Tax Burdens and Benefits of Government Expenditures By Income Class, 1961 and 1965

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Foreword

The rapid growth of government expenditures at all levels demands increasing attention to the questions of the size and significance of the total tax burden and the size and value of the benefits of government expenditures. How much does the typical family's tax burden amount to, taking account of all taxes? What is the approximate size of expenditure benefits received?

In 1960 the Tax Foundation published a study that estimated total tax burdens in 1958 for families classified by size of income. The present report updates these tax burden estimates making use of much more detailed statistical survey data than was available in 1960. In addition, estimates are included of the benefits of government expenditures by income class.

A preliminary report of this study was released in mimeographed form for limited circulation in April 1966. The preliminary results have now been reworked to take account of the revised national income and product series published in late 1965. In addition, the revisions were carried out with a computer program which made possible exploration of the results of a number of alternative definitions of income and assumptions concerning incidence.

George A. Bishop, Director, Federal Affairs Research, was primarily responsible for the study.

The Tax Foundation is a private, nonprofit organization founded in 1937 to engage in non-partisan research and public education on the fiscal and management aspects of government. It serves as a national information agency for individuals and organizations concerned with government fiscal problems.

Tax Foundation
January, 1967

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Note: In all tables in this study details will not necessarily add to totals because of rounding.

I.

Nature of Study and Major Findings

How much do families at each income level pay, on the average, in taxes, hidden as well as direct? How much benefit do they get from government expenditures? These are questions of perennial interest and significance for public policy decisions.

Purpose of Study

This study provides some provisional answers to such questions. Because of the limitations of data, the study is confined to broad estimates of (1) the total tax burden – Federal and state-local – on families and unattached individuals by income class and by major type of tax, and (2) the benefits of government expenditures by major groups of programs.

It would also be of interest to compare families on bases other than income – for example, by geographical areas, occupations, age, states,[1] etc. With more detailed and complete data, which presumably will become available in the future, the kind of estimates made here could be carried much further.

Although other studies of the tax burden by income class are available,[2] none has yet been done on a nation-wide basis using the comprehensive and detailed 1960-61 survey data on family income and consumption recently published by the Bureau of Labor Statistics.[3]

Unfortunately, even this information has deficiencies for estimating the distribution of tax burdens. The survey data cannot be adequately reconciled with the national income and product accounts published by the Department of Commerce, but it is from these accounts that we take our data on total taxes and government expenditures. Reconciliation with other official sources of size distributions of income (such as tax return data) is also difficult.

Nature of Assumptions in the Study

Estimates of the distribution of the tax burden and expenditure benefits require assumptions about the incidence of taxation and the distribution of benefits. The most complete survey data cannot remove the need for assumptions, some of which are more generally accepted than others. An element of judgment also appears in selecting appropriate definitions of income, taxes, and benefits.

Meaning of Income. For reasons set out in earlier Tax Foundation publications,[4] the most appropriate income base to which the burden of all taxes may be related appears to be the net national

1. An analysis of the distribution of the Federal tax burden by state can be found in Tax Foundation, *Allocating the Federal Tax Burden by State,* (Research Aid No. 3; New York: Revised 1963).
2. Tax Foundation, *Allocation of the Tax Burden and Expenditures Benefits by Income Class,* (Research Bibliography No. 15; New York: Revised April 1966).
3. U. S. Bureau of Labor Statistics, *Consumer Expenditures and Income, Survey of Consumer Expenditures 1960-61,* (BLS Report No. 237-38 and various supplements; Washington, D. C.: 1965 and 1966).
4. *The Tax Burden in Relation to National Income and Product,* (Research Aid No. 4; 1957), and *Allocation of the Tax Burden by Income Class,* (Project Note No. 45; 1960).

product as defined in the national income and product accounts.[5] Alternative definitions of income might be used for the base against which to measure effective rates. There is, in fact, some professional disagreement over the most appropriate base.[6]

The question may be raised why total family money income is not an appropriate base for measuring effective tax rates. The reason is that we are attempting to estimate the burden of all taxes including those collected from business. Therefore, we must impute the burden of corporate taxes to families and individuals, and also make a corresponding imputation of income to families and individuals. We must assume that undistributed corporate profits and the corporate profits tax are part of the income of families if we assume that the burden of the corporate tax is borne by families in the form of higher prices, lower dividends, or reduced wages and salaries. It would not be consistent to attribute the tax burden to individuals and families without also attributing as income all portions of the national income (or output) which may be affected by those taxes. For this reason net national product (or its income equivalent) is used as the most appropriate base against which to measure the *total* tax burden.

An alternative income base also used in this study is income less taxes plus the benefits of government expenditures. In common sense terms this means that we count as part of total income, not the taxes paid, but the benefits of government expenditures received.

This alternative concept leads to the same aggregate income, but the base for families at different income levels is affected. For a typical family, our alternative base would be derived by deducting from its total income the amount of taxes paid and adding the estimated value of government expenditure benefits received. Benefits here are measured by expenditures. Consequently, if the government's budget exactly balanced, "total income" in the aggregate for all families would be the same, whether taken as income-before-taxes or as income-less-taxes-plus-government-expenditures. However, to the extent that tax burdens are distributed among families differently from expenditure benefits, the two bases would differ. Families who receive more in expenditure benefits than they paid in taxes would have a larger "income" under the second concept, *i.e.*, income-less-taxes-plus-government-expenditures.

In the national income accounts, these alternatives are approximately equivalent to taking total national income or output on the *income side* of the accounts (income-before-taxes), or on the *product side* of the accounts (income-less-taxes-plus-government-expenditures). One is the sum of incomes paid out; the other is the sum of (a) final expenditures of consumers, (b) government purchases of goods and services, and (c) business expenditures for net investment (chiefly capital outlays less

5. The net national product is equal to the gross national product less capital consumption allowances (predominantly depreciation). Gross national product is a measure of the total value of goods and services produced in the economy in the period of a year. Only the values of "final" output are counted; goods and services that become part of other goods and services sold for final uses are not counted twice. Net national product is also equal to "national income" plus indirect business taxes and certain statistical adjustments. The latest detailed official presentation of the concepts and definitions in these accounts is in U. S. Department of Commerce, *U. S. Income and Output, 1958.* Substantial statistical and conceptual revisions were made beginning in the *Survey of Current Business,* August 1965.

6. Cf. W. Irwin Gillespie, "Effect of Public Expenditures on the Distribution of Income," in Richard A. Musgrave, ed., *Essays in Fiscal Federalism,* (Washington, D. C.: The Brookings Institution, 1965), pp. 122-186, and George A. Bishop, "Income Redistribution in the Framework of the National Income Accounts," *National Tax Journal,* Vol. 19, No. 4, December 1966, pp. 378-390.

depreciation allowances). However, when families are classified by income size (or other categories) there will be a difference in the "income" of the particular families depending on the balance between benefits of government expenditures and taxes paid.

The argument for using the product side of the accounts is that a family's economic welfare is more accurately measured by including government expenditure benefits, rather than taxes paid. However, this alternative income base is given a secondary place here for two reasons; first, it differs substantially from the layman's notion of income; and second, it involves the numerous problems of measuring and imputing the benefits of government expenditures to families at different income levels. (See Appendix B for further discussion.)

Meaning of Incidence. The term "incidence" is generally used with reference to taxation only, but it will be used here to refer also to the benefits assumed to accrue to families from government expenditures. The term will be used, in addition, to refer to the ways in which forms of imputed income, such as undistributed corporate profits, are attributed to families at different income levels.

The terms "regressive," "proportional," and "progressive," will also be used to refer to both tax burdens and expenditure benefits. Thus, if estimated benefits of government expenditures are a larger proportion of the income of low-income than of high-income families, the pattern of distribution will be called "regressive." In other words a "pro-poor" pattern of government spending is regressive. Conversely, the term "progressive" means a distribution of tax burdens or expenditure benefits in which the percentage of burdens or benefits to income is larger for high-income than for low-income families.

The choice of assumptions on tax incidence is arbitrary but also conventional. Individual income taxes are assumed to fall on the people on whose income they are levied. Sales taxes, excises, and the numerous taxes on business costs (including the property tax levied on business property) are assumed to be shifted forward to the consumer. In the case of the corporation income tax, estimates are made on two assumptions: (1) that the tax is fully shifted forward to consumers, and (2) that half of the tax falls on stockholders and half is shifted forward to consumers. The latter case is taken as the standard one, or the one most acceptable for general purposes. (Data in the appendices make it possible to work out the results on other assumptions.)

The possibility that a portion of the corporation income tax or other taxes may be shifted backward in the form of reduced wages or other factor incomes (besides dividends) is not included in the alternative estimates produced here. Calculations showed that there is not much difference in the total pattern of distribution whether one assumes that a tax is shifted forward to consumers or backward in the form of reduced wages, salaries, and other income from productive services. However, if all taxes assumed here to be shifted forward to consumers were assumed instead to be shifted backwards, there would be a considerable difference in results. (See Appendix B, p. 46.)

The incidence of expenditure benefits is assumed to be entirely on the immediate recipients of transfer payments (e.g., veterans benefits may be assumed to benefit veterans exclusively), or persons easily identified as direct beneficiaries of other expenditures (e.g., a substantial portion of highway expenditures may be assumed to benefit motorists in proportion to their automobile expenditures).

However, for a wide range of expenditures – defense, international affairs, general government administration, etc. – direct beneficiaries cannot be identified. In such cases, we have resorted to two alternative assumptions. The first is that the benefits of such general purpose expenditures may be allocated on a per family basis. In a democratic society of "equals," the protection of "life" provides an argument for a per capita basis of allocation of benefits. However, a per family basis seemed preferable to a per capita one when the basic reporting unit in the underlying statistical survey was the family.

The second basis used for allocation of general government expenditures that are not attributed to a specific category of beneficiary was family income. That is to say, families are assumed to benefit from general government expenditures, such as those for defense, international affairs, police and fire protection, general adiministration, in proportion to the size of their incomes. The rationale for this assumption is that income may be taken as a rough index of protection and benefits received from general government services.[7]

Definition of Taxes and Expenditures. Since the aggregate income base for purposes of this study is the net national product, the amounts allocated to families on the tax and expenditure sides are total government receipts and expenditures as shown in the national income accounts.[8] Nontax payments to government are included, so that the difference between government receipts and expenditures is equal to the total Federal-state-local surplus or deficit in the national income accounts.[9]

It is assumed that tax burdens are measured by receipts and benefits by expenditures. Indirect costs (such as the cost to the consumer in higher prices resulting from agricultural support programs) are not taken into account.

It is also assumed that the burden of all taxes and the benefits of all expenditures may be currently attributed to families. In the case of government capital outlays, an allocation over time might be preferable. However, for a study of nationwide averages, little would appear to be gained by attempting such an allocation. Government capital outlays are a fairly stable item, and a statistical estimate of the current use of, or benefits from government capital, would probably differ little from an allocation of capital outlays as they occur.

Bases of Allocation

With the exception of capital gains, all of the bases of allocation used in this study are taken from the BLS *Survey of Consumer Expenditures 1960-61*. The bases used for allocating taxes are shown in Table 1. The bases used for allocating expenditure benefits are shown in Table 2. These bases reflect the definitions and assumptions noted above. (For notes on capital gains, see Appendix B, p. 38.)

7. For a detailed analysis of expenditure benefits and a more specific set of allocations by program, see Gillespie, *loc. cit.*, pp. 137-161. For "general" expenditures Gillespie also used the alternatives of a per family distribution and one proportional to income.

8. U. S. Department of Commerce, *Survey of Current Business*, July 1966, pp. 21-25. One adjustment was made in the national income accounts categories: unemployment insurance was classified as a state rather than a Federal program.

9. In 1961 Federal nontax receipts amounted to $441 million and state-local nontax receipts to $3,794 million. Details of the makeup of these figures have not been provided by the Department of Commerce.

Table 1

Bases for the Allocation of the Tax Burden by Income Class

Tax	Basis of Allocation(a)
Individual income	Personal taxes
Corporate income	Alternative methods on different assumptions of incidence: (1) total current consumption (2) half total current consumption and half dividend income
Excises, customs and sales:	
Alcoholic beverages	Alcoholic beverage expenditures
Tobacco	Tobacco expenditures
Telephone and telegraph	Telephone and telegraph expenditures
Auto purchase	Automobile purchase expenditures
Auto operation	Automobile operation expenditures
Other excises, etc.	Total current consumption
Estate and gift	Completely to the $15,000 and over income class
Property	Half housing expenditures and half total current consumption
Social insurance:	
Personal contributions	Social Security, railroad and government retirement contributions
Employer contributions	Total current consumption

a. As reported in U.S. Department of Labor, **Consumer Expenditures and Income, Survey of Consumer Expenditures 1960-61** (BLS Report No. 237-38, and Supplement 3, Washington, D.C.: U. S. Government Printing Office, 1965).

The admittedly arbitrary assumptions involved in the selection of the bases of allocation reflect the purpose of the study, namely to give a broad picture of the distribution of burdens and benefits. If the study were aimed at the burdens and benefits of particular programs, these assumptions and bases of allocation would be inadequate.

Alternative assumptions of incidence are used to suggest the degree to which the estimates are affected by the choice of assumptions.[10] The choice of assumptions on the tax side (e.g., that the corporate tax burden is shifted forward to consumers, rather than falling largely on shareholders) has relatively little effect on the apparent degree of progression in the total tax burden. On the other hand, the choice of assumptions and bases of allocation of general expenditure benefits has a large effect on estimated benefits, particularly for low income classes.

Accordingly, estimates are shown on alternative assumptions of incidence of taxes and expenditure benefits, as well as income bases. Moreover, Tables 5 and 13 show totals which exclude the general

10. The data given in the appendices enable one to work out the effects of alternate assumptions. Selected alternatives, not included in the published study, are available on request from the Tax Foundation.

benefit items at both the Federal and the state-local levels.

Major Findings

The basic estimates in this study are for the calendar year 1961. Estimates for later years cannot be made with the same reliability and detail because the most recent data on family expenditures by type and by income class are those in the BLS *Consumer Expenditure Survey for 1960-61*. However, in order to bring the estimates up to date on a provisional basis, the 1965 data for taxes, government expenditures, and national income and product were allocated by income class on the same statistical bases as used for 1961. In other words, the 1965 estimates shown below are up-to-date so far as concerns the aggregates and the components of the aggregates for all families; however, no adjustment has been made for shifts in the distribution of income between 1961 and 1965. Consequently, very little difference is shown in degree of progression or re-

Table 2

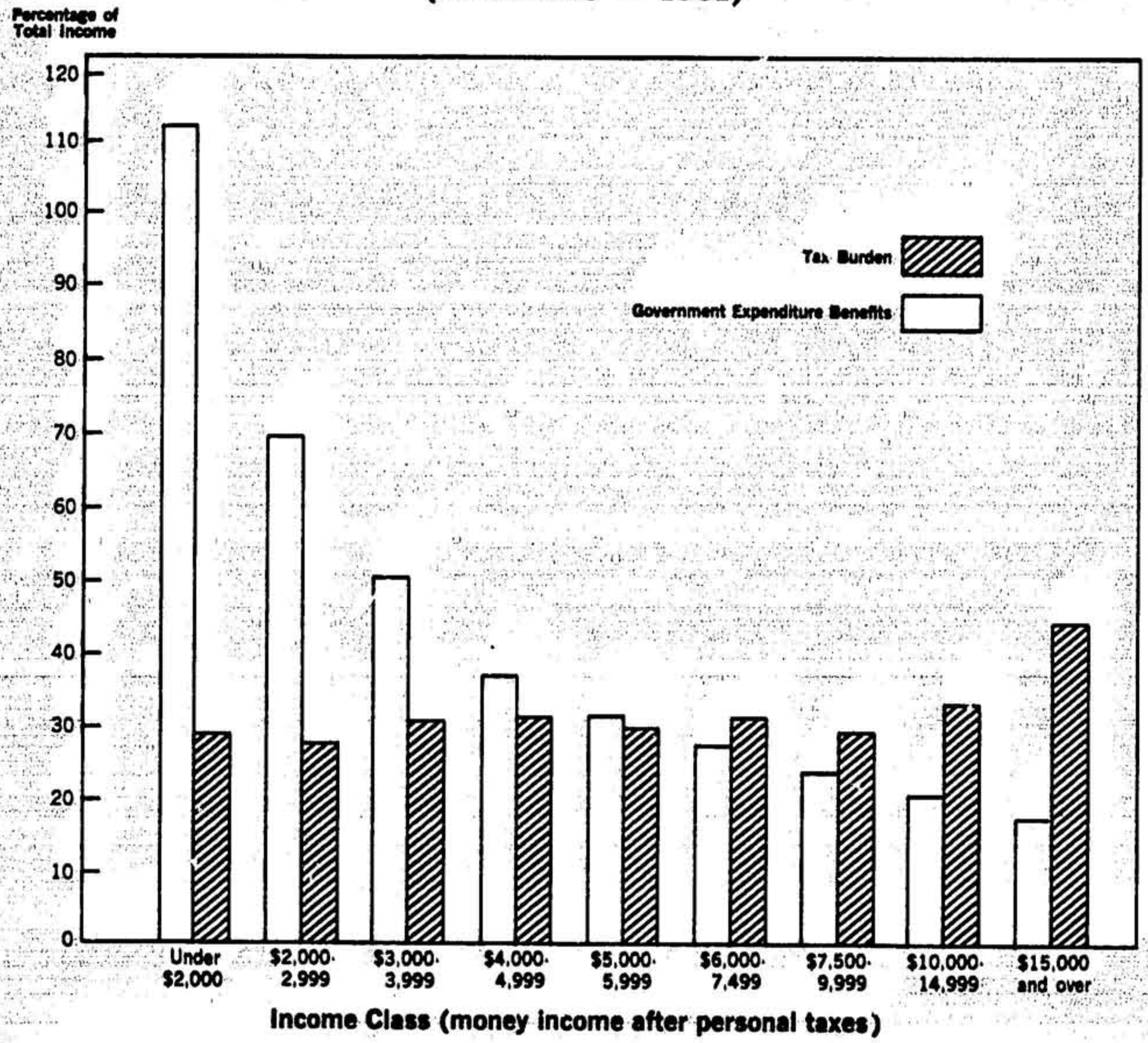
Bases for the Allocation of the Benefits of Government Expenditures by Income Class

Expenditures	Basis of Allocation (a)
National defense and international affairs Other general benefit expenditures General government Postal service Civilian safety (police, fire, etc.) Transportation (excluding highways) Commerce and finance Health and sanitation Other and miscellaneous Natural resources Public utilities	Alternative methods: (1) number of families and unrelated individuals (2) half family money income before taxes, and half number of families and unrelated individuals
Education:	
Elementary and secondary	Number of children under 18
Higher education	Higher education expenditures of families
Public assistance relief and other welfare	Income from public social assistance and private relief
Labor and manpower	Wages and salaries
Veterans' benefits and services	Military allotments and pensions
Highways	Half auto operation expenditure and half total current consumption
Agriculture	Farm money income before taxes
Net interest	Interest income
Social insurance benefits	Public unemployment and social security benefits

a. As reported in U.S. Department of Labor, **Consumer Expenditures and Income, Survey of Consumer Expenditures 1960-61** (BLS Report No. 237-38 and Supplement 3, Washington, D.C.: U.S. Government Printing Office, 1965).

Chart 1

TOTAL TAX BURDEN AND EXPENDITURE BENEFITS AS A PERCENT OF TOTAL INCOME BY INCOME CLASS (All Families — 1961)



Source: Tables 3 and 5.

gression in the tax burden as between 1961 and 1965; the degree of progression is affected only by the small differences in the weighting of the major components of the aggregate tax burden. The estimates for 1965 are incomplete because only part of the process of updating could be carried through.

The estimated effective rates are shown on an income base which in the aggregate is equal to net national product. The distribution of income by income class in the standard case is on the "income side" of the national accounts, and closely resembles the distribution of family money income. However, an alternative income base is also used which, as noted above, is equivalent to income-after-taxes-plus-government-expenditures.

The Total Tax Burden. The total burden of Federal, state and local taxes on the income-before-tax base is approximately proportional up to a family in-

Table 3

Federal, State, and Local Taxes as a Percentage of Total Income

For All Families by Income Class — 1961

TAX	Income class(a)									
	Under $2,000	$2,000 to 2,999	$3,000 to 3,999	$4,000 to 4,999	$5,000 to 5,999	$6,000 to 7,499	$7,500 to 9,999	$10,000 to 14,999	$15,000 and over	TOTAL
Federal:										
Individual income	2.0	3.4	4.9	7.0	7.5	8.4	9.6	10.9	17.6	9.0
Corporate income(b)	4.4	4.3	5.3	3.6	3.9	3.3	3.4	5.2	10.7	4.6
Excise and customs	3.4	3.2	3.6	3.3	3.2	3.1	2.8	2.6	1.6	2.9
Estate and gift	—	—	—	—	—	—	—	—	4.2	.4
Social insurance contributions	3.0	3.2	3.5	3.9	3.8	3.6	3.4	3.1	1.7	3.3
Total	12.8	14.1	17.4	17.8	18.4	18.4	19.1	21.8	35.7	20.2
Total excluding social insurance	9.8	10.9	13.9	13.9	14.6	14.8	15.7	18.7	34.0	16.9
State and Local:										
Individual income	.1	.2	.3	.4	.5	.5	.6	.7	1.1	.6
Corporate income(b)	.2	.3	.4	.3	.3	.2	.2	.3	.7	.3
Sales, excise, and other	5.7	5.3	5.3	4.9	4.9	4.5	4.2	3.8	2.5	4.3
Death and gift	—	—	—	—	—	—	—	—	1.1	.1
Property and personal property	6.7	5.1	4.7	4.2	4.0	3.8	3.5	3.1	2.4	3.8
Social insurance contributions	1.6	1.4	1.4	1.4	1.4	1.2	1.2	1.1	.7	1.2
Total	14.4	12.2	12.0	11.3	11.0	10.3	9.7	9.1	8.4	10.3
Total excluding social insurance	12.8	10.8	10.6	9.9	9.6	9.9	8.5	8.0	7.7	9.1
Total All Taxes	27.3	26.3	29.4	29.1	29.4	28.6	28.7	30.9	44.1	30.5

a. The income class limits are expressed in money income after personal taxes. The total income on which the percentages in the body of the table are based is a broad income concept equivalent in the aggregate to net national product. See text for discussion and Table 4 for average incomes by income class.

b. Half of the burden of the corporate tax is assumed to be shifted forward to consumers and half is assumed to fall on shareholders.

Note: For number of families by income class, see Appendix Table A-2.

Source: Appendix Tables B-9 and B-11.

Table 4

Average Family Income on Four Concepts
By Income Class — 1961

Income class (Money income after personal taxes)	Average money income(a): Before personal taxes(b)	Average money income(a): After personal taxes(b)	Average total income: NNP income side(c)	Average total income: NNP product side(c)
Under............$2,000	$ 1,286	$ 1,254	$ 1,748	$ 3,148
$ 2,000 to 2,999	2,621	2,512	3,536	4,786
3,000 to 3,999	3,728	3,505	5,001	6,126
4,000 to 4,999	4,914	4,494	6,617	7,370
5,000 to 5,999	6,040	5,485	8,193	8,679
6,000 to 7,499	7,501	6,717	10,296	10,118
7,500 to 9,999	9,706	8,555	13,304	12,275
10,000 to 14,999	13,595	11,761	18,606	15,905
15,000 and over	28,399	22,144	39,297	26,229
All families	6,293	5,594	8,586	8,586

a. As defined by BLS, money income includes wages and salaries, self-employment income, rent, profits from owned-businesses, interest, dividends, public unemployment and social security benefits, private pensions and annuities, public assistance, gifts of cash, and other items including alimony, royalties, etc. It excludes "other money receipts" such as inheritances, occasional large gifts, lump-sum settlements of fire and accident insurance, and other "windfall" receipts.

b. Personal taxes include Federal, state and local income taxes, poll taxes, and taxes on personal property.

c. "Total income" is equivalent, in the aggregate, to net national product for the purpose of this study. See Appendix B for details of allocation of NNP on the income and product sides.

Source: Appendix Tables B-8 and B-11.

come level of $10,000 (Chart 1)[11] This range of income included about 91 percent of all families in 1961.

Above the $10,000 income level the total tax burden shows a substantial degree of progession. The over-all effective rate for families in the $15,000 and over class in 1961 was 44 percent as compared with an average for all families of 30.5 percent (Table 3). The fact that all families with incomes of $15,000 and over (after personal taxes) are grouped in one class means that the nature of the tax structure at the upper end of the income scale is left unexplored in this study.

The Federal Tax Burden. The total Federal tax burden, including social insurance, shows a substantial degree of progression throughout the income scale. The individual income tax burden in 1961 rose from 2.0 percent for families in the under $2,000 class to 17.6 percent for families in the $15,000 and over class. (The average level of these rates is lower than would be expected on the basis of income tax data because of the broad definition of income used in this study. See Table 4.)

The burden of the corporation income tax on the standard assumption (half allocated on consumption and half on the

11. The income class limits are expressed in terms of family money income after personal taxes. See Appendix C for a discussion of effects on income class distributions of changing the definition of income. As noted elsewhere, the estimates in this study conceal differences among states and localities.

basis of dividends) was lowest in the income range from $4,000 to $10,000, and rose sharply at higher income levels because of the concentration there of dividend income.

On the other hand, the burden of sales, excises and social insurance taxes was heaviest at income levels of $3,000 to $5,000. The slight element of progression at low income levels in Federal sales and excise taxes reflected the rising importance of automobile sales and excise taxes over the lower portion of the income scale.[12]

The element of progression in the social insurance tax burden reflects in part the increased number of earners per family going from low to middle income levels.[13] (See Appendix Table B-8 for number of full-time earners and families by income class.)

The State and Local Tax Burden. The total state and local tax burden, including social insurance, declined from 14.4 percent for families in the under $2,000 class to 8.4 percent in the $15,000 and over class. Excluding social insurance (chiefly unemployment insurance), the state and local burden declined from 12.8 percent in the under $2,000 class to 7.7 percent in the $15,000 and over class. Excluding the lowest and highest income classes, the range in the over-all burden was from 12.2 percent in the $2,000 to $3,000 class to 9.1 percent in the $10,000 to $15,000 class.

The burden of the individual income, the corporation income, sales and excise taxes followed a pattern similar to that for the corresponding Federal taxes because the same bases of allocation were used in both cases. The data available from the BLS survey were not sufficient in the case of income taxes to make a meaningful distinction in the estimates of these taxes at the Federal as compared with the state and local level. The national averages, of course, are not representative of states which rely heavily on the individual income tax.

The property tax appears notably regressive because about half of the burden consists of taxes on business which are assumed to be shifted forward and are allocated on the basis of consumption expenditures. The portion consisting of taxes on residential property, and still more the portion on home owners, shows much less regression on the basis of BLS data. Indeed, Internal Revenue Service data on property taxes deducted for Federal income tax purposes suggests approximate proportionality to income in the burden of this tax (see Table 10, page 25).

Benefits of Government Expenditures. As shown by Table 5 and Chart 1, the pattern of government expenditure benefits is extremely "regressive" – i.e., favorable to low income groups. This is true for nearly every major category of spending. The distribution of general expenditure benefits is most regressive because half of the total was allocated in proportion to the *number* of families at each income level. If all of these benefits are allocated in proportion to the number of families (rather than half in proportion to family money income, as in the standard assumption), the regression in the distribution becomes more pronounced.

The total of benefits attributable to particular categories of beneficiaries, and allocated on the basis of appropri-

12. For further analysis by type of tax, see Tax Foundation, *Federal Non-Income Taxes*, (New York: 1965), pp. 36-40. See also below pp. 23-25.
13. For further analysis see Tax Foundation, *Economic Aspects of the Social Security Tax*, (New York: 1966), pp. 43-46.