF THE REVENUE SHARING ALLOCATION PROCESS

The Congress appropriates a given sum of money every year under the general revenue sharing program. In fiscal year 1981, $4.57 billion was allocated to over 39,000 units of general local government through a series of complex formulas. Three key factors are used in the formulas to determine how much money each eligible government receives: population, personal income, and tax revenue. The specific way these factors are used and defined in each of the formulas contributes to the complexity of the allocation process. Also contributing to the complexity are various maximum and minimum constraints, ensuring that no one government receives too much or too little, and the tiering procedure, whereby funds within a State are first allocated to county geographic areas before being allocated to the individual jurisdictions within the county.

HOW THE FORMULAS WORK

The general revenue sharing formulas allocate aid by a process involving four tiers. The funds are not distributed until the fourth stage in the process. The first tier divides the total dollars available among the 50 States and the District of Columbia by applying two separate formulas (a three-factor multiplicative formula and a five-factor additive formula) and uses the result that yields the higher amount for each State. After the amount is determined for each State, one-third is allocated to the State government and the remaining two-thirds are allocated to local governments, including counties, municipalities, townships, Indian tribes, and Alaskan native villages. For fiscal 1981, 1982, and 1983, the State government share was eliminated presumably as an austerity measure.

After the State allocations have been determined, the amount available for distribution to local governments is then allocated by the second tier of the three-factor formula to county areas (geographic areas, not county governments). To ensure that no area allocation produces extreme results, maximum and minimum constraints are imposed on the allocation process. To calculate the constraints, an average per capita entitlement for all governments within the State is established. Aid is then calculated for each county area based on a formula giving equal weight to population, relative income, and tax effort. If this calculation allocates an amount exceeding 145 percent of the statewide per capita entitlement to any county area, that amount is reduced to the 145 percent level and the excess is reallocated to other unconstrained county areas. Similarly, if any county area is allocated less than 20 percent of the statewide per capita entitlement, its amount is increased to the 20 percent level and the resulting deficit is taken proportionately from the remaining unconstrained county areas.

In the third tier, the formula distributes the county area allocation among four different classes of government within that area.

--An amount for Indian tribes and Alaskan native villages determined by the ratio of their populations to the total population of the county area.

--An amount for the county government determined by the ratio of county government adjusted taxes to total county area adjusted taxes.

--An amount to be distributed to townships determined by the ratio of township adjusted taxes to total county area adjusted taxes.

--The remaining amount to be distributed to all other local governments.

In the fourth tier, funds to individual townships and local governments are allocated according to a three-factor formula using relative population, relative income, and relative tax effort. No local government, except county governments, may receive less than 20 percent nor more than 145 percent of the statewide per capita entitlement for all local governments. In addition, no local government, including county governments, may receive an amount greater than 50 percent of the sum of its adjusted taxes and intergovernmental transfers (except Indian tribes and Alaskan native villages). Finally, no allocations are made to governments that are entitled to less than $200; those amounts are allocated to the county government in which such jurisdictions are located.

In each tier of the allocation process, which is illustrated in figure 2, taxes enter in the computation. At the State level, all State, special district, and local taxes are included in the tax effort factor. In the second and fourth tiers, tax effort is adjusted by excluding (1) all special district taxes, and (2) all taxes raised for education. 1/ At the third tier, sales taxes

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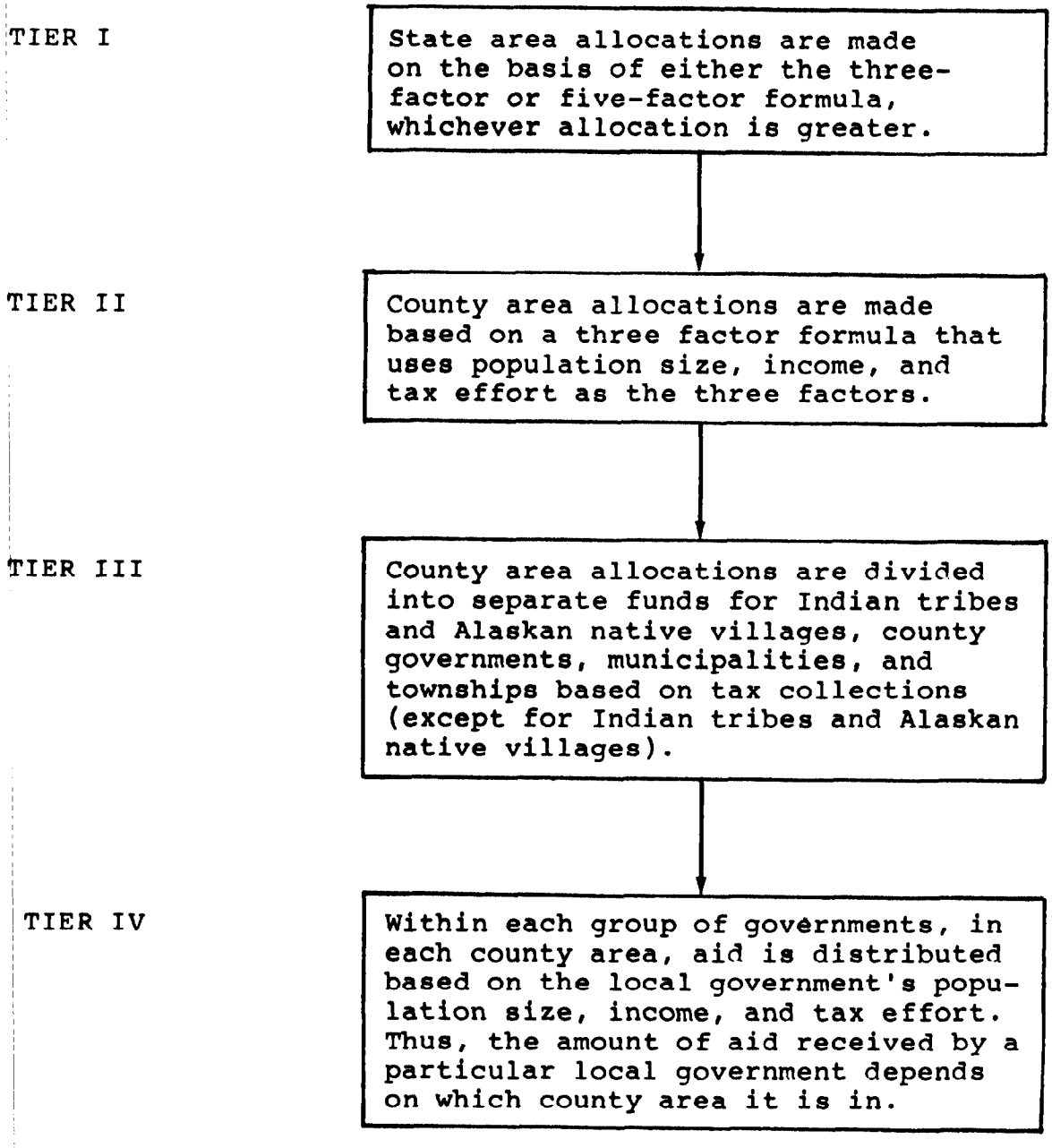
1/The adjustment for education taxes is primarily made to place all units of local governments on an equal basis, since some general local governments finance schools through their regular budget while others provide for schools through independent school districts. Furthermore, some school districts, like other single-purpose district governments, overlap jurisdictional boundaries, crossing city, township, and sometimes county lines. It would be virtually impossible to attribute school district tax revenue to the residents of a particular unit of local government, which would have to be done if school taxes were to be included for all units of general local government.

APPENDIX I

Figure 2

The Tiered Procedure Used to Allocate Funds Under the General Revenue Sharing Program



Source: Adapted from "The Impact of Tiering and Constraints on the Targeting of Revenue Sharing Aid," U.S. General Accounting Office, PAD-80-9, June 1980, p. 5.

collected by county governments and transferred to other jurisdictions within the county are treated as taxes of the local--not county--governments. Since the tax effort factor is used in three of the four tiers, it is important to determine whether it is an adequate measurement of the effort expended by State and local governments in providing public services.

The interstate level

At the interstate level two formulas are used for allocations. Allocations for all States are calculated twice, once with the three-factor formula, and once with the five-factor formula. Each State is assigned the formula allocation that yields the higher amount. Then, since the sum of the higher allocations for each State is greater than total funds appropriated, all allocations are reduced by the same proportion to exhaust appropriated funds.

The three-factor formula is as follows:

$$G_i = A\left[\frac{N_i(T_i/Y_i)(y_{us}/y_i)}{\sum_i N_i(T_i/Y_i)(y_{us}/y_i)}\right]$$

where G_i = revenue sharing allocation to State area i, i = 1,...,51

A = the total amount appropriated

N_i = population of State i

T_i = tax revenue from State and local governments in State i

Y_i = aggregate personal income of residents in State i

y_{us} = per capita income of the United States

y_i = per capita income of State i

APPENDIX I

The five-factor formula is as follows:

$$G_i = A \left[0.2201(N_i/N_{us}) + 0.2201(URBN_i/URBN_{us}) + 0.2201 \frac{N_i(y_{us}/y_i)}{\sum_i N_i(y_{us}/y_i)} + 0.1698 \frac{(T_i)^2/Y_i}{\sum_i (T_i)^2/Y_i} + 0.1698 \frac{TX_i}{\sum_i TX_i} \right]$$

where N_{us} = population of the United States

$URBN_i$ = urbanized population of State i

$URBN_{us}$ = urbanized population of the United States

TX_i = income tax collection of State i

The intrastate level

The amount of money going to local governments within a State is determined using the following procedure. First, allocations are made to county geographic areas using

$$G_{ij} = G_i^* \left[\frac{N_j(T_j/Y_j)(y_i/y_j)}{\sum_j N_j(T_j/Y_j)(y_i/y_j)} \right]$$

where G_{ij} = revenue sharing allocation in State i that is assigned to county area j

G_i^* = total amount of funds in State i to be allocated to local governments in State i

N_j = population of county j

T_j = Net nonschool taxes of general purpose governments in county j

Y_j = aggregate personal income of residents in county j

y_i = per capita income of State i

Y_j = per capita income of county j

Next, funds are allocated to Indian tribes and Alaskan native villages based on the tribe's or village's share of county population. The remaining funds are allocated to three separate "pots" in proportion to taxes collected by the county government, all townships, and all municipalities. Each municipality and township receives its grant based on

$$G_{ijk} = \left[\frac{\sum_k T_k}{T_j} G_{ij} \right] \left[\frac{N_k (T_k/Y_k)(y_j/y_k)}{\sum_k N_k (T_k/Y_k)(y_j/y_k)} \right]$$

where the subscript k indicates the k th municipality for the allocation to municipalities; or the k th township for the allocation to townships.

MEASUREMENT OF EFFORT

The Congress attempted to target more revenue sharing aid to States and communities where residents demonstrated a willingness to bear a greater burden for the provision of public services by including a measure of this effort in the distribution formulas. During the initial enactment of the program, several theoretical and technical difficulties hampered the construction of an effort measure. After a number of alternative definitions were considered, the current tax effort measurement (taxes divided by income) was adopted.

Subsequent analyses of this effort factor indicated that it was an inadequate measure of fiscal burdens, and a number of changes were recommended. 1/ However, these recommendations were not enacted during the program's authorization renewals in 1976 and 1980, primarily because of the potential costs that would be created if States and communities were held harmless. 2/

The notion behind the use of an effort measure is to indicate the degree to which a local government is attempting to provide local public services from its own sources. This burden could be measured by either revenues or expenditures. The use of expenditures, however, presents problems because it is difficult to distinguish between a jurisdictional burden and a nonjurisdictional burden, i.e., services provided by one government but financed by a higher level government. Revenues, on the other hand, indicate where the money came from, not what services were provided. 3/ As

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1/These analyses are discussed in the next appendix.

2/"Hold harmless" means those governments losing aid because of formula changes would be compensated fully for their loss.

3/One exception is taxes that a jurisdiction exports to nonresidents.

table 6 shows, revenues for local governments encompass all sources of finance, including intergovernmental aid and interest earnings on investments. Since revenues in most cases can be traced to geographic sources, they can be used to approximate geographic fiscal burden. Thus revenues are superior to expenditures as a measure of effort. The use of tax revenue alone, however, understates the actual degree of revenue-raising effort because some services are paid for by residents through other means, such as user charges and special assessments. These non-tax revenue sources represent fiscal burdens on local residents but are not reflected in the current revenue sharing formula.

Table 6

Local Revenue Sources, 1979-80

($ in millions)

General revenue	$232,453
Intergovernmental revenue	102,425
Taxes a/	86,387
Current charges b/	27,828
Miscellaneous general revenue	15,812
Nongeneral revenue	25,845
Utility revenue	21,055
Liquor store revenue	435
Insurance trust revenue	4,355
Total U.S. local revenue, all sources	$258,298 c/

a/For revenue sharing purposes, taxes are adjusted by excluding educational taxes after the first tier.

b/Current charges, as defined by the Bureau of the Census, include charges for the following: education, hospitals, sewerage, sanitation, parks and recreation, natural resources, housing and urban renewal, air transportation, water transport and terminals, parking facilities, and other. Notice, however, utility charges for water, electric power, gas, and transit are not included in the category of current charges because utility revenue is distinct from the category of general revenue. We are using the terms "current charges" and "user charges" interchangeably throughout the report

c/Due to rounding, totals and subtotals may not add.

Source: U.S. Bureau of the Census, Governmental Finances in 1979-80, Series GF80, no. 5 (1981), table 4, p. 17.

PREVIOUS PROPOSALS TO MODIFY THE GENERAL REVENUE SHARING FORMULA HAVE BEEN UNSUCCESSFUL

The adequacy of the tax effort factor in the revenue sharing formula has been questioned since the inception of the program. The National Science Foundation (NSF) sponsored a series of studies to evaluate the overall operation of the revenue sharing formulas. Several of the studies examined the comprehensiveness of taxes as a surrogate for measuring effort. These studies, which are reviewed below, found the measure inadequate and recommended changes. At the same time these studies were conducted, we also examined the measurement of effort, found it lacking, and recommended several changes and further study. 1/ On the other hand, an economist who helped design the initial formulas assessed this issue and concluded that, in a practical sense, only limited changes could be made to the adjusted tax component and that these changes were so insignificant that they would not be worth the legislative effort. 2/

Although the issue of how to measure revenue raising effort was again raised in 1980, no legislative changes occurred. (Enough information on the effect of a change was not available to make a decision.) Thus, recent changes in how governments finance themselves are not reflected in the existing formulas. As a result, the issue continues to be of concern.

REVIEW OF PROPOSALS TO CHANGE THE MEASUREMENT OF EFFORT

The series of studies on the tax effort measurement completed prior to the 1976 reauthorization of revenue sharing examined three sets of alternatives for expanding tax effort to produce a more comprehensive measure of revenue-raising effort. The first approach was to expand the effort definition to include nontax revenue sources, primarily user charges. The second approach was to broaden the definition of effort to include taxes not counted under the existing definition. Primarily, this would include taxes collected by special districts and school districts (these are included in the State area formula but not in the substate formulas). The third approach involved expanding the definition of effort for the State area formulas but not the substate formulas. These alternatives were not mutually exclusive; some researchers tested a

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1/"Adjusted Taxes: An Incomplete and Inaccurate Measure for Revenue Sharing Allocations," U.S. General Accounting Office, GGD-76-12, October 28, 1975.

2/Robert P. Strauss, "General Revenue Sharing: How Well Is It Working?" Proceedings of the 67th Annual Conference on Taxation (National Tax Association, 1974), pp. 172-208.

combination of them before reaching their conclusions. Each NSF-funded study recommended a broadening of the existing effort measure to include various user charges.

A study published by the Brookings Institution found the adjusted tax measure to be an incomplete and discriminatory indicator of effort. 1/ It was incomplete because it excluded nontax revenues, such as user charges, which also demonstrate local effort. It was discriminatory because certain States made a greater-than-average use of nontax revenue sources, thus understating their levels of effort when compared to the rest of the country. The study concluded that if the Congress wished to broaden the measure of local fiscal effort to include nontax revenue sources, more detailed data would need to be collected.

We interviewed the Chief of the Governments Division at the Bureau of the Census to verify the Brookings conclusion and found that specific user charge data are not collected on an annual basis for every eligible local government. A complete census of each local government's finances, including 17 different categories of user charges, is taken only during the quinquennial-census of governments. Therefore, it is not possible to annually update local user charge data for specific charges. The Census official, however, did tell us that he believes their annual estimates of local user charges are reliable when aggregated at the State level. Thus, user charge data could be included at the first tier, or interstate level, of the allocation process. He also told us it would be technically feasible to gather user charge data for every local government on an annual basis. Such an effort, however, would require an additional survey. The survey would cost approximately $300,000 a year, require additional staff, and 1 year's lead time would be needed to gather the first round of data.

A Rand report on improvements to the revenue sharing formula examined the reasons for interstate allocation differences. 2/ The report recommended, for the interstate level only, including all current charges and liquor store revenue surpluses in the effort component, while excluding other forms of user charges such as special assessments and utility revenues. Rand argued that these revenue sources were worthwhile to include in the formula because they would increase the equalizing tendency of the formula and would eliminate the disincentive that currently exists to expand reliance on user charges.

1/Richard P. Nathan, Allen D. Manvel, Susannah E. Calkins and associates, Monitoring Revenue Sharing (Washington, D.C.: The Brookings Institution, 1975), p. 146.

2/Stephen M. Barro et al., Equalization and Equity in General Revenue Sharing: An Analysis of Alternative Distribution Formulas (Santa Monica: Rand, 1975), pp. 69-71.

The Center for Governmental Research, Inc. (CGRI) looked for ways to make the revenue sharing formula more "neutral" in its treatment of local governments and better reflect actual revenue-raising effort. 1/ CGRI found that limiting the effort measure to taxes forced non-neutrality by providing localities with a disincentive to use other means of finance, such as user charges. CGRI examined several options.

First, it broadened the definition of adjusted revenues to include all current charges, special assessments, and reimbursements for capital outlays. It then simulated both interstate distributions for all States and intrastate distribution for four States with this definition. Second, it narrowed its original definition by excluding charges that had nontax characteristics, such as airport landing fees, and recalculated the distribution. Its interstate simulations with the broader measure shifted among the States about $82 million or 1.6 percent of total revenue sharing funds. Although the expanded effort measure resulted in significant changes for some States, CGRI did not propose that the expanded effort measure be adopted because the data were inconclusive. It correlated the current and expanded effort measures with other measures of effort used by the Advisory Commission on Intergovernmental Relations, but could not conclude which effort measure was better. Thus, CGRI focused part of its analysis on expanding the intrastate definition of revenue effort. It found the narrower option also reallocated a relatively small amount of funds. However, CGRI found this reallocation more adequately recognized relative effort and increased the neutrality of the formula.

The Stanford Research Institute (SRI) also studied alternatives to the revenue sharing formula. Their goals were to allocate funds better among localities according to functions and the magnitude of responsibility, and to provide more assistance to jurisdictions with the greatest needs. 2/ In its examination of the fiscal effort measure, SRI substituted a broader measure of adjusted revenues for the existing adjusted tax component.

1/Barry Jesmer et al., General Revenue Sharing: Designing a Formula Which Does Not Discourage or Distort Local Variations in Financing and Delivering Services (Rochester: Center for Governmental Research, Inc., 1975), pp. 55-63. By "neutral," CGRI meant that a formula element should not produce an incentive to discourage or distort local variations in financing or delivery of services.

2/Reese C. Wilson et al., General Revenue Sharing Formula Alternatives (Menlo Park, California: SRI, 1975), pp. 73-80. Depending on the State, some local governments have far more responsibility than others. SRI believed one policy question was to determine which government functions should be admissible in the GRS formula.

This measure was similar to the previously discussed CGRI measure; the only difference was in the treatment of certain charges that SRI excluded because there was no apparent fiscal burden. SRI found the interstate reallocation shifted $58.2 million, about 1 percent of total revenue sharing funds. Although the amount shifted was not large, SRI argued that this modification be made on the grounds that the proposed change more closely portrays differences in revenue effort and would maintain consistency with their proposed formula changes at the intrastate level.

In our previous report, 1/ we reached conclusions similar to those of other investigators. We recommended that the Congress consider expanding the definition of tax effort to include profit transfers and payments in lieu of taxes from publicly owned utilities, service charges for sanitation, and special district tax revenues. We also recommended that the inclusion of other user charges be studied. A concise summary of these various research proposals is presented in table 7.

Although our review of previous research uncovered many proposed changes to the tax effort component of the revenue sharing formula, we do not intend to imply that all formula analysts favored broadening the current formula. One of the architects of the formula analyzed the need for changes to the effort component and concluded that no changes should be made. 2/ He argued that many of the services financed through user charges could be provided privately and may not represent sacrifice in the same sense as tax-financed services. For these services financed by user charges, profits more closely approximate taxes. But when he compared revenues from services such as hospitals and sewerage against expenditures, expenditures exceeded revenues. The implication is that these services either receive subsidies from the general revenue fund--and therefore are reflected in net tax collections--or accounting variability make measurements inaccurate. Thus, he concluded that no practical reason is served by including such revenues in the formula. 3/

1/"Adjusted Taxes: An Incomplete and Inaccurate Measure for Revenue Sharing Allocations," U.S. General Accounting Office, GGD-76-12, October 1975.

2/Robert P. Strauss, "General Revenue Sharing: How Well Is It Working?" Proceedings of the 67th Annual Conference on Taxation (National Tax Association, 1974), pp. 191-193.

3/We disagree with Strauss' argument. First, he overlooked the equity issue in terms of financing similar functions, i.e., one government may provide health services financed by user charges while another may finance the same service through taxes. Citizens in both localities make similar sacrifices, but only the sacrifice of citizens in the latter jurisdiction is reflected in the current revenue sharing formula. Secondly, he compared revenues from charges, for instance sewerage, with total

In another study, on municipal electric utility profits in the State of North Carolina, it was shown that the inclusion of utility profits might provide an undesirable incentive for public sector profit-making and exporting of taxes to nonresidents. 1/ The authors of this study also found that the inclusion of municipal profits may not have as great an effect on local revenue sharing receipts as one might expect because constraints (the 20 percent minimum and 145 percent maximum limitations) in the formula prevented such increases. Finally, the study showed that such profits were a regressive form of finance for the poor and as a result such action should not be encouraged. While this study examined only one State, the researchers concluded that utility revenues should not be included on grounds of administrative difficulty, equity, and efficiency.

WHY THE PROPOSALS WERE NOT ADOPTED

The adequacy of the tax effort factor was considered as primarily a technical issue and as such did not figure prominently in the initial revenue sharing debate in 1971-72 or the subsequent renewals in 1976 and 1980.

The State and Local Fiscal Assistance Act of 1972 (P.L. 92-512)

The original revenue sharing bill submitted by the Administration in 1971 defined the fiscal effort component as "own source general revenues" as determined by the Bureau of the Census. This included user charges, special assessments, utility revenues, and liquor store receipts. Early in the deliberation, locally collected education revenues were omitted for political and technical reasons. Because the Administration was sponsoring a special revenue sharing program for school districts, it did not want to "double count" educational revenues. Also, the mixed financing methods in different States, discussed earlier, and the overlapping nature of school districts with various general purpose local governments, provided a sufficient number of technical barriers to exclude educational revenues from the local fiscal effort measure.

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expenditures. Many governments conduct sewerage operations without collecting any charges, but financing these operations through the general revenue fund. Thus, expenditures from aggregated Census data could be greater than revenues because of local government diversity in financing.

1/Robert P. Strauss and Kenneth L. Wertz, "The Impact of Municipal Electric Profits on Local Public Finance," National Tax Journal, vol. 29 (March 1976), p. 22.

Table 7

Comparing Various Proposed Changes to the Existing Law

Own-Source Revenue	Different Measures of Effort: Existing Law	Rand	CGRI	SRI	GAO (1975)
Taxes					
Property	X	X	X	X	X
Individual income	X	X	X	X	X
Corporate income	X	X	X	X	X
General sales	X	X	X	X	X
Selective sales	X	X	X	X	X
Motor vehicle and operator licenses	X	X	X	X	X
Death and gift taxes	X	X	X	X	X
Other	X	X	X	X	X
Current Charges					
Education		X	X		a/
Hospitals		X	X		a/
Sewerage		X	X	X	a/
Sanitation (not sewerage)		X	X	X	X
Parks and recreation		X	X	X	a/
Natural resources		X	X	X	a/
Housing and urban renewal		X	X	X	a/
Air transportation		X	X		a/
Water transport and terminals		X	X		a/
Parking facilities		X	X		a/
Other		X	X		a/
Miscellaneous General Revenue					
Special assessments			X	X	a/
Sale of property					
Interest earnings					
Other					
Utility Revenue					
Water supply				X	b/
Electric power					b/
Transit				X	b/
Gas supply					b/
Liquor Store Revenue		X			a/
Insurance Trust Revenue					

a/Recommends further study of these for possible inclusion.

b/Recommends inclusion of payment in lieu of taxes and utility profit transfers, not gross revenue from these charges.

The narrowing of the revenue effort measure from adjusted own source general revenue to adjusted taxes occurred late in the deliberations. The choice was made, in part, because of regional differences in certain revenue sources. For instance, in the initial computer analysis of potential effects, southern States were found to receive more aid than other areas of the country under the own source revenue measure. This was largely due to the fact that southern municipalities operated more utilities than other parts of the country.

Also, the choice was made based on the belief that tax revenue, as opposed to own source general revenue, was a purer measure of local resident burden for public services. The use of tax revenue would reduce regional variations due to public provision of what could be considered a private good or service in other parts of the country.

Revenue sharing renewal in 1976 (P.L. 94-488)

While the adequacy of the adjusted tax measure was not a major issue in the reauthorization deliberations, the issue was raised a number of times and several bills were introduced to broaden the definition. The hearings included discussions of the results of the previously reviewed research and it was agreed that the distinction between certain service charges and taxes was unclear. The Office of Revenue Sharing conducted some test computer analyses with an adjusted tax component which included water, sewer, and sanitation charges. It found modest reallocations between States and substantial changes within States. Because $266 million would have been needed to compensate governmental units which would lose funds under this proposal, the issue was not actively pursued.

Revenue sharing renewal in 1980 (P.L. 96-604)

The issue of understating actual local effort by using the adjusted tax measure was raised during the 1980 renewal hearings by several representatives from California, a State which had recently imposed local tax limitations. These limitations forced local governments to resort to nontax revenue sources, especially user charges, to maintain certain services. As a result, the ability of tax revenue to measure adequately the relative revenue-raising effort was reduced. Several local jurisdictions also wrote their members of the Congress to highlight the inequitable allocations they received because of their relatively greater reliance on user charges.

The issue of understating revenue-raising effort, however, received less congressional attention than the concern for overstating revenue-raising effort. Energy-rich States which export a large proportion of their tax burdens through the use of severance taxes have a relatively greater measure of tax effort under

the existing adjusted tax component, thus raising their share of revenue sharing funds. An amendment to neutralize this overstating effect was defeated in the House, so no change occurred to the adjusted tax effort component to correct for its tendency to either overstate effort for some States or understate effort for other States.

The issue of how to measure revenue raising effort has surfaced in some form during each debate over revenue sharing renewal. Although the formulas have never been modified, it is important to point out underlying changes in local government activity that may exacerbate disparities. One revenue source that has grown faster than local tax revenue is user charge revenue (see appendix III).

APPENDIX III

USER CHARGES ARE BECOMING A MORE SIGNIFICANT REVENUE SOURCE FOR LOCAL GOVERNMENTS

State and local governments, responsibile for providing public infrastructure and services for their residents and businesses, are seeking to expand revenue sources to finance their activities. In particular, they are seeking viable alternatives to taxation. These alternatives range from charging for services previously financed by taxes, to encouraging or allowing the private sector to produce certain public goods and services. The movement towards greater reliance on user charges is just one of several responses taken to meet citizens' continued demand for public services in the face of cutbacks. The purpose of this appendix is to document the growth in user charges.

There are many potential sources of revenue available to State and local governments, and the use of these sources varies in relative importance among States, localities, levels of government, and also over time. This diversity contributes to the difficulty of finding a single constant measure of effort to allocate revenue sharing funds. For example, if the relative importance of taxes as a source of revenue declines over time for a given jurisdiction, then that jurisdiction would receive less in revenue sharing dollars (if all other data elements remain constant), even though its revenue-raising effort, when defined more broadly than tax effort, may have expanded.

THE RELATIVE IMPORTANCE OF NONTAX REVENUE SOURCES HAS INCREASED

All three major revenue sources, namely taxes, intergovernmental aid, and nontax revenue, have grown over the 1972-78 period. As table 8 shows, however, they have not grown at the same rate.

The relative importance of revenue sources has changed. State and local governments, caught between never-ending spending pressures and a growing resistance to taxation, have been turning to alternative revenue sources. As figure 3 illustrates, taxes as a share of State budgets declined and the share of nontax revenues grew from 22 percent to 27 percent. The change for local governments is more dramatic, taxes as a share of local government revenues fell from 43 percent to 33 percent between 1971-72 and 1979-80. Nontax revenue sources expanded from 22 percent to 27 percent of local government budgets, and the share of intergovernmental aid also jumped 5 percentage points.

In short, States and localities rely on many of the same revenue sources, but to differing degrees. Intergovernmental revenue has become the most important single source of revenue in the budgets of local governments, while the largest single source at the State level is taxes. Within the area of nontax revenue sources, local governments rely most heavily on user charges, while State governments receive the largest share of nontax revenue from earnings on insurance trust fund investments.

Table 8

State and Local Revenue Sources, 1971-72, 1979-80, and Percentage Change
($ in millions)

Source	1971-72 State	1971-72 Local	1979-80 State	1979-80 Local	Percentage Change 1972-80 State	Percentage Change 1972-80 Local
Intergovernmental revenue	$27,981	$39,694	$ 64,326	$102,425	129.9%	158.0%
Taxes	59,870	49,739	137,075	86,387	129.0	73.7
Nontax revenue	24,457	25,506	75,561	69,485	209.0	172.4
Current charges	7,820	11,068	16,545	27,828	111.6	151.4
Miscellaneous general revenue	2,960	4,742	15,646	15,812	428.6	233.4
Utility revenue	0	7,787	1,304	21,055	-	170.4
Liquor store revenue	1,904	284	2,765	435	45.2	53.2
Insurance trust revenue	11,773	1,625	39,301	4,355	233.8	168.0
Total revenue a/	112,309	114,939 b/	276,962	258,298 b/	146.6	124.7

a/Because of rounding details may not add to totals.

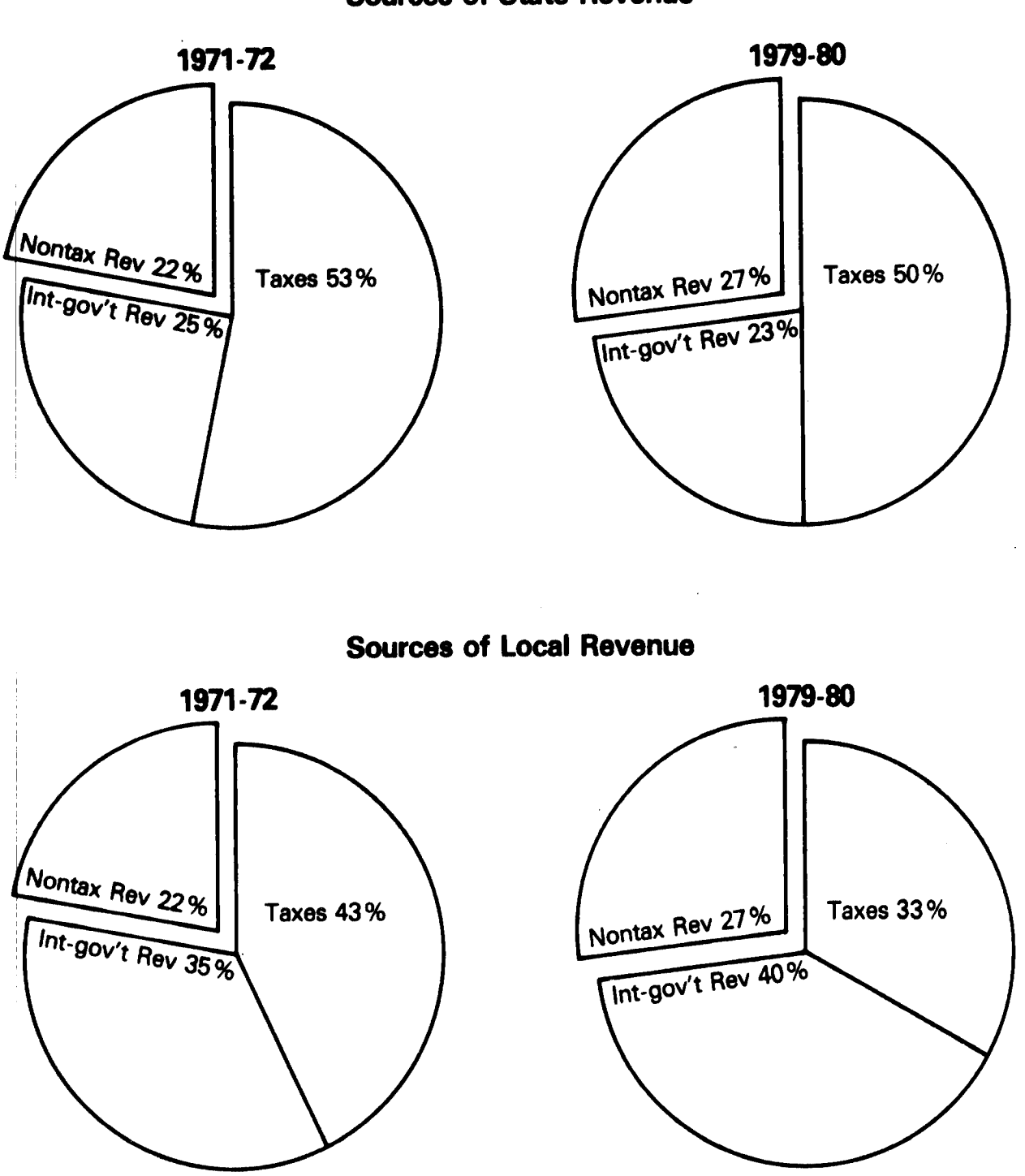
a/Duplicative transactions are excluded.

Source: 1971-72 figures: 1972 Census of Governments, table 3, vol. 4, no. 5; utility, liquor store, and insurance trust revenue from Governmental Finances in 1971-72, table 4.
1979-80 figures: Governmental Finances in 1979-80, table 4.

APPENDIX III

Figure 3

Percentage Distribution of Major Revenue Sources by Government, 1971-72 and 1979-80



Although the growth in government revenue between 1972 and 1980 appears substantial, inflation, rather than increased service levels or quality, can account for much of the expansion. To isolate real growth in revenues from nominal growth, we deflated revenue by the consumer price index. 1/ Figure 4 illustrates the effect inflation has had on revenue expansion during the 1972-80 fiscal period. (Table 9 presents the nominal and deflated data.) State and local taxes have grown steadily and rapidly from 1972 to 1980, a combined growth of 104 percent (computed from figures in table 8). However, in real terms, this growth has been a relatively minor increase of 3.5 percent. The picture is the same for State and local current charges. What appears to be a growth of 135 percent over this time period is in real terms a growth of 19.3 percent.

Table 9

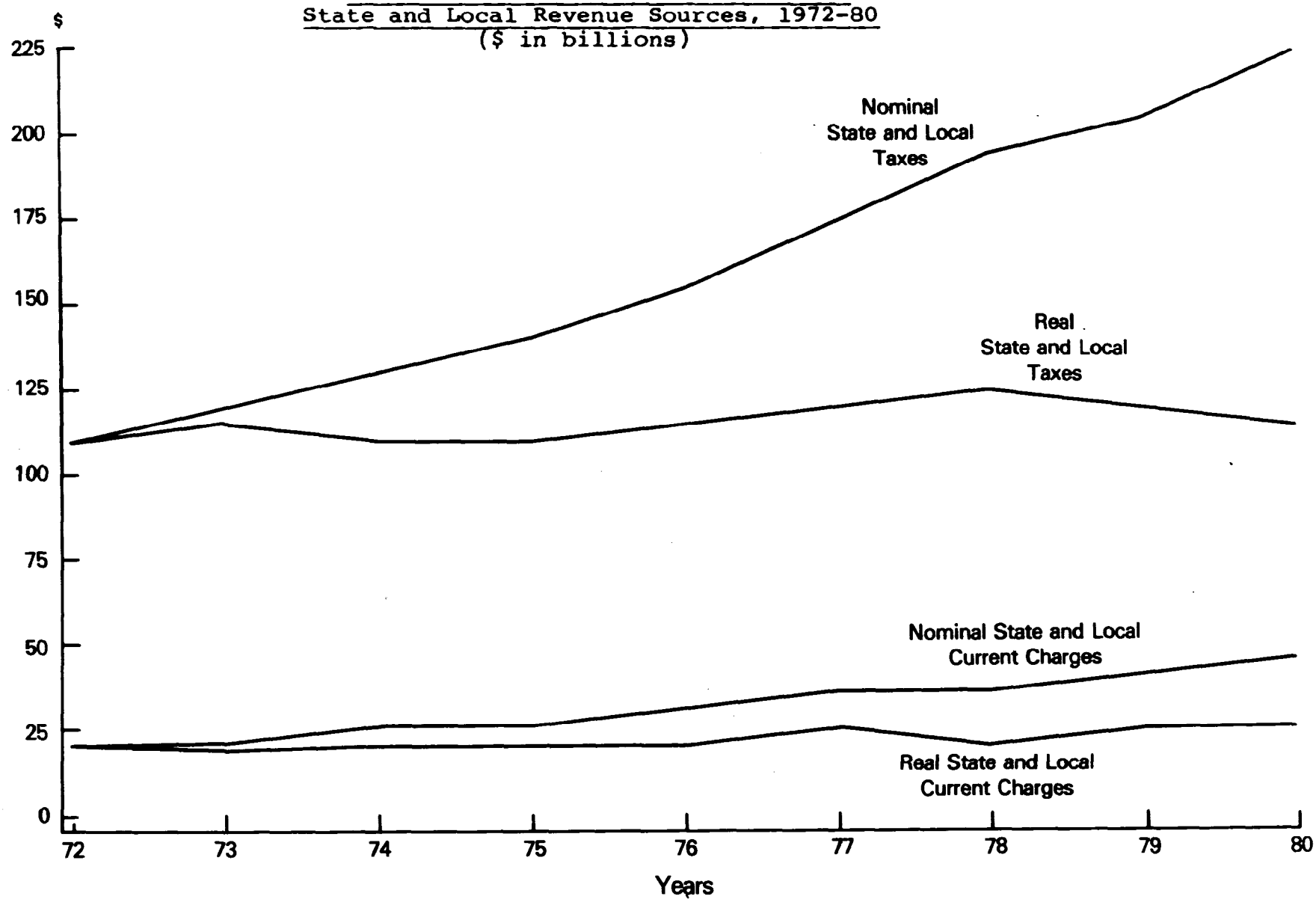
Nominal and Real National Totals of State and Local Revenue Sources, 1972-80
($ in millions, base year 1972)

Fiscal Year	Nominal Taxes	Real Taxes	Nominal Current Charges	Real Current Charges
1972	$108,800	$108,800	$18,888	$18,888
1973	121,102	114,032	20,906	19,686
1974	130,722	110,875	22,963	19,477
1975	141,470	109,922	26,019	20,217
1976	156,831	115,232	30,241	22,220
1977	175,879	121,379	33,168	22,890
1978	193,642	124,209	34,701	22,259
1979	205,514	118,452	39,469	22,749
1980	223,463	113,433	44,373	22,524

1/We also used the GNP deflator and found the results substantially the same as the consumer price index.

Figure 4

Nominal and Real Trends in Selected State and Local Revenue Sources, 1972-80
($ in billions)



APPENDIX III

LOCAL USER CHARGES ARE INCREASING NATIONWIDE

During the past decade, State and local governments have moved toward a greater reliance on nontax revenue sources in an effort to make ends meet. For localities, the need to do this has been even more marked. The property tax, on average the largest source of local tax revenues, has come under criticism as a poorly administered, inequitable tax. In fact, the property tax has been declining in relative importance as a source of local revenue. But taxing alternatives to the property tax are not plentiful at the local level, and these alternatives are often restricted by State law.

Local user charges are being used to a greater degree than ever before. As shown in table 10, between 1972 and 1980, taxes increased 73.7 percent, while current charges increased 151.4 percent. In constant (1972 = 100) dollars, this amounted to a real increase of 27.6 percent for current charges, while local taxes actually declined because property taxes, the mainstay of tax revenue for most local governments, fell by 20.0 percent.

In analyzing effects of the revenue sharing formula, it is important to consider changes in the mix between taxes and charges, since this affects the effort measure used to make aid allocations. Figure 5 shows the relatively steady growth in local charges per dollar of local taxes. In this figure, charges are categorized in three ways. Current charges, as defined by the Bureau of the Census, exclude public utility charges. Since these, too, are fees, a more complete measure of total charges would include these charges. Such a measure, labeled total local charges, has grown 50 percent over the period 1972-80. Charges net of public utility revenue per dollar of local taxes have grown 45 percent, while the comparable figure for charges net of utility fees and also education and hospital fees is 54 percent. Regardless of how one chooses to define charges, they have grown relative to taxes.

Table 10 presents nominal and real growth rates of total local current charges from 1972 to 1980. In real terms these rates varied from an increase of 58.9 percent for sewerage charges to a real decline in current charges derived from both education and parking facilities. Hospital charges, which accounted for 29 percent of all local current charges in 1972, increased its relative share to 33 percent by 1980. The Census category of "other" charges was another high growth charge. This implies that there is a growth in the use of charges in areas other than the traditional ones, i.e., a growth in user charges for services previously financed through taxes.

APPENDIX III

Table 10

Nominal and Real Percentage Growth in Local Revenue Sources, 1972-80

Sources of Local Revenue	Percentage Nominal Growth	Percentage Real Growth a/
Utility revenue	170.4%	37.3%
Intergovernmental revenue	158.0	31.0
Current charges	151.4	27.6
Sewerage	213.0	58.9
Hospitals	187.6	46.0
Other	176.9	40.6
Air transportation	173.6	38.8
Natural resources	164.5	34.4
Sanitation other than sewerage	153.3	28.7
Local parks and recreation	149.6	26.6
Water transportation and terminals	144.4	23.9
Housing and urban renewal	100.0	1.5
Education	74.6	-11.4
Parking facilities	69.2	-14.1
Taxes	73.7	-11.8
Sales and gross receipts	182.6	43.6
Individual income tax	123.8	13.6
Property tax	57.6	-20.0

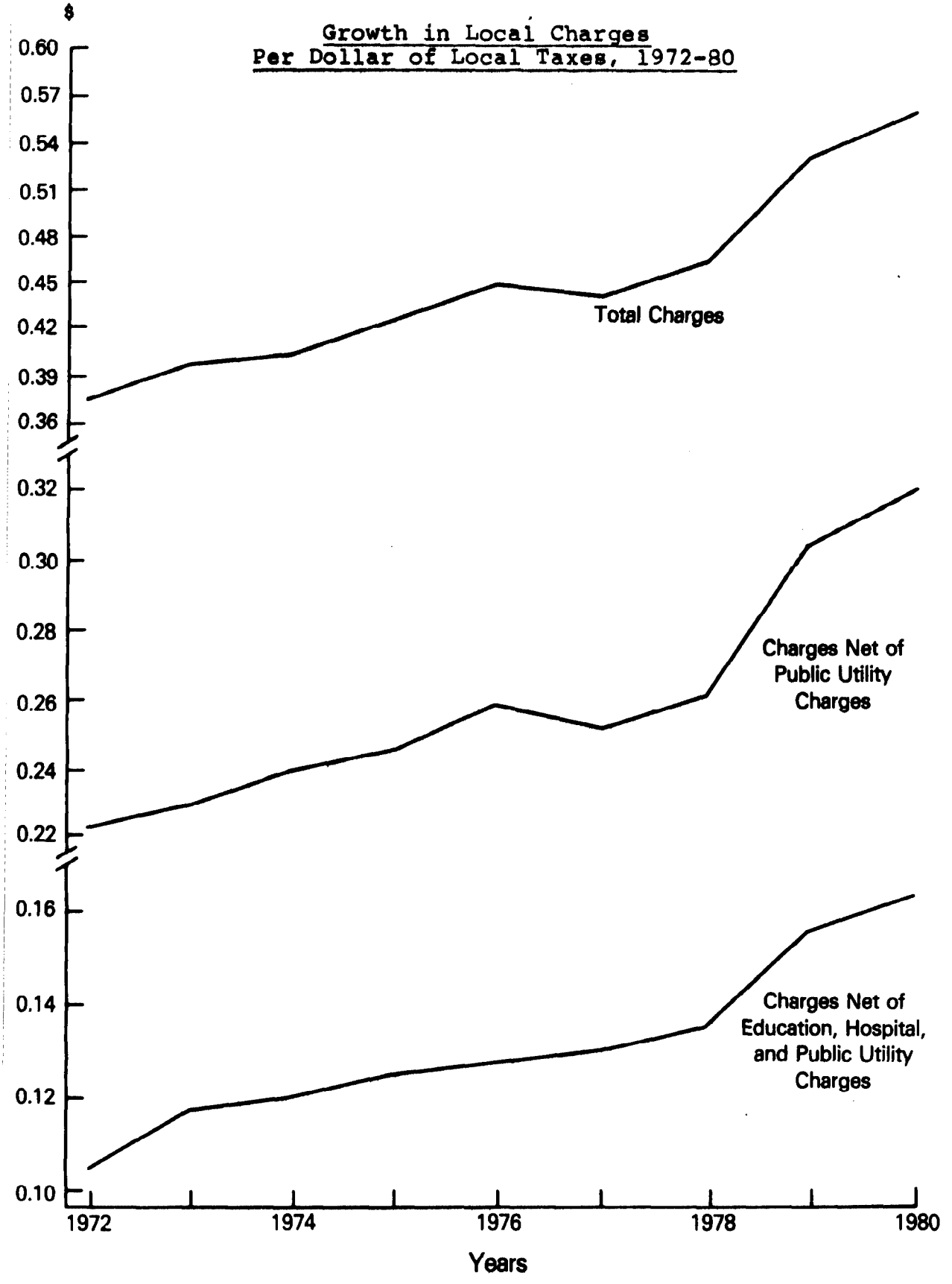
a/Nominal figures were deflated to 1972 constant dollars by using the consumer price index.

Source: Based on data from U.S. Bureau of the Census, 1972 Census of Governments, vol. 4, no. 5, table 3; utility revenue for 1971-72 from U.S. Bureau of the Census, Governmental Finances in 1971-72, table 4; U.S. Bureau of the Census, Governmental Finances in 1979-80, table 4.

APPENDIX III

Figure 5

Growth in Local Charges
Per Dollar of Local Taxes, 1972-80



Differences in local user charge growth rates between States

Although reliance on user charge revenue has grown, it has not grown consistently across States. There are variations in local government use and growth between States. Part of the reason for interstate differences between local governments can be accounted for by differences in tax limitation laws and other State-imposed restrictions on local revenue sources. For several years, States that imposed limitations on local governments used only property tax rate limitations, but more rigorous controls have recently been devised. 1/ Levy limits and full disclosure provisions are new tools being used to limit the growth of government.

The most common examples of State-imposed limits on local governments are California's Proposition 13, and, more recently, Massachusetts' Proposition 2-1/2. 2/ In these two instances, property taxes were singled out for limitation, but this has not been the only method of limitation used. For example, local governments in Nebraska are limited to revenue increases not to exceed 7 percent of the previous year's revenue, and in Utah local government revenue growth is limited to 90 percent of the State's per capita income growth rate plus the local population growth rate. 3/

Paralleling the concern over the need for controls on local governments is the concern of citizens and their elected representatives over the growth in State government. By popular vote, in 1978, constitutional restrictions on revenues and/or expenditures were passed in five States. These were not the first such restrictions, however. New Jersey had placed a statutory ceiling on State spending in 1976, and Colorado did likewise the following year. 4/ Prior to this, efforts to hold down spending through constitutional mandates or statutory enactments requiring a balanced budget had not been particularly effective. As long as revenues grew commensurate with expenditures, the budget would remain balanced.

Using, again for purposes of standardization, the ratio of local current charges to tax revenue, States were ranked by the

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1/Frederick J. Grasberger et al., "State and Local Tax and Expenditure Limitations" (Rochester, New York: Center for Governmental Research, Inc., May 1980), p. 3.

2/William G. Colman, "An Overview of the American Federal System: Entering an Era of Constraint," in American Federalism in the 1980s: Change and Consequences (Cambridge Mass: Lincoln Institute of Land Policy, Roundtable of Governments, August 1981).

3/Grasberger, op. cit., p. 5.

4/Ibid., p. 7.

change in their ratio between 1972 and 1980. Table 11 presents this ranking, where the State with the largest increase is ranked first. Also presented in this table is a ranking in terms of percentage change of local current charges per dollar of taxes. (The ratios for every year from 1972 to 1980 by State and region are presented in table 12.)

Table 11

Change in Local Current Charges per Dollar of Local Taxes Between 1972 and 1980

Region							Change		Percentage Change(%)
NE	MW	S	W	State	1972	1980	1972-80	Rank	1972-80
	x			Wisconsin	.15	.44	.29 a/	1	189.2 a/
			x	California	.18	.43	.24	2	134.5
		x		Mississippi	.70	.95	.24	3	34.6
		x		Alabama	.67	.88	.21	4	31.3
	x			Indiana	.25	.44	.19	5	79.4
	x			Minnesota	.24	.43	.19	6	80.4
			x	Idaho	.37	.55	.18	7	48.7
		x		West Virginia	.37	.53	.16	8	44.1
		x		Arkansas	.56	.71	.16	9	28.6
		x		South Carolina	.49	.65	.16	10	32.2
		x		Florida	.50	.65	.15	11	30.6
			x	Washington	.41	.56	.14	12	34.4
	x			Nebraska	.22	.36	.14	13	64.8
		x		Tennessee	.42	.55	.14	14	33.3
		x		Louisiana	.27	.40	.13	15	45.9
			x	Nevada	.44	.56	.12	16	27.5
		x		Delaware	.49	.60	.12	17	23.6
	x			Iowa	.24	.35	.11	18	47.8
		x		North Carolina	.36	.47	.11	19	30.5
			x	Oregon	.21	.31	.10	20	46.5
	x			Kansas	.22	.31	.10	21	45.7
	x			Michigan	.27	.36	.10	22	35.4
		x		Georgia	.66	.75	.09	23	14.2
x				Maine	.08	.16	.08	24	107.8
	x			North Dakota	.18	.26	.08	25	45.7
		x		Texas	.33	.39	.06	26	21.0
		x		Maryland	.17	.23	.06	27	35.8
	x			Illinois	.15	,21	.06	28	38.1
	x			Ohio	.23	.28	.06	29	25.8
	x			Missouri	.25	.30	.05	30	21.9
			x	Montana	.15	.20	.05	31	35.6
			x	Arizona	.20	.25	.05	32	23.5
x				Connecticut	.07	.11	.04	33	60.4

a/Change and percentage change figures are calculated from ratios carried to six decimal places, and may therefore differ from values if hand calculated from the two ratios presented here.

APPENDIX III

Table 11 (continued)

Region				State	1972	1980	Change 1972-80	Rank	Percentage Change(%) 1972-80
NE	MW	S	W						
x				New Jersey	.12	.16	.04	34	33.1 a/
	x			South Dakota	.13	.17	.04	35	30.5
x				New Hampshire	.09	.13	.03	36	38.3
			x	Colorado	.22	.25	.03	37	15.0
x				Massachusetts	.11	.14	.03	38	30.8
x				New York	.17	.20	.03	39	18.0
x				Pennsylvania	.20	.23	.03	40	14.9
		x		Kentucky	.40	.43	.03	41	7.3
		x		Oklahoma	.41	.44	.03	42	7.0
x				Vermont	.06	.09	.03	43	41.1
			x	Utah	.23	.25	.02	44	10.0
		x		Virginia	.21	.22	.01	45	5.6
x				Rhode Island	.06	.07	.01	46	14.3
			x	Hawaii	.10	.10	.01	47	7.5
			x	Wyoming	.43	.39	-.04	48	-10.2
		x		District of Columbia	.17	.10	-.07	49	-41.3
			x	New Mexico	.65	.54	-.11	50	-17.4
			x	Alaska	.70	.50	-.20	51	-28.4

a/Change and percentage change figures are calculated from ratios carried to six decimal places, and may therefore differ from values if hand calculated from the two ratios presented here.

As table 11 shows, local governments in the State of Wisconsin on average had the largest change in charges raised per dollar of local taxes, from $0.15 to $0.44, an increase of 189 percent. California also had a sizable growth in local government reliance on user charges relative to local taxes. This does not mean that these two States now rely on user charges to a greater degree than do other States; in fact, for every dollar of local taxes raised in Mississippi in 1980, $0.95 was raised through user charges, over twice the amount in Wisconsin. Thus, the rankings show changes in the intensity of current charge use relative to tax use.

Three States and the District of Columbia actually experienced a decline in the ratio. The largest absolute declines were for Alaska (from $0.70 in 1972 to $0.50 in 1979) and New Mexico (from $0.65 to $0.54). This does not indicate that local user charges have actually declined in these areas; it merely indicates that the growth of local taxes in these areas has outstripped the growth of local user charges.

APPENDIX III

Table 12

Local Current Charges Per Dollar of Local Taxes, by State, 1972-80

State	1972	1973	1974	1975	1976	1977	1978	1979	1980
Northeast									
Connecticut	.07	.07	.08	.08	.09	.08	.09	.09	.11
Maine	.08	.10	.08	.12	.17	.14	.15	.15	.16
Massachusetts	.11	.12	.12	.12	.13	.13	.12	.13	.14
New Hampshire	.09	.10	.12	.13	.13	.14	.12	.12	.13
New Jersey	.12	.12	.14	.14	.12	.12	.12	.14	.16
New York	.17	.18	.18	.17	.17	.18	.19	.20	.20
Pennsylvania	.20	.19	.21	.21	.21	.20	.20	.22	.23
Rhode Island	.06	.09	.07	.07	.07	.06	.06	.06	.07
Vermont	.06	.08	.09	.08	.11	.10	.09	.08	.09
Midwest									
Illinois	.15	.16	.17	.17	.19	.18	.19	.21	.21
Indiana	.25	.26	.29	.36	.34	.33	.35	.40	.44
Iowa	.24	.27	.26	.26	.32	.33	.34	.32	.35
Kansas	.22	.22	.24	.27	.26	.27	.28	.28	.31
Michigan	.27	.29	.27	.28	.29	.32	.31	.35	.36
Minnesota	.24	.28	.32	.33	.35	.36	.36	.37	.43
Missouri	.25	.24	.25	.25	.26	.27	.29	.30	.30
Nebraska	.22	.24	.22	.25	.24	.28	.30	.33	.36
North Dakota	.18	.18	.23	.24	.26	.27	.25	.27	.26
Ohio	.23	.26	.26	.25	.28	.26	.26	.27	.28
South Dakota	.13	.13	.13	.15	.15	.14	.14	.15	.17
Wisconsin	.15	.22	.22	.25	.34	.31	.35	.41	.44
South									
Alabama	.67	.69	.67	.74	.76	.79	.80	.84	.88
Arkansas	.56	.58	.64	.59	.64	.60	.69	.73	.71
Delaware	.49	.53	.45	.44	.61	.57	.57	.55	.60
District of Columbia	.17	.14	.16	.10	.08	.09	.09	.07	.10
Florida	.50	.47	.55	.56	.58	.58	.59	.59	.65
Georgia	.66	.63	.62	.59	.61	.59	.64	.70	.75
Kentucky	.40	.42	.53	.51	.38	.35	.44	.44	.43
Louisiana	.27	.38	.29	.35	.35	.44	.38	.37	.40
Maryland	.17	.18	.19	.21	.22	.21	.21	.22	.23
Mississippi	.70	.71	.54	.68	.79	.83	.83	.91	.95
North Carolina	.36	.34	.34	.36	.39	.38	.42	.46	.47
Oklahoma	.41	.42	.38	.43	.44	.41	.41	.42	.44

Table 12 (continued)

	1972	1973	1974	1975	1976	1977	1978	1979	1980
South (continued)									
South Carolina	.49	.55	.50	.58	.63	.54	.67	.64	.65
Tennessee	.42	.45	.45	.46	.46	.45	.50	.49	.55
Texas	.33	.32	.29	.33	.36	.32	.34	.39	.39
Virginia	.21	.21	.21	.20	.22	.20	.20	.23	.22
West Virginia	.37	.49	.41	.36	.49	.38	.45	.47	.53
West									
Alaska	.70	.73	.60	.56	.49	.46	.47	.46	.50
Arizona	.20	.20	.19	.23	.23	.23	.20	.28	.24
California	.18	.18	.21	.20	.22	.20	.21	.41	.43
Colorado	.22	.23	.26	.27	.24	.24	.25	.25	.25
Hawaii	.10	.10	.09	.10	.09	.13	.12	.11	.10
Idaho	.37	.41	.41	.47	.47	.44	.51	.47	.55
Montana	.15	.16	.18	.19	.20	.20	.21	.21	.20
Nevada	.44	.42	.41	.43	.50	.49	.52	.44	.56
New Mexico	.65	.59	.49	.52	.56	.49	.45	.59	.54
Oregon	.21	.24	.25	.27	.26	.26	.27	.28	.31
Utah	.23	.23	.26	.31	.32	.24	.25	.24	.25
Washington	.41	.45	.39	.41	.50	.51	.51	.48	.56
Wyoming	.43	.41	.44	.41	.40	.32	.32	.37	.39

Regional differences also exist

Table 11 can also be used to highlight regional differences in the intensity of use of local charges. Among the top 13 States ranked in terms of absolute change, none were from the Northeast, and 6 were from the South. Traditionally, local governments in the South have made much greater use of charges and table 11 confirms this. Note, however, the two highest ranking States are from the Midwest and West respectively.

Local governments in the Northeast traditionally have relied on property taxes to raise revenues. Their rankings in table 11 indicate in an absolute sense that from 1972 through 1980 they were not making any large strides toward intensifying their reliance on user charges. With the exception of Maine, ranked 24th, no Northeastern States appear in the top half.

The 12 States with the lowest ranks include five Western States, four Southern States, and three States from the Northeast. These States face very different situations. Four of the eight States that have the largest share of severance taxes are ranked among the lowest in terms of change in current charge intensity

(Alaska, Wyoming, New Mexico, and Oklahoma). This may not be surprising, as these States in a sense export a portion of their tax burden to energy-consuming States, and are able to levy a lighter tax load on State residents. These States can extend more State aid to localities, or leave localities with more taxing capacity, than can States without this ability to export taxes.

For the three Northeastern States, the picture is different. None depends on local user charges very extensively. They all raise less than $0.25 in charges for every dollar of taxes, and do not have a large exportable tax source, such as severance taxes, to ease residential tax burdens.

Identifying rapid growth in local government reliance on user charges is a first step in assessing whether a broader measure of effort is needed in the revenue sharing formula. To the extent that the move to more extensive use of current charges is not equal across all States, the tax effort factor of the formula will be affected. Whether disparities have been created because the revenue sharing formula rewards governments on the basis of a narrow effort measure, taxes, rather than a broader measure of effort that includes both taxes and charges, is addressed in appendix IV.

LIMITATIONS OF TAX EFFORT: TECHNICAL ANALYSIS

In chapter 2 we presented two key findings: (1) excluding user charge revenue creates disparities, and (2) the disparities are small, but growing. These findings are based on correlation and regression analysis. Tables 13 and 14 show the Spearman rank order correlation coefficients between tax effort and user charge effort. A correlation coefficient of +1 would mean no difference exists in State rankings, while a coefficient of -1 would indicate perfect negative correlation. As these tables show, the correlation coefficients are negative for both 1975 and 1981, providing evidence that disparities do exist.

Table 13

Spearman Rank Order Correlations Between Tax Effort and User Charge Effort for Fiscal Year 1975

	Tax Effort	State and Local User Charge Effort	Local User Charge Effort
Tax effort	1	-0.09	-0.30
State and local user charge effort		1	+0.62
Local user charge effort			1

Table 14

Spearman Rank Order Correlations Between Tax Effort and User Charge Effort for Fiscal Year 1981

	Tax Effort	State and Local User Charge Effort	Local User Charge Effort
Tax effort	1	-0.06	-0.08
State and local user charge effort		1	+0.69
Local user charge effort			1

APPENDIX IV

To determine the magnitude of these disparities we ran regressions of tax effort on a broader measure of effort, which we shall call revenue effort. The regression equation is:

$$t = a + br$$

where t = the tax effort factor used in the general revenue sharing formula (State and local taxes divided by aggregate personal income)

a = the constant term

b = the estimated coefficient

$r = (t + c)$ = revenue effort, the tax effort factor plus the user charge effort factor

c = the user charge effort factor (user charge divided aggregate personal income)

We ran regressions on 51 observations (all 50 States and the District of Columbia) for both 1975 and 1981. We used the following four measures of revenue effort, thus giving a total of eight regressions: 1/

r_1 = revenue effort including State and local current charges

r_2 = revenue effort including State and local current charges except for educational and hospital charges

r_3 = revenue effort including only local current charges

r_4 = revenue effort including only local current charges except for education and hospital charges

Because the independent variable, r, is the sum of the dependent variable, t, and user charge effort, c, we would expect the slope coefficients to be close to 1. If these coefficients equaled 1, this would indicate that no systematic bias existed between the two measures of effort. The further the coefficient

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1/State and local current charges were selected because tax effort includes State and local taxes; local current charges were selected because the States are currently out of the revenue sharing picture; charges for education were deleted because most of these charges are for tuition and school lunches; and charges for hospitals were deleted because a Census official told us that their data do not cover those governments that contract out hospital services.

is from 1, the wider the gap between the two measures and the greater the bias in general revenue sharing allocations against States with a relatively high reliance on user charges.

Table 15 shows that the slope coefficients for r_1 through r_4 are all close to 1. The coefficient on the most inclusive measure of revenue effort, r_1, is 10 percentage points below 1 at 0.90, for both years. When more restrictive measures of user charge effort are employed, the coefficients generally rise. In 1975, the coefficients for r_3 and r_4 were both 0.99, indicating that tax effort was a very good proxy for these measures of revenue effort. Notice, however, that the gap between 1975 and 1981 widens, implying that tax effort was not as good a proxy for revenue effort in 1981 as it was in 1975.

We also separated the States into two categories--those with and those without tax limitations. We ran the same eight regressions on the two subsets of States and contrasted the results. We found in all cases that the coefficients were higher for the set of States having no tax rate or levy limits. This result is further evidence of a bias in the formula that favors States having no tax limitations.

Table 15

Regression Coefficients of Tax Effort on Measures of Revenue Effort
(standard errors in parentheses)

	Constant	r_1	r_2	r_3	r_4	R^2
1975	-0.01 (0.008)	0.90 (0.06)				.83
1981	-0.01 (0.005)	0.90 (0.03)				.94
1975	-0.002 (0.006)		0.94 (0.04)			.91
1981 a/	0.002 (0.003)		0.91 (0.02)			.99
1975	-0.012 (0.007)			0.99 (0.05)		.88
1981	-0.003 (0.004)			0.92 (0.03)		.95
1975	-0.004 (0.004)				0.99 (0.03)	.96
1981 a/	-0.001 (0.002)				0.95 (0.01)	.99

r_1 = revenue effort including State and local current charges

r_2 = revenue effort including State and local current charges except for education and hospital charges

r_3 = revenue effort including only local current charges

r_4 = revenue effort including only local current charges except for education and hospital charges

a/All eight regressions were tested for heteroscedasticity (a violation of a standard estimation assumption resulting in less efficient estimates). Two were found to have heteroscedasticity and were adjusted using weights obtained from Glejser's test. For further details see J. Johnson, Econometric Methods, 2nd ed. (New York: McGraw-Hill, Inc., 1972), p. 220.

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