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Colorado Legislative Council
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COLORADO TAX PROFILE STUDY
" 1977

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Prepared for
Joint Committee on State and Local Finance
Colorado Legislature
State Capitol Building
Denver, Colorado

January 1978

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INTRODUCTION

Taxes have risen to unprecedented levels in America, and the state and local tax bill for Colorado residents and business is no exception. For the first time in Colorado history, the net tax collections of state and local governments, as officially reported by state agencies for fiscal year 1977, exceeded the \$2 billion mark. This represented an average annual combined state-local tax of about \$2,000 for the one million households comprising the present Colorado resident population. In the aggregate, state and local taxes have increased by more than \$870 million since 1972, the fiscal year for which the first of these Colorado Tax Profile studies was prepared for the Colorado Legislative Council. In brief, over the past five years total state and local net tax collections have risen by approximately 75 percent, or at an average annual compounded rate of 12 percent. This increase in part reflects the growth in the population of the state, but largely must be attributed to the price inflation of recent years coupled with a rise in household nominal income before tax. However, it is important to recognize that these factors -- changing demography, consumer prices and household income -- also have significantly affected the distribution of income as well as consumption patterns. In turn, these developments have had an impact on the relative tax burdens of Colorado households when classified by low, middle and high income categories.

The Colorado Tax Profile Study, 1977, is the second of two reports which provide primary data and analysis of the magnitude, composition and burden effects of the overall Colorado state and local tax structure for fiscal year 1977.^{1/} It is mainly concerned with the distribution of state and local taxes among the major income

^{1/}The initial report was limited to an analysis of the state individual income tax returns filed in fiscal year 1977. See Colorado Statistics of Income, 1977, Colorado Legislative Council, Research Publication No. 230, December 1977.

classes comprising Colorado's resident taxpayers. It attempts to answer the following basic questions:

- Who ultimately pays the Colorado tax bill?
- How much of the state and local tax is borne directly by resident households?
- How much by the business community?
- What is the quantitative importance of each of the major state and local taxes?
- Measured against income, what are the relative tax burdens of the poor, the middle class, and high income groups?
- Which taxes are most regressive? Most progressive?
- How does the state tax burden compare with the local burden?
- Is the Colorado tax structure as a whole regressive or progressive?
- And finally, what has happened to the progressivity/regressivity of the tax structure over recent years?

Notwithstanding conventional beliefs regarding the alleged inequities imbedded in the state and local tax structure, such basic questions as those listed above cannot be answered objectively without developing a set of empirical data that provide a reasonably accurate description of the distribution of taxes under the present system. Thus, the economic impact of any proposed tax change cannot be fully evaluated without detailed knowledge of the actual distribution of state and local taxes. In brief, the principal objective of this study is to develop a comprehensive "current tax profile" which can be used by Colorado's interested citizens, legislators and public administrators as the basis for assessing the revenue and distribution effects of the present tax structure as well as of any new tax proposals.

SECTION I. THE STATE-LOCAL TAX BURDEN

Although there has been no change in the statutory provisions of any of the major taxes, state and local revenues have increased significantly in recent years as a result of the rise in the income and consumption expenditures of Colorado resident households. Whether measured in terms of reported net collections or on an adjusted liability basis,^{2/} the growth in taxes during the past five years closely paralleled the growth in the state's total personal income and adjusted gross income.^{3/} As shown in Table I, the total of combined state and local taxes on the adjusted liability basis rose from \$1,121.7 million in fiscal year 1972 to \$1,951.4 million in fiscal year 1977, an increase of 74 percent. However, the state tax liability alone increased by almost 79 percent during this period, while local taxes rose by 70 percent. Nor were the increases uniform for the three major revenue sources -- income, sales and property taxes. On the state level, the individual income tax showed the largest growth, increasing by 113 percent, followed by the sales and corporate income taxes which rose 88 and 73 percent, respectively. In marked contrast, the local property tax during this same period increased by only 59 percent, or slightly more than one-half of the rise in the state income tax. Translated into average annual rates of growth, the comparative

^{2/} See Appendix A, Table A-I, for a summary of officially reported state and local net tax collections for fiscal years 1972-1977, and Table A-II for a summary of these taxes for the same years adjusted to a CTPS resident tax liability basis for purposes of this study.

^{3/} Colorado Statistics of Income, 1977, Colorado Legislative Council, Research Publication No. 230, December 1977, p. 4.

increases in prices, income and taxes for Colorado resident households during the past five years were as follows:

| | <u>Percent Increases for Fiscal Years 1972-77</u> | |
|--------------------------------|---|--------------------------------|
| | <u>5 Year Period</u> | <u>Average Annual Rate</u> |
| <u>Prices:</u> | | |
| BLS Consumer Price Index | 45.1 | 7.7 |
| <u>Income:</u> | | |
| Colorado Adjusted Gross Income | 68.8 | 11.0 |
| Colorado Personal Income | 74.7 | 11.8 |
| <u>Taxes:</u> | | |
| Local Property Tax | 59.0 | 9.6 |
| State Corporate Income Tax | 72.7 | 11.5 |
| State Sales and Use Tax | 88.3 | 13.5 |
| State Individual Income Tax | 112.9 | 16.3 |
| Total Local Taxes | 69.9 | 11.1 |
| Total State Taxes | <u>78.5</u> | <u>12.3</u> |
| Total State-Local Taxes | 74.0 | 11.7 |

The total net tax collections for all state and local governmental jurisdictions in Colorado for fiscal year 1977 amounted to \$2,043.4 million. State taxes on a collection basis as reported by the Department of Revenue and the Controller's Office were \$1,009.2 million or almost 50 percent of the total.^{4/} Local property taxes reported by the Division of Property Taxation amounted to \$791.1 million or 39 percent, and all other local taxes totaled \$243.1 million or 12 percent. When measured on the CTPS adjusted liability basis, which more closely corresponds to the actual tax borne by Colorado residents, the total of combined state-local taxes amounted to \$1,951.4 million in fiscal year 1977, or five percent less than the reported collections. The difference of \$92.0 million between these two bases represents adjustments for nontax revenues and nonallocable levies such as

^{4/} Exclusive of state inheritance and gift taxes, hunting and fishing license fees and pari-mutuel betting taxes which totaled \$48.2 million in fiscal year 1977.

TABLE I. SUMMARY OF COLORADO STATE AND LOCAL TAX LIABILITIES
FISCAL YEARS 1972, 1975 AND 1977

| | Fiscal Year | | | Percent Increase 1972-1977 |
|--|-------------|-----------|-----------|----------------------------------|
| | 1972 | 1975 | 1977 | |
| (Money amounts in millions of dollars) | | | | |
| <u>State Taxes</u> | | | | |
| Individual Income | \$ 156.2 | \$ 257.2 | \$ 332.5 | 112.9% |
| Sales and Use | 176.9 | 255.9 | 333.1 | 88.3 |
| Highway User | 109.1 | 121.6 | 137.3 | 25.8 |
| Corporate Income | 33.3 | 49.5 | 57.5 | 72.7 |
| Other Business Taxes | 24.8 | 35.2 | 43.9 | 76.6 |
| Cigarette | 13.6 | 15.6 | 16.8 | 22.1 |
| Alcoholic Beverage | 11.8 | 13.8 | 17.5 | 48.3 |
| Total State Taxes | \$ 525.7 | \$ 748.8 | \$ 938.6 | 78.5% |
| <u>Local Taxes</u> | | | | |
| Property | \$ 492.0 | \$ 607.6 | \$ 782.2 | 59.0% |
| Sales and Use | 68.3 | 126.8 | 165.1 | 141.7 |
| Highway User ^{a/} | 10.8 | 14.3 | 16.2 | 50.0 |
| Cigarette | 2.9 | 14.8 | 14.8 | 410.3 |
| Other Business Taxes | 22.0 | 34.7 | 34.5 | 56.8 |
| Total Local Taxes | \$ 596.0 | \$ 798.2 | \$1,012.8 | 69.9% |
| <u>State and Local Taxes</u> | | | | |
| Property | \$ 492.0 | \$ 607.6 | \$ 782.2 | 59.0% |
| Sales and Use | 245.2 | 382.7 | 498.2 | 103.2 |
| Income ^{b/} | 189.5 | 306.7 | 390.0 | 105.8 |
| Highway User ^{c/} | 119.9 | 135.9 | 153.5 | 28.0 |
| Other Business Taxes ^{d/} | 46.8 | 69.9 | 78.4 | 67.5 |
| Other Excise Taxes ^{e/} | 28.3 | 44.2 | 49.1 | 73.5 |
| Total State-Local Taxes | \$1,121.7 | \$1,547.0 | \$1,951.4 | 74.0% |

^{a/} Represents specific ownership tax.

^{b/} Includes surtax and corporate income tax, excludes oil and gas tax.

^{c/} Includes local specific ownership tax.

^{d/} Includes insurance, severance, corporate franchise, occupation, miscellaneous regulatory business taxes.

^{e/} Cigarette and alcoholic beverage taxes.

penalties, interest and audit deficiencies; non-resident income, sales and excise tax collections; old age property tax credits; the excess of income tax collections over liabilities; and vendor discounts on retail sales, motor fuel and cigarette tax collections. The dollar amounts of these adjustments were as follows:^{5/}

| | <u>In Millions</u> |
|--|--------------------|
| Exclusion of: | |
| Nontax and nonallocable revenues | \$14.0 |
| Non-resident tax collections and credits | 56.8 |
| Excess of collections over liabilities | 40.0 |
| Inclusion of: | |
| Vendor discounts on tax collections | <u>-18.8</u> |
| Total Adjustments | \$92.0 |

The relative importance of each of the major tax categories on this adjusted basis is shown in Chart I and the tabulation below:

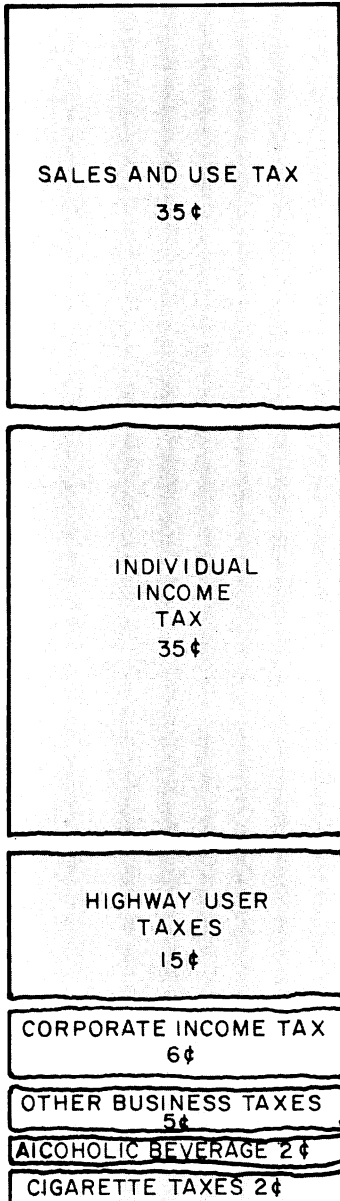
| | <u>Percent Distribution</u> | | |
|-------------------------|-----------------------------|--------------------|--------------------|
| | <u>Total Taxes</u> | <u>State Taxes</u> | <u>Local Taxes</u> |
| Property Tax | 40.1 | -- | 77.2 |
| Sales and Use Tax | 25.5 | 35.5 | 16.3 |
| Individual Income Tax | 17.0 | 35.4 | -- |
| Corporate Income Tax | 3.0 | 6.1 | -- |
| Highway User Tax | 7.9 | 14.6 | 1.6 |
| Other Business Taxes | 4.0 | 4.7 | 3.4 |
| Cigarette Tax | 1.6 | 1.8 | 1.5 |
| Alcoholic Beverages Tax | <u>.9</u> | <u>1.9</u> | <u>--</u> |
| Total | 100.0 | 100.0 | 100.0 |

The local property tax liability of \$782.2 million, net of \$8.9 million of state old age property tax credits, continued to be the largest single revenue source in the state-local tax structure. However, relatively it was not as large as in fiscal year 1972. In 1977, it accounted for slightly more than 40 percent of the combined state-local tax liability and 77 percent of total local revenues,

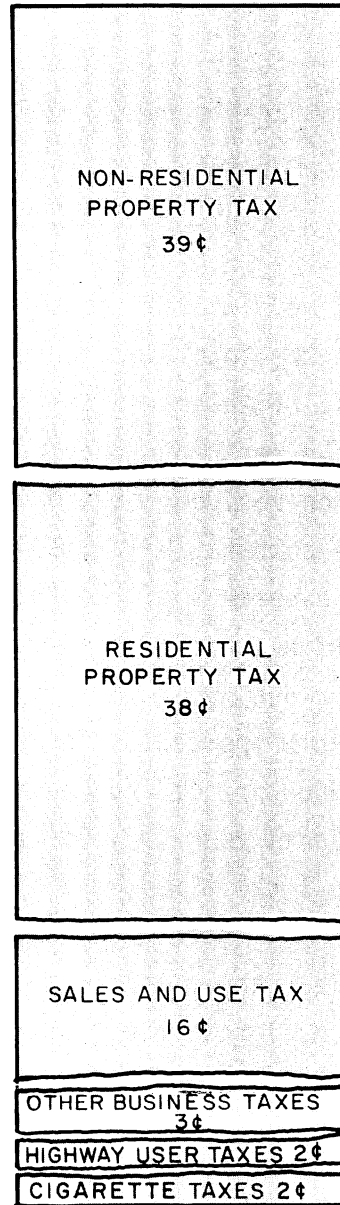
^{5/}The reconciliation of the reported tax collections with the adjusted tax liabilities on the state level is shown in Appendix A, Table A-3, and on the local level in Table A-4.

CHART I. THE COLORADO STATE AND LOCAL TAX DOLLAR,
FISCAL YEAR 1977

STATE TAX
DOLLAR



LOCAL TAX
DOLLAR



whereas five years earlier the respective ratios were 44 percent and 83 percent. In brief, again it is evident that the percentage increase in the total property tax for the state as a whole has been considerably less than either the state sales or income tax, and its relative importance on the local level continues to decline.

The combined state-local retail sales and use tax ranked next in importance. In fiscal year 1977, it amounted to \$498.2 million, net of \$16.5 million of state food tax credits. As such, the sales tax accounted for 25 percent of the total resident tax liability, 35 percent of total state taxes, but only 16 percent of the local tax share. The comparable ratios for fiscal year 1972 were 22 percent, 34 percent and 12 percent, respectively.

The state income tax represented the third of the "big three" taxes levied by Colorado governments. On the state level, it ranked first and actually exceeded the sales and use tax. In fiscal year 1977, the total income tax amounted to \$390.0 million on a liability basis, of which the corporate income tax represented \$57.5 million and the resident individual income tax amounted to \$332.5 million. The non-resident portion of the state individual income tax continued to be comparatively small, amounting to \$2.1 million or about one-half of one percent of the total. The individual income tax alone accounted for 17 percent of the state-local tax total and 35 percent of the state tax burden, whereas in fiscal year 1972 the respective ratios were only 14 and 30 percent. On the other hand, the relative significance of the state corporate income tax has remained unchanged during this period. In fiscal year 1977 it accounted for three percent of the combined state-local taxes, and six percent of the total state tax liability.

The highway user tax category includes state motor fuel and ton-mile taxes and motor vehicle and operators license fees as well as the local government specific ownership tax. These levies totaled \$153.5 million, or less than eight percent of the total state-local tax liability. On the state level, the highway user taxes accounted for slightly less than 15 percent in 1977 compared with 21 percent for 1972. The decrease in the relative importance of these levies, in

part may reflect the motoring public's response to higher energy prices and conservation practices in recent years.

Other business taxes represent all business taxes and fees, other than the corporate income and the share of the sales, property and highway user taxes paid by business firms. It includes the oil and gas production tax, other severance taxes, the employer's share of the Denver occupation tax, insurance, franchise and utility taxes and miscellaneous regulatory fees. In fiscal year 1977, these taxes amounted to \$78.4 million and since 1972 have averaged about four percent of the total state-local tax liability. However, on the state level these sundry business taxes amounted to \$43.9 million and have averaged almost five percent.

Cigarette and alcoholic beverage taxes continue to be quantitatively the least important. On a combined state-local basis they amounted to \$49.1 million. Since 1972 these excises have averaged less than three percent of the total tax liability. The cigarette tax alone has averaged less than two percent, and the alcoholic beverage tax less than one percent.

SECTION II. THE DIRECT AND INDIRECT TAX ALLOCATION

A distinction is often made between the "impact" and "incidence" of a tax -- the former is where the tax is legally imposed, the latter where the tax finally comes to rest. Theoretically, the incidence of all taxes are borne by individuals. However, it is useful to initially classify taxes into the two general categories of households (or direct) taxes and business (or indirect) taxes since the distribution of taxes requires specific shifting assumptions with regard to their final incidence.

Shifting Assumptions

Household taxes are defined for purposes of this study as those directly levied or shifted to individuals comprising the household unit and generally are based on the earning of income, the purchase of consumer goods and services, or the ownership of particular forms of wealth (e.g., real estate). In this sense, direct taxes include the individual income tax, retail sales tax, consumer excises and the residential property tax. The householder cannot shift such direct taxes to others through the pricing system. In contrast, it is assumed that indirect taxes, those imposed on business firms, are either shifted forward to individuals as consumers or borne by the owners of resources since such taxes represent business costs that ultimately are reflected in market prices or reduced after-tax profits, dividends or undistributed corporate earnings. The corporation income tax, highway user and sales taxes paid by business firms on their purchases, severance taxes and all other franchise and regulatory business taxes fall into the indirect category.^{6/}

It should be further noted that in deriving resident tax burdens for a particular state, it is practically impossible on an empirical basis to determine the amount of business taxes exported

^{6/} See Appendix A for the methodology and assumptions used for the allocations of specific taxes between households and business.

or imported by firms engaged in interstate commerce. As in the 1975 study, it has been assumed that the export of Colorado state and local business taxes has been approximately balanced by the import of taxes from state and local jurisdictions outside Colorado. A similar offsetting assumption is not required with regard to the direct taxation of non-residents. As indicated, an estimate of the Colorado taxes paid by non-residents (e.g., tourists in Colorado) has been excluded from the adjusted totals of state and local taxes. Similarly, taxes paid elsewhere by Colorado residents as out-of-state tourists are not considered part of the Colorado tax burden since they are not imposed by Colorado jurisdictions.

Taxes on Households and Business

Based on the above assumptions, the allocation of Colorado state and local taxes between those levied on resident households and those on business for fiscal year 1977 is shown in Table II and Chart II. On the adjusted basis, the combined state-local tax on resident households and business totaled \$1,951.4 million. Of this amount, \$1,183.0 million or three-fifths was classified as direct household taxes, and \$768.4 million or two-fifths as indirect business taxes.

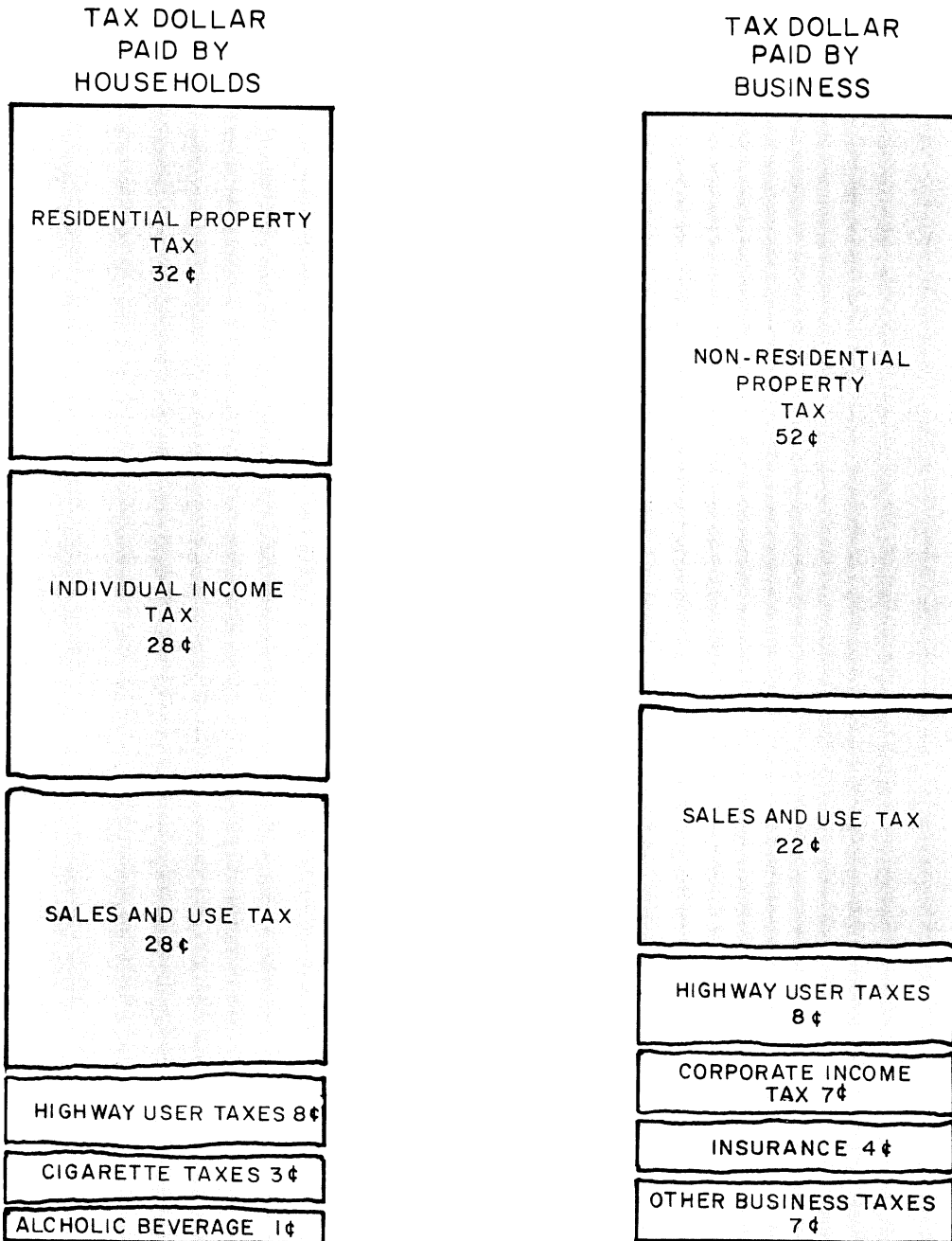
The property tax continued to represent the largest single levy in both categories. The residential property tax was estimated to be \$382.0 million or 32 percent of total direct taxes. This 1977 ratio was markedly smaller than the 39 percent ratio estimated for fiscal year 1972. On the other hand, the non-residential property tax amounted to \$400.2 million or 52 percent of the total taxes on business. This was only slightly less than the 53 percent ratio estimated for 1972. The state individual income tax was quantitatively the next most important tax levied directly on Colorado resident taxpayers. It amounted to \$332.5 million or 28 percent of the 1977 total direct tax burden compared to 24 percent in 1972. The state corporate income tax amounted to \$57.5 million and accounted for less than eight percent of the combined state-local taxes imposed on business -- the same ratio as for 1972. Finally, state and local sales and use taxes levied on resident households were estimated to be \$329.4 million or

TABLE II. SUMMARY OF MAJOR TAXES ON
 COLORADO HOUSEHOLDS AND BUSINESS,
 FISCAL YEAR 1977

| | State Taxes | Local Taxes | Total Taxes |
|---|----------------|----------------|----------------|
| A. Money amounts in thousands of dollars: | | | |
| <u>Taxes on Households (Direct)</u> | | | |
| Residential Property | \$ -- | \$ 382,026 | \$ 382,026 |
| Individual Income | 332,548 | -- | 332,548 |
| Sales and Use | 218,696 | 110,700 | 329,396 |
| Highway User ^{a/} | 78,473 | 11,331 | 89,804 |
| Cigarette | 16,831 | 14,818 | 31,649 |
| Liquor | 17,530 | -- | 17,530 |
| Total Direct Taxes | \$664,078 | \$ 518,875 | \$1,182,953 |
| <u>Taxes on Business (Indirect)</u> | | | |
| Non-residential Property | \$ -- | \$ 400,154 | \$ 400,154 |
| Sales and Use | 114,365 | 54,414 | 168,779 |
| Highway User ^{a/} | 58,802 | 4,856 | 63,658 |
| Corporate Income | 57,473 | -- | 57,473 |
| Other Business Taxes | 43,848 | 34,515 | 78,363 |
| Total Indirect Taxes | \$274,488 | \$ 493,939 | \$ 768,427 |
| <u>Total Resident Taxes</u> | \$938,566 | \$1,012,814 | \$1,951,380 |
| B. Percentage distribution: | | | |
| <u>Taxes on Households (Direct)</u> | | | |
| Residential Property | -- % | 73.6% | 32.3% |
| Individual Income | 50.1 | -- | 28.1 |
| Sales and Use | 32.9 | 21.3 | 27.8 |
| Highway User ^{a/} | 11.8 | 2.2 | 7.6 |
| Cigarette | 2.5 | 2.9 | 2.7 |
| Liquor | 2.7 | -- | 1.5 |
| Total Direct Taxes | 100.0% | 100.0% | 100.0% |
| <u>Taxes on Business (Indirect)</u> | | | |
| Non-residential Property | -- % | 81.0% | 52.1% |
| Sales and Use | 41.7 | 11.0 | 22.0 |
| Highway User ^{a/} | 21.4 | -- | 7.6 |
| Corporate Income | 20.9 | -- | 7.5 |
| Other Business Taxes | 16.0 | 8.0 | 10.8 |
| Total Indirect Taxes | 100.0% | 100.0% | 100.0% |

^{a/} Includes specific ownership tax.

CHART II. THE COLORADO HOUSEHOLD AND BUSINESS TAX DOLLAR,
FISCAL YEAR 1977



28 percent of the total direct tax burden compared with a 23 percent ratio for 1972. On this basis, the "big three" -- the residential property, individual income and retail sales taxes -- represented slightly more than 88 percent of the combined state-local tax burden imposed directly on Colorado resident taxpayers in fiscal year 1977.

On the state level, taxes amounting to \$664.1 million, or 71 percent of the adjusted state total, were classified as direct household taxes. Of this amount, the individual income tax alone (inclusive of surtax) represented 50 percent, while retail sales and highway user taxes accounted for 33 and 12 percent, respectively. And as noted above, because of the energy situation, highway user taxes were significantly below the 1972 ratio of 20 percent. The other state excise taxes levied directly on resident households were the cigarette and alcoholic beverage taxes which together amounted to about \$34.4 million, or five percent of the total. State taxes on business were estimated to be \$274.5 million, or 29 percent of the total state tax burden. Quantitatively the most important state tax levied on business was the allocated portion of the sales and use tax -- it accounted for almost 42 percent of the total. Business highway user taxes and the corporate income tax ranked next in importance, each representing 21 percent of the total. All other state business taxes, such as insurance, corporate franchise, severance and other regulatory taxes, accounted for slightly less than 16 percent of the total.

On the local level, taxes were divided more equally between households and business -- direct household taxes were estimated to be \$518.9 million, or 51 percent of the total, while the indirect business portion was estimated to be \$493.9 million. Because of the overwhelming significance of the property tax, the allocation of total local taxes between households and business essentially reflects the classification of the property tax into residential and non-residential categories. It was estimated that the actual and imputed property taxes on owner-occupied and renter-occupied residences together accounted for almost 74 percent of the total local taxes levied directly on

resident households. And in the case of the non-residential property tax, the ratio was even larger -- 81 percent of the total local tax levied on the business community.

SECTION III. A PROFILE OF THE DISTRIBUTION OF COLORADO TAXES

The distribution of the Colorado state and local tax liabilities of resident households, classified by major income categories, is presented in Tables III through V. In the earlier companion study, Colorado Statistics of Income, 1977, data on the number of resident taxpayers, household income and state individual income tax liabilities were analyzed in detail.

Income Concepts

This sub-section indicates some of the basic concepts and adjustments required for the derivation of the income measures used in the analysis of tax burdens. Because Colorado does not have a "split-income" provision for married taxpayers, about one-third of all individual income tax returns filed were "married-separate" returns. For the purposes of this study, the "married-separate" returns of husband and wife were merged and treated as a single return in order to obtain a more accurate picture of the distribution of household income and taxes. Also, all non-resident tax returns and a number of resident single returns filed by persons who had been taken as exemptions on their parent's returns were excluded. The latter primarily represented students and other youngsters living at home who had filed for withholding refunds.^{7/}

On the corrected basis, the adjusted gross income reported on the resident tax returns filed in fiscal year 1975 amounted to \$12,583 million. It represented 75.7 percent of the corresponding 1976 state personal income of \$16,632 million estimated by the U.S. Department of Commerce.^{8/} The difference of \$4 billion between these two measures is partly due to the fact that about eight percent of

^{7/} These returns accounted for 1.01 percent of the total adjusted gross income and 0.28 percent of the total normal tax liability. See Colorado Statistics of Income, 1977, Colorado Legislative Council, Research Publication No. 230, December 1977.

^{8/} U.S. Department of Commerce, Survey of Current Business, August 1977.

Colorado households are not required to file regular state income tax returns because of their low income status.^{9/} However, it mainly reflects conceptual differences between the economic and statutory definitions of income. The latter (adjusted gross income) excludes various forms of tax exempt money income and nontaxable transfer income such as payments for public welfare, social security, unemployment compensation and portions of private pension and retirement income. On the other hand, the economic concept of household income (the Department of Commerce personal income measure) includes in addition to the above money transfer payments sundry forms of imputed income such as the estimated rental value of owner-occupied residences, imputed interest and employer contributions to pension funds.

In order to obtain an alternative income measure for tax burden analysis which more closely corresponds to the conventional concept of income, an adjusted broad income measure was developed for the original 1972 Colorado Tax Profile Study. This measure is narrower than the personal income concept in that it excludes all forms of imputed income, but broader than adjusted gross income since it includes an estimate of the nontaxable money transfer payments as well as tax exempt interest and dividends and that part of realized capital gains not reported on tax returns.^{10/} On an overall basis, the total adjusted broad income for Colorado resident taxpayers was estimated to be \$15,135 million, or almost 20 percent larger than the corresponding adjusted gross income for fiscal year 1977. The difference between these two income measures in fiscal year 1972 was only 13 percent, and in fiscal year 1975 slightly less than 16 percent.^{11/}

The more rapid rate of growth in the adjusted broad income of Colorado's resident households relative to the increase in adjusted gross income reported on tax returns is mainly due to the unprecedented

^{9/} Such households, however, file returns for the food sales tax credit and are included in the broad income analysis.

^{10/} See Appendix B for a description of the derivation of the adjusted broad income measure.

^{11/} See Colorado Tax Profile Studies for 1972 and 1975.

rise in Colorado personal transfer income -- 122 percent since fiscal year 1972.^{12/} Quantitatively, the total amount of transfer payments included in the 1977 adjusted broad income measure was approximately three times larger than the amount included to represent tax exempt forms of non-transfer money income. Thus the largest relative adjustments required to place the resident households on a broad income basis were made for those in the lowest income categories since they were the major recipients of nontaxable money transfer income. Conversely, adjustments for excluded non-transfer money income were largest for taxpayers in the upper income strata since they were the principal beneficiaries of the preferential treatment accorded capital gains, interest and dividends under the state income tax. In the following sections of this report, the comparative tax burdens of Colorado resident households are presented in terms of both adjusted gross and adjusted broad income. It is evident, however, that the latter is the more appropriate and meaningful basis for evaluating the distributional effects of the Colorado state and local tax structures.

Distribution of Households, Income and Taxes

In fiscal year 1977, more than one million Colorado resident households filed income tax returns -- 952,211 households filed regular returns and 76,926 low income households filed returns in order to obtain food sales tax credit refunds. The latter, although not subject to income taxation, are included in the analysis since they also are burdened with sales, excise and property taxes, and also are recipients of part of the transfer income incorporated in the state broad income measure.

Table III presents the total dollar amounts of state and local taxes on a resident liability basis, as well as the total dollar amounts of household income in terms of both adjusted gross and broad

^{12/} Survey of Current Business, August 1974 and 1977. The growth in Colorado transfer payments for the two year period between fiscal years 1975 and 1977 was 36 percent, a rate significantly above the 19 percent growth in adjusted gross income for the same period.

TABLE III. DISTRIBUTION OF COLORADO RESIDENT TAXPAYERS,
INCOME AND MAJOR TAXES, CLASSIFIED BY MAJOR INCOME CATEGORIES,
FISCAL YEAR 1977

| | Major Income Classes ^{a/} | | | | | Total |
|--|------------------------------------|------------------------|-------------------------|-------------------------|----------------------|---------------------|
| | Under \$5,000 | \$5,000 to \$10,000 | \$10,000 to \$15,000 | \$15,000 to \$25,000 | \$25,000 and Over | |
| (Money amounts in thousands of dollars) | | | | | | |
| <u>Number of Resident Taxpayers</u> | 243,547 | 217,301 | 169,509 | 217,616 | 104,238 | 952,211 |
| <u>Number of Resident Households</u> ^{b/} | 320,473 | 217,301 | 169,509 | 217,616 | 104,238 | 1,029,137 |
| <u>Taxpayers Income:</u> | | | | | | |
| Adjusted Gross Income | \$ 646,013 | \$1,596,732 | \$2,115,621 | \$4,189,924 | \$4,034,387 | \$12,582,677 |
| Adjusted Broad Income | 1,385,008 | 2,113,618 | 2,485,091 | 4,643,469 | 4,507,964 | 15,135,150 |
| <u>Direct Taxes on Households:</u> | | | | | | |
| <u>State Taxes</u> | | | | | | |
| Individual Income | 7,364 | 28,961 | 46,674 | 110,259 | 139,290 | 332,548 |
| Sales and Use | 30,552 | 35,363 | 39,081 | 68,189 | 45,511 | 218,696 |
| Highway User | 9,590 | 13,701 | 15,922 | 25,629 | 13,631 | 78,473 |
| Cigarette | 3,213 | 3,375 | 3,327 | 4,881 | 2,035 | 16,831 |
| Alcoholic Beverage | 2,447 | 3,024 | 3,299 | 5,859 | 2,901 | 17,530 |
| Total | 53,166 | 84,424 | 108,303 | 214,817 | 203,368 | 664,078 |
| <u>Local Taxes</u> | | | | | | |
| Residential Property | 53,914 | 67,304 | 64,859 | 111,591 | 84,358 | 382,026 |
| Sales and Use | 15,465 | 17,900 | 19,782 | 34,516 | 23,037 | 110,700 |
| Cigarette | 2,829 | 2,971 | 2,930 | 4,297 | 1,791 | 14,818 |
| Specific Ownership | 1,385 | 1,978 | 2,299 | 3,701 | 1,968 | 11,331 |
| Total | 73,593 | 90,153 | 89,870 | 154,105 | 111,154 | 518,875 |
| Total Direct Taxes | 126,759 | 174,577 | 198,173 | 368,922 | 314,522 | 1,182,953 |
| <u>Indirect Taxes on Households:</u> | | | | | | |
| State Business Taxes | 38,161 | 44,268 | 48,985 | 82,122 | 60,952 | 274,488 |
| Local Business Taxes | 75,425 | 81,698 | 87,081 | 147,984 | 101,751 | 493,939 |
| Total Indirect Taxes | 113,586 | 125,966 | 136,066 | 230,106 | 162,703 | 768,427 |
| <u>Total State and Local Taxes:</u> | | | | | | |
| State Taxes (Direct & Indirect) | 91,327 | 128,692 | 157,288 | 296,939 | 264,320 | 938,566 |
| Local Taxes (Direct & Indirect) | 149,018 | 171,851 | 176,951 | 302,089 | 212,905 | 1,012,814 |
| Total State-Local Taxes | <u>\$ 240,345</u> | <u>\$ 300,543</u> | <u>\$ 334,239</u> | <u>\$ 599,028</u> | <u>\$ 477,225</u> | <u>\$ 1,951,380</u> |
| <u>Addendum:</u> | | | | | | |
| Federal Individual Income Taxes | \$ 19,467 | \$ 125,134 | \$ 211,920 | \$ 498,907 | \$ 837,105 | \$ 1,692,533 |

^{a/} Based on adjusted gross income

^{b/} Includes 76,926 resident households which filed returns for food tax credit only.

income, for each of the five major income classes. The relative tax burden comparisons -- the "current tax profiles" -- are developed on the basis of these data.

The largest single state tax levied on the two lowest income classes which together comprise more than one-half of all resident households (incomes under \$10,000) continued to be the retail sales tax which amounted to \$65.9 million, or almost 48 percent of their total direct state tax burden. In contrast, for households with incomes of \$10,000 or more the state income tax was quantitatively the largest. It amounted to \$296.2 million or 56 percent of their total state tax liability. On the local level, as expected, the residential property tax of \$382.0 million accounted for almost three-fourths of the direct local tax burden for all income categories. The percentage distributions of the combined state-local taxes for households with incomes below and above \$10,000, classified by type of tax, is shown in the following tabulation:

| | Percent Distribution of Direct Taxes for Households with AGI | |
|----------------------------------|---|---------------------|
| | Below \$10,000 | \$10,000 or More |
| Residential Property Tax | 40.2 | 29.6 |
| Sales and Use Taxes | 33.0 | 26.1 |
| Individual Income Tax | 12.1 | 33.6 |
| Highway User Taxes | 8.8 | 7.2 |
| Other Excise Taxes ^{a/} | 5.9 | 3.5 |
| | 100.0 | 100.0 |

^{a/} Cigarette and alcoholic beverage taxes.

The percentage distributions of the Colorado resident taxpayers, household income and state and local taxes, classified by the five major income categories, are shown in Table IV and Chart III. A comparison of the distribution of the households and income provides an approximate measure of the degree of income inequality in the state. The taxpayers comprising the top income stratum, with adjusted gross incomes of \$25,000 or more, represented only 10 percent of the households but accounted for about 30 percent of the total reported income;

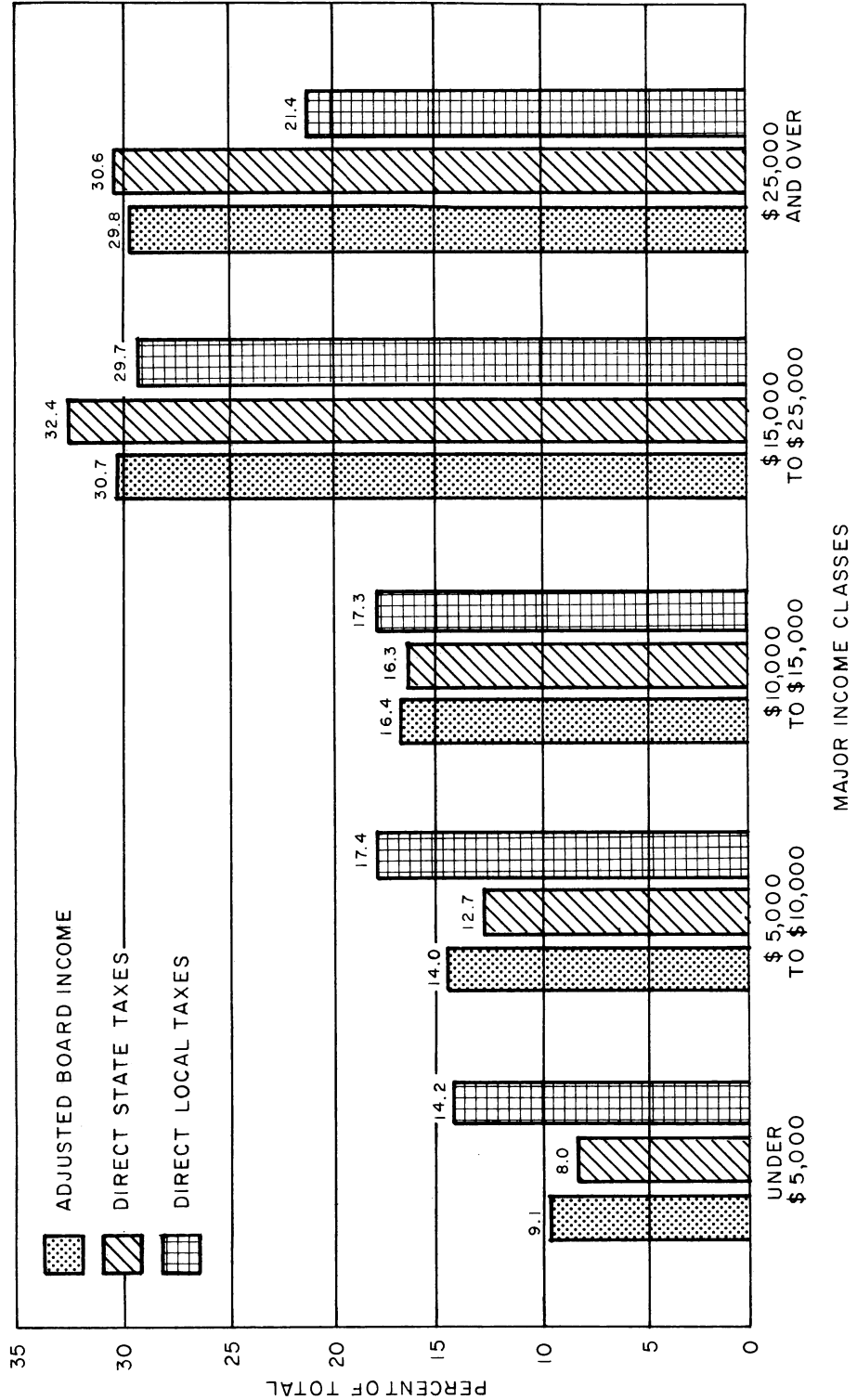
TABLE IV. PERCENTAGE DISTRIBUTION OF COLORADO RESIDENT TAXPAYERS,
INCOME AND MAJOR TAXES, CLASSIFIED BY MAJOR INCOME CATEGORIES,
FISCAL YEAR 1977

| | Major Income Classes ^{a/} | | | | | Total |
|---|------------------------------------|------------------------|-------------------------|-------------------------|----------------------|--------------|
| | Under \$5,000 | \$5,000 to \$10,000 | \$10,000 to \$15,000 | \$15,000 to \$25,000 | \$25,000 and Over | |
| <u>Number of Resident Taxpayers</u> | 25.6 | 22.8 | 17.8 | 22.9 | 10.9 | 100.0 |
| <u>Number of Resident Households^{b/}</u> | 31.1 | 21.1 | 16.5 | 21.2 | 10.1 | 100.0 |
| <u>Taxpayers Income:</u> | | | | | | |
| Adjusted Gross Income | 5.1 | 12.7 | 16.8 | 33.3 | 32.1 | 100.0 |
| Adjusted Broad Income | 9.1 | 14.0 | 16.4 | 30.7 | 29.8 | 100.0 |
| <u>Direct Taxes on Households:</u> | | | | | | |
| State Taxes | | | | | | |
| Individual Income | 2.2 | 8.7 | 14.0 | 33.2 | 41.9 | 100.0 |
| Sales and Use | 14.0 | 16.1 | 17.9 | 31.2 | 20.8 | 100.0 |
| Highway User | 12.2 | 17.4 | 20.3 | 32.7 | 17.4 | 100.0 |
| Cigarette | 19.1 | 20.0 | 19.8 | 29.0 | 12.1 | 100.0 |
| Alcoholic Beverage | 14.0 | 17.3 | 18.8 | 33.4 | 16.5 | 100.0 |
| Total | 8.0 | 12.7 | 16.3 | 32.4 | 30.6 | 100.0 |
| Local Taxes | | | | | | |
| Residential Property | 14.1 | 17.6 | 17.0 | 29.2 | 22.1 | 100.0 |
| Sales and Use | 14.0 | 16.1 | 17.9 | 31.2 | 20.8 | 100.0 |
| Cigarette | 19.1 | 20.0 | 19.8 | 29.0 | 12.1 | 100.0 |
| Specific Ownership | 12.2 | 17.4 | 20.3 | 32.7 | 17.4 | 100.0 |
| Total | 14.2 | 17.4 | 17.3 | 29.7 | 21.4 | 100.0 |
| Total Direct Taxes | 10.7 | 14.8 | 16.7 | 31.2 | 26.6 | 100.0 |
| <u>Indirect Taxes on Households:</u> | | | | | | |
| State Business Taxes | 13.9 | 16.1 | 17.9 | 29.9 | 22.2 | 100.0 |
| Local Business Taxes | 15.3 | 16.5 | 17.6 | 30.0 | 20.6 | 100.0 |
| Total Indirect Taxes | 14.8 | 16.4 | 17.7 | 29.9 | 21.2 | 100.0 |
| <u>Total State and Local Taxes:</u> | | | | | | |
| State Taxes (Direct & Indirect) | 9.7 | 13.7 | 16.8 | 31.6 | 28.2 | 100.0 |
| Local Taxes (Direct & Indirect) | 14.7 | 17.0 | 17.5 | 29.8 | 21.0 | 100.0 |
| Total State-Local Taxes | <u>12.3</u> | <u>15.4</u> | <u>17.1</u> | <u>30.7</u> | <u>24.5</u> | <u>100.0</u> |
| <u>Addendum:</u> | | | | | | |
| Federal Individual Income Taxes | 1.1 | 7.4 | 12.5 | 29.5 | 49.5 | 100.0 |

^{a/}Based on adjusted gross income.

^{b/}Includes resident households which filed returns for food tax credit only.

CHART III. DISTRIBUTION OF ADJUSTED BROAD INCOME AND STATE AND LOCAL TAXES ON COLORADO RESIDENT TAXPAYERS, FISCAL YEAR 1977



while the poorest households, those in the lowest stratum with adjusted gross incomes of \$5,000 or less, represented 31 percent of all households but accounted for only about five percent of the adjusted gross income and nine percent of the adjusted broad income.

With regard to the allocation of the overall state tax burden (combined direct and indirect taxes), it appears that for all major income classes the respective shares of the state tax paralleled the distribution of adjusted broad income, as shown by the following tabulation:

| Income Classes | Percentage Distributions | | | |
|-----------------------------|--------------------------|-----------------------|-------------------|-------------------|
| | Number of Households | Adjusted Broad Income | Total State Taxes | Total Local Taxes |
| Under \$5,000 ^{a/} | 31.1 | 9.1 | 9.1 | 14.7 |
| \$5,000 to \$10,000 | 21.1 | 14.0 | 13.7 | 17.0 |
| \$10,000 to \$15,000 | 16.5 | 16.4 | 16.8 | 17.5 |
| \$15,000 to \$25,000 | 21.2 | 30.7 | 31.6 | 29.8 |
| \$25,000 and over | 10.1 | 29.8 | 28.2 | 21.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

^{a/} Includes households which filed returns only for food sales tax credits.

The share of the total state tax burden borne by the poorest households actually was slightly higher than their respective income share, while for the households in the highest stratum their state tax was slightly less than their income share. In brief, on this adjusted broad income basis, the distribution of the total state tax burden proved to be practically the same as the distribution of income among the five major income categories for fiscal year 1977. The previous CTPS reports showed a similar pattern of approximate proportionality for fiscal years 1972 and 1975. It appears that on this basis, despite the marked shift of taxpayers into higher income brackets and the increased consumption expenditures of the past five years, the overall state tax structure has not become significantly more progressive or regressive.

The proportionality achieved in the distribution of the overall state tax burden reflects a balancing of the state's major

taxes since similar relative distributions do not hold for any of the specific taxes. As noted in the 1977 Colorado Statistics of Income report, the state individual income tax continues to be highly progressive. Households in the two lowest income categories (incomes under \$10,000 and representing more than one-half of the households) accounted for about 23 percent of the broad income but less than 11 percent of the income tax liability. At the other end of the income spectrum, taxpayers in the two top categories (incomes of \$15,000 or more and comprising about one-third of the households) accounted for 60 percent of the broad income but 75 percent of the total state income tax liability.^{13/} And the distribution of the federal income tax paid by Colorado taxpayers, classified on the same income basis, turns out to be even more progressive -- for those with incomes of less than \$10,000 the federal tax share was less than nine percent, and for those in the top two income strata it was almost 80 percent. Stated more generally, the top one-third of Colorado's resident households accounted for about two-thirds of the income (regardless of which income measure is used) but more than three-fourths of the total state and federal income tax.

Conversely, the distribution patterns of all other state taxes proved to be essentially regressive -- that is the tax share relative to income was greatest for the lowest income group and smallest for those with the highest incomes. For example, the lowest income group's share of the state retail sales tax (net of the \$7 food tax credit) was approximately one and a half times as great as its share of adjusted broad income; whereas for the highest stratum it was one-third less. And similar relationships hold for the consumer excises and indirect state business taxes. In short, the magnitude and progressivity of the Colorado state income tax offsets the regressivity of all the other state taxes resulting in an overall state tax structure which is essentially proportional.

^{13/} A detailed analysis of the Colorado individual income tax returns filed in fiscal year 1977, classified on the basis of nine adjusted gross income categories ranging from "under \$3,000" to "\$100,000 and over", is presented in the Colorado Statistics of Income, 1977, Colorado Legislative Council, Research Publication No. 230, December 1977.

With regard to the allocation of the local tax burden, the data indicate that all of the major local taxes (direct and indirect) work out to be highly regressive. For households in the two lowest income strata, their share of the residential property tax, expenditure taxes and indirect business taxes in every instance was significantly larger than their share of adjusted broad income; while for taxpayers in the highest income stratum the tax shares were below their respective income shares. This overall regressivity of the local tax structure must be attributed primarily to the magnitude and regressivity of the local property tax.

Average Household Income and Taxes

The average dollar income and taxes of Colorado resident taxpayers classified by the five major income categories is shown in Table V. In fiscal year 1977, resident taxpayers had an average income of \$14,707 (on a broad income basis) and an average combined state-local tax liability of \$1,896. This was 15 percent more than the average federal income tax paid by Colorado residents for the same year. All state taxes (direct and indirect) averaged \$912 per resident household and as such was seven percent less than the average local tax burden of \$984. Average total state taxes ranged from \$285 for taxpayers in the lowest income stratum to \$2,536 for those at the other end of the scale. On the other hand, the average local tax bill was relatively higher for the poor and relatively lower for the high income group, ranging from \$465 for those in the lowest category to \$2,042 for those in the highest.

The average dollar tax per resident household rose directly, but not proportionately, with the increases in income. Among the specific direct taxes the residential property tax ranked first with an average of \$371, and a range from \$168 for the lowest to \$809 for the highest. The individual income tax ranked next with an average of \$323, but with a much wider range -- from \$23 to \$1,336. The state sales tax on resident households averaged only \$213, and the low and high averages by income groups were \$95 and \$437.

TABLE V. AVERAGE INCOME AND TAXES FOR COLORADO RESIDENT TAXPAYERS,
CLASSIFIED BY MAJOR INCOME CATEGORIES,
FISCAL YEAR 1977

| | Major Income Classes ^{a/} | | | | | Total |
|--------------------------------------|------------------------------------|------------------------|-------------------------|-------------------------|----------------------|-----------------|
| | Under \$5,000 ^{b/} | \$5,000 to \$10,000 | \$10,000 to \$15,000 | \$15,000 to \$25,000 | \$25,000 and Over | |
| <u>Taxpayers Income:</u> | | | | | | |
| Adjusted Gross Income | \$2,016 | \$7,348 | \$12,481 | \$19,254 | \$38,704 | \$12,226 |
| Adjusted Broad Income | 4,322 | 9,727 | 14,661 | 21,338 | 43,247 | 14,707 |
| <u>Direct Taxes on Households:</u> | | | | | | |
| State Taxes | | | | | | |
| Individual Income | 23 | 133 | 275 | 507 | 1,336 | 323 |
| Sales and Use | 95 | 163 | 231 | 313 | 437 | 213 |
| Highway User | 30 | 63 | 94 | 118 | 131 | 76 |
| Cigarette | 10 | 15 | 20 | 22 | 19 | 16 |
| Alcoholic Beverage | 8 | 14 | 19 | 27 | 28 | 17 |
| Total | 166 | 388 | 639 | 987 | 1,951 | 645 |
| Local Taxes | | | | | | |
| Residential Property | 168 | 310 | 383 | 513 | 809 | 371 |
| Sales and Use | 49 | 82 | 117 | 158 | 221 | 108 |
| Cigarette | 9 | 14 | 17 | 20 | 17 | 14 |
| Specific Ownership | 4 | 9 | 13 | 17 | 19 | 11 |
| Total | 230 | 415 | 530 | 708 | 1,066 | 504 |
| Total Direct Taxes | 396 | 803 | 1,169 | 1,695 | 3,017 | 1,149 |
| <u>Indirect Taxes on Households:</u> | | | | | | |
| State Business Taxes | 119 | 204 | 289 | 378 | 585 | 267 |
| Local Business Taxes | 235 | 376 | 514 | 680 | 976 | 480 |
| Total Indirect Taxes | 354 | 580 | 803 | 1,058 | 1,561 | 747 |
| <u>Total State and Local Taxes:</u> | | | | | | |
| State Taxes (Direct & Indirect) | 285 | 592 | 928 | 1,365 | 2,536 | 912 |
| Local Taxes (Direct & Indirect) | 465 | 791 | 1,044 | 1,388 | 2,042 | 984 |
| Total State-Local Taxes | <u>\$ 750</u> | <u>\$1,383</u> | <u>\$ 1,972</u> | <u>\$ 2,753</u> | <u>\$ 4,578</u> | <u>\$ 1,896</u> |
| <u>Addendum:</u> | | | | | | |
| Federal Individual Income Taxes | \$ 61 | \$ 576 | \$ 1,250 | \$ 2,293 | \$ 8,031 | \$ 1,645 |

^{a/}Based on adjusted gross income.

^{b/}Includes resident households which filed returns for food tax credit only.

The variances in these relationships can be readily compared by expressing as ratios the average income or tax of households in the lowest income group to that of those in the highest, as shown in the following tabulation:

| | Average Income and Taxes for Households with AGI | | Lowest Stratum as Percent of Highest |
|----------------------------------|---|---------------------|---|
| | Under \$5,000 | \$25,000 or More | |
| <u>Adjusted Broad Income</u> | \$4,322 | \$43,247 | 10.0 |
| <u>Colorado Household Taxes:</u> | | | |
| Federal Income Tax | \$ 61 | \$ 8,031 | 0.8 |
| State Taxes: | | | |
| Individual Income Tax | \$ 23 | \$ 1,336 | 1.7 |
| Sales Tax on Households | 95 | 437 | 21.7 |
| Excise Taxes on Households | 48 | 178 | 25.5 |
| Total Direct Taxes | 166 | 1,951 | 8.5 |
| Indirect Business Taxes | 119 | 585 | 20.3 |
| Total State Taxes | \$ 285 | \$ 2,536 | 11.2 |
| Local Taxes: | | | |
| Residential Property Tax | \$ 168 | \$ 809 | 20.8 |
| Sales Tax on Households | 49 | 221 | 22.2 |
| Excise Taxes on Households | 13 | 36 | 36.1 |
| Total Direct Taxes | 230 | 1,166 | 19.7 |
| Indirect Business Taxes | 235 | 976 | 24.1 |
| Total Local Taxes | \$ 465 | \$ 2,042 | 22.8 |
| Total State-Local Tax | \$ 750 | \$ 4,578 | 16.4 |

On this basis, the average broad income of households comprising the lowest income stratum was only 10 percent of that for the highest. The marked progressivity of the federal and state individual income tax is indicated by the above tax ratios when compared with the corresponding income ratio. For example, the \$23 average state income tax for all households in the "under \$5,000" category was less than two percent of the \$1,336 average income tax for taxpayers in the top

stratum.^{14/} In contrast, the average of all other state taxes borne by the poor represented more than 20 percent of that levied on the top income group, or a comparative average tax ratio which was more than twice as large as the income ratio. As noted, the progressivity of the income tax roughly offsets the regressivity of the other state taxes. However, it appears that on this basis the state tax structure actually was slightly regressive in fiscal year 1977. The average total state tax (direct and indirect) for the lowest income class was 11.2 percent of that for the top stratum, in comparison to the 10 percent average income ratio of the poor to the rich. In fiscal year 1975, the relationships were reverse -- the average overall state tax ratio was only 9.5 percent compared with an average income ratio of 11.3 percent. In other words, during the past two years, the overall state tax structure has been transformed from one which was slightly progressive to one which is slightly regressive.

The regressivity of the local tax structure also is revealed by these average income and tax data. The average overall local tax for households in the lowest income category was about 23 percent of the average paid by those in the top stratum, compared to the corresponding 10 percent income ratio for these income classes. In the case of the property tax, the estimated average tax for households in the lowest income category was almost 21 percent of that paid by those in the highest. Similarly, for local sales taxes, consumer excises and shifted business taxes, the average tax ratios of the poor to the rich in every instance was more than twice that of the broad income ratio. On a combined basis, the overall Colorado state-local tax structure worked out to be clearly regressive with an average tax ratio of 16.4 percent compared with the broad income ratio of 10 percent.

^{14/} The relatively small average income tax for households in the "under \$5,000" category partly reflects the fact that about one-half of the tax returns in this stratum (inclusive of those who filed only for food sales tax credit refunds) were nontaxable returns.

SECTION IV. A PROFILE OF EFFECTIVE TAX RATES AND BURDENS

A more conventional and simpler method of comparing relative tax burdens is to express the absolute dollar amount of tax liability as a percentage of household income before tax. Since all taxes ultimately are paid out of available income, such a measure of the tax burden actually represents an "effective tax rate" on household income. However, the degree of regressivity or progressivity of the tax structure as a whole or of any particular tax will be dependent upon the income concept used. Table VI shows the relative tax burdens when the state and local levies are expressed as percentages of adjusted gross income. Table VII presents the same tax data in terms of adjusted broad income.

Effective Tax Rates Based on Adjusted Gross Income

The relative burdens or effective tax rates for fiscal year 1977, based on adjusted gross income, are shown in Table VI. On this adjusted gross income basis the combined state-local tax burden on the poor was more than three times as heavy as that on the upper income group -- a 37.2 percent effective tax rate for households reporting incomes of less than \$5,000 compared with an 11.8 percent rate for those with incomes of \$25,000 or more. This overall regressivity, however, must be attributed primarily to the local tax portion for which the relative burden on the lowest income group was more than four times larger than that on the highest -- 23.1 percent compared with 5.3 percent. All taxes on the local level, when based on adjusted gross income, show a high degree of regressivity and in the case of the residential property tax the effective rates ranged from 8.4 percent for the lowest income group to 2.1 percent for the highest.

On the state level, the tax structure as a whole was only about one-half as regressive as the local tax structure since the regressivity of the consumer expenditure and business taxes was partially offset by the progressivity of the state's individual income tax. With regard to the income tax, the effective rate for households in the under \$5,000 category was only 1.1 percent, or less than one-third the rate for taxpayers with incomes of \$25,000 or more. (Parenthetically, it

TABLE VI. RELATIVE BURDEN OF MAJOR TAXES ON COLORADO RESIDENT TAXPAYERS,
TAXES EXPRESSED AS PERCENT OF ADJUSTED GROSS INCOME,
FISCAL YEAR 1977

| | Major Income Classes ^{a/} | | | | | Total |
|--------------------------------------|------------------------------------|------------------------|-------------------------|-------------------------|----------------------|-------|
| | Under \$5,000 | \$5,000 to \$10,000 | \$10,000 to \$15,000 | \$15,000 to \$25,000 | \$25,000 and Over | |
| <u>Direct Taxes on Households:</u> | | | | | | |
| State Taxes | | | | | | |
| Individual Income | 1.14 | 1.81 | 2.21 | 2.63 | 3.45 | 2.64 |
| Sales and Use | 4.73 | 2.22 | 1.85 | 1.63 | 1.13 | 1.74 |
| Highway User | 1.48 | .86 | .75 | .61 | .34 | .62 |
| Cigarette | .50 | .21 | .16 | .12 | .05 | .14 |
| Alcoholic Beverage | .38 | .19 | .15 | .14 | .07 | .14 |
| Total | 8.23 | 5.29 | 5.12 | 5.13 | 5.04 | 5.28 |
| Local Taxes | | | | | | |
| Residential Property | 8.35 | 4.21 | 3.07 | 2.66 | 2.09 | 3.03 |
| Sales and Use | 2.39 | 1.12 | .93 | .83 | .57 | .88 |
| Cigarette | .44 | .19 | .14 | .10 | .05 | .12 |
| Specific Ownership | .21 | .12 | .11 | .09 | .05 | .09 |
| Total | 11.39 | 5.64 | 4.25 | 3.68 | 2.76 | 4.12 |
| Total Direct Taxes | 19.62 | 10.93 | 9.37 | 8.81 | 7.80 | 9.40 |
| <u>Indirect Taxes on Households:</u> | | | | | | |
| State Business Taxes | 5.91 | 2.77 | 2.32 | 1.96 | 1.51 | 2.18 |
| Local Business Taxes | 11.67 | 5.12 | 4.11 | 3.53 | 2.52 | 3.93 |
| Total Indirect Taxes | 17.58 | 7.89 | 6.43 | 5.49 | 4.03 | 6.11 |
| <u>Total State and Local Taxes:</u> | | | | | | |
| State Taxes (Direct & Indirect) | 14.14 | 8.06 | 7.44 | 7.09 | 6.55 | 7.46 |
| Local Taxes (Direct & Indirect) | 23.06 | 10.76 | 8.36 | 7.21 | 5.28 | 8.05 |
| Total State-Local Taxes | 37.20 | 18.82 | 15.80 | 14.30 | 11.83 | 15.51 |
| <u>Addendum:</u> | | | | | | |
| Federal Individual Income Taxes | 3.01 | 7.84 | 10.02 | 11.91 | 20.75 | 13.45 |

^{a/}Based on adjusted gross income.

may be noted that on this same adjusted gross income basis, the effective tax rate for the federal income tax paid by Colorado households in the lowest income class was only one-seventh of that for taxpayers in the highest stratum.) For the overall state tax structure, the effective tax rates based on adjusted gross income ranged from 14.1 percent for the lowest stratum to 6.6 percent for the highest. But, as already noted, the above disparities in the relative tax burdens between the low and high income categories are misleading because the adjusted gross income measure on which they are based particularly understates the money income of households in the lowest income stratum, and therefore overstates their tax burden relative to that of other taxpayers (see Chart IV).

Effective Tax Rates Based on Adjusted Broad Income

When the effective tax rates are expressed more appropriately in terms of adjusted broad income, the relative tax burdens and the measured regressivity of both the state and local tax structures are significantly reduced, as shown by the following summary of Table VII:

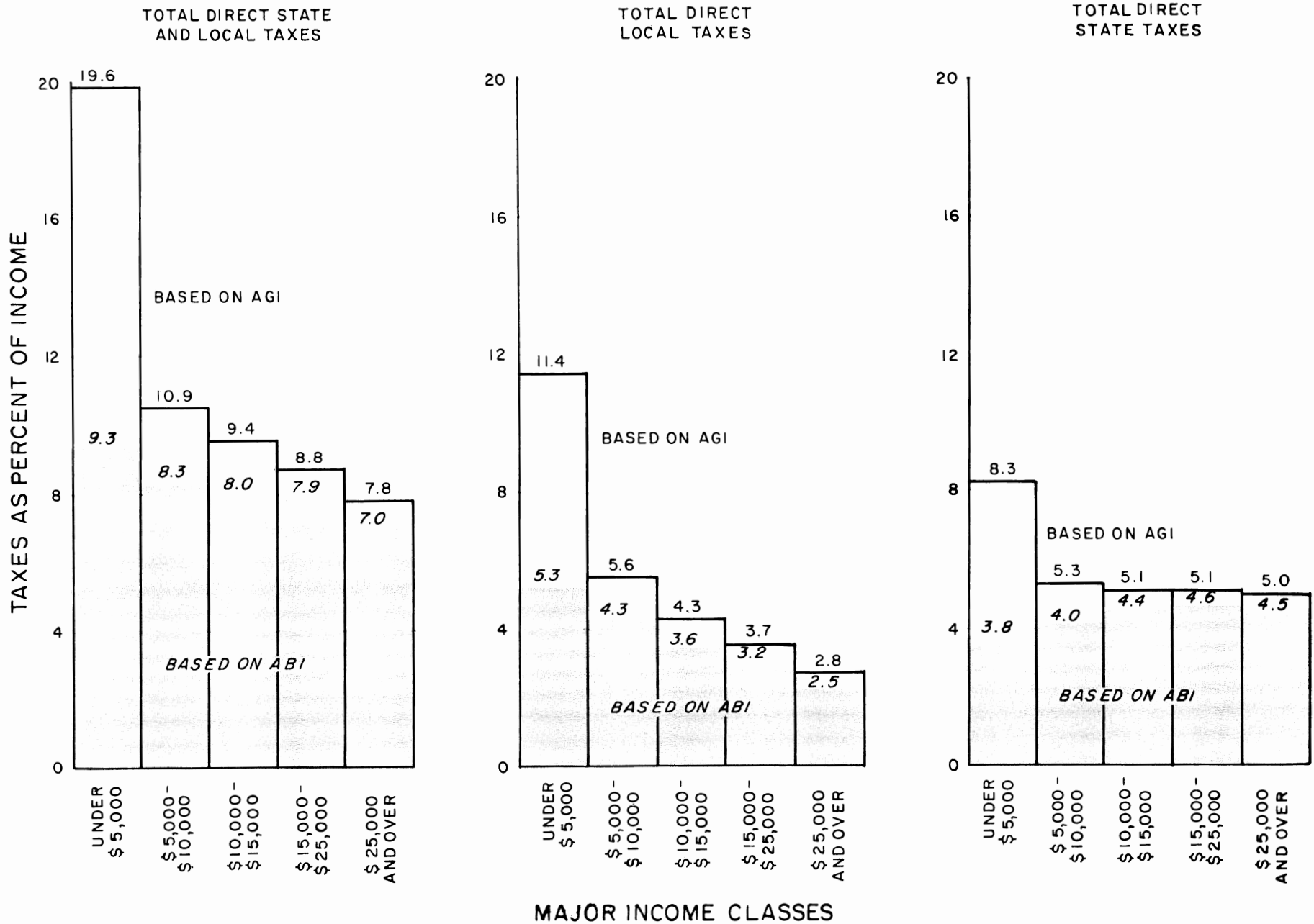
| | Effective Tax Rates Expressed as Percentages of Adjusted Broad Income | | | Ratio of Lowest to Highest Rates |
|----------------------------|---|---------------------------|----------------------------|---|
| | <u>Lowest Stratum</u> | <u>Middle Stratum</u> | <u>Highest Stratum</u> | |
| Federal Income Tax | 1.41 | 8.53 | 18.57 | .08 |
| State Taxes: | | | | |
| Individual Income Tax | .53 | 1.88 | 3.09 | .17 |
| Sales Tax on Households | 2.21 | 1.57 | 1.01 | 2.19 |
| Excise Taxes on Households | <u>1.10</u> | <u>.91</u> | <u>.41</u> | <u>2.68</u> |
| Total Direct Taxes | 3.84 | 4.36 | 4.51 | .85 |
| Indirect Business Taxes | <u>2.75</u> | <u>1.97</u> | <u>1.35</u> | <u>2.04</u> |
| Total State Taxes | 6.59 | 6.33 | 5.86 | 1.12 |
| Local Taxes: | | | | |
| Residential Property Tax | 3.89 | 2.61 | 1.87 | 2.08 |
| Sales Tax on Households | 1.12 | .80 | .51 | 2.20 |
| Excise Taxes on Households | <u>.30</u> | <u>.21</u> | <u>.09</u> | <u>3.33</u> |
| Total Direct Taxes | 5.31 | 3.62 | 2.47 | 2.15 |
| Indirect Business Taxes | <u>5.45</u> | <u>3.50</u> | <u>2.26</u> | <u>2.41</u> |
| Total Local Taxes | 10.76 | 7.12 | 4.73 | 2.27 |
| Total State-Local Taxes | 17.35 | 13.45 | 10.59 | 1.64 |

TABLE VII. RELATIVE BURDEN OF MAJOR TAXES ON COLORADO RESIDENT TAXPAYERS,
TAXES EXPRESSED AS PERCENT OF ADJUSTED BROAD INCOME,
FISCAL YEAR 1977

| | Major Income Classes ^{a/} | | | | | Total |
|--------------------------------------|------------------------------------|------------------------|-------------------------|-------------------------|----------------------|-------|
| | Under \$5,000 | \$5,000 to \$10,000 | \$10,000 to \$15,000 | \$15,000 to \$25,000 | \$25,000 and Over | |
| <u>Direct Taxes on Households:</u> | | | | | | |
| State Taxes | | | | | | |
| Individual Income | .53 | 1.37 | 1.88 | 2.37 | 3.09 | 2.20 |
| Sales and Use | 2.21 | 1.67 | 1.57 | 1.47 | 1.01 | 1.44 |
| Highway User | .69 | .65 | .64 | .55 | .30 | .52 |
| Cigarette | .23 | .16 | .13 | .10 | .05 | .11 |
| Alcoholic Beverage | .18 | .14 | .14 | .13 | .06 | .12 |
| Total | 3.84 | 3.99 | 4.36 | 4.62 | 4.51 | 4.39 |
| Local Taxes | | | | | | |
| Residential Property | 3.89 | 3.19 | 2.61 | 2.40 | 1.87 | 2.52 |
| Sales and Use | 1.12 | .85 | .80 | .75 | .51 | .73 |
| Cigarette | .20 | .14 | .12 | .09 | .04 | .10 |
| Specific Ownership | .10 | .09 | .09 | .08 | .05 | .08 |
| Total | 5.31 | 4.27 | 3.62 | 3.32 | 2.47 | 3.43 |
| Total Direct Taxes | 9.15 | 8.26 | 7.98 | 7.94 | 6.98 | 7.82 |
| <u>Indirect Taxes on Households:</u> | | | | | | |
| State Business Taxes | 2.75 | 2.10 | 1.97 | 1.77 | 1.35 | 1.81 |
| Local Business Taxes | 5.45 | 3.86 | 3.50 | 3.19 | 2.26 | 3.26 |
| Total Indirect Taxes | 8.20 | 5.96 | 5.47 | 4.96 | 3.61 | 5.07 |
| <u>Total State and Local Taxes</u> | | | | | | |
| State Taxes (Direct & Indirect) | 6.59 | 6.09 | 6.33 | 6.39 | 5.86 | 6.20 |
| Local Taxes (Direct & Indirect) | 10.76 | 8.13 | 7.12 | 6.51 | 4.73 | 6.69 |
| Total State-Local Taxes | 17.35 | 14.22 | 13.45 | 12.90 | 10.59 | 12.89 |
| <u>Addendum:</u> | | | | | | |
| Federal Individual Income Taxes | 1.41 | 5.92 | 8.53 | 10.74 | 18.57 | 11.18 |

^{a/} Based on adjusted gross income.

CHART IV. COMPARISON OF TAX BURDENS BASED ON ADJUSTED GROSS AND ADJUSTED BROAD INCOME, FISCAL YEAR 1977



On this broad income basis, the measured regressivity (the ratio of the effective rate for the lowest income class to that of the highest) in all instances is reduced to approximately one-half of that calculated in terms of adjusted gross income. For example, the relative burden of local taxes (direct and indirect) varied from 10.8 percent for the lowest income group to 4.7 percent for the highest, whereas when the adjusted gross income measure was used, the local burden on the poor was more than four times greater than that on the highest income group. Similarly, with regard to the residential property tax the effective rate for households in the lowest stratum was 3.9 percent compared with a rate of 1.9 percent for those in the top stratum. In other words, the average property tax burden for the lowest category was about twice as heavy as that for the top category, and not four times greater as shown in Table VI.

The regressivity of the overall state tax structure was also significantly smaller on this adjusted broad income basis. The effective tax rate for the lowest income households was 6.6 percent or only about one-eighth higher than the 5.9 percent average for taxpayers in the top income stratum. Moreover, it is important to note that the direct portion of the state tax structure -- the individual income tax and consumer expenditure taxes levied directly on resident households -- actually proved to be progressive. The relative tax burden for households in the lowest stratum was 3.8 percent compared with a burden of 4.5 percent for those in the highest. As already indicated, this pattern is essentially due to the fact that the regressivity of the state sales tax and consumer excises is more than offset by the magnitude and progressivity of the state income tax. With regard to the income tax, the average effective rates for the income classes successively increased from a low of 0.5 percent for households in the lowest stratum to a high of 3.1 percent for taxpayers in the highest stratum. Thus, the relative income tax burden on the poor was only one-sixth as large as that on the rich.

The CTPS Progressivity Index

The foregoing analysis has been based on an approximate measure of the regressivity or progressivity of each tax determined by expressing the relative tax burden (effective tax rate) of the lowest income stratum as a ratio to that of the highest. This index of progressivity/regressivity was first developed for the 1972 Colorado Tax Profile Study. If the ratio or index number is equal to 1.0, the tax should be considered proportional; if less than 1.0, the tax is progressive; and if more than 1.0, regressive. The index values for each of Colorado's major state and local taxes, as well as for the federal income tax paid by Colorado taxpayers, for the fiscal years 1972, 1975 and 1977 are summarized in the following tabulation:

| | <u>CTPS Progressivity Index--Tax Burden Ratios of Lowest to Highest Income Class</u> | | | | | |
|----------------------------|--|-------------|-------------|------------------------------|-------------|-------------|
| | <u>Adjusted Gross Income</u> | | | <u>Adjusted Broad Income</u> | | |
| | <u>1972</u> | <u>1975</u> | <u>1977</u> | <u>1972</u> | <u>1975</u> | <u>1977</u> |
| Federal Income Tax | .19 | .20 | .15 | .13 | .11 | .08 |
| State Taxes: | | | | | | |
| Individual Income Tax | .23 | .27 | .33 | .16 | .15 | .17 |
| Sales Tax on Households | 2.71 | 3.24 | 4.19 | 1.85 | 1.81 | 2.19 |
| Excise Taxes on Households | <u>3.23</u> | <u>4.09</u> | <u>5.13</u> | <u>2.21</u> | <u>2.32</u> | <u>2.68</u> |
| Total Direct Taxes | 1.06 | 1.20 | 1.63 | .72 | .67 | .85 |
| Indirect Business Taxes | <u>1.94</u> | <u>2.35</u> | <u>3.91</u> | <u>1.33</u> | <u>1.31</u> | <u>2.04</u> |
| Total State Taxes | 1.32 | 1.51 | 2.16 | .90 | .84 | 1.12 |
| Local Taxes: | | | | | | |
| Residential Property Tax | 3.10 | 3.36 | 4.00 | 2.13 | 1.87 | 2.08 |
| Sales Tax on Households | 2.94 | 3.25 | 4.19 | 2.00 | 1.83 | 2.20 |
| Excise Taxes on Households | <u>3.64</u> | <u>4.91</u> | <u>6.50</u> | <u>2.52</u> | <u>2.73</u> | <u>3.33</u> |
| Total Direct Taxes | 3.09 | 3.39 | 4.13 | 2.11 | 1.89 | 2.15 |
| Indirect Business Taxes | 2.83 | 3.20 | 4.63 | 1.93 | 1.79 | 2.41 |
| Total Local Taxes | 2.95 | 3.29 | 4.37 | 2.02 | 1.84 | 2.27 |
| Total State-Local Taxes | 1.98 | 2.25 | 3.14 | 1.35 | 1.25 | 1.64 |

First, it will be noted that whether measured in terms of adjusted gross or adjusted broad income, the Colorado state and local tax structures have become more regressive during the past five years, and

particularly since fiscal year 1975. On the broad income basis, the combined state-local tax burden on the lowest income class in 1977 was about two-thirds greater than that on the highest, whereas in 1975 it was only about one-fourth greater. However, in each of the three years measured the state tax structure proved to be less than one-half as regressive as the local tax structure. For example, in fiscal year 1977, the CTPS broad income index number for total local taxes was 2.27 compared with 1.12 for total state taxes. On this basis, the overall state tax structure has remained essentially proportional -- slightly progressive in fiscal years 1972 and 1975, and slightly regressive in 1977. Moreover, the direct portion of the state tax structure -- income and consumption expenditure taxes levied directly on resident households -- actually worked out to be progressive over this five year period between fiscal years 1972 and 1977. But even in this instance, the degree of progressivity steadily declined as revealed by the CTPS index which rose from .72 for 1972 to .85 for 1977.

Of the three major taxes imposed on Colorado households -- property, sales and income -- it is interesting to note that in fiscal year 1977 the state sales tax proved to be more regressive than the residential property tax; whereas the situation was reversed in the two prior years. Nevertheless, since 1972 the relative tax burdens of both the residential property tax and the state sales tax for households in the lowest income class has been consistently about twice as heavy as that imposed on taxpayers in the top income stratum. In marked contrast, the state income tax remains the only significant progressive tax in the entire array of state-local levies paid by Colorado households. The CTPS index number for the state income tax has shown the least variation of any of the major state-local taxes during the past five years. On the broad income basis, it was .17 in fiscal year 1977, compared with ratios of .16 and .15 for fiscal years 1972 and 1975, respectively. Stated differently, Colorado taxpayers in the highest income stratum had a relative state income tax burden which on the average was six times larger than the corresponding burden on households in the lowest stratum.

During this same period the progressivity of the federal income tax paid by Colorado residents successively increased, primarily because of statutory changes in the value of the federal standard deduction.^{15/} The CTPS index number for the federal income tax steadily declined from .13 to .08 over the five year period, and by fiscal year 1977 the relative burden of the federal income tax for Colorado taxpayers in the highest income class was approximately 12 times larger than that of those in the lowest. Thus, on a comparable basis, the Colorado state income tax was only about one-half as progressive as the federal income tax in 1977, whereas it was three-fourths as progressive in 1975.

Finally, it should be recognized that the increased regressivity of the Colorado state and local tax structure, as well as the decreased progressivity of the state income tax, cannot be attributed to any major changes or revisions in either the rate or base provisions of any of the taxes. Rather, it reflects the fact that during this five year period between fiscal years 1972 and 1977, the unprecedented price inflation and rise in nominal income has resulted, particularly for households in the lowest income categories, in automatic tax increases for which no offsetting statutory tax changes were enacted.

^{15/} See Colorado Statistics of Income, 1977, Colorado Legislative Council, Research Publication No. 230, December 1977, pp. 12-14.

APPENDICES

APPENDIX A

APPORTIONMENT OF STATE AND LOCAL TAXES
BETWEEN HOUSEHOLDS AND BUSINESS

The state and local tax liabilities of Colorado resident taxpayers for fiscal year 1977 used as the basis for the present Colorado Tax Profile Study were developed from original data obtained from a variety of sources. The state and federal individual income tax data for Colorado households were derived from a stratified random sample of 20,595 state tax returns filed during the first six months of 1977. A detailed description of the sampling methodology and statistical reliability of the income tax data are provided in Appendix A of the Colorado Statistics of Income, 1977.^{1/} State and local revenue data on a collection basis were obtained from the Colorado State Department of Revenue, the Division of Accounts and Control, the Division of Property Taxation, the Department of Local Affairs and the City of Denver Finance Office. These data are summarized and presented in Table A-1. In order to put the data on a resident liability basis, the officially reported collections and revenues were adjusted for the inclusion of sundry nontax revenues, nonallocable taxes, and Colorado state and local taxes paid by non-resident taxpayers, as well as for the exclusion of vendor discounts paid on retail sales, cigarette and motor fuel tax collections. The income tax data also were adjusted for the variance between tax collections and tax liabilities. A summary of the state and local taxes as adjusted for this study is presented in Table A-2.

Adjustment and Classification of State Taxes

The adjustments made in state taxes for fiscal years 1972-77^{2/} and the allocation of the adjusted taxes between those levied on households

^{1/} Colorado Statistics of Income, 1977, Colorado Legislative Council, Research Publication No. 230, December 1977.

^{2/} See Colorado Tax Profile Study, 1975, for fiscal years 1973 and 1974 data.

TABLE A-1. SUMMARY OF COLORADO STATE AND LOCAL TAXES
AS REPORTED BY STATE AGENCIES,^{a/}
FISCAL YEARS 1972-1977

| | 1972 | 1975 | 1976 | 1977 |
|------------------------------------|--|-----------|-----------|-----------|
| | (Money amounts in millions of dollars) | | | |
| <u>State Taxes</u> | | | | |
| Income Taxes ^{b/} | \$ 210.0 | \$ 330.0 | \$ 377.3 | \$ 436.0 |
| Sales and Use Taxes | 187.8 | 275.0 | 303.7 | 342.9 |
| Highway User Taxes | 114.6 | 128.9 | 138.8 | 145.4 |
| Insurance Tax | 16.2 | 21.0 | 22.9 | 27.8 |
| Cigarette Taxes | 14.4 | 16.1 | 16.9 | 17.7 |
| Alcoholic Beverage Taxes | 13.4 | 15.7 | 16.7 | 19.9 |
| Other Business Taxes | 12.0 | 19.5 | 22.0 | 19.5 |
| Total State Taxes | \$ 568.4 | \$ 806.2 | \$ 898.3 | \$1,009.2 |
| <u>Local Taxes</u> | | | | |
| Property Taxes | \$ 492.0 | \$ 614.4 | \$ 703.8 | \$ 791.1 |
| Sales and Use Taxes | 72.0 | 131.5 | 142.5 | 170.4 |
| Cigarette Taxes | 3.0 | 15.4 | 15.6 | 15.6 |
| Specific Ownership Tax | 10.8 | 14.3 | 14.1 | 16.2 |
| Denver Occupation Tax | 9.2 | 10.7 | 10.9 | 11.5 |
| Other Business Taxes | 17.9 | 30.0 | 25.1 | 29.4 |
| Total Local Taxes | \$ 604.9 | \$ 816.3 | \$ 912.0 | \$1,034.2 |
| <u>Total State and Local Taxes</u> | | | | |
| Property Taxes | \$ 492.0 | \$ 614.4 | \$ 703.8 | \$ 791.1 |
| Sales and Use Taxes | 259.8 | 406.5 | 446.2 | 513.3 |
| Income Taxes ^{b/} | 210.0 | 330.0 | 377.3 | 436.0 |
| Highway User Taxes ^{c/} | 125.4 | 143.2 | 152.9 | 161.6 |
| Other Business Taxes ^{d/} | 55.3 | 81.2 | 80.9 | 88.2 |
| Other Excise Taxes ^{e/} | 30.8 | 47.2 | 49.2 | 53.2 |
| Total State and Local Taxes | \$1,173.3 | \$1,622.5 | \$1,810.3 | \$2,043.4 |

^{a/} As reported by the Colorado Department of Revenue, the Division of Accounts and Control, the Division of Property Taxation, and the Department of Local Affairs.

^{b/} Includes surtax and corporate income tax, excludes oil and gas tax.

^{c/} Includes local specific ownership tax.

^{d/} Includes insurance, severance, corporate franchise, occupation, miscellaneous regulatory business taxes.

^{e/} Cigarette and alcoholic beverage taxes.

TABLE A-2. SUMMARY OF COLORADO STATE AND LOCAL TAXES
AS ADJUSTED FOR COLORADO TAX PROFILE STUDY,
FISCAL YEARS 1972-1977

| | 1972 | 1975 | 1976 | 1977 |
|------------------------------------|--|-----------|-----------|-----------|
| | (Money amounts in millions of dollars) | | | |
| <u>State Taxes</u> | | | | |
| Income Taxes ^{a/} | \$ 189.5 | \$ 306.7 | \$ 336.2 | \$ 390.0 |
| Sales and Use Taxes | 176.9 | 255.9 | 291.4 | 333.1 |
| Highway User Taxes | 109.1 | 121.6 | 130.8 | 137.3 |
| Insurance Taxes | 16.2 | 21.0 | 22.9 | 27.8 |
| Cigarette Taxes | 13.6 | 15.6 | 16.1 | 16.8 |
| Alcoholic Beverage Taxes | 11.8 | 13.8 | 14.7 | 17.5 |
| Other Business Taxes | 8.6 | 14.2 | 16.5 | 16.0 |
| Total State Taxes | \$ 525.7 | \$ 748.8 | \$ 828.6 | \$ 938.6 |
| <u>Local Taxes</u> | | | | |
| Property Taxes | \$ 492.0 | \$ 607.6 | \$ 694.3 | \$ 782.2 |
| Sales and Use Taxes | 68.3 | 126.8 | 137.6 | 165.1 |
| Cigarette Tax | 2.9 | 14.8 | 14.8 | 14.8 |
| Specific Ownership Tax | 10.8 | 14.3 | 14.1 | 16.2 |
| Denver Occupation Tax | 4.1 | 4.7 | 4.8 | 5.1 |
| Other Business Taxes | 17.9 | 30.0 | 25.1 | 29.4 |
| Total Local Taxes | \$ 596.0 | \$ 798.2 | \$ 890.7 | \$1,012.8 |
| <u>Total State and Local Taxes</u> | | | | |
| Property Taxes | \$ 492.0 | \$ 607.6 | \$ 694.3 | \$ 782.2 |
| Sales and Use Taxes | 245.2 | 382.7 | 429.0 | 498.2 |
| Income Taxes ^{a/} | 189.5 | 306.7 | 336.2 | 390.0 |
| Highway User Taxes ^{b/} | 119.9 | 135.9 | 144.9 | 153.5 |
| Other Business Taxes ^{c/} | 46.8 | 69.9 | 69.3 | 78.4 |
| Other Excise Taxes ^{d/} | 28.3 | 44.2 | 45.6 | 49.1 |
| Total State and Local Taxes | \$1,121.7 | \$1,547.0 | \$1,719.3 | \$1,951.4 |

^{a/} Includes surtax and corporate income tax, excludes oil and gas tax.

^{b/} Includes local specific ownership tax.

^{c/} Includes insurance, severance, corporate franchise, occupation, miscellaneous regulatory business taxes.

^{d/} Cigarette and alcoholic beverage taxes.

(direct taxes) and those levied on business (indirect taxes) are presented in Table A-3. The base figures for "Reported Net Tax Collections" are exclusive of nonallocable state inheritance and gift taxes, hunting and fishing license fees and pari-mutuel betting taxes. The amounts excluded were as follows:

| | <u>Dollar Amounts in Millions</u> | | | |
|----------------------------------|-----------------------------------|-------------|-------------|-------------|
| | <u>1972</u> | <u>1975</u> | <u>1976</u> | <u>1977</u> |
| Inheritance and gift taxes | \$16.3 | \$18.7 | \$17.5 | \$25.6 |
| Hunting and fishing license fees | 8.0 | 11.1 | 13.6 | 15.9 |
| Pari-mutuel betting taxes | <u>5.1</u> | <u>6.4</u> | <u>6.5</u> | <u>6.7</u> |
| Total Exclusions | \$29.4 | \$36.2 | \$37.6 | \$48.2 |

All other nonallocable and/or nontax revenues were treated as adjustments to the reported net collections. These items represented sales tax assessments, penalties and interest, audit deficiencies, and sales and motor vehicle taxes collected by the Revenue Department for local jurisdictions. The foregoing adjustments in fiscal year 1977 amounted to \$7.6 million, or about one percent of total state net collections.

In an expanding economy, income tax collections for any given fiscal year will exceed the actual income tax liability incurred on the previous year's income because of tax withholding and declaration of estimated taxes based on current year income. For example, for fiscal year 1977 the Revenue Department reported net income tax collections (individual, corporate and fiduciary) of \$432.2 million, exclusive of \$3.8 million of corporate oil and gas tax collections. When compared with the reported net income tax liabilities of \$391.4 million for the same year, it resulted in an excess of collections over liabilities of \$40.8 million. Moreover, during this period the reported individual income tax liability was \$334.7 million or \$0.8 million more than the Revenue Department estimate. Combined, these adjustments amounted to \$40.0 million or four percent of the reported state collections.

Non-resident state taxes were estimated to have increased from \$27.2 million in 1972 to \$36.5 million in 1977. But, as a percentage of reported total state tax collections they show a gradual

TABLE A-3. SUMMARY OF COLORADO STATE TAXES
ALLOCATED BETWEEN HOUSEHOLDS AND BUSINESS,
FISCAL YEARS 1972-1977

| | 1972 | 1975 | 1976 | 1977 |
|--|--|---------|---------|-----------|
| | (Money amounts in millions of dollars) | | | |
| <u>Reported Net Tax Collections</u> | \$568.4 | \$806.2 | \$898.3 | \$1,009.2 |
| <u>Adjustments</u> | | | | |
| Nontax revenues | - 5.6 | - 16.3 | - 9.0 | - 7.6 |
| Excess of income tax collections over liabilities | - 19.5 | - 21.1 | - 38.9 | - 40.0 |
| Non-resident tax collections | - 27.2 | - 31.2 | - 34.1 | - 36.5 |
| Vendors discounts on sales and excise taxes | + 9.6 | + 11.2 | + 12.3 | + 13.5 |
| Total Adjustments | - 42.7 | - 57.4 | - 69.7 | - 70.6 |
| Total State Taxes | \$525.7 | \$748.8 | \$828.6 | \$ 938.6 |
| <u>Taxes on Resident Households</u> | | | | |
| Individual Income ^{a/} | \$156.2 | \$257.2 | \$281.4 | \$ 332.5 |
| Sales and Use | 104.3 | 164.7 | 192.7 | 218.7 |
| Highway User ^{b/} | 68.7 | 70.0 | 75.6 | 78.5 |
| Cigarette | 13.6 | 15.6 | 16.1 | 16.8 |
| Alcoholic Beverage | 11.7 | 13.8 | 14.7 | 17.5 |
| Total Household | \$354.5 | \$521.3 | \$580.5 | \$ 664.1 |
| <u>Taxes on Business</u> | | | | |
| Corporate Income ^{c/} | \$ 33.3 | \$ 49.5 | \$ 54.8 | \$ 57.5 |
| Sales and Use | 72.6 | 91.2 | 98.7 | 114.4 |
| Highway User ^{d/} | 40.5 | 51.6 | 55.2 | 58.8 |
| Insurance | 16.2 | 21.0 | 22.9 | 27.8 |
| Other Business Taxes ^{e/} | 8.6 | 14.2 | 16.5 | 16.0 |
| Total Business | \$171.2 | \$227.5 | \$248.1 | \$ 274.5 |

^{a/} Includes surtax.

^{b/} Includes allocated portion of fuel taxes, motor vehicle licenses and operator's fees, and safety inspections and other motor vehicle fees.

^{c/} Includes fiduciaries.

^{d/} In addition to allocated portion of highway user taxes listed above, includes special fuel and gross ton mile taxes.

^{e/} Includes severance, franchise and all other regulatory business taxes.

decline from five percent to less than four percent for the five year period. The estimates, by major tax source, for these years were as follows:

| <u>Non-Resident Taxes</u> | <u>Dollar Amounts in Millions</u> | | | |
|---------------------------|-----------------------------------|-------------|-------------|-------------|
| | <u>1972</u> | <u>1975</u> | <u>1976</u> | <u>1977</u> |
| Individual income taxes | \$ 1.0 | \$ 2.2 | \$ 2.1 | \$ 2.1 |
| Retail sales taxes | 15.0 | 16.5 | 18.2 | 19.9 |
| Motor fuel taxes | 7.9 | 9.4 | 10.3 | 10.6 |
| Cigarette taxes | 1.7 | 1.2 | 1.5 | 1.5 |
| Alcoholic beverage taxes | <u>1.6</u> | <u>1.9</u> | <u>2.0</u> | <u>2.4</u> |
| Total | \$27.2 | \$31.2 | \$34.1 | \$36.5 |

The non-resident individual income tax was derived from the CTPS income tax analysis. The non-resident sales tax estimate was based on tourist and recreational spending information provided by the Travel Marketing Section of the Colorado Division of Commerce and Development and the Colorado Visitors Bureau. The ratio of non-resident sales tax collections to total net sales tax collections directly allocated to households was used as the basis for estimating excise taxes on motor fuel, cigarettes and alcoholic beverages purchased by non-residents in Colorado.

The final adjustment for purposes of resident tax burden analysis was the inclusion of vendor discounts on sales, motor fuel and cigarette taxes retained by merchants as compensation for their costs of tax collection. Although not included in either the gross or net taxes reported by the Department of Revenue, these discounts in effect were: 3 1/3 percent on gross sales tax collections; about 2 1/2 percent on gross motor fuel tax collections; and four percent on gross cigarette tax collections. The cost of state vendor discounts were estimated to have increased from \$9.6 million in 1972 to about \$13.5 million in 1977. The specific discounts were as follows:

| <u>Vendor Discounts on Resident Taxpayers</u> | <u>Dollar Amounts in Millions</u> | | | |
|---|-----------------------------------|-------------|-------------|-------------|
| | <u>1972</u> | <u>1975</u> | <u>1976</u> | <u>1977</u> |
| Retail sales taxes | \$ 6.4 | \$ 8.4 | \$ 9.4 | \$10.4 |
| Motor fuel taxes | 2.3 | 2.2 | 2.3 | 2.4 |
| Cigarette taxes | <u>.9</u> | <u>.6</u> | <u>.6</u> | <u>.7</u> |
| Total | \$ 9.6 | \$11.2 | \$12.3 | \$13.5 |

On the basis of all of the above adjustments, the estimated state total tax liability averaged 93 percent of the reported net tax collections during the 1972-1977 period.

Table A-3 also shows the apportionment of the adjusted state taxes between resident households and business. For example, in fiscal year 1977, household or direct taxes amounted to \$664.1 million, or almost 71 percent of the estimated CTPS total of state taxes. The business or indirect tax share amounted to \$274.5 million. The latter, of course, is ultimately borne by individuals since such taxes either represent business costs that are reflected in market prices or decreases in after-tax profits, dividends or undistributed corporate earnings. For the purposes of this study, the individual income tax and the excises on cigarettes and alcoholic beverages (after adjustment for non-resident taxes) were treated as direct levies on Colorado resident households. The corporation income tax and insurance, gas and oil, severance and all other franchise and regulatory business taxes were classified as indirect or business taxes. The remaining major state taxes -- the sales and use tax and the highway user taxes -- were apportioned between these two broad categories of tax revenues on the basis of information provided by the Research and Statistics Section of the Colorado Department of Revenue. The specific ratios used and the apportionment of state sales and use tax and highway user taxes between households and business firms for fiscal year 1977 are shown in Table A-5.

Adjustment and Classification of Local Taxes

Tax collections of local governments were treated in a manner similar to that described above for adjusting and allocating state taxes. Colorado local governments generally operate on a calendar year basis and the most recent data available on a uniform statewide basis were for calendar year 1976 which overlaps fiscal year 1977 by six months. In consideration of the relative importance of the property tax component in the total local tax picture and the fact that such taxes were paid in 1976, the reported data were used as the base for local taxes for fiscal year 1977. A summary of the adjustments made to these levies and their apportionment between households and business are shown in Table A-4.

TABLE A-4. SUMMARY OF COLORADO LOCAL TAXES
ALLOCATED BETWEEN HOUSEHOLDS AND BUSINESS,
FISCAL YEARS 1972-1977

| | 1972 ^{a/} | 1975 ^{a/} | 1976 | 1977 |
|--|--|--------------------|---------|-----------|
| | (Money amounts in millions of dollars) | | | |
| Reported Net Tax Collections | \$604.9 | \$816.3 | \$912.0 | \$1,034.2 |
| <u>Adjustments</u> | | | | |
| Nonallocable taxes ^{b/} | - 5.1 | - 6.0 | - 6.1 | - 6.4 |
| Non-resident tax collections | - 6.0 | - 9.4 | -10.1 | - 11.4 |
| Old age property tax credit | -- | - 6.8 | - 9.6 | - 8.9 |
| Vendors discounts on sales and excise taxes | + 2.2 | + 4.1 | + 4.5 | + 5.3 |
| Total Adjustments | - 8.9 | -18.1 | -21.3 | - 21.4 |
| Total Local Taxes | \$596.0 | \$798.2 | \$890.7 | \$1,012.8 |
| <u>Taxes on Resident Households</u> | | | | |
| Residential Property | \$254.2 | \$293.4 | \$335.3 | \$ 382.0 |
| Sales and Use | 42.2 | 84.1 | 93.2 | 110.7 |
| Cigarette | 2.9 | 14.8 | 14.8 | 14.8 |
| Specific Ownership Tax | 7.6 | 10.0 | 9.9 | 11.3 |
| Total Household Taxes | \$306.9 | \$402.3 | \$453.2 | \$ 518.9 |
| <u>Taxes on Business</u> | | | | |
| Non-Residential Property | \$237.8 | \$314.2 | \$359.0 | \$ 400.2 |
| Sales and Use | 26.1 | 42.6 | 44.4 | 54.4 |
| Other Business Taxes ^{c/} | 25.2 | 39.1 | 34.1 | 39.3 |
| Total Business Taxes | \$289.1 | \$395.9 | \$437.5 | \$ 493.9 |

^{a/} Revised data for fiscal years 1972 and 1975.

^{b/} Represents employee's share of Denver Occupation Tax.

^{c/} Includes business share of Specific Ownership Tax.

TABLE A-5. APPORTIONMENT OF COLORADO STATE SALES AND
HIGHWAY USER TAXES BETWEEN HOUSEHOLDS AND BUSINESS,
FISCAL YEAR 1977

| | Ratio of Households to Business | Dollar Amounts (000) | | |
|--|---------------------------------------|----------------------|------------------|------------------|
| | | Total | Households | Business |
| A. Sales and Use Taxes: | | | | |
| Food and apparel | 100/0 | \$ 62,612 | \$ 62,612 | \$ -- |
| Personal services and miscellaneous retail trade | 95/5 | 45,460 | 43,187 | 2,273 |
| General mdse., furniture, appliances, autos, auto parts and accessories, hotels and lodgings | 90/10 | 92,960 | 83,664 | 9,296 |
| Eating and drinking places | 85/15 | 27,425 | 23,311 | 4,114 |
| Electric, gas, communications, trans- portation, utilities | 55/45 | 24,284 | 13,356 | 10,928 |
| Bldg. materials, hardware and farm equipment | 25/75 | 22,298 | 5,574 | 16,724 |
| Agr., mining, construction, manuf., whsle. trade, finance, business services, NCE | 0/100 | 49,941 | -- | 49,941 |
| Net Sales Tax | 71/29 | \$324,980 | \$231,704 | \$ 93,276 |
| Less: Food tax credit | 100/0 | - 16,543 | - 16,543 | -- |
| Non-resident sales tax | 100/0 | - 19,900 | - 19,900 | -- |
| Plus: Net use tax | 47/53 | 34,095 | 16,195 | 17,900 |
| Vendor discounts | 69/31 | 10,429 | 7,240 | 3,189 |
| Total Resident Sales & Use Tax | 66/34 | <u>\$333,061</u> | <u>\$218,696</u> | <u>\$114,365</u> |
| B. Highway User Taxes | | | | |
| Motor fuel taxes | 75/25 | \$ 94,098 | \$ 70,574 | \$ 23,524 |
| Motor vehicle and operators licenses and other fees | 70/30 | 24,124 | 16,887 | 7,237 |
| Special fuel and ton-mile taxes | 0/100 | 27,200 | -- | 27,200 |
| Reported Highway User Taxes | 60/40 | \$145,422 | \$ 87,461 | \$ 57,961 |
| Less: Non-resident motor fuel taxes | 100/0 | - 10,586 | - 10,586 | -- |
| Plus: Vendor discounts on motor fuel | 72/28 ^{a/} | 2,225 | 1,598 | 627 |
| Vendor discounts on spec. fuel | 0/100 | 214 | -- | 214 |
| Total Resident Highway User Taxes | 57/43 | <u>\$137,275</u> | <u>\$ 78,473</u> | <u>\$ 58,802</u> |

^{a/} Inclusive of non-residents, the ratio was 75/25.

The total of reported local taxes for fiscal year 1977 amounted to \$1,034.2 million, of which \$791.1 million or almost 77 percent represented local property taxes. All other local levies (sales, cigarette, specific ownership, franchise and other regulatory business taxes) totaled only \$243.1 million. The adjustments made for nonallocable taxes, non-resident tax collections, old age property tax credits and vendor discounts amounted to \$21.4 million. Thus, on an adjusted basis, the total local tax on Colorado residents amounted to \$1,012.8 million.

The specific adjustments made in local taxes for the CTPS study were as follows: the exclusion of the employee share of the Denver city occupation tax since these levies could not be allocated among taxpayers by income classes; the exclusion of estimated non-resident sales and cigarette taxes based on the method used for computing non-resident state taxes; the reduction of the residential property tax by the old age property tax credits for the year; and the addition of vendor discounts on local sales and cigarette taxes. The specific discounts used for local taxes were: two percent on Denver sales tax collections; an average of 3 1/3 percent on the total of all other municipal and county gross sales tax collections; and four percent on gross cigarette collections.

The adjusted local tax totals also were apportioned between households and business firms. Cigarette taxes were classified as direct levies; all utility, franchise and regulatory taxes as indirect. The specific ownership tax was allocated on the basis of motor vehicle licenses. Also, the two major sources of local tax revenues -- property and sales taxes -- had to be separately apportioned between households and business. The local sales tax was apportioned on the basis of the ratios described above for allocating the state sales and use taxes.

Table A-6 shows the derivation by income class of the residential portion of the total property tax. It was estimated that the net residential property tax for fiscal year 1977 amounted to \$382.0 million, or 48.3 percent of the total property tax reported for that year. This allocation was based on an imputation method which assumed that property taxes on renter-occupied housing units are shifted

TABLE A-6. DERIVATION OF COLORADO RESIDENTIAL PROPERTY TAXES,
FISCAL YEAR 1977

| | Adjusted Gross Income Classes | | | | | Total |
|--|-------------------------------|------------------------|-------------------------|-------------------------|----------------------|------------------|
| | Under \$5,000 | \$5,000 to \$10,000 | \$10,000 to \$15,000 | \$15,000 to \$25,000 | \$25,000 and Over | |
| Total number of resident households ^{a/} | 320,473 | 217,301 | 169,509 | 217,616 | 104,238 | 1,029,137 |
| Percent of total with real estate tax deductions on itemized returns | 3.6% | 17.4% | 40.8% | 67.2% | 86.9% | 34.5% |
| Average property tax on returns with real estate tax deductions ^{b/} | -- | \$527 | \$501 | \$561 | \$831 | -- |
| Average property tax imputed to all other households ^{c/} | \$196 | \$264 | \$301 | \$414 | \$665 | -- |
| Weighted average property tax for all households | \$196 | \$310 | \$383 | \$513 | \$809 | \$380 |
| <u>Total Property Taxes (\$000):</u> | | | | | | |
| Households with real estate tax deductions | \$ -- | \$19,926 | \$34,657 | \$ 82,043 | \$75,289 | \$211,915 |
| All other households | <u>62,813</u> | <u>47,386</u> | <u>30,202</u> | <u>29,548</u> | <u>9,069</u> | <u>179,018</u> |
| Total property tax | \$62,813 | \$67,312 | \$64,859 | \$111,591 | \$84,358 | \$390,933 |
| Less: Old age property tax credit | <u>- 8,899</u> | <u>- 8</u> | <u>--</u> | <u>--</u> | <u>--</u> | <u>- 8,907</u> |
| Net property tax | <u>\$53,914</u> | <u>\$67,304</u> | <u>\$64,859</u> | <u>\$111,591</u> | <u>\$84,358</u> | <u>\$382,026</u> |

^{a/} Includes 76,926 households which filed returns for food tax credit only.

^{b/} All returns in the first income stratum were treated as non-itemized returns because of the relatively small number of itemized returns with property tax deductions.

^{c/} Imputed average tax for first income stratum based on consumer housing expenditure ratios developed from BLS 1973 Consumer Expenditure Study adjusted to 1977 basis.

forward and that such average taxes approximate, but are smaller than, those on owner-occupied units of families of comparable income and household size. The 1977 CTPS individual income tax analysis provided average household real estate tax deductions on itemized returns classified by adjusted gross income. The ratio of taxpayers reporting such deductions to the total number of taxpayers in each income stratum varied directly and significantly with the level of income -- from less than four percent for those with an adjusted gross income under \$5,000 to 87 percent for those with incomes of \$25,000 or more. For the four highest income strata (adjusted gross incomes of \$5,000 or more), the average real estate tax deductions reported on the itemized returns, adjusted for a consumer preference factor, were then imputed as the residential property tax burden for taxpayers of comparable incomes who filed non-itemized income tax returns. However, for households in the lowest income stratum, including those which had filed returns for food tax credit only, the above method of estimating residential property taxes could not be used because of the relatively small number of itemized returns with real estate tax deductions. Instead, residential property taxes for this income category were estimated on the basis of a computed ratio of real estate taxes to nontaxable housing expenditures (i.e., not subject to sales tax) developed from the BLS Consumer Expenditure Study for 1973,^{3/} adjusted to a 1977 basis.

^{3/} U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey Series: Interview Survey, 1972-73; Report 455-4, Washington, D.C., 1977.

APPENDIX B

DERIVATION OF HOUSEHOLD INCOME AND ALLOCATION
OF TAXES BY MAJOR INCOME CLASSES

The extent to which a "tax profile" corresponds to the actual burden of state and local taxes borne by the poor, the middle class and the rich depends not only on how accurately the income and tax data are measured, but on the validity of the income concept and the reasonableness of the tax allocations developed for the analysis. This appendix describes both the income measure and tax allocations used for this study.

Income Measures for Tax Burden Analysis

It is generally recognized that the adjusted gross income reported on tax returns is not an adequate measure of income for tax burden analysis because of important differences between the economic and statutory definitions of income. The latter excludes various forms of money income which are considered to be primarily transfer payments, such as public and private welfare payments, social security payments, veterans benefits, unemployment compensation, and portions of private pensions and retirement income. In contrast, the economic concept of income (e.g., the personal income measure in the national income accounts), in addition to transfer payments, includes sundry forms of imputed income, such as imputed rental income on owner-occupied residences, imputed interest on insurance and savings, and employer contributions to pension funds. The magnitude of the difference between these income concepts on a national basis, for example, is indicated by the fact that the total adjusted gross income reported on federal

income tax returns represents only about 76 percent of the total personal income computed on a national income accounts basis.^{1/}

Intermediate measures of income also have been developed in the form of money income, either before or after tax, as reported by respondents in sample surveys conducted by the Bureau of the Census and other governmental agencies. Such money income measures basically are in accord with the popular concept of income since they generally exclude imputed income but include the major types of non-taxable money transfers as well as tax exempt interest, dividends and capital gains.

In order to obtain an alternative measure which would more closely correspond to the conventional concept of income and provide a broader base than the adjusted gross income reported on Colorado income tax returns, an adjusted broad income measure was developed for the original Colorado Tax Profile Study. The adjusted broad income presented in this report was based on a recent study prepared by the Bureau of the Census which provides a detailed analysis of household money income for all families and unrelated individuals in the United States for 1975.^{2/} The present analysis also adapted the Projector and Bretz estimates of underreporting of transfer income which were based on the Census Bureau survey of 1973 family income.^{3/}

^{1/} The most recent available data for a national comparison, shows that the total adjusted gross income reported on 1975 federal tax returns amounted to \$948 billion, or 76 percent of the \$1,247 billion of national personal income for that year. Similarly, for Colorado the adjusted gross income reported on the 1976 state income tax returns was \$12.6 billion, or 76 percent of the \$16.6 billion estimated as the state's total personal income. See U.S. Internal Revenue Service, Preliminary Statistics of Income--1975, Individual Income Tax Returns, Washington, D.C., 1977; U.S. Department of Commerce, Survey of Current Business, August 1977; and Colorado Statistics of Income, Fiscal Year 1977, CLC Research Publication No. 230, December 1977.

^{2/} U.S. Bureau of the Census, "Money Income in 1975 of Families and Persons in the United States," Current Population Reports, Series P-60, No. 105, Washington, D.C., June 1977. Unpublished data on the components of money income received by unrelated individuals in 1975 were provided by the Census Bureau.

^{3/} D.S. Projector and J.S. Bretz, "Measurement of Transfer Income in the Current Population Survey," The Personal Distribution of Income and Wealth, National Bureau of Economic Research, New York, 1975, Chapter 12.

In both instances, the household transfer income was classified by Census money income levels. After converting the Census money income into corresponding adjusted gross income classes, ratios of transfer income to adjusted gross income were derived. By applying these ratios to the 1977 Colorado adjusted gross income for each stratum of households, it was possible to develop estimates of the transfer income to be included in the CTPS adjusted broad income for fiscal year 1977. Based on the above methodology, the estimate of total money transfers received by Colorado households was \$1,987 million or only 2.1 percent less than the \$2,029 million (inclusive of non-money transfers) estimated by the U.S. Department of Commerce as the total transfer income for Colorado residents for that year.^{4/}

In addition to the above money transfer income adjustment, the CTPS adjusted broad income measure includes an estimate of the tax exempt capital gains, dividends, interest and contributions to retirement plans statutorily excluded from adjusted gross income. An estimate of such income for Colorado was derived from the 1976 "tax expenditure" data presented in the U.S. Treasury, Special Budget Analysis, Fiscal Year 1978.^{5/} It amounted to \$566 million, or 4.5 percent of the Colorado total adjusted gross income of \$12,583 million for fiscal year 1977. This non-transfer money income excluded from adjusted gross income, in turn, was allocated among the income strata on the basis of the distribution of family property income reported by the Bureau of the Census.^{6/}

A summary of the final adjustments made to the CTPS 1977 adjusted gross income in order to derive the corresponding adjusted broad income used as the alternative base for the tax burden analyses is shown in the table below.

^{4/} U.S. Department of Commerce, Survey of Current Business, August 1977.

^{5/} U.S. Treasury, Special Analysis: Budget of the U.S. Government, Fiscal Year 1978, Washington D.C., 1977.

^{6/} U.S. Bureau of the Census, "Money Income in 1975 of Families and Persons in the United States," Current Population Reports, Series P-60, No. 105, Washington, D.C., June 1977.

TABLE B-1. DERIVATION OF ADJUSTED BROAD INCOME FOR THE COLORADO TAX PROFILE STUDY, FISCAL YEAR 1977

| <u>Income Classes</u> | <u>A</u> Average Adjusted Gross Income | <u>B</u> Ratio of Excluded Tax Exempt Income ^{a/} | <u>C</u> Ratio of Excluded Transfer Income | <u>D</u> Income Expansion Factor (1+B+C) | <u>E</u> Average Broad Income (AxD) |
|---|--|--|--|--|---|
| FTC Households ^{b/} | -- | -- | .2349 ^{c/} | 1.2349 | \$ 1,972 |
| Other under \$5,000 | \$ 2,653 | .0149 | .8942 | 1.9091 | 5,064 |
| Total under \$5,000 | \$ 2,016 | .0149 | 1.1291 | 2.1440 | \$ 4,322 |
| \$5,000 to \$10,000 | 7,348 | .0336 | .2901 | 1.3237 | 9,727 |
| \$10,000 to \$15,000 | 12,481 | .0377 | .1370 | 1.1747 | 14,661 |
| \$15,000 to \$25,000 | 19,254 | .0333 | .0749 | 1.1082 | 21,338 |
| \$25,000 and over | 38,704 | .0701 | .0473 | 1.1174 | 43,247 |
| Total Filing Returns | \$13,214 | .0449 | .1459 | 1.1908 | \$15,735 |
| Total Including FTC Households ^{b/} | \$12,226 | .0449 | .1579 | 1.2028 | \$14,707 |

^{a/}Capital gains, dividends, interest and pension contributions.

^{b/}Households which filed returns for food tax credit only.

^{c/}Weighted totals and ratios based on total dollar amounts.

The Consumer Expenditure Profile

In order to allocate Colorado state and local expenditure taxes on retail sales, cigarettes, liquor and gasoline as well as business taxes shifted forward to consumers, it was necessary to develop an appropriate consumer expenditure profile of Colorado household expenditures, classified by household income level. The most comprehensive data on consumer spending by American households are provided by the U.S. Bureau of Labor Statistics' recently published diary and interview consumer expenditure surveys for 1972 and 1973.^{7/} The detailed household expenditure and income data contained in these reports were used as the basis for allocating the sales, excise and indirect

^{7/}U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey: Diary Survey, July 1972-June 1974, Bulletin 1959, Washington, D.C., 1977; and Consumer Expenditure Survey Series: Interview Survey, 1972-73, Report 455-4, Washington, D.C., 1977.

business taxes among households after the income measures were made comparable and the expenditure outlays were adjusted for the price inflation between 1973 and 1977. In accord with the definitions of taxable commodities and services under Colorado's present sales and excise laws, the estimated average household expenditures were classified into taxable and nontaxable categories. Averages were also developed for the specific categories of housing, food consumed at home, gasoline, tobacco, and alcoholic beverages. These average data were then used to derive the total expenditures for each major category of spending, classified by income level, in order to obtain the current pattern of consumption expenditures of Colorado households.

As a benchmark, the estimated Colorado state sales tax on resident households for fiscal year 1977, computed on the basis of the above methodology, amounted to \$214.0 million, or 97.9 percent of the \$218.7 million of sales tax liability derived from the reported net sales and use tax collections for that year (Appendix A, Table A-3). The specific 1977 consumer expenditure-income ratios developed for the CTPS analysis are summarized below:

TABLE B-2. RATIOS OF CONSUMER EXPENDITURES TO ADJUSTED GROSS AND BROAD INCOMES USED IN THE COLORADO TAX PROFILE STUDY, FISCAL YEAR 1977

| Income Classes | Colorado Consumer Expenditures as Ratios of: | | | |
|----------------------|--|--------------------|-----------------------|--------------------|
| | Adjusted Gross Income | | Adjusted Broad Income | |
| | Taxable Expenditures | Total Expenditures | Taxable Expenditures | Total Expenditures |
| Under \$5,000 | 1.661 | 2.834 | .790 | 1.348 |
| \$5,000 to \$10,000 | .778 | 1.242 | .588 | .938 |
| \$10,000 to \$15,000 | .649 | 1.000 | .553 | .851 |
| \$15,000 to \$25,000 | .572 | .858 | .516 | .775 |
| \$25,000 and over | <u>.396</u> | <u>.612</u> | <u>.355</u> | <u>.548</u> |
| Total | .611 | .953 | .508 | .792 |

Tax Allocators Used for Burden Analysis

The allocations of individual state and local taxes by income class were made on the following basis:

- Individual income tax -- allocation obtained directly from the CTPS independent computer analysis of a stratified, random sample of 1976 Colorado individual income tax returns filed in 1977 and prepared for the companion report, Colorado Statistics of Income, 1977. A description of the sample and its statistical reliability is presented in Appendix A of that report.
- Sales and use taxes -- the direct portions of state and local sales and use taxes were allocated on the basis of taxable consumer expenditures to adjusted gross income developed from U.S. Bureau of Labor Statistics, 1973 Survey of Consumer Expenditures, adjusted to a 1977 basis for purposes of the CTPS analysis. The indirect portions of these taxes were allocated by use of total consumer expenditure ratios since such taxes represent business costs assumed to have been shifted to the consumer through market price.
- Excise taxes -- the cigarette, alcoholic beverage, specific ownership and the direct portions of highway user taxes also were allocated on the basis of updated Survey of Consumer Expenditure data. Ratios of consumer expenditures for these particular items to adjusted gross income were developed and applied to the CTPS tax data. The indirect portion of the highway user taxes was allocated on the basis of total consumer expenditure ratios.
- Property taxes -- the allocations of residential property taxes by income classes were based on the CTPS individual income tax analysis which provided detailed data on the number and amount of real estate tax deductions reported

on itemized returns and on the Survey of Consumer Expenditure data for shelter expenditures. Non-residential property taxes were allocated on the same basis as other business taxes, i.e., the ratios of total consumer expenditures to adjusted gross income.

- Corporation income tax -- one-half of this tax was assumed to be shifted forward to consumers and allocated on the same basis as the other indirect taxes described above. The remainder was assumed to be borne by equity stockholders and allocated on the basis of the distribution of corporate dividends by adjusted gross income classes as reported by the Internal Revenue Service in the Statistics of Income, Individual Income Tax Returns, 1973.
- Other business taxes -- this category includes all taxes levied on business firms other than the corporate income tax. As in the case of all other business costs, these business taxes were assumed to be indirectly borne by households and accordingly were allocated on the basis of the ratios of total consumption expenditures to income.