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CHANGING ROLES OF DIFFERENT LEVELS OF GOVERNMENT

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A time of fiscal stress and of great uncertainty about the future seems an appropriate moment in which to assess once again the changing roles of different levels of government in this country during the past sixty years or so. Those years were hardly tranquil ones, and whatever certainties shaped them have become evident only in retrospect. Such clues, therefore, as analyses of past trends can provide to the mysteries of our own time should be carefully weighed even though the fiscal problems confronting us seem to be of unprecedented proportions. By looking backward the present paper attempts to determine where we are and where we appear to be going with the U.S. federal system of government. Section I discusses the broad picture as it is revealed by a selected group of expenditure measures computed from Bureau of the Census (BOC) and National Income Accounts (NIA) data for four past periods—1902 to 1966, 1927–29 to 1966, 1940 to 1966, and 1948 to 1966. Section II analyzes the major factors that appear to have accounted for the changes observed in the first section, and Section III concentrates on those more current developments that seem to be making for change in the near future. Section IV summarizes the conclusions reached.

I. The Broad Picture

Between 1902 and 1966, when the expenditures of all levels of government were growing at average annual rates of between 7 and 8½ per cent, depending on the specific concept used in measuring them, both federal and state shares expanded at the expense of local governments. In Table 1 six alternative expenditure measures, based on published Bureau of the Census data, have been arranged in descending order of scope, and for each series the percentage shares of the three levels of

TABLE 1

FEDERAL, STATE, AND LOCAL EXPENDITURE SHARES[a] SHOWN BY SIX ALTERNATIVE BUREAU OF THE CENSUS MEASURES OF AGGREGATE GOVERNMENTAL EXPENDITURES, 1902, 1927, 1940, 1948, AND 1965–66

Aggregate Expenditure Measure[b]		Years				
		1902	1927	1940	1948	1965–66
1. Own-financed total expenditures (OFTE)	F[c]	34	31	49	65	64
	S	11	17	22	17	17
	L	55	52	29	18	19
2. Own-financed general expenditures (OFGE)	F	36	33	54	69	63
	S	11	17	20	15	18
	L	52	50	25	16	19
3. Direct general expenditures (DGE)	F	36	32	49	65	56
	S	8	13	15	12	15
	L	56	55	36	23	28
4. Own-financed general expenditures for civil purposes, Series I (OFGE:C-I)	F	29	29	50	54	46
	S	13	18	22	23	26
	L	58	53	28	24	28
5. Direct general expenditures for civil purposes, Series I (DGE:C-I)	F	28	28	44	48	36
	S	9	14	17	18	23
	L	62	58	39	34	42
6. Direct general expenditures for civil purposes, Series II (DGE:C-II)	F	18	16	39	34	28
	S	11	16	18	22	25
	L	71	68	43	45	47

SOURCES: Series 1: 1902–48 from Tax Foundation, *Facts and Figures on Government Finance, 1967*, New York, 1967, p. 20. 1965–66 computed from data given in U.S. Bureau of the Census, *Governmental Finances in 1965–66*, Washington, D.C., 1967. Series 2–6: Appendix Table A.

[a] Percentages of total expenditures made by each of the three levels of govment.

[b] For definitions of the alternative measures see text.

[c] F = federal; S = state; L = local.

government are shown for the five years selected for discussion in this section. These six series do not, of course, represent all of the possible choices, but they do illustrate the problems involved in choosing a few broad measures to show past trends in expenditure shares, and these problems will be discussed in the process of deriving the 1902–66 picture.

Total governmental expenditures, as defined by the Bureau of the Census, include the costs of water, electric, gas and transit systems that are owned and operated by local governments (utility expenditures), the costs of liquor stores operated by state and local governments, and the benefit payments of governmental insurance trust systems.[1] The first two of these inclusions raise fundamental questions concerning the proper definition of governmental activities which are too complex to be discussed here at length,[2] and the last one involves tax-transfer operations, which shift command over resources among different groups in the private sector rather than between that sector and the government. This last distinction is an important one and easily warrants separate treatment of resource-using and transfer expenditures in the measurement of federal-state-local expenditure shares. In addition, the dividing line between government owned and operated public utilities and liquor stores and similar enterprises that are privately owned and operated under close governmental supervision seems an especially thin one. For these reasons the Census Bureau total expenditure series (series 1 in Table 1) is rated here as too broad to serve as a basic measure of the changing roles of different levels of government. It is worth noting, nevertheless, that of all the Table 1 measures, series 1 shows the greatest 1902–66 increase in the importance of the federal expenditure share (a rise of nearly 90 per cent), though it does not usually show the highest federal share in any given year. It should also be noted that intergovernmental expenditures[3] are included in the share of the grantor, but that intergovernmental revenues, as in all of our own-financed series, are deducted from the expenditures of the recipient in order to

[1] Insurance trust activities include both contributory retirement systems for public employees and governmental social insurance and life insurance programs. Social insurance provides protection against economic hazards arising from disability, death, accident, illness, and unemployment. The administrative costs of these programs are defined as general, rather than as insurance trust, expenditures. See, for example, U.S. Bureau of the Census, *Census of Governments: 1962*, Vol. VI, No. 4, *Historical Statistics on Governmental Finances and Employment*, Washington, D. C., 1964, p. 3. Hereafter cited as *Historical Statistics: COG, 1962*.

[2] For a useful survey of the issues involved see C. Lowell Harriss, "Government Expenditures: Significant Issues of Definition," *Journal of Finance*, Vol. IX, December 1954, pp. 351–64.

[3] Intergovernmental expenditure is defined as "amounts paid to other governments as fiscal aid in the form of shared revenues and grants-in-aid, as reimbursements for performance of general government activities and for specific services for the paying government, . . . or in lieu of taxes. Excludes amounts paid to other governments for purchase of commodities, property, or utility services, any tax imposed or paid as such, and employer contributions for social insurance." U.S. Bureau of the Census, *Compendium of State Government Finances in 1965*, Washington, D.C., 1966, p. 55.

show the spending of each level that is financed from its own sources.

The second series in Table 1, own-financed general expenditures, excludes utility, liquor store, and insurance trust operations, but includes other commercial-type public enterprises, such as airports, housing projects, toll highways and the U.S. Postal Service. The latter group does appear to include enterprises whose public purposes are relatively more pronounced, but they are still a diverse lot, and it is not easy to define a simple, uniform measure that will accurately show the importance of their public activities. Whereas the Census Bureau treats them on a gross basis, including total costs on the expenditure side of the accounts and total revenues on the receipts side, the national income accounts use the net basis, subtracting revenues from costs and showing only net expenditures (positive or negative) on the output side of the accounts.[4] Neither procedure is entirely satisfactory. A public housing project, for example, exists to raise the real living standards of the poor, but gross government expenditures overestimate the extent of the government's intervention in private economic affairs, and NIA net expenditures will typically underestimate it.[5] The difficulties are both conceptual and statistical, and it is by no means clear that their resolution would be worth the effort. In the meantime, it is advantageous to have alternative expenditure series that treat public enterprises on both a net and a gross basis, and the governmental roles shown by NIA and BOC data should be interpreted with these differences in mind.

The second and third series in Table 1 differ only in their treatment of intergovernmental expenditures and revenues. Whereas own-financed general expenditures, as already noted, assign the expenditure weights to the level of government that does the financing rather than

[4] In the NIA framework the operating surplus or deficit (sales receipts minus all current operating costs other than interest payments and depreciation charges) of government enterprises is consolidated with direct business subsidies on the output side of the government sector, and the capital expenditures of public enterprises are combined with other government purchases of goods and services. See U.S. Department of Commerce, Office of Business Economics, *National Income: 1954 Edition,* Washington, D.C., 1954, pp. 49 and 148. A list of federal enterprises and of the major types of state and local enterprises is given on p. 66 of the same publication.

[5] Over the lifetime of the project, NIA expenditures will equal the amount of the original capital investment plus the sum of the annual operating deficits. Since the latter exclude both interest payments on borrowed capital and an imputed rate of return on owned capital, the total NIA expenditure figure will underestimate the subsidy given to the housing occupants, though in any given year fluctuations in government investment and in private rates of return to landlords might produce the opposite result.

to the level that actually provides the benefits to the private sector of the economy, direct general expenditures do the reverse.[6] Comparing the two measures, therefore, one may note the fairly stable importance of state-to-local intergovernmental financing (reflected in the larger state share of own-financed general expenditures) and the rapidly increasing importance of federal grants-in-aid. Further analysis of these developments is given in Section II.

The final three measures shown in Table 1 all focus on the civil functions of U.S. governments. Here again one encounters conceptual and statistical difficulties that cannot be satisfactorily resolved. As a result two alternative measures are provided. The two series marked C-I (numbers 4 and 5 in Table 1) incorporate a relatively broad conception of federal civil activities by excluding only the BOC measure of federal expenditures for national defense and international affairs.[7] Many would feel, however, that some account should be taken of the indirect costs of past wars, and one way of doing this, used by James A. Maxwell and others,[8] is used in series C-II (number 6 in Table 1). In it federal civil expenditures are defined to exclude not only defense and international expenditures but also interest payments on general debt and the costs of veterans' services not allocated by the Census Bureau to other functional categories.[9] Clearly, not all federal debt can be attributed to past and current wars, nor can it be determined what share of veterans' expenditures represents payments

[6] In the direct general measure, in other words, intergovernmental expenditures are excluded from the expenditures of the grantor, and intergovernmental revenues are not deducted from the expenditures of the grantee.

[7] A still broader concept could, of course, be provided by excluding military expenditures alone.

[8] See, for example, Maxwell, *Financing State and Local Governments*, Washington, D.C., 1965, p. 14.

[9] In 1965–66 total federal expenditures on veterans' services of $6,711 million were allocated as follows:

Category	Amounts (millions of dollars)	
Intergovernmental expenditures		16
Insurance trust expenditures		572
Direct general expenditures: total		6,123
education	336	
public welfare	38	
health and hospitals	1,239	
not elsewhere classified	4,510	

It is the last figure shown that is excluded in the derivation of series C-II.

for past services rendered or injuries incurred rather than benefits that the federal government would have provided in any case.

Our civil expenditure series, therefore, are necessarily based on some arbitrary distinctions, and while these are no better than a number of other alternatives, they do have the virtue of being subject to statistical measurement over long periods of time. As expected, the federal shares shown by the three civil expenditure measures are significantly below that level's share of total expenditures. Moreover, these differences were notably wider at the end of the period than they were at the beginning. This may be seen in the following tabulation of expenditure share differentials, computed by subtracting federal civil shares from federal shares of the corresponding total expenditure series.

Expenditure Measure	Federal Share Differentials: Excess of Total Over Civil				
	1902	1927	1940	1948	1965–66
Own-financed general, Series C-I	7	4	4	15	17
Direct general, Series C-I	8	4	5	17	20
Direct general, Series C-II	18	16	10	31	28

Developments during the other periods shown in Table 1 can be summarized briefly. The 1927–66 period shows the same picture of rising shares for both federal and state governments as occurred from 1902 to 1966. Between 1940 and 1966, on the other hand, federal shares of civil expenditures fell while federal shares of total expenditures rose.

Absolute Changes in Expenditure Shares, 1940–66

Higher Federal Share			Lower Federal Share		
OFTE	F	+15	OFGE: C-I	F	−4
	S	−5		S	+4
	L	−10		L	0
OFGE	F	+9	DGE: C-I	F	−8
	S	−2		S	+5
	L	−6		L	+3
DGE	F	+7	DGE: C-II	F	−11
	S	0		S	+7
	L	−8		L	+4

Finally, from 1948 to 1966 the federal share of all six Table 1 series fell, the greatest relative declines occurring in the three civil expenditure measures, but with direct general expenditures showing a nine-point reduction that almost matched them. In each case both state and local shares rose, the largest being in direct general civil expenditures, series I, and the smallest in own-financed total expenditures.[10]

TABLE 2

FEDERAL AND STATE-LOCAL SHARES[a] OF SIX NATIONAL-INCOME-ACCOUNTS MEASURES OF AGGREGATE GOVERNMENTAL ACTIVITY, 1902, 1929, 1940, 1948, AND 1966

Measure[b]		Years				
		1902	1929	1940	1948	1966
1. Own-financed expenditures (OFE)	F[c]	—	26	54	69	68
	SL	—	74	46	31	32
2. Purchases of goods and services (P)	F	23	15	43	52	50
	SL	77	85	57	48	50
3. Own-financed expenditures for civil purposes—I (OFE:C-I)	F	—	—	48	61	55
	SL	—	—	52	39	45
4. Civil purchases—I (P:C-I)	F	19[d]	—	32	28	18
	SL	81	—	68	72	82
5. Wages and salaries of government employees (WSGE)	F-M[e]	—	6	7	21	19
	F-C	—	22	41	33	26
	SL	—	72	52	46	55
6. Number of full-time equivalent government employees (FTEGE)	F-M	—	8	9	21	24
	F-C	—	18	45	29	20
	SL	—	74	46	50	56

SOURCE: Appendix Table B. Civil purchase shares for 1903 were computed from data on nonwar federal, and total state-local, payrolls and purchases given in Solomon Fabricant, *The Trend of Government Activity in the United States Since 1900,* New York, NBER, 1952, pp. 225–34.

[a] Percentages of total activity accounted for by each level of government.

[b] For definitions of the alternative measures see text.

[c] F = federal; SL = state-local.

[d] Figures are for 1903.

[e] F-M = federal, military; F-C = federal, civilian; SL = state-local.

[10] Before rounding, the state share of own-financed total expenditures rose from 17.3 per cent in 1948 to 17.4 in 1965-66.

Much the same broad picture is shown by the six NIA series presented in Table 2. Note, for example, the consistent increase in state-local shares between 1948 and 1966 as well as the substantial fall in those shares between either 1902 or 1929 and each of the following three years shown. The one notable exception is the series for civil purchases of goods and services (item 4 in Table 2). From 1939 on, this measure was derived by excluding official estimates of national defense purchases from total federal purchases of goods and services, and for 1903 Fabricant's estimates of nonwar payrolls and purchases were used.[11] Though the two figures are not strictly comparable, it seems unlikely that the required adjustment would convert the slight increase in the state-local share shown between 1903 and 1966 into a substantial decline. Also impressive is the large 1948–66 decline in the federal share of civil purchases.

A final point of interest concerns the behavior during the 1929–66 period of the major types of governmental expenditure distinguished in the national income accounts. It will be noted in Table 2 that whereas in 1966 own-financed total expenditures were divided approximately two-to-one between the federal and state-local levels respectively, purchases of goods and services were split exactly 50-50. Two main factors account for this gap. The first is federal aid which keeps the own-financed expenditures of state and local governments below their direct expenditures. The allocation of the latter is shown in Table 3, and it will be noted that though in 1929 the impact of federal aid on spending shares was minor, by 1940 it had shifted a 54-46 division of own-financed expenditures to one of 49-51 for direct expenditures, and by 1966 the gap between these two series had increased to 7 points.

The second explanatory factor is the division between the two levels of government of net interest paid and of transfer payments to persons. As Table 3 shows, these two series have in recent years been dominated by the federal government, and in each of the benchmark years selected for discussion in this section federal use of resources, reflected in the Table 2 series on government purchases, has been considerably lower, relative to state and local governments, than its participation in programs designed to shift command over resources from one private group to another. Further aspects of this important difference are discussed in the next two sections.

[11] Solomon Fabricant, *The Trend of Government Activity in the United States Since 1900*, New York, NBER, 1952, pp. 214–35.

TABLE 3

FEDERAL AND STATE-LOCAL NIA EXPENDITURE SHARES, BY MAJOR TYPE,[a] 1929, 1940, 1948, AND 1966

Type of Expenditure		Years			
		1929	1940	1948	1966
1. Direct expenditures[b]	F[c]	24	49	65	61
	SL	76	51	35	39
2. Direct nonresource-using expenditures[d]	F	70	70	87	92
	SL	30	30	13	8
3. Transfer payments to persons	F	76	53	72	82
	SL	24	47	28	18
4. Net interest paid	F	45	56	94	97
	SL	55	44	6	3

SOURCES: U.S. Department of Commerce, Office of Business Economics, *The National Income and Product Accounts of the United States, 1929–1965*, Washington, D.C., 1966, and *Survey of Current Business*, July 1967.

[a] Omitted are purchases of goods and services which are shown in Table 2.

[b] All expenditures except federal grants-in-aid to state and local governments.

[c] F = federal share; SL = state-local share.

[d] All expenditures except grants-in-aid and purchases of goods and services.

II. Changing Functional Shares

In this section our discussion of the changing roles of different levels of government shifts from broad aggregates to specific functions of particular significance. These have been divided into three categories: (1) those functions which by their nature are suited only to the federal government, (2) those functions whose cost appears to be especially sensitive to the urbanization process, and (3) public expenditures for the maintenance and development of human capital which have reacted in important ways to the technological, communications, and transportation revolutions of the last quarter century.

Federal and Nonfederal Functions

For purposes of discussion here a relatively conservative definition of federal functions has been adopted. Included in that category are only

five program areas whose assignment to the national government seems beyond dispute: national defense, international relations, space research and technology, veterans' services and benefits, and postal services. No implication that these should be the only federal functions is intended—indeed, far from it—but it seems useful to treat this group separately and to compare its rate of growth over specific periods with that of all other governmental expenditures. The relevant data are given in Tables 4, 5, and 6.

TABLE 4

AVERAGE ANNUAL GROWTH RATES[a] OF FEDERAL AND NONFEDERAL EXPENDITURES DURING SELECTED PERIODS, 1902–66

BUREAU OF THE CENSUS DATA (PER CENT)

Period	National Defense and International Relations	Veterans' Services Not Elsewhere Classified	Postal Service	Federal Functions	Nonfederal Functions
1902–13	3¾	2	7¼	4½	6½
1913–27	6¾	8¾	7¼	7½	10
1927–36	4¾	13	½	6½	4
1936–40	14	−26	1¾	−3¾	5¼
1940–48	33	26	10	28	8½
1948–56	13	−¾	6¾	11	8
1956–62	3¾	5	6	4¼[b]	8¼
1962–66	3½	2¼	8½	5[b]	6¾
1965–66	9	7½	8½	9½[b]	9
1902–66	9¾[c]	5½	6	8½[b]	7½

SOURCE: Computed from data given in Appendix Table D.

[a] Rates are compound annual rates of growth expressed to the nearest ¼ per cent for rates under 10 per cent and to the nearest 1 per cent for all others.

[b] Includes expenditures on space research and technology which began in 1958 at $89 million, increased to $1,242 in 1962 and to $5,869 million in 1966. These increases represent average annual growth rates of over 90 per cent and 47 per cent respectively.

[c] Military functions alone, which are shown separately by the Bureau of the Census, increased at 9½ per cent per annum between 1902 and 1966 while the remaining national defense and international functions rose at an average rate of 14 per cent a year.

TABLE 5

AVERAGE ANNUAL GROWTH RATES[a] OF FEDERAL AND NONFEDERAL EXPENDITURES 1956–62 AND 1962–66

NATIONAL INCOME ACCOUNTS DATA (PER CENT)

Period	National Defense	Space Research and Technology	International Affairs and Finance	Veterans' Benefits and Services	Postal Services	Federal Expenditures	Nonfederal Expenditures
1956–62	4¼	—	3	2½	5¼	4½	10
1962–66	4¼	35	2½	1¾	5¾	5¼	8

SOURCES: Computed from data given in *The National Income and Product Accounts of the United States, 1929–1965* and the *Survey of Current Business*, July 1967, Table 3.10.

[a] Rates are compound annual rates of growth expressed to the nearest ¼ per cent for rates under 10 per cent and to the nearest 1 per cent for all others.

TABLE 6

AVERAGE ANNUAL GROWTH RATES[a] OF DEFENSE AND NONDEFENSE GOVERNMENT PURCHASES OF GOODS AND SERVICES, SELECTED PERIODS, 1939–67

(PER CENT)

Period	Defense Purchases	Nondefense Purchases	Total Purchases
1939–48	27	6¼	10
1948–56	18	8	12
1956–62	4¼	9½	7
1962–66	4	9½	7
1964IV–1967IV[b]	15	10	12
1966–67	20	11	14
1939–67	16	8	9¾

SOURCES: Computed from data given in *The National Income and Product Accounts of the United States, 1929–1965* and the *Survey of Current Business*, July 1967 and February 1968, Table 1.1.

[a] Rates are compound annual rates of growth expressed to the nearest ¼ per cent for rates under 10 per cent and to the nearest 1 per cent for all others.

[b] Fourth quarter seasonally adjusted data at annual rates.

For the entire period under study, as shown in the last line of Table 4, national defense and international expenditures grew more rapidly than nonfederal spending, while veterans' benefits and postal services grew less rapidly. The defense and international functions were sufficiently important, however, to hold the growth rate of federal expenditures well above that of nonfederal spending. The result was strong upward pressure on federal expenditure shares for the period as a whole and for the three subperiods 1927–36, 1940–56, and 1965–66. However, during the early part of the century, in the later years of the Great Depression, and between the Korean and Vietnamese Wars the growth of federal functions tended to lag behind the expansion of other governmental expenditures. Much the same picture of the last decade is given by the NIA data in Table 5. Two of the components of federal expenditures, however, are measured differently, and it will be noted that the NIA series for veterans' benefits increased less rapidly than the BOC measure and that the NIA postal deficit also grew less rapidly than did BOC gross postal expenditures.

Finally, it is interesting to see what changes occur when the focus

is narrowed from total expenditures to government purchases of goods and services and from federal functions to national defense programs only.[12] As Table 6 shows, all of the same features remain. The period 1939–56 exhibits a very rapid, and 1956–66 a relatively slow, growth in defense purchases, but after late 1965 defense purchases again outpaced other resource-using government programs.

The High-Cost Urban Functions

With the increasing urbanization of the country during this century—the proportion of the population living in metropolitan areas rose from 42 per cent in 1900 to 50 per cent in 1920, to 60 per cent in 1950, and to nearly 65 per cent in 1965—one might expect those governmental functions that are especially costly to perform in urban areas to grow at above-average rates, and by doing so to help sustain local government expenditure shares. Such has not been the case, however. Five important local functions involved much higher per capita expenditures in 1962 in metropolitan than in nonmetropolitan areas, as Table 7 shows, but taken as a group they grew at barely 6½ per cent

TABLE 7

LOCAL DIRECT GENERAL EXPENDITURES PER CAPITA: RATIOS OF METROPOLITAN TO NONMETROPOLITAN AREAS, 1962

High-Cost Functions		Other Major Functions	
Housing and urban renewal	5.52	Libraries	1.86
Parks and recreation	3.73	Health	1.73
Fire protection	2.75	Public welfare	1.70
Sewerage and sanitation	2.51	Hospitals	1.32
Police protection	2.46	Education	1.05
		Highways	0.83
		Natural resources	0.83
Direct general expenditures	1.34		

SOURCE: Alan K. Campbell and Seymour Sacks, *Metropolitan America: Fiscal Patterns and Governmental Systems,* New York, 1967, p. 74.

[12] Another advantage is that the relevant NIA data are available over a longer period of time, 1939–67 for the purchase series rather than only 1952–66 for the federal-nonfederal total expenditure comparison.

per annum, on the average, between 1902 and 1966. Though not a low absolute rate, 6½ per cent is below the growth rate of other local expenditures. As a result the five urban functions began the century at 20 per cent of total local spending, receded to 15 per cent in the 1930's, and were not far above that level in 1966.

Expenditures on High-Cost Urban Functions as a Per Cent of Local General Expenditures

Year	Per Cent	Year	Per Cent
1902	19.4	1948	17.9
1913	18.0	1957	17.2
1927	16.0	1962	17.4
1934	14.8	1966	16.5
1938	14.8		

SOURCES: *Historical Statistics: COG, 1962*, p. 47 and *Governmental Finances in 1965–66*, pp. 22–23.

It is not in these functional areas, it would appear, that one is likely to find much support for local expenditure shares in the future.

Human Capital Expenditures

Expenditures for the maintenance and development of human capital, on the other hand, are a predominately local function that has rather consistently outpaced other nonfederal public programs, as Table 8 shows. At the same time, in an increasingly mobile and interrelated communicative society there are compelling reasons for moving both the financing and at least some of the control of human capital programs to higher levels of government. In such a society the benefits of those programs are no longer highly localized, and the quality of their services consequently becomes a matter of considerable federal and state concern.[13] The extent to which this concern has already affected the relative roles of the three levels of government, and the potential impact of further developments along the same lines is the subject of this section.

If we look first at the provision of services, as shown by BOC direct general expenditure shares in Table 9, we note that in general the expected upward shift has occurred, but with some important excep-

[13] For a discussion of the intergovernmental aspects of these developments see George F. Break, *Intergovernmental Fiscal Relations in the United States*, Washington, D.C., 1967, Chapter 3.

TABLE 8

AVERAGE ANNUAL GROWTH RATES[a] OF EDUCATION, WELFARE, HEALTH, AND NONFEDERAL DIRECT GENERAL EXPENDITURES, SELECTED PERIODS, 1902–66

(PER CENT)

Period	Education	Public Welfare	Health and Hospitals	Nonfederal Direct General Expenditures
1902–13	7¾	3	5½	6½
1913–27	10	7¾	10	10
1927–36	½	22	3½	4
1936–40	4½	7	5½	5¼
1940–48	13	6¼	13	8½
1948–56	8	5	8½	8
1956–62	8¼	8¼	8½	8¼
1962–66	11	8	8	6¾
1902–66	8	8½	8	7½
1927–66	7¼	10	8	6¾
1948–66	8¾	6¾	8½	7¾

SOURCE: Computed from data given in Appendix Table D.

[a] Rates are compound annual rates of growth expressed to the nearest ¼ per cent for rates under 10 per cent and to the nearest 1 per cent for all others.

tions. In education the state share has risen, and the local share declined, fairly steadily during the present century, but the federal share has fluctuated widely, being currently below the 7 per cent level that prevailed just prior to World War II and again in 1956, and well below the 25–30 per cent levels during the late nineteen-forties.[14] Public welfare programs have also shifted upward from local to state governments, but the federal share has declined both from its Great Depression peaks and from the levels prevailing in the first three decades of the century. Health and hospital operation, in contrast, has

[14] Within the education category the operation of local schools, of course, has remained in the local sector—BOC direct general expenditure shares moving only from 0-0-100 in 1902 to 0-1-99 in 1966—while the operation of public institutions of higher learning has shifted from state to local governments. In 1952, for example, the state-local shares of direct expenditures on higher education were 93-7, and by 1965–66 they had become 88-12.

TABLE 9

FEDERAL, STATE, AND LOCAL SHARES OF DIRECT GENERAL EXPENDITURES FOR EDUCATION, WELFARE AND HEALTH AND HOSPITALS, 1902, 1927, 1940, 1948, AND 1966

(PERCENTAGE DISTRIBUTIONS)

Functions		Years				
		1902	1927	1940	1948	1966
Education	F[a]	1	0[b]	7	30	4
	S	7	10	13	14	22
	L	92	90	80	56	74
Public welfare	F	10	6	12	2	3
	S	24	25	40	45	45
	L	66	69	48	53	52
Health and hospitals	F	5	18	17	36	29
	S	51	39	41	43	35
	L	44	43	42	29	35
Education, welfare, and health	F	3	3	10	26	8
	S	16	15	25	23	27
	L	81	82	66	51	65

SOURCE: Appendix Table C.

[a] F = federal; S = state; L = local.

[b] Less than ½ per cent.

become much more of a federal responsibility, with the state and local shares declining correspondingly but remaining about equal to each other.

The upward shift in the financing, as distinct from the operation, of human capital public programs has been both more pronounced and more sustained. When federal and state intergovernmental expenditures in these areas are related to state-local and local human capital expenditures respectively, the picture that emerges is one that intersperses periods of increasing centralization of financing with periods of relative stability. Federal aid to education, for example, rose from a level of barely ½ per cent of state-local expenditures during the first quarter of this century to nearly 8 per cent in 1948, remained close to 5 per cent from 1952 to 1962 and then rose again to 9 per cent in 1965–66 (Table 10). Federal aid for public health and welfare was

TABLE 10

RELATION OF FEDERAL AND STATE INTERGOVERNMENTAL EXPENDITURES TO STATE AND LOCAL EXPENDITURES FOR EDUCATION, HEALTH, AND WELFARE, SELECTED YEARS, 1902–66

Function	1902	1913	1927	1938	1944	1948	1952	1957	1960	1962	1966
PER CENT OF FEDERAL INTERGOVERNMENTAL EXPENDITURES TO STATE-LOCAL EXPENDITURES											
Education	0.4	0.5	0.4	4.5	6.9	7.8	5.2	4.3	5.1	5.3	9.0
Public welfare, health and hospitals	n.a.	n.a.	n.a.	14.3	26.8	23.4	26.4	25.3	26.9	27.8	30.8
PER CENT OF STATE INTERGOVERNMENTAL EXPENDITURES TO LOCAL EXPENDITURES											
Education	18.9	15.7	14.5	30.6	37.4	36.2	37.0	35.7	35.6	36.1	39.5
Public welfare	—	—	5.4	56.2	66.2	57.0	70.8	68.5	67.9	69.0	79.6
Health and hospitals	n.a.	n.a.	n.a.	n.a.	4.9	6.5	11.9	9.2	9.3	8.8	9.3

n.a. = not available.

SOURCES: *Historical Statistics, COG 1962,* pp. 48–49, and *Governmental Finances in 1965–66.*

about 25 per cent of state-local expenditures on those functions in all of the years shown in Table 10 between 1944 and 1960 but rose modestly thereafter to 31 per cent by 1966.

Similar alternating intervals of expansion and stability characterized the role of state assistance in local human capital programs. Note in Table 10 the rapid rise in state educational grants between 1932 and 1944 and again between 1962 and 1966; the substantial expansion in the financing role of state welfare grants from 1927 to 1938, 1948 to 1952, and 1962 to 1966; and finally, the 1944–57 increase in health and hospital assistance that tended to be sustained through 1966.

TABLE 11

FEDERAL AND STATE-LOCAL SHARES OF OWN-FINANCED AND DIRECT GENERAL EXPENDITURES ON SELECTED FUNCTIONS, 1902 AND 1965–66

(PER CENT)

Function		Own-Financed Expenditures		Direct Expenditures	
		1902	1965–66	1902	1965–66
Education	F[a]	2	13	1	4
	SL	98	87	99	96
Public welfare	F	12	54	10	3
	SL	88	46	90	97
Health and hospitals[b]	F	n.a.	33	5	29
	SL	n.a.	67	95	71
Highways	F	0	32	0	1
	SL	100	68	100	99
Housing and urban renewal	F	—	67	—	42
	SL	—	33	—	58
Natural resources	F	n.a.	82	47	80
	SL	n.a.	18	53	20
Natural resources excluding farm price support programs	F	n.a.	70	47	67
	SL	n.a.	30	53	33

n.a. = not available.

SOURCES: Computed from data given in *Historical Statistics, COG 1962,* and *Governmental Finances in 1965–66.*

[a] F = federal share; SL = state-local share.

[b] In the earliest available year, 1934, the F-SL shares of own-financed and direct general expenditures were 24–76 and 22–78 respectively.

The result of these relative increases in the importance of intergovernmental assistance was the creation of substantial gaps between own-financed and direct general expenditure shares in the health, education and welfare area. Perhaps the most dramatic contrast shown in Table 11 is the virtual cutting in half of the state-local share of own-financed welfare expenditures (from 88 per cent to 46 per cent) between 1902 and 1966 while the operation of welfare programs remained almost completely in state-local hands. Federal financing of health and hospitals presumably also increased materially, though full data are available only since 1934, but neither that area nor education matched the shift in highway financing from complete state-local responsibility in 1902 (and 1913) to a ⅓–⅔ federal-state/local division in 1966.

Finally, it is of interest to compute the hypothetical impact on expenditure shares of a rather radical change in the financing of the nation's 1965–66 human capital programs. If, for example, welfare expenditures were to be financed, as some have suggested, entirely by the federal government, if the division of health and hospital costs were to be exactly reversed from its present one-third federal and two-thirds state and local allocation, if education expenditures were to be financed equally by the two levels of government, and if all this were to be done without changing the current levels of expenditure on the three program areas, the impact on government roles could be summarized as follows:

Series	Expenditure Shares			
	Actual 1965–66		Hypothetical 1965–66	
	F	SL	F	SL
Own-financed expenditures on health, education and welfare	22	78	60	40
Own-financed general expenditures	63	37	73	27
Own-financed general expenditures for civil purposes, I	46	54	60	40

While future increases in the financing role of the federal government can be forecast with some confidence, it seems most unlikely that they would occur in the manner just described. Some more probable possibilities are discussed in the next section.

III. Current and Prospective Developments

Like the country as a whole, intergovernmental fiscal relations appear to be in the midst of a period of accelerating change. As a result of incentives from above and pressure from below, new levels of local government are in the offing, promising to add further complexities to the intergovernmental picture. Pointing in the same direction is a strong, and probably increasing, interest in the use of tax, rather than expenditure, incentives to accomplish public purposes, and most uncertain of all are the roles that the different levels of government would play in a post-Vietnamese world that would permit a major functional reallocation of fiscal resources. These three current and prospective developments will be discussed in that order.

New Levels of Local Government

Among the major challenges to the U.S. federal system in the next few years, it now seems clear, will be the formation of more rational and effective systems of local government. While the solution of some of the most important urban problems requires integrated, areawide policy action, groups with special tastes and needs for public services are primarily concerned with local autonomy. What seems to be needed is some magic blend of centralizing and decentralizing changes that will create simultaneously both larger and smaller units of local government than any that now exist.

The federal government, through its grant-in-aid programs, is already providing a strong stimulus to the first line of development. Financial support is now available for the formation of comprehensive metropolitan planning agencies, bonus grants can be obtained for projects that are carried out by regional (interstate or interlocal) agencies, and the trend in urban development grants is to require the aided project either to be part of a comprehensive, areawide plan or to be reviewed by such a planning agency. Mainly enacted by the 88th and 89th Congresses (1963–66), these incentives were incorporated in federal grant programs with fiscal 1967 expenditures of nearly $2.8 billion and a projected two-year growth rate of over 50 per cent (Table 12).

Whether federal financial assistance, together with local recognition of the gains to be realized by dealing with regional problems on a

TABLE 12

EXPENDITURES OF FEDERAL GRANT PROGRAMS PROVIDING INCENTIVES FOR COMPREHENSIVE REGIONAL PLANNING, FISCAL YEARS 1967 AND 1969

(MILLIONS OF DOLLARS)

Agency and Program	Type of Incentive[a]	Amount of Expenditure	
		Actual 1967	Estimated 1969
Department of Agriculture:			
rural water and waste disposal facilities	c,f	11	34
Department of Transportation:			
federal-aid highways in urban areas with over 50,000 population	c	2,154	3,336
Department of Commerce:			
economic development assistance	c,f,i	20	151
Department of Health, Education, and Welfare:			
regional medical programs	f	3	35
comprehensive health planning and services	c,f	—	110
air pollution control	i	31	80
urban and industrial health	c,f	17	33
Department of the Interior:			
water pollution control	c,i	99	191
Water Resources Council:			
comprehensive regional planning	f	2	3
Department of Housing and Urban Development:			
urban renewal	c	370	700
urban transportation assistance	c,f	42	150
urban planning grants	f,i	22	46
basic water and sewer facilities	c	6	130
open space land and urban beautification	c	19	60
model city grants	c,f,i	—	242
neighborhood facilities	c	1	32
metropolitan development incentive grants	f,i	—	3
Total		2,797	5,336

SOURCES: *The Budget of the United States Government, Fiscal Year 1969* and *Special Analyses, Budget of the United States, Fiscal Year 1969,* Special Analysis K.

[a] c = compatibility required with comprehensive plan.
f = financial assistance to comprehensive planning authorities.
i = incentive grants for projects carried out by comprehensive regional or metropolitan agencies.

regional basis, will result in the creation of a new level of metropolitan governments, with their own revenue-raising powers and jurisdiction over an appropriate set of areawide public programs, is far from clear. Prominent among the possible harbingers of such a development is the growing group of metropolitan councils of governments which began in 1954 in Detroit with that area's Supervisors' Inter-County Committee. Formation of these voluntary regional councils of elected local officials was subsequently stimulated by the provision of federal financial assistance in 1965 and by the requirement after mid-1967 that applications for federal aid for specified urban development projects be accompanied by the review and comments of an areawide body authorized to carry out comprehensive planning for the metropolitan area in question.[15] Though over thirty councils of governments were operating in late 1967, their powers and sources of funds were strictly limited, and in evaluating their future prospects the Advisory Commission on Intergovernmental Relations (ACIR) stated:

> There is no real prospect that the associations of local governments are destined to become "super governments" or metropolitan governments in the classic sense. Rather they appear to be developing, first into the planning phase of cooperative decision-making, and second into a limited, step-by-step realization that it is better for local governments cooperatively to program and implement decisions than to turn regional affairs over to a series of legally and financially autonomous special districts over which elected officials in a region have little, or no, control.[16]

Another form of regional government that has received a good deal of attention from the experts is the areawide financing district. This might be restricted to a single function, such as schools, for which it might levy and collect an areawide property tax,[17] or it might be a general-purpose agency that imposed, say, a supplement on the state sales tax or levied a surcharge on the state income tax returns of all metropolitan residents and then distributed the proceeds to the different urban governments according to some agreed-upon formula. It is

[15] Section 701(g) grants authorized by the Housing and Development Act of 1965 (PL 89-117) and Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 (PL 89-754), respectively.

[16] ACIR, *Metropolitan Councils of Governments,* Report M-32, August 1966, p. 30.

[17] As a result of its 1966–67 study of fiscal balance in the American federal system the ACIR recommended that states authorize such regional school property taxing districts. See their *Ninth Annual Report,* Washington, D.C., 1968, p. 21.

not easy to obtain such agreement in normal times, but that may not be much of a barrier in future years.

At the opposite end of the local government spectrum is another phenomenon of great current interest—neighborhood subunits of existing public agencies. In order to bring its public services more in line with the tastes of its different citizens groups, San Francisco, for example, has recently been discussing both miniboards of education for individual schools within its large consolidated school district and mini police stations to improve people-to-government relations in the poorer areas of the city. Perhaps the boldest move in the decentralization direction is that proposed for New York City by the Bundy Report, which would establish sixty or so largely autonomous school districts within the metropolitan region.[18] The development of neighborhood service centers, supported by federal grants that are expected, as Table 12 shows, to grow rapidly between 1967 and 1969, is another manifestation of the same pressures for more responsive and more responsible local government.

The local government sector, in short, is in a state of flux, the duration and outcome of which cannot now be foreseen. On the one hand, only a relatively minor restructuring of the system may result, in which case it seems reasonable to predict that state and federal expenditure shares will tend to expand at the expense of local, at least for programs that have significant benefit spillouts to regional and national levels. On the other hand, autonomous metropolitan and regional governments may be formed either to help finance traditional units of government or to deal with problems that transcend their boundaries, and the traditional entities may also establish sets of subunits with some independent powers to deal with programs generating benefits that are highly localized and servicing groups with distinct and diverse tastes.[19] Should this be the case, one would expect to observe a more vigorous, and relatively more important, local public sector, though one whose structure might differ sufficiently from that of the past to require future analysts of governmental roles to recognize more than one distinct level within the local sector.[20]

[18] See *Reconnection for Learning—A Community School System for New York City*, Report of the Mayor's Advisory Panel on Decentralization of the New York City Schools, 1967.

[19] On this point see the highly suggestive, theoretical model developed by Charles M. Tiebout in "A Pure Theory of Local Expenditures," *Journal of Political Economy*, Vol. 64, October 1956, pp. 416–24.

[20] The mere establishment of intergovernmental regional authorities or neighborhood subunits does not, of course, mean that a new level of government has come into being. The crucial questions concern the amounts of independent

Tax Credits and Subsidies

When a government wishes to stimulate private activities that generate important social benefits, it normally can choose between expenditure and tax subsidies for its purposes. Each alternative has its own distinctive merits, but what concerns us here is the impact of the choice on the measurement of the expenditure shares of different levels of government. In principle, there should be none, but in practice there may be effects that are difficult to eradicate. For some measures of governmental activity, and this is one of their advantages, there would be no problem. Federal and state-local shares of NIA purchases of goods and services, for example, would not be affected by the choice, on the part of either level of government, of tax, rather than expenditure, subsidies. Total expenditure shares, on the other hand, would change unless an explicit adjustment were made. Suppose, to take a hypothetical example, that total expenditures are 200, divided equally between the federal and state-local sectors, and that the federal government wishes to inaugurate a new incentive program for private enterprise that is expected to cost 10. If it does this by means of expenditure transfers financed, say, by new taxes of equal amount, total government expenditures will rise to 210, assuming no fiscal interactions between the new program and other federal expenditures or state and local spending, and the shares of the two levels will change from 50-50 to 52-48. Alternatively, the federal government might establish tax credits of 10 for the relevant private groups and finance them by additional taxes of 10 on other groups. Assuming again the absence of fiscal interactions, we note that in this case the initial expenditure share pattern of 50-50 would remain unchanged unless we transferred the new tax credits to the other side of the budget and included them with other expenditures.[21]

The problem with making adjustments of that sort, of course, would

power accorded the new entities and the extent to which they are responsible to their electorates. If these distinctive qualities of government are lacking, the new units may simply be parts of a more decentralized, higher level of government, or they may be separate authorities with mixed public and private characteristics.

[21] A similar problem arises in the choice between measuring government enterprise activities on a gross, or on a net, basis. If the former is selected, additional subsidies generated by lowering an enterprise's selling prices would not affect governmental shares of total expenditures, whereas subsidies resulting from spending more money in order to raise the quality of the enterprise's services would. An advantage of the net basis of measurement is that the two policies would have the same effects as long as their net costs to the enterprise were equal.

be to identify the tax subsidies that should qualify for special treatment. If the purpose of a specific tax favor were purely and simply to stimulate some private activity with social benefits, the answer would be clear, but governmental actions are seldom that uncomplicated. The point may be illustrated by considering a few of the relevant features of the current federal tax system. The investment tax credit, which was established to increase the growth, productivity and international competitiveness of the U.S. economy, seems an obvious candidate for inclusion in the measurement in total expenditure shares, but if this is done, should not some portion of existing depreciation allowances be treated in the same way on the grounds that Congress has made them more generous than "true" depreciation for the same reason that it established the investment credit? On the other hand, one cannot be certain that the real purpose of the investment credit was not to reduce effective corporate tax rates in a politically palatable manner, or that accelerated depreciation is not intended mainly to offset the effects of inflation on conventional measures of business taxable income. Similarly, percentage depletion deductions may be regarded either as means of stimulating activities that are important for the national defense or as necessary adjustments to make the income tax neutral among activities involving different degrees of risk, and charitable contribution deductions may be viewed either as stimulants of socially desirable enterprises or as necessary expenses of earning income.[22]

The necessary distinctions being unclear, it might be argued that the best course of action is to ignore tax incentives in the measurement of expenditure shares and to hope that they never become important enough to matter. Unfortunately, it may already be too late to rest very easy with such a solution, and the prospects seem to be that the situation is likely to become worse, rather than better. In 1965–66 the investment tax credit reached an annual level of over $2 billion, Pechman places the tax cost of excess depletion allowances above $1.5 billion a year,[23] and charitable contribution deductions probably reduced individual tax burdens by about $2.5 billion in 1966.[24] To-

[22] For further discussion of these purposes see, for example, Joseph A. Pechman, *Federal Tax Policy*, Washington, D.C., 1966, pp. 124–25, and C. Harry Kahn, *Personal Deductions in the Federal Income Tax*, Princeton for NBER, 1960, pp. 13 and 46–48.

[23] *Op. cit.*, p. 124.

[24] Taussig estimated that the cost of charitable deductions to the government was over $2 billion in 1962, and in recent years total deductions have been growing at about 5¼ per cent a year. See Michael K. Taussig, "Economic Aspects of

gether these tax incentives were slightly over 3 per cent of the direct general expenditures of all levels of government in 1965–66, about 2.7 per cent of total NIA expenditures in 1966, and over 10 per cent of the 1966 sum of NIA transfers, subsidies and the net current deficits of government enterprises. As for future prospects, Senator Robert F. Kennedy sponsored bills (S. 2088 and S. 2100) to encourage private investment in industry and housing in urban poverty areas which rely heavily on tax incentives to achieve their purposes, and the National Advisory Commission on Civil Disorders has recently adopted a similar approach. The time may be fast approaching when more meaningful measures of government subsidies than we now have will be required.[25]

Post-Vietnam Governmental Roles

The single event with the greatest potential of changing the roles of the different levels of government in a short period of time would undoubtedly be the end of the Vietnam War, or at least of any major U.S. role in it. Special Vietnam expenditures are currently projected at $26.3 billion in fiscal 1969.[26] Though this whole sum would not be available for reallocation during the first postwar year, full-employment federal tax revenues are currently rising automatically by $10 billion a year or more,[27] and the federal government would clearly be in a position to make major changes in nondefense expenditures and tax revenues. What concerns us here are the potential effects on federal and state-local expenditure shares. Ideally one would like to compute these, for a limited number of policy alternatives that Congress could be expected to consider seriously, from a comprehensive econometric model that took full account of fiscal interactions, feedbacks and differential time paths. Specification of that limited set of alternatives, however, is not possible at this stage of the war, and that being the case, it seems unnecessary to attempt more here than a few

the Personal Income Tax Treatment of Charitable Contributions," *National Tax Journal,* Vol. XX, March 1967, p. 1, and U.S. Treasury Department, Internal Revenue Service, *Statistics of Income, 1965: Individual Income Tax Returns,* Washington, D.C., 1967, p. 210.

[25] For a recent discussion of the conceptual issues see Warren C. Robinson, "What Is a Government Subsidy?" *National Tax Journal,* Vol. XX, March 1967, pp. 86–92.

[26] *The Budget of the United States Government, Fiscal Year 1969,* Washington, D.C., 1968, p. 83.

[27] *Economic Report of the President,* Transmitted to the Congress, February 1968, Washington, D.C., 1968, p. 67.

rough approximations of the impact effects of the major policy alternatives.

Official projections of federal NIA expenditures for fiscal 1969 have been selected as the reference base for our calculations.[28] If to these are added projections of state and local expenditures from fiscal 1967 to 1969 at the same rate as those expenditures actually increased between fiscal 1965 and 1967, the expenditure amounts and shares shown in the first two columns of Table 13 are the result. Comparison of these

TABLE 13

PROJECTED AND HYPOTHETICAL FISCAL 1969 FEDERAL AND STATE-LOCAL EXPENDITURE SHARES UNDER ALTERNATIVE POST-VIETNAM FEDERAL FISCAL POLICIES

Measure		Projected Shares		Hypothetical Shares Under Policies:[a]				
		Amounts (billions of dollars)	Per Cent	#1	#2a	#2b	#3	#4
				(per cent)				
Own-financed expenditures	F[b]	185.0	68	68	68	75	64	68
	SL	86.5	32	32	32	25	36	32
Own-financed expenditures: civil-I	F	106.2	55	60	60	68	54	60
	SL	86.5	45	40	40	32	46	40
Purchases of goods and services	F	99.4	51	51	31	43	42	43
	SL	97.0	49	49	69	57	58	57
Civil purchases: I	F	20.6	18	32	15	18	17	18
	SL	97.0	82	68	85	82	83	82

SOURCE: See text for description of methods of derivation.

[a] Policy 1: nondefense purchases substituted for $25 billion of defense purchases.

Policy 2: grants-in-aid to state and local governments substituted for $25 billion of defense purchases.

2a: state-local marginal propensity to spend = 1.
2b: state-local marginal propensity to spend = 0.

Policy 3: defense purchases and federal taxes reduced by $25 billion.

Policy 4: transfer payments substituted for $25 billion of defense purchases.

[b] F = federal share; SL = state-local share.

[28] *Special Analyses of the United States Budget, Fiscal Year 1969,* Washington, D.C., 1968, Special Analysis B, p. 22.

with the 1966 shares given earlier in Table 2 shows that three of the four series are unchanged and that the federal share of total purchases of goods and services is projected to rise from 50 to 51 per cent during the period.

While the precise content of the preferred post-Vietnam policy package cannot now be foreseen, it seems highly likely that it will be a blend both of federal tax reduction, particularly since the special "wartime" surtax has been enacted, and of expenditure increases for nondefense purchases, grants-in-aid to state and local governments, and transfer payments. The potential impacts of these four types of postwar fiscal policy on federal and state-local expenditure shares will accordingly be discussed in turn. For convenience it is assumed that the change made in each case amounts to $25 billion a year, and only the impact effects are shown in Table 13.

Suppose, first, that nondefense federal purchases of goods and services were simply substituted for defense (i.e., Vietnam) purchases.[29] Because of the lower import content of the former, this substitution would probably have a net expansionary effect on aggregate demand, and unless private demands were suitably sluggish, which seems unlikely, would need to be supplemented with restrictive tax and/or monetary policies. If the effects of the latter on state and local expenditures are ignored, the shift from military to nondefense purchases would affect only our two civil expenditure measures, increasing the federal share of own-financed civil expenditures from 55 to 60 per cent and the federal share of civil purchases from 18 to 32 per cent (Table 13).[30]

Our second policy alternative is a more complicated one. Federal grants-in-aid have been growing rapidly in recent years, as Table 14 shows, and this behavior alone implies a preferred role for them in any post-Vietnam federal policy package. In addition, there has been considerable interest in new types of federal aid, including unconditional Heller-Pechman grants and source-oriented income tax sharing, and this interest can be expected to intensify whenever defense pressures on the federal budget moderate to any significant degree. Policy alternative 2 in Table 13 is intended to cover both an increase in the projected growth rate of existing functional grant programs and the

[29] While some military expenditures fall in the transfer payment category, their relative importance is slight. In 1966, for example, military purchases were 98 per cent of total military expenditures (*Survey of Current Business,* July 1967, p. 29).

[30] In each case these changes result from a $25 billion increase in federal expenditures above the amounts shown in the first column of Table 13. Note that this assumes more than a doubling of projected 1969 civil federal purchases.

TABLE 14

AVERAGE ANNUAL GROWTH RATES[a] OF FEDERAL GRANTS-IN-AID TO STATE AND LOCAL GOVERNMENTS, SELECTED PERIODS, 1902–67

(PER CENT)

Period	Average Annual Growth Rate[b]
1902–13	5½
1913–22	26
1922–27	¾
1927–36	25
1929–37	26
1937–47	8½
1947–57	9¼
1957–67	14¼
1957–62	13¾
1962–67	14¾
Fiscal Years	
1964–67	14½
1964–69	14¾

SOURCES: Computed from data given in *Historical Statistics: COG 1962, The National Income and Product Accounts of the United States, 1929–1965, Survey of Current Business,* February 1968, and *Special Analyses, Budget of the United States, Fiscal Year 1969.*

[a] Rates are compound annual rates of growth expressed to the nearest ¼ per cent for rates below 15 per cent and to the nearest 1 per cent for higher rates.

[b] Bureau of the Census data used for 1902–13, 1913–22, 1922–27, and 1927–36; National Income Accounts data used for all other periods.

inauguration of some new kind of federal aid. In each case the impact effect on the federal budget would be a $25 billion increase in own-financed civil expenditures and a $25 billion decrease in total purchases, but no change in either total expenditures or in civil purchases.[31]

[31] The only problem arises in the case of source-oriented income tax sharing. If the amounts returned to the states of origin are treated as federal aid, and hence included on the expenditure side of the federal budget, the impact effects would be those described in the text. Alternatively, the whole policy might be treated as a combination of federal tax reduction and an agreement by the federal government to collect an equal amount of income tax revenue for each of the states. In that case, total federal own-financed expenditures and purchases of goods and services would each fall by $25 billion, and civil expenditures and purchases would remain unchanged. The budgetary treatment assumed in the text seems the preferable one.

The impact on state and local expenditures is more difficult to specify, depending as it does on such things as the matching requirements in the functional grant programs that are expanded and the average spending propensities of the states that happen to receive the major share of any new unconditional grant or tax sharing program that is initiated. In the face of these uncertainties, only two simple alternatives are presented in Table 13: the first (Policy 2a) assuming that state-local expenditures increase by the exact amount of the additional federal aid,[32] and the second (Policy 2b) making the admittedly unrealistic assumption that state-local expenditures are unaffected by the increment in federal aid and that state-local taxing and borrowing operations are reduced accordingly. The second alternative, therefore, consistently shows a higher federal expenditure share than the first.

In general, the potential impact on federal expenditure shares of a substitution of federal aid for defense purchases may be summarized as follows:

Federal Share Measure	Predicted Impact on Federal Share (F)
Own-financed expenditures	$\Delta F \gtreqless 0$ as state-local mps[a] $\lessgtr 1$.
Own-financed civil expenditures	F rises unless grants are strongly stimulatory of state-local expenditures.
Purchases of goods and services	F falls.
Civil purchases	$\Delta F \eqless 0$ as state-local mps $\eqgtr 0$.

[a]mps = marginal propensity to spend.

The third policy shown in Table 13 combines $25 billion reductions in defense purchases and federal tax revenues. Since it is assumed, as a first approximation, that the impact of this policy on aggregate demand is the same as those of the alternative policies being considered, the only effect on state and local expenditures will come from a propensity on their part to raise their own tax rates as federal rates fall. Here again it is difficult to be precise, and Table 13 simply uses

[32] This means, of course, that state-local, own-financed expenditures would remain unchanged. The increase in state-local purchases used for Policy 2a in Table 13 ($23.5 billion) is based on the 1967 ratio of state-local purchases to total expenditures (0.94).

an arbitrarily small induced state-local expenditure increment of $5 billion to illustrate the point. It is clear, in any case, that state-local shares would tend to rise at the expense of federal, though probably not by large amounts for the two civil expenditure measures. An interesting variant of a general tax reduction policy would be the adoption by the federal government of a fractional credit for state and local individual income taxes.[33] Since each dollar of federal tax revenue lost in this way would be expected to stimulate more state-local expenditures than one lost through straight tax reduction, incorporation of the credit in Policy 3 would tend to raise state-local expenditure shares above the levels shown in Table 13.

Our final post-Vietnam fiscal policy involves the substitution of federal transfer payments for $25 billion of defense purchases. No change would occur in the interlevel division of either own-financed total expenditures or civil purchases, but the federal share of own-financed civil expenditures would rise by 5 points and the federal share of total purchases would fall by 8 points. One way of implementing Policy 4 would be to enact a negative income tax, and in that eventuality some of the most interesting effects would be the fiscal interactions between the tax and both federal and state-local expenditures on income-maintenance programs. Suppose, to take one possibility, that the negative income tax simply replaced all public welfare expenditures. Projected to fiscal 1969 at their 1962–66 growth rate of 8 per cent per annum, these would amount to almost $9 billion, and if fiscal 1966 financing arrangements remained unchanged, own-financed welfare expenditures would be about $5 billion for the federal government and $4 billion for the state-local sector. A negative tax plan with a gross cost of $30 billion to the federal government could consequently be enacted,[34] and it would replace state-local spending of $4 billion. The impact on expenditure shares, however, would not be great. In both of the own-financed series shown in Table 13 the federal share would rise, and the state-local share fall, by one point only, and the impact on the other two series would be still less since state-local welfare expenditures are currently about one-third purchases and two-thirds transfers.

[33] For a discussion of one such proposal see John Shannon, "A Partial Federal Tax Credit for State Income Tax Payments," *Proceedings of the Fifty-Ninth (1966) Annual Conference on Taxation,* Columbus, 1967, pp. 382–94.

[34] For an analysis of alternative plans, together with rough estimates of their costs, see James Tobin, Joseph A. Pechman, and Peter M. Mieszkowski, "Is a Negative Income Tax Practical?" *Yale Law Journal,* Vol. 77, November 1967, pp. 1–27.

If one were to predict, on the basis of the preceding discussion, the direction in which post-Vietnam expenditure shares are likely to move, it would be that the federal share of own-financed expenditures, and also of civil purchases to a lesser extent, would rise, while the relative federal use of the nation's resources, as reflected in its share of total governmental purchases of goods and services, would decline.

IV. Conclusions

From the many factors accounting for the changing roles of different levels of government in this country during the present century this paper has selected three sets for emphasis: (1) differential growth rates among functions whose nature requires that their performance be concentrated in the hands of one specific level of government, (2) the increasingly wider geographical spread of the benefits of certain programs that have traditionally been operated at state or local levels, and (3) an upward shift of the financing function that has been only partially a response to (2) and partly a result of greater revenue-raising efficiency at higher levels of government together with man-made restrictive barriers of one kind or another at the lower levels. The main conclusions reached may be summarized as follows:

1. Though at the present time the federal government is clearly the dominant partner in the U.S. federal system, its superiority shows up mainly in the financing and other redistributive functions rather than in the use of resources. Own-financed government expenditures in 1966 were divided ⅔-⅓ between the federal and state-local sectors, with the state and local levels being about equal in importance. If expenditures are allocated to the level of operation, rather than of financing, however, the federal share drops to 55–60 per cent, and the local level becomes twice as important as the state. The greatest contrast of all is between resource-using and redistributive expenditures (transfers and subsidies), the former being shared equally between the federal and state-local levels and the latter being over 90 per cent federal.

2. Those functions which by nature must be performed by the federal government—defense, international relations, space research and technology, veterans' benefits and postal services—have as a group grown more rapidly during the present century than have the remain-

ing nonfederal expenditure programs, though there have, of course, been subperiods, such as 1902–27 and 1956–65, when the reverse was true.

3. Expenditures for the maintenance and development of human capital have also tended to have above-average growth rates. It is in this area that the modern communications and transportation revolution has done most to spread the incidence of program benefits outward from local to regional and national levels, and the changing roles of government have reflected these forces to some extent, though not as much as many experts would regard as desirable. Whereas in both 1902 and 1927 the federal and state governments made less than 20 per cent of the nation's direct expenditures on health, education and welfare, by 1966 their share had risen to 35 per cent, of which state governments contributed more than three-quarters.

4. Though urbanization has been a prominent feature of the present century, those government functions whose per capita costs are especially high in metropolitan areas—police, fire, sanitation, parks and recreation, housing and urban renewal—have not grown as fast as other local general expenditure programs. Large and growing needs in the housing, recreation and waste disposal areas, however, may alter this pattern in the future.

5. The upward movement of the governmental financing function has tended to proceed in a series of fairly broad steps whose impact, over the total period of time considered here, has been most impressive. Whereas at the beginning of the century, for example, direct expenditures were almost entirely financed by the governmental level that made them, by 1966 the federal share of total own-financed governmental expenditures was seven percentage points above its share of total direct expenditures. During the same period federal aid rose from ½ per cent to nearly 17 per cent of state-local revenues, and state aid increased from 6 per cent of local general revenues in 1902 and 1913 to 31 per cent in 1966.

6. Within the local level of government there are strong forces making for the centralization of some functions and the decentralization of others. One possible outcome, and one that should help maintain the vitality of the local sector, would be the development of several distinct levels of local government, ranging from regional, urban and rural, authorities down to autonomous neighborhood subunits of existing governments. In the absence of these structural changes it seems likely that state and federal roles will increase at the expense of local, at least for programs with significant benefit spillouts.

7. A lively current interest in the use of tax credits to stimulate private activities that have significant social benefits raises important questions about the proper treatment of fiscal incentives in the measurement of the roles of different levels of government. Unless the tax-transfer system is treated as a unit, with the negative components (taxes) being netted against the positive components (transfer payments), tax incentives, it is argued, should be explicitly added to the expenditure side of the budget whenever quantitative comparisons, over time or between levels of government in a given period, are to be made.

8. Some of the sharpest changes in the roles of different levels of government have occurred during and after wars. Though the Vietnam War has not as yet caused a major break in past trends, it has had an important impact on both the level and the intergovernmental distribution of civil expenditures. Its termination, consequently, is likely to be followed by some significant changes in the U.S. federal system. Though these are difficult to foresee in detail, the general prospect seems to be for a greater federal role in financing and redistributive functions and for more state participation in both the financing and operation of public programs.

Appendix

TABLE A: FEDERAL, STATE, AND LOCAL GOVERNMENTAL EXPENDITURES BASED ON MEASURES, SELECTED

Aggregate Expenditure Measure	Level of Government[a]	1902	1913	1922	1927	1932	1936
Own-financed general expenditures (OFGE)	F	36.4	32.2	42.5	33.2	36.0	57.7
	S	11.3	12.4	13.8	17.2	21.4	18.3
	L	52.3	55.4	43.7	49.5	42.6	24.0
Direct general expenditures (DGE)	F	35.8	31.7	41.1	31.9	33.9	51.7
	S	8.5	9.8	11.6	13.0	16.7	14.0
	L	55.7	58.5	47.3	55.1	49.4	34.2
Own-financed general expenditures for civil purposes: series I[c] (OFGE: C-I)	F	28.9	26.1	36.2	29.1	31.8	55.1
	S	12.6	13.5	15.3	18.3	22.8	19.4
	L	58.5	60.5	48.5	52.6	45.4	25.5
Direct general expenditures for civil purposes: series I[c] (DGE: C-I)	F	28.3	25.5	34.6	27.7	29.6	48.7
	S	9.5	10.7	12.9	13.8	17.8	14.9
	L	62.2	63.7	52.5	58.5	52.6	36.4
Direct general expenditures for civil purposes: series II[c] (DGE: C-II)	F	18.5	19.8	20.8	16.5	18.4	38.8
	S	10.8	11.5	14.7	16.0	20.7	17.8
	L	70.7	68.7	64.5	67.5	60.9	43.4
Direct general expenditures for nonfederal purposes[c]	F	11.6	11.2	25.5	17.0	16.6	38.6
	S	11.7	12.8	14.7	16.0	21.1	17.9
	L	76.7	76.0	59.8	67.1	62.3	43.5

SOURCES: U.S. Bureau of the Census, Census of Governments: 1962, Vol. VI, No. 4, *Historical Statistics on Governmental Finances and Employment,* and *Governmental Finances in 1964–65 and 1965–66.*

[a] F = federal; S = state; L = local.

[b] For 1902 through 1962 local government expenditures were grouped by fiscal

PERCENTAGE SHARES OF AGGREGATE
SIX ALTERNATIVE BUREAU OF THE CENSUS
YEARS, 1902–66[b]

1938	1940	1944	1948	1950	1952	1956	1961	1962	1964–65	1965–66
51.1	54.3	92.7	68.5	66.7	74.2	67.4	64.8	64.9	63.4	63.1
21.1	20.3	3.3	15.5	16.3	12.2	15.2	16.1	16.0	17.3	17.8
27.8	25.4	4.0	16.0	17.1	13.5	17.4	19.1	19.1	19.3	19.1
46.2	49.1	91.8	64.7	62.5	71.4	64.1	59.6	59.6	57.1	56.3
15.8	15.1	2.5	12.3	13.2	9.5	12.1	13.7	13.7	15.1	15.4
38.0	35.9	5.7	23.0	24.3	19.1	23.9	26.7	26.7	27.9	28.3
47.8	49.9	64.9	53.5	52.1	45.4	43.9	45.4	45.4	46.1	45.7
22.5	22.3	15.8	22.9	23.4	26.0	26.2	25.0	24.9	25.5	26.2
29.7	27.8	19.3	23.6	24.5	28.6	29.9	29.6	29.7	28.4	28.1
42.5	44.2	60.3	48.0	46.2	39.4	38.3	37.4	37.2	35.6	36.7
16.9	16.5	11.9	18.2	19.0	20.1	20.7	21.2	21.2	22.7	22.2
40.6	39.3	27.8	33.8	34.8	40.5	41.0	41.4	41.5	41.7	41.1
36.5	39.0	54.9	33.8	35.6	28.4	28.2	28.3	28.9	28.8	27.6
18.7	18.0	13.6	21.6	21.8	23.5	24.0	24.2	24.0	25.0	25.5
44.8	42.9	31.5	44.6	42.5	48.1	47.8	47.5	47.1	46.2	46.9
36.8	39.4	57.2	39.0	38.9	31.4	31.4	30.7	30.4	27.8	26.4
18.6	17.9	12.9	21.3	21.5	22.7	23.0	23.4	23.6	25.3	25.9
44.6	42.7	29.9	39.6	39.6	45.8	45.6	45.9	46.1	46.9	47.7

years ending within the calendar year specified. In 1963 a shift was made to a fiscal-year basis, so that 1964–65, for example, refers to the expenditures of local governments with fiscal years ending between July 1, 1964 and June 30, 1965. No change was made in 1963 in the recording of either federal or state expenditures, which have consistently been reported on a fiscal-year basis.

[c] For definitions of these series, see text.

TABLE B: FEDERAL AND STATE-LOCAL PERCENTAGE MEASURES OF GOVERNMENTAL ACTIVITY,

Aggregate Expenditure Measure	Level of Government[a]	1902	1913	1922	1927	1929	1932
Own-financed expenditures (OFE)	F					25.6	29.9
	SL					74.4	70.1
Purchases of goods and services (P)	F	22.9	19.5	16.7	14.5	15.5	18.0
	SL	77.1	80.5	83.3	85.5	84.5	82.0
Own-financed expenditures for civil purposes: series I[b] (OFE:C-I)	F						
	SL						
Civil purchases, series I[b] (P:C-I)	F						
	SL						
Transfer payments to persons (TPP)	F					76.0	65.0
	SL					24.0	35.0
Wages and salaries of government employees (WSGE)	F-M					6.2	5.9
	F-C					22.0	21.3
	SL					71.8	72.8
Number of full-time equivalent government employees (FTEGE)	F-M					8.2	7.5
	F-C					17.8	17.4
	SL					74.0	75.1

SOURCES: U.S. Department of Commerce, Office of Business Economics, *The National Income and Product Accounts of the United States, 1929–1965; Survey of Current Business,* July 1967. Purchases of goods and services in 1902, 1913, 1922 and 1927 are unpublished special tabulations prepared for John W. Ken-

SHARES OF SEVEN NATIONAL-INCOME-ACCOUNTS
SELECTED CALENDAR YEARS, 1902–66

1936	1938	1940	1944	1948	1950	1952	1956	1961	1962	1965	1966
53.9	51.3	54.1	92.7	69.3	67.1	75.9	69.0	68.5	68.9	66.4	68.1
46.1	48.7	45.9	7.3	30.7	32.9	24.1	31.0	31.5	31.1	33.6	31.9
41.2	41.7	43.0	92.2	52.3	48.6	69.3	58.0	53.3	54.1	49.1	49.9
58.8	58.3	57.0	7.8	47.7	51.4	30.7	42.0	46.7	45.9	50.9	50.1
		47.8	51.8	61.0	57.2	52.6	49.5	53.6	54.2	54.0	55.2
		52.2	48.2	39.0	42.8	47.4	50.5	46.4	45.8	46.0	44.8
		32.2	17.2	27.8	18.1	20.4	13.7	16.0	18.0	19.4	17.6
		67.8	82.8	72.2	81.9	79.6	86.3	84.0	82.0	80.6	82.4
70.5	49.7	53.0	59.7	72.3	75.7	73.2	78.0	82.0	81.8	81.5	81.8
29.5	50.3	47.0	40.3	27.7	24.3	26.8	22.0	18.0	18.2	18.5	18.2
4.3	4.4	6.7	60.8	21.1	22.3	31.6	25.2	19.5	19.2	17.5	18.8
48.3	45.1	41.6	23.9	32.3	31.3	30.5	28.8	27.9	27.6	26.9	26.3
47.4	50.5	51.7	15.3	46.6	46.4	37.9	46.0	52.6	53.2	55.9	54.9
4.7	5.3	8.8	66.3	21.5	22.8	36.0	29.0	24.2	25.0	22.5	24.0
52.0	48.8	45.0	17.5	28.4	27.0	24.9	23.6	22.4	22.1	20.8	20.5
43.3	45.9	46.2	16.2	50.1	50.2	39.1	47.4	53.4	52.9	56.7	55.5

drick, *Productivity Trends in the United States*, Princeton for NBER, 1961, Table A-IIb.

[a] F = federal; SL = state-local; F-M = federal military; F-C = federal civilian.

[b] For definitions of these series, see text.

TABLE C: PERCENTAGE SHARES, BY LEVEL OF MAINTENANCE AND DEVELOPMENT OF 1902–

Expenditure Series	Level of Government[a]	1902	1913	1922	1927	1932
Direct general expenditures:						
Education	F	1.2	0.9	0.5	0.4	0.6
	S	6.6	9.4	9.6	9.7	12.0
	L	92.2	89.7	90.0	89.9	87.4
Public welfare	F	9.8	8.8	7.0	6.2	0.2
	S	24.4	28.1	29.7	24.8	16.6
	L	65.8	63.2	63.3	68.9	83.2
Health and hospitals	F	4.8	4.4	26.7	17.6	21.8
	S	50.8	46.9	35.5	39.4	36.9
	L	44.4	48.7	37.8	42.9	41.3
Total	F	2.8	2.0	5.1	3.3	4.2
	S	16.3	16.5	14.9	15.1	16.9
	L	80.9	81.5	80.0	81.6	78.9
Own-financed expenditures:						
Education	F	1.6	1.4	0.9	0.8	1.1
	SL	98.4	98.6	99.1	99.2	98.9
Public welfare	F	12.2	12.3	7.8	6.8	0.5
	SL	87.8	87.7	92.2	93.2	99.5
Health and hospitals	F					
	SL					

SOURCES: U.S. Bureau of the Census, Census of Governments: 1962, Vol. VI, No. 4, *Historical Statistics on Governmental Finances and Employment,* and

GOVERNMENT, OF EXPENDITURES FOR THE HUMAN CAPITAL, SELECTED YEARS, 1966

1936	1938	1940	1948	1950	1952	1956	1961	1962	1965–66
7.9	6.1	6.7	30.3	25.6	13.3	6.6	3.0	2.6	4.5
12.6	13.1	13.3	14.0	14.1	15.6	15.1	17.9	18.7	21.7
79.5	80.8	80.0	55.7	60.3	71.1	78.3	79.1	78.7	73.8
17.1	13.3	12.0	2.1	0.8	1.5	1.4	1.2	1.2	3.0
42.3	36.7	40.1	44.9	52.8	49.8	50.4	48.4	48.8	45.0
40.6	50.0	47.9	53.0	46.4	48.7	48.2	50.4	50.0	52.0
21.1	18.7	16.8	36.4	35.5	31.7	25.9	28.1	29.2	29.3
37.3	39.5	41.0	43.3	34.9	35.4	39.3	36.2	35.2	35.5
41.6	41.7	42.2	29.3	29.6	32.9	34.8	35.7	35.6	35.2
12.2	9.9	9.6	26.2	22.6	15.0	9.3	7.2	7.2	8.4
23.8	23.4	24.7	22.9	25.3	25.8	24.7	25.8	26.2	27.3
64.0	66.7	65.7	50.9	52.2	59.2	66.0	67.0	66.6	64.3
14.2	10.3	12.7	35.7	29.4	17.9	10.4	7.9	8.1	13.1
85.8	89.7	87.3	64.3	70.6	82.1	89.6	92.1	91.9	86.9
46.1	31.0	31.8	35.9	39.0	43.2	47.2	46.8	48.8	54.4
53.9	69.0	68.2	64.1	61.0	56.8	52.8	53.2	51.2	45.6
	20.8		39.3		35.9		30.8	32.0	33.2
	79.2		60.7		64.1		69.2	68.0	66.8

Governmental Finances in 1965-66.

[a] F = federal; S = state; L = local; SL = state-local.

TABLE D: AMOUNTS OF DIRECT GENERAL GOVERNMENT ON SELECTED

(MILLIONS

Functions	1902	1913	1922	1927	1932	1936	1938
1. National defense and international affairs	165	250	875	616	721	932	1,041
2. Veterans' services not elsewhere classified	141	177	425	579	928	1,699	590
3. Postal service	126	270	553	711	794	751	776
4. Space research and technology	—	—	—	—	—	—	—
5. Federal functions (total 1, 2, 3 and 4)	432	697	1,853	1,906	2,443	3,382	2,407
6. Nonfederal functions	1,146	2,325	7,001	8,684	9,305	12,455	13,866
7. Education	258	582	1,713	2,243	2,325	2,365	2,653
8. Public welfare	41	57	128	161	445	997	1,233
9. Health and hospitals	63	113	352	431	583	592	678
10. Human capital functions (total 7, 8, and 9)	362	752	2,193	2,835	3,353	3,954	4,564

SOURCES: U.S. Bureau of the Census, Census of Governments: 1962, Vol. VI, No. 4, *Historical Statistics on Governmental Finances and Employment,* and *Governmental Finances in 1964–65 and 1965–66.*

EXPENDITURES OF ALL THREE LEVELS OF FUNCTIONS, 1902–66

OF DOLLARS)

1940	1944	1948	1950	1952	1956	1961	1962	1964–65	1965–66
1,590	85,530	16,075	18,355	48,187	42,680	49,387	53,225	55,810	60,832
501	529	3,293	2,796	2,428	3,097	3,965	4,129	4,190	4,510
808	1,085	1,715	2,270	2,612	2,899	4,025	4,101	5,261	5,706
—	—	—	—	—	—	735	1,242	5,058	5,869
2,899	87,144	21,083	23,421	53,227	48,676	58,112	62,697	70,319	76,917
15,226	20,706	29,005	37,280	38,063	53,480	81,049	86,462	103,312	112,489
2,827	2,805	7,721	9,647	9,598	14,160	21,214	22,814	30,021	34,837
1,314	1,150	2,144	2,964	2,830	3,184	4,779	5,147	6,420	6,966
732	857	1,934	2,711	3,199	3,739	5,681	6,135	7,671	8,363
4,873	4,812	11,799	15,322	15,627	21,083	31,674	34,096	44,112	50,166

TABLE E: AMOUNTS OF EXPENDITURES BY ALL ALTERNATIVE MEASURES, (BILLIONS

Measure	1902	1913	1922	1927 1929[b]	1932	1936
General expenditures:						
BOC[c]	1.6	3.0	8.8	10.5	11.3	15.8
NIA[c]				10.3	10.6	16.1
Purchases of goods and services (NIA)	1.2	2.5	6.0	8.5	8.1	12.0
Direct general expenditures (BOC), civil, series I	1.4	2.8	8.0	10.0	11.0	14.9
Nonfederal (BOC)	1.1	2.3	7.0	8.7	9.3	12.5

SOURCES: U.S. Bureau of the Census, *Census of Governments: 1962*, Vol. VI, No. 4, *Historical Statistics on Governmental Finances and Employment* and *Governmental Finances in 1964–65 and 1965–66;* U.S. Department of Commerce, Office of Business Economics, *The National Income and Product Accounts of the United States, 1929–1965; Survey of Current Business,* July 1967; and John W. Kendrick, *Productivity Trends in the United States,* Princeton for NBER, 1961,

THREE LEVELS OF GOVERNMENT: FIVE SELECTED YEARS, 1902–66[a]

OF DOLLARS)

1938	1940	1944	1948	1950	1952	1956	1961	1962	1965	1966
16.2	18.0	107.9	49.9	60.4	91.3	102.1	138.8	148.9	173.6	189.6
16.8	18.4	103.0	50.3	60.8	93.7	104.1	149.0	159.9	185.8	209.8
13.0	14.0	96.5	31.6	37.9	74.7	78.6	107.6	117.1	136.4	154.3
15.2	16.5	22.3	34.0	42.3	43.1	59.5	89.8	95.9	117.8	128.6
13.9	15.2	20.7	29.0	37.3	38.1	53.5	81.0	86.5	103.3	112.5

Table A-IIb, Column 10, for purchases of goods and services, 1902, 1913, and 1922.

[a] Fiscal years for BOC series (see footnote b, Table A); calendar years for NIA series.

[b] 1927 for BOC series; 1929 for NIA series.

[c] Own-financed and direct general expenditures.

TABLE F: GOVERNMENT EXPENDITURES AS A PER CENT EXPENDITURE MEASURES,

Measure	1902	1913	1922	1927 1929[c]	1932	1936
General expenditures:						
BOC	7.3	7.7	11.9	11.0	19.5	19.1
NIA				10.0	18.3	19.5
Purchases of goods and services (NIA)	5.7	6.3	8.0	8.2	13.9	14.5
Direct general expenditures (BOC): civil, series I	6.6	7.0	10.8	10.5	19.0	18.1
Nonfederal (BOC)	5.3	6.0	9.5	9.0	16.0	15.1

SOURCES: Table E and U.S. Bureau of the Census, *Long Term Economic Growth, 1960–1965*, pp. 166–167, and *Survey of Current Business*, July 1967.
[a] NBER (Kendrick) estimates for 1902; NIA estimates for other years.

OF GROSS NATIONAL PRODUCT,[a] FIVE ALTERNATIVE SELECTED YEARS, 1902–66[b]

1938	1940	1944	1948	1950	1952	1956	1961	1962	1965	1966
19.1	18.1	51.3	19.4	21.2	26.4	24.4	26.7	26.6	26.5	26.5
19.8	18.5	49.0	19.5	21.4	27.1	24.8	28.6	28.5	27.2	28.2
15.3	14.0	46.0	12.3	13.3	21.6	18.7	20.7	20.9	19.9	20.8
18.0	16.6	10.6	13.2	14.9	12.5	14.2	17.3	17.1	18.0	18.0
16.4	15.3	9.9	11.3	13.1	11.0	12.8	15.6	15.4	15.8	15.7

[b] Fiscal years for BOC series (see footnote b, Table A); calendar years for NIA series.

[c] 1927 for BOC series; 1929 for NIA series.

COMMENT

by MANCUR OLSON, *University of Maryland*

Professor Break has left us all in his debt with his interesting calculations, detailed breakdowns, and judicious recommendations about the relative roles of different levels of governments. What else could we ask for? Only a model or theory that could explain his interesting, and on occasion even somewhat paradoxical, conclusions. But Break had no obligation to provide a logically complete explanation of his findings and recommendations, especially as he has done quite enough for a single paper. Yet, what he says does invite an attempt to provide an explanatory model, so I will accordingly try to set out the broad and rough outlines of such a model here. There is perhaps some evidence of the need for an explanatory model in this area in the fact that two of the other participants in this conference, Jerome Rothenberg[1] and Gordon Tullock,[2] have independently attempted to provide explanations of some of the same phenomena. In addition, a Canadian economist with a particular interest in the process of federalism in Canada has previously offered a model with partly similar purposes.[3]

What particularly needs systematic explanation in Break's paper is the seemingly conflicting evidence about whether centralization or decentralization is on the rise, and his own somewhat paradoxical recommendation that there is a need not only for more centralization but at the same time also more decentralization. Break shows that the federal government's share of all government expenditures has increased markedly in this century, to the point where the federal government is now "clearly the dominant partner in the federal system." Where "redistributive" monies are at issue, Break finds that they are "over 90 per cent federal." Nonetheless, Break's computations and breakdowns also show that since 1948, by any one of a number of

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[1] Jerome Rothenberg, "Local Decentralization and the Theory of Optimal Government," in this volume.

[2] See Tullock's "Comment" on Rothenberg's paper in this volume, and his article on "Problems of Scale," in *Public Choice*, Vol. VI, Spring 1969, pp. 19–29.

[3] Albert Breton, "A Theory of Government Grants," *Canadian Journal of Economics and Political Science*, Vol. XXXI, May 1965, pp. 175–87.

reasonable measures, both state and local expenditures have been increasing *more* rapidly than federal expenditures. When the growth in federal government spending on defense and international purposes is excluded, this increase in the state-local share of total public expenditures is particularly striking. Within the local level, says Break, "there are strong forces making for the centralization of some functions and the decentralization of others."

To add to the ambiguity, that most two-sided variable in any analysis of changes in the relative importance of different levels of government, grants-in-aid from higher to lower levels of government, has increased disproportionately in the present century. At the turn of the century, federal subsidies accounted for only ½ of one per cent of state and local revenues, but by 1966 they accounted for nearly 17 per cent. Over the same period state aid increased from 6 per cent to 31 per cent of local general revenues. In recent years, there has been a particularly notable growth of state and local spending of federal money; from 1957 to 1967, federal grants-in-aid to state and local governments have increased at a compound rate of more than 14 per cent per annum.

There is both centralization and decentralization in Break's predictions and recommendations as well. He says that "new levels of local government are in the offing, promising to add further complexity to the intergovernmental picture." One important possibility is that "autonomous metropolitan and regional governments may be formed either to help finance traditional units of government or to deal with problems that transcend their boundaries, and the traditional entities may also establish sets of subunits with some independent powers to deal with programs generating benefits that are highly localized and servicing groups with distinct and diverse tastes" (such as miniboards of education and mini police stations in poorer areas of the big cities). Some such amalgam of centralization and decentralization is not only a probability, but desirable as well: "What seems to be needed," he says, "is some magic blend of centralizing and decentralizing changes that will create simultaneously both larger and smaller units of local government. . . ."

The key to explaining Break's seemingly ambiguous findings and somewhat paradoxical recommendations can be found in the relationship between the boundaries of a government or jurisdiction and the distribution of the benefits of its activities. We shall assume that governments provide only collective or public goods, which in this par-

ticular argument are defined to be goods such that at least some nonpurchasers of these goods cannot be denied their benefits without prohibitive costs. The phrase "at least some" is included in the definition because it is here necessary to take account of one important complication which many discussions of public goods ignore: the fact that, in practice, a great many collective goods do not benefit *all* of the people in the nation, or for that matter *only* people within a nation. A program that lessens air pollution or water pollution, for example, will benefit people in a particular metropolitan area or a particular watershed, but not everyone in the country. Similarly, a particular television station provides a collective good to the people within the range of its broadcasting tower, but not to others. The benefits of pure or basic research, by contrast, spill beyond the boundaries of the government that pays for the research to the entire world. Accordingly, the assumption here is that each collective good has determinate beneficiaries, who may be a small group of citizens in a single community or the citizens of the entire world. This determinate client group may exactly coincide with those who live within the boundaries of a given nation-state, but need not and usually will not do so.

There are four logically possible relationships between the scope of the benefits of a collective good and the boundaries of the jurisdiction that provides it:

1. Some (or in rare cases even all) of the beneficiaries of a collective good live outside the boundaries of the jurisdiction that provides it;
2. All of the beneficiaries of a collective good are within the boundaries of the jurisdiction that provides it, but they comprise only a subset (and often only a small subset) of those within the jurisdiction;
3. Some of the beneficiaries of a collective good are outside the boundaries of the jurisdiction, and those inside the jurisdiction who enjoy its benefits are but a subset of those inside the jurisdiction;
4. The scope of benefits of a collective good exactly matches the boundaries of the jurisdiction that provides it.

We must now consider each of the logical possibilities in turn.

The case in which some (or even all) of the benefits of a collective good reach beyond the boundaries of the jurisdiction that provides it

is simple and familiar. There is in this case an "externality" for the jurisdiction that provides the collective good, and it ignores the benefits that spill out beyond its borders, with the result that, from the point of view of the society as a whole, only a less than Pareto-optimal quantity (and conceivably none) of the collective good is supplied. In addition, there is a tendency for the "exploitation of the great by the small,"[4] that is, a tendency for those jurisdictions that put the largest absolute value on any collective good shared by several jurisdictions to bear a disproportional share of the burden of providing whatever amount is provided.[5] This case is typified in the metropolitan area enjoying many metropolis-wide collective goods, but containing both a relatively large center city government and many relatively small suburban jurisdictions. And the outcomes that at least many observers find in such situations are exactly what the model predicts: a less than optimal supply of public services for the metropolis, with the center city government bearing a disproportionate share of those metropolitan services that are provided.

The case in which the beneficiaries of a collective good all live within the confines of the relevant jurisdiction, but comprise only a subset (and often only a small subset) of the citizens of that jurisdiction, is unfortunately not so familar. There is in this case an "internality" that parallels the "externality" in the preceding case. Unless the subset of the citizens of the jurisdiction happen to be a majority of those in the jurisdiction,[6] it will follow (assuming majority rule) that even a collective good that *must* be provided to attain Pareto-optimality for the jurisdiction (and the larger society) will often *not* be provided at all, or if it is, may not be provided in Pareto-optimal quantities. Though the gains from a Pareto-optimal public project by definition exceed its costs, the number of *losers* from the project exceeds the number of *gainers,* because the benefits reach only the subset and the tax costs are borne by the population of the jurisdiction as a whole.[7] Here there is what might perhaps be called the "exploitation of the few by the many."

The collective goods for a metropolitan area (such as air pollution

[4] See my *Logic of Collective Action,* Cambridge, Mass., 1965, Chapter I.

[5] See Mancur Olson, Jr., and Richard Zeckhouser, "An Economic Theory of Alliances," *Review of Economics and Statistics,* Vol. 48, August 1966, pp. 266–79.

[6] In this case there is no tendency for less than Pareto-optimal provision.

[7] If there is an institutional arrangement that imposes a special tax only on the subset that benefits from the collective good, that arrangement constitutes a jurisdiction and it fits under case four below.

control, or an educational television station) will again provide an instructive example. Why doesn't the *federal* government provide such goods whenever it is Pareto-optimal to provide them? Because the people in a metropolitan area will be the only gainers, and the constituents of the congressmen and senators representing the rest of the nation will be losers. It is commonly observed that bills need to be written in such a way that the constituents of a great many congressmen benefit before they are likely to pass. Legislation for poor or depressed areas, for example, sometimes must be amended to qualify so much of the nation's area for the benefits the bill provides that the legislation's capacity to serve its initial purpose is lost or impaired.

To be sure, it is not *always* the case that a small subset of the people in a jurisdiction must fail to obtain a Pareto-optimal good. Logrolling or bargaining among enough small groups with needs for separate collective goods can, in principle, make it possible for them to put together a package of individual projects which in the aggregate commands a majority. But logrolling or bargaining is costly, and also chancy because it can pay each party to the bargaining to "bluff" or in other ways hold out for a better bargain. Thus bargaining is not ordinarily feasible unless there are only a small number of groups who need collective goods, and each of them is organized to bargain, and together they constitute a majority. The "pork barrel" process that gives "logrolling" its unfortunate and undeserved popular reputation usually involves the special case of projects that have a "monumental" quality that helps the congressmen who promoted them, and *that are all in the province of a single committee in each house, which decisively lowers the cost of the needed bargaining.*[8] Thus the logical possibility of bargaining cannot refute the conclusion that "internalities" normally lead to a less than Pareto-optimal provision of collective goods.[9]

In the third possible case, where there is both an externality and an internality, it is obvious there is again a tendency to provision of a less than Pareto-optimal quantity or collective good.

The only case in which there is no such tendency is that in which

[8] I am thankful to my colleague Charles Schultze for calling this point to my attention. He has told me of cases in which measures that could have left all parties at issue better off were unable to pass because it was not feasible to logroll across committee lines.

[9] This point is justified with additional argument in my "Principle of 'Fiscal Equivalence,'" *American Economic Review, Papers and Proceedings,* Vol. LIX, May 1969, pp. 479–87.

there is "fiscal equivalence," or matching boundaries of the collective good and the jurisdiction that provides it. This case is the only one consistent with the necessary conditions for Pareto-optimal resource allocation.[10]

The advantages of fiscal equivalence, and the total lack of a needed public service that usually arises when the jurisdictional structure of a society departs *too far* from this principle, may help explain why Break felt that "new levels of local government are in the offing," even though there are already tens of thousands (according to the Committee for Economic Development, 80,000)[11] of local governments in the United States, and most expert observers think there should be far fewer. The foregoing argument shows that there is a case (albeit a case that is much qualified when all the detail and diversity of the real world are taken into account) for a separate jurisdiction for every collective good with a unique boundary, and thus a need for a great number and variety of governments. Since some collective goods cover the whole world, there is a case for a comprehensive international organization, and since many cover only small communities, there is also a case for a large number of local governments, not to mention the governments in between. The fact that even the different local or subnational collective goods a single individual enjoys have different boundaries (e.g., the airshed which gives the boundaries of the air pollution he wants controlled are usually not the same as those of the watershed or other area that bounds his water pollution problem) means that it is a necessary condition of efficient resource allocation that at least many individuals should each be subject to several different "local" jurisdictions with varying boundaries, offensive as such a state of affairs has been to those who accept the conventional wisdom in these matters.

There is, to be sure, no need for each and every jurisdiction to have a host of elected officials—in many cases the appropriate "jurisdiction" is simply legal machinery whereby a higher level of government can make it convenient for a group of citizens to tax themselves in order to meet some local need. A federation of local governments, whose

[10] Governments are obviously concerned with stabilization and redistribution as well as resource allocation. The rule of fiscal equivalence would give the federal government responsibility for stabilization policy, since a stable economy is a collective good to the whole nation. The federal government should also have responsibility for redistribution, since rich persons tend to move out of (and poor people tend to move into) localities which redistribute income to the poor.

[11] *Modernizing Local Government*, New York, 1966, p. 17.

boundaries together match those of a collective good, but which has no direct elections of its own, can also satisfy the need for "fiscal equivalence" without the costs of unnecessary officials and elections.

If the argument here is correct, there is a need not only for a larger number of governments than expert opinion has thought fitting (though perhaps not as many as the United States now has), but also for new local and regional jurisdictions as metropolitan areas grow, the population shifts, and technology changes. Even a new sense of ethnic identity, if combined with demands for particular types of collective goods not desired by others, can create a need for new jurisdictions.

This latter need will exist when historical patterns of segregation or other factors have created ghettos, or enclaves inhabited exclusively by one race or ethnic group. If the race or ethnic group in the ghetto has a distinct cultural background and demands special collective goods[12] (such as more black policemen or courses in Afro-American history) the situation will then be analytically identical to a situation in which the people of a given area have some localized physical problem, such as air pollution, which is a collective good for them but not for those living outside the given area. The boundaries of the ghetto, in other words, mark the boundaries of some potential or actual collective goods, and the principle of fiscal equivalence then demands a separate jurisdiction for the ghetto. This may help explain Break's sympathy for mini police districts and school boards, as well as many of the current demands for black power separatism, the new left focus on decentralization, and the ideology of "power to the neighborhoods."[13] Of course, when long-run considerations are taken into account, a solution which neglects the whole notion of "consumer sovereignty," but rather tries to impose common public policies on diverse social groups in the hopes that this will ultimately produce a more cohesive and integrated society, may in some moral sense be thought superior to fiscal equivalence for the inner city. But whatever policy is in practice preferred, it is important to remember that separate jurisdictions with boundaries matching those of the ghetto will sometimes be a necessary condition for Pareto-optimal efficiency in the provision of public services in the short run.

Nothing that has been said so far explains Break's point about the extraordinary growth in subsidies from higher to lower levels of gov-

[12] See Nathan Glazer, "For White and Black, Community Control Is the Issue," *New York Times Magazine*, April 27, 1969.

[13] See Norman Mailer, "Why Are We in New York?" *New York Times Magazine*, May 18, 1969.

ernment. To obtain a proper understanding of this problem we need to look not only at the "catchment areas" of collective goods, but also at how the cost of production of these goods varies with the size of the jurisdiction that provides them.

It is necessary, first, to be clear that economies of scale (as opposed to diseconomies of scale) cannot lead to any modification of the principle of fiscal equivalence. This is because, when all of those who would benefit from a collective good are in the relevant jurisdiction, as fiscal equivalence demands, there could be no point in expanding the government still farther. Several jurisdictions might obtain savings from purchasing needed goods or services from large contractors, perhaps, but there could be no case for making a jurisdiction larger than fiscal equivalence would suggest. This can best be seen by considering the example of a dam built for flood control purposes. Fiscal equivalence would require that all of the people in the flood plain be in the relevant jurisdiction. There would be no point in adding others to the jurisdiction, even if big dams should involve lower unit costs than small ones.

Where there are diseconomies of scale, on the other hand, the situation is more complicated. Suppose that, when the jurisdiction has been expanded to the point that all the externalities have been internalized, it is so large and bureaucratic that it has higher unit costs of production than a smaller government would have had. Education and police services *may* be of this nature. In this case, maximum economic efficiency requires a higher level jurisdiction encompassing all of the externalities, and a lower level jurisdiction of whatever size minimizes unit costs of production of the collective good. The lower level jurisdiction should then produce the collective good, and the higher level jurisdiction should give it a subsidy that lowers its marginal costs (not a block grant) by the amount of the social value of the benefits that spill out beyond the boundaries of the lower level jurisdiction. In this way fiscal equivalence is preserved and costs of production are also at a minimum.

In view of the improvements of transportation and communication, and the increasing mobility (including longer commuting) of the population, the domains over which spillouts occur are probably increasing over time. At the same time there may be a growing uneasiness about the insensitivity and ineptness of bureaucracy, growing demands for "democratic participation" via decentralization, and other misgivings about the efficiency of large bureaucracies.[14] Thus the

[14] See Glazer, *op. cit.*

extraordinary growth in subsidies from higher to lower levels of government, which Break emphasizes, should not be either surprising or alarming. A considerable number of such subsidies may be a necessary condition of the Pareto-optimal provision of collective services, even when jurisdictional boundaries are perfectly drawn. And as Albert Breton's pioneering paper[15] has shown, if the boundaries of local and provincial governments are drawn in such a way that there are more spillouts than would be the case with more rational boundaries, there is a further need for subsidies from higher to lower levels of government.

The real world is vastly more complicated than the unusually simple model adumbrated here, so it is not appropriate to go directly from the model to definite and specific policy recommendations. A complete policy analysis would, for example, have to take account of the fact that many governments provide quasi-private goods whose benefit boundaries are ill defined or subject to change by policymakers, or of the possible savings in certain cases of multifunctional governments.[16]

Yet what has been said here does strongly suggest that Break's most basic recommendation deserves the most sympathetic consideration. "What is needed," he says, "is some magic blend of centralizing and decentralizing changes that will create both larger and smaller units of local government." It is difficult indeed to see how a Pareto-optimal provision of public services could be achieved without such a blend of changes, or without the intragovernmental subsidies he rightly emphasizes.

[15] See Breton, *op. cit.*

[16] These and other complications and qualifications are discussed in Olson, " 'Fiscal Equivalence.' "