A COMPREHENSIVE TAX CREDIT FOR ACHIEVING PROPORTIONALITY IN STATE AND LOCAL TAX STRUCTURES

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ABSTRACT

This paper describes a comprehensive low-income tax credit enacted by the New Mexico legislature in 1972. The credit takes account of all state and local taxes paid by residents of New Mexico and is designed so that families below the U.S. poverty level have a total tax burden after credit equal to that of a family at the poverty level. In other words, the total tax burden is proportional for low-income families.

The amount of the credit is determined by both family size and income with a double exemption allowed for persons 65 and over. The credit is administered through the income tax return with a cash payment being made where there is no income tax liability. Claims for the credit numbered 29,000 in 1972, and were divided equally between the working poor and public assistance recipients.

IN the allocation of public resources, it is generally accepted that state and local governments supply civilian services while the Federal government mainly accepts responsibility for national defense and transfer payments. The Federal government also has the sole responsibility for stabilization policy and actions against inflation and unemployment are not taken by state and local governments.

In addition, since the Federal government has become the major single repository of fiscal power in the system, the final responsibility for the tax aspects of redistribution should be the responsibility of the Federal government.[1] The Federal government has laid claim to the income taxes and only with the flexibility of the income tax base

and rate structure is it possible to significantly move the aggregate tax burden in a given direction. In addition, only at the Federal level is a single tax structure large enough to move the entire multi-level tax structure in one direction or another. It does not follow from this that state and local governments may or should be perverse with respect to the question of tax equity: it does mean that other considerations determine tax structure at the state and local level and that final responsibility for equity in the Federal, state and local tax structure must be borne by the Federal government — both because of its superior resources as well as the relative immobility of taxpayers with respect to national boundaries.

If the Federal government assumes the responsibility for redistribution through the tax structure, then the best position for state and local governments is one of neutrality. A tax system can be taken as neutral with respect to the redistribution of income when the over-all rate structure is proportional. Redistribution also takes place on the expenditure side and therefore any thoroughgoing attempt to achieve a given distribution of income through government, would require analysis of the net effect of the tax/expenditure process. However, for purposes of redistribution at the state and local level, a proportional tax structure would be a contribution since it is easier to adjust the outcome of two inter-acting variables when one of them is stable.

The ability of a tax system to yield a more than proportionate increase in revenues as economic activity increases is a measure of its responsiveness. State and local tax structures are generally regressive: as average income increases, the proportion paid in tax declines; therefore, state and local tax systems have an income elasticity of less than one, making them relatively unresponsive. On the other hand, demands for expenditures have an opposite relationship to income. As average income increases,

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[1]This argument is developed in W. E. Oates, *Fiscal Federalism*, Harcourt, Brace, New York, 1972, pp. 190-194.

the demand for public services increases more than proportionately: therefore, the demand for public services has an income elasticity greater than one.[2] This might lead to the conclusion that state and local tax structures should be progressive with respect to increases in average income to the same degree as the demands for expenditures, resulting in a balance between income and outgo over time. However, this would lead to serious instability under certain circumstances.

While it is possible to match the tax and expenditure structures when economic activity is increasing, the results of this relationship would be unsettling during a downturn. Tax yields, with the exception of property tax, are almost immediately responsive to declines in economic activity while demands for expenditures are sticky and subject to lags. Therefore, if state and local tax structures were progressive the decline in revenues during a downturn would be more than proportional, while the demand for services would remain relatively high — the inevitable result being a quick and substantial cut in programs since state and local budgets must balance. Therefore, with respect to responsiveness, the conclusion follows that state and local tax structures should be proportional because this minimizes changes in tax yields when both increases and decreases in economic activity are considered.[3]

This combination of characteristics is important to state and local governments for two reasons. First, the types of services provided by these governments are essential in the sense that a reduction in their level has a direct impact on our level of well-being — in contrast, for instance, with certain expenditures of the Federal government, such as those for the improvement of rivers and harbors, which are not so direct in their impact. Second, almost all state and local governments are required, either by constitution or statute to operate within a balance

between current income and outgo for general government functions.

There is a final argument that can be made in favor of overall proportionality. States have been known to compete with each other in attracting wealthy residents. The inheritance tax was used for this purpose but a differential tax burden is also useful in this competition. If the aim of a state is to attract high income residents, then a highly regressive tax structure would be an inducement. If one aim of state and local government tax policy was proportionality with respect to aggregate tax burdens, then this inducement would lose its force. It is true that proportional rates may be higher or lower, but a low rate of tax would, in this case, imply a low rate of public services. This would not necessarily be the case if the low rate on high incomes was attributable to regressivity.

None of these arguments is altogether persuasive. Nevertheless, both equity and stability would be enhanced if state and local government tax structures were proportional. There is no intention here of implying that arguments in favor of proportionality will, in fact, result in proportional tax structures. The diversity of state and local governments is too great to expect even approximate unanimity on such issues. However, changes in tax structures will not result in improvements if there is no goal toward which they should change.

Need for A Comprehensive Tax Credit

A problem faced by all state and local governments is achieving equity with a tax system which is on balance regressive. State and local governments rely on consumption and property taxes for the major share of their tax revenues. In general, consumption and property taxes are both regressive.[4] For

[2]Gerald J. Boyle, "The Anatomy of Fiscal Imbalance," *National Tax Journal,* December 1968, p. 420.

[3]This almost conforms with the conclusions of H. M. Groves and C. H. Kahn, "The Stability of State and Local Tax Yields," *American Economic Review,* March 1952, pp. 87-88.

[4]The incidence of these taxes is summarized in the following: J. F. Due and A. F. Friedlander, *Government Finance,* Richard D. Irwin, Homewood, Illinois, 1973, p. 378 and, Dick Netzer, *Economics of the Property Tax,* Brookings, 1966, p. 41. The accepted theory of incidence with respect to the property tax has recently undergone significant change. The major change has been the view that when property is taxed it lowers the rate of return and drives investment into untaxed areas. This in turn reduces the rate of

instance, the effective consumption tax rate declines as income increases for the simple reason that consumption declines as a share of income as income increases. Therefore, any tax using consumption as a base will be regressive with respect to income.

In 1946 such taxes accounted for 91% of total; 25 years later this ratio had fallen to 83%. The expanded use of taxes on individual and corporate incomes has tended to reduce the dependence on consumption and property taxes. However, the reduction has been relatively slight. There appears to be little likelihood of any substantial change in the future. The only tax source which would change the overall structure of rates is the progressive income tax: and this source has become the mainstay of the Federal government. Therefore, while other non-tax sources may be developed and ex-

Given then that state and local government tax structures are assumed to be regressive, and that a proportional structure is desirable, what can be done to achieve proportionality? Exemptions and credits have been developed to relieve the regressiveness of general sales taxes: these range from the exemption of food, which provides relief at all income levels but does little to change the relative burden of taxpayers, to a flat credit per person, to the graduated credit which is inversely related to income. The ability of these various devices to achieve some specified adjustment in the distribution of sales tax burdens is an interesting problem: however, a major weakness in all selective credits, is the fact that state and local tax *systems* are regressive: and, general sales taxes account for less than one-fifth of total state and local taxes:

TABLE 1

STATE AND LOCAL GOVERNMENT TAX REVENUES BY SOURCE
Fiscal Year 1970
(millions of dollars)

	State	Local	Total	
			Amount	Per Cent
Property	$ 1,092	$32,963	$34,054	39.2%
Individual Income	9,183	1,630	10,812	12.5
Corporation Income	3,738	—	3,738	4.3
General Sales	14,177	1,951	16,128	18.6
Selective Sales	13,077	1,118	14,194	16.4
Motor Vehicle and Operators Licenses	2,728	176	2,904	3.3
Death and Gift	996	—	966	1.1
All Other	2,971	997	3,968	4.6
TOTAL	$47,962	$38,833	$86,795	100.0%

Source: U.S. Bureau of the Census, *Governmental Finances* in 1969-70, Table 4.

ploited, so long as state and local governments raise tax revenues their tax structures will probably be regressive.

return in investments not subject to the property tax. Therefore, the tax is borne by all owners of capital due to a reduced rate of return, making the burden progressive since capital ownership relative to income increases as income increases. In summarizing this development, one authority concludes the new theory to be an improvement over the old but that the realities concerning the property tax still result in a generally regressive burden. See, Dick Netzer, "The Incidence of the Poverty Tax Revisited," *National Tax Journal*, December, 1973: pp. 533-535.

Therefore, if a credit device is to have any significant effect on the distribution of tax burdens, it must take account of all taxes collected by state and local governments.

The comprehensive tax credit adopted by the State of New Mexico,[5] is a credit against all New Mexico state and local taxes paid

[5]State of New Mexico, 30th Legislature, 2d Session, Laws of 1972, Chapter 20: "An act relating to taxation; providing a tax credit for state and local taxes against income taxes; authorizing the claimed credit to be credited against state income tax due or paid to the claimant when no income tax is due . . ."

and borne by any resident whose income was below the poverty level during the calendar year. The credit is determined by both family size and income, and is applied against any income tax liability: if the claimant has no income tax liability the credit takes the form of a cash refund.

In order to make a rational choice about the distribution of the tax burden, it is first necessary to estimate the existing burden by family size and income level. Once this has been accomplished, a credit can be devised to yield almost any distribution of burden.

Ratios of Tax Payments to Income by Family Size And Money Income Class: New Mexico 1970[6]

Tax burden ratios are estimated by calculating the amount of each particular tax paid by each income class and taking the sum of taxes paid as a percentage of income received. To make these estimates, three sets of data are required: (1) the yield of each tax levied by the state and its local governments, (2) a distribution of income received by family size for residents of the state, and (3) a distribution of consumer expenditures made by residents of the state.

[6]This estimate of tax burdens follows the pattern established in R. A. Musgrave, et al., "Distribution of Tax Payments by Income Groups: A Case Study for 1948," *National Tax Journal*, March 1951, pp. 1-53. This was followed by additional studies of the federal, state and local systems combined as well as studies for individual states such as Michigan, Minnesota, New Mexico and Wisconsin, as well as individual cities, such as New York. There are many difficulties in making such estimates, both empirical, such as measuring some meaningful concept of income by income class, and theoretical, such as determining valid assumptions with respect to the shifting and incidence of particular taxes. Compromises have been reached on many questions and one study observes that, "The choice of assumptions on tax incidence is arbitrary but also conventional." (Tax Foundation, Inc., *Tax Burdens and Benefits of Government Expenditures by Income Class, 1961 and 1965*, p. 9.) A recent study by W. Irwin Gillespie gives a good survey of the literature of tax burden studies. (W. I. Gillespie, "Effect of Public Expenditures on the Distribution of Income," in R. A. Musgrave, ed., *Essays in Fiscal Federalism*, Brookings Institution, 1965, pp. 122-123.) The following discussion of the methodology summarizes a complete version which is available from the author.

A fourth requirement is the shifting and incidence assumptions with respect to each particular tax. With these data the various taxes can be allocated, the method depending on the particular tax and on the shifting and incidence assumptions adopted for each tax. For instance, in the case of a direct tax, such as the personal income tax, payments by income classes can be estimated directly on the basis of statutory exemptions, deductions and rates. Indirect taxes, however, such as those levied on tobacco products, require a distribution of consumer expenditures for tobacco products by income classes; then the yield of the tobacco taxes can be prorated on the basis of this distribution.

Following is a brief summary of the sources of data and methods of allocation.

Tax collections by source were taken from Bureau of Census publications with additional details derived from New Mexico State government sources. Since some state taxes are shifted out of state, particularly taxes on natural resources, it was necessary to estimate the share borne by non-residents. A summary of tax collections and shifting to non-residents follows on page 573. (See Table 2.)

The distribution of income by family size was derived from the Census Bureau's "money income." This is not the best measure of income if income represents the net addition to the command over resources. However, it is the only measure of income which provides a breakdown by family size and income class at the state level.

Work on the tax credit began in 1968 and at that time the only distribution of income available was for calendar year 1959. Therefore, it was necessary to estimate the distribution for 1967; this required both an estimate of total money income as well as a distribution by family size.

"The method of deriving the 1967 distribution of income was based on the assumption that all units (families and unrelated individuals) had the same percentage increase in income. This assumption can be interpreted either as that of a constant Lorenz curve or, equivalently, as a constant cumulative distribution of units and income by income class. Thus, the distribution was arrived at by divid-

TABLE 2

TAX COLLECTIONS BY SOURCE, NEW MEXICO, 1970
(dollars in thousands)

Source	Total	Shifted Out of State	Borne by Residents
Consumption	$174,799	—	$174,799
License	23,676	—	23,676
Individual Income	35,730	—	35,730
Corporate Income	7,038	$ 3,842	3,196
Banks and Financial Institutions	1,034	—	1,034
Death and Gift	1,669	—	1,669
Severance	35,398	27,694	7,704
Property	76,020	6,875	69,145
Other	2,354	—	2,354
TOTAL	$357,719	$38,411	$319,308

ing all class limits by the percentage increase in mean income to obtain new class limits, and then by interpolating points on the original income and unit cumulative-frequency curves."[7]

Utilizing this method gives the following results for 4-person families:

after tax classes of families and single consumers. The data is further classified by regions of the U.S. (West, which includes New Mexico, was used here) and by place (urban, rural non-farm and rural farm).[8]

Use of the Survey data is complicated by the fact that the income classes are on the

TABLE 3

NEW MEXICO 4-PERSON FAMILIES BY MONEY INCOME CLASS, 1967

Money Income Class	Number of Families	Income Average	Income Total ($000)
Under $2,000	3,690	$ 1,014	$ 3,581
$ 2,200- 3,000	2,230	2,485	5,335
3,000- 4,000	2,640	3,499	8,922
4,000- 5,000	3,620	4,501	15,803
5,000- 6,000	3,950	5,498	21,134
6,000- 7,000	4,390	6,501	27,870
7,000- 8,000	4,680	7,496	34,384
8,000- 9,000	4,390	8,487	36,604
9,000-10,000	3,700	9,479	34,399
10,000-15,000	10,450	12,074	123,940
15,000 & Over	4,960	23,320	113,358
TOTAL	48,700		$425,330

The distribution of consumption expenditures were derived from the Bureau of Labor Statistics, *1960-61 Survey of Consumer Expenditures.* The BLS Survey data used for these derivations provides detailed breakdowns of the average expenditures by

[7]James R. Nunns, "Profiles of Income and Poverty in New Mexico," *New Mexico Business,* UNM Bureau of Business Research, April 1969, p. 9.

basis of "money income after taxes," excluding "the net payments for Federal, state and local income tax, poll tax, and personal

[8]U.S. Department of Labor, Bureau of Labor Statistics, *Survey of Consumer Expenditures, 1960-61,* "Consumer Expenditures and Income, Detail of Expenditures and Income: Total Western Region, Urban and Rural, 1960-61," (Supplement 3-Part A to BLS Report 237-92): April 1966.

property tax, after subtraction of any tax refunds received during the survey year."[9] However, each income class also contains the average before tax income for the class. These before tax averages were related to expenditures in the after tax classes and then expenditures were interpolated for the average before tax incomes.

Each consumption item used as an allocator was calculated such that the expenditures on that item by all families in all income classes totalled 100 per cent. Following is the per cent distribution by family size for total consumption:

[9]Op. cit., p. 163.

Family Size	Per Cent of Total Consumption Expenditure
1	7.0094
2	20.3363
3	17.8054
4	20.0928
5	15.9154
6 or more	18.8407
TOTAL	100.0000

The expenditure distributions were then combined with the shifting assumptions to allocate the burden of each tax as summarized in Table 4.

TABLE 4
SUMMARY OF SHIFTING ASSUMPTIONS AND ALLOCATORS
BY TYPE OF TAX

Tax	Basis of Allocation
Excises and Licenses	
Gross Receipts	Consumption Expenditures
Motor Fuels	1/5 Total Consumption Expenditures 4/5 Gas and Oil Expenditures
Alcoholic Beverage	Alcoholic Beverage Expenditures
Tobacco	Tobacco Expenditures
Insurance	3/5 Total Consumption Expenditures 2/5 Insurance Expenditures
Utilities	1/2 Total Consumption Expenditures 1/2 Utility Expenditures
Amusement, Hunting & Fishing	Sports Admission Expenditures
Motor Vehicle	4/5 Motor Vehicle Purchases 1/5 Total Consumption Expenditures
Other Excises & Licenses	Total Consumption Expenditure
Individual Income	See Text
Corporate Income	1/3 Total Consumption Expenditures 2/3 Business Income
Banks and Financial Institutions	Business Income
Death and Gift	Completely to $15,000 and Over Income Class
Severance	
Natural Gas	3/5 Total Consumption Expenditures 2/5 Home Operation Expenditures
Petroleum	1/5 Total Consumption Expenditures 4/5 Gas and Oil Expenditures
Property	
Business and Farm Improvements	Total Consumption Expenditures
Business Land	Business Income
Residential and Individual Personality	Home Operation Expenditures

Estimates of burdens for particular taxes were summed by family size to provide the basic data for calculating a credit. For four person families, for instance, the distribution of New Mexico state and local government tax burdens is regressive with the exception of the income class "$15,000 and Over" (see Table 5). The tax burden falls from a high of 29.1 per cent for incomes "Under $2,000" to a low of 14.1 per cent for incomes "$10,000 to $15,000." The highest class burden rises to 14.9 per cent due to the incidence assumptions for the property tax on land and the individual income tax.

The pattern of incidence as shown for the four person family is approximately the same for all family sizes. However, there is a substantial variation in the tax burden by family size within each of the lower income classes. As indicated in Table 5, for the class "$2,000 and Under" the ratio of taxes to income varies from 20.3% for one person families to 47.5% for families of six or more. The range of tax burdens within income classes declines as incomes rise and becomes insignificant beyond $6,000 to $7,000. The standard deviation for the lowest class is 8.3 and falls to less than 1.0 at the $6,000 to $7,000 class.

The reason for the variations is a simple one. As family size increases, more consumption and housing are required even though money income is constant. Larger families are forced to consume out of net worth by using accumulated assets and/or going into debt. Since taxes on consumption and property account for almost three-fourths of state and local government taxes, large families in the lower income classes bear disproportionately heavy tax burdens.

A Poverty-Related Comprehensive Tax Credit

Form of the Credit

Once the ratios of tax payments to income have been estimated, credits can be devised to change the distribution of taxes to achieve almost any desired result. However, tax policy is made by people with the power to make it. Therefore, any proposed change in tax policy must take account of this fact. The New Mexico comprehensive

TABLE 5

RATIOS OF STATE AND LOCAL TAX PAYMENTS TO INCOME BY FAMILY SIZE
New Mexico, 1970

Family Size	Under $2	$2-$3	$3-$4	$4-$5	$5-$6	$6-$7	$7-$8	$8-$9	$9-$10	$10-$15	Over $15	Average
1 Person	20.3%	16.4%	16.1%	15.4%	14.4%	13.9%	13.4%	13.1%	13.4%	12.1%	13.5%	14.8%
2 Persons	29.9	20.3	18.4	17.1	16.1	15.4	14.7	14.4	14.2	13.4	14.0	15.0
3 Persons	26.3	19.8	18.3	17.3	16.5	15.9	15.4	15.0	14.7	14.2	14.8	15.3
4 Persons	29.1	21.3	19.2	17.9	16.9	15.2	15.5	15.1	14.7	14.1	14.9	15.2
5 Persons	30.3	27.4	19.4	18.0	17.1	16.3	15.7	15.2	14.9	14.3	14.9	15.6
6 or More Persons	47.5	29.9	23.2	19.7	17.5	16.1	15.3	14.7	14.3	13.7	14.9	16.2
All Families	27.2	21.3	19.3	17.6	16.5	15.5	15.2	14.7	14.5	13.9	14.6	15.4
EXHIBIT: Standard Deviation	8.3	4.6	2.3	1.3	1.0	0.8	0.8	0.7	0.5	0.8	0.6	0.5

tax credit is a "poverty"-related credit and can be summarized as follows: no family below the poverty level will pay tax at a rate higher than a family at the poverty level. The poverty-related credit does seem to have an intuitive appeal even though it is essentially arbitrary. Poverty levels by family size are as follows:

TABLE 6
LOW INCOME (POVERTY) LEVELS, 1971

Family Size	1971
1	$2,031
2	2,615
3	3,212
4	4,114
5	4,854
6 or more	6,239

Source: U.S. Bureau of the Census, *Current Population Reports: Characteristics of the Low-Income Populations,* (Series P-60, No. 81), November 1971, p. 20. 1971 estimated by increasing 1970 levels by the per cent increase in the consumer price index 1970 to 1971.

Interpolating the tax burden estimates indicates a tax burden of 18.4% for a four-person family with income of $4,114. The credit is calculated such that the tax burden for four-person families below the poverty income is also 18.4%. For instance, at income of $2,250 the tax burden is 20.9% (see Diagram 1). Therefore, a credit of $56 (.025 × $2,250) is required to achieve an effective tax rate of 18.4%. When calculated for each income, the result is an over-all proportional tax burden below the poverty level.[10]

In the statute, which became effective January 1, 1972, income is defined as "modified gross income" and requires the addition to earned income of such items as alimony, annuities, social security benefits, unemployment compensation and public assistance payments.[11] Having estimated his

[10]There is a minor problem in measuring the precise effect of the credit on tax burdens. For instance, if a four person family has modified gross income of $1,750, the tax burden is 21.5% before credit and 18.4% after credit. However, on receipt of the credit, income rises to $1,805, the additional $55 is consumed, and the after credit tax burden rises to 18.5%.

[11]This is very similar to the income concept used in determining eligibility under the Food Stamp Program.
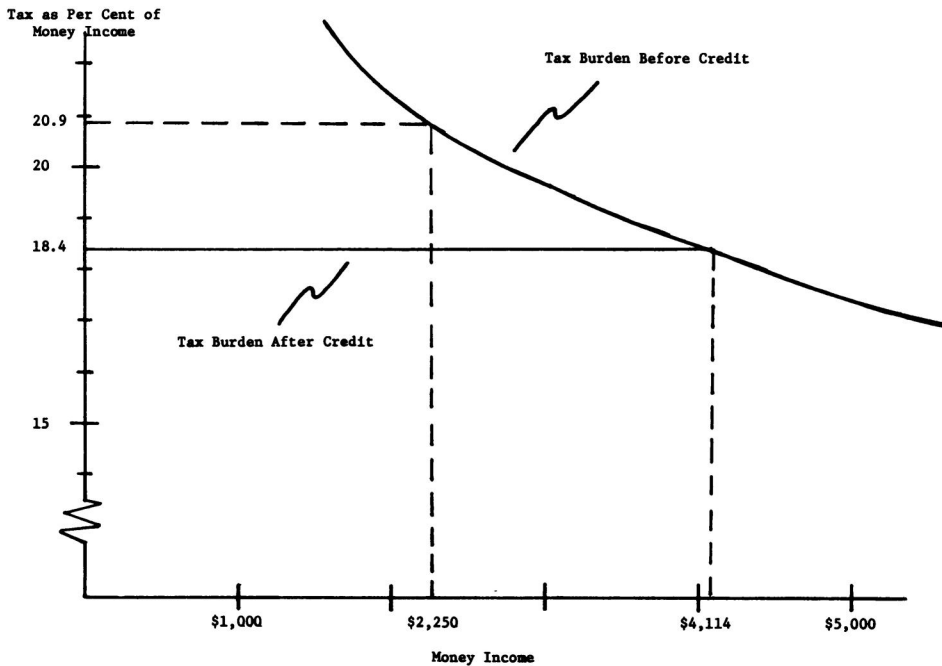

DIAGRAM 1
Effect of Comprehensive Tax Credit on the Tax Burden of Four Person Families

TABLE 7

COMPREHENSIVE TAX CREDIT FOR LOW INCOME (POVERTY) FAMILIES
New Mexico, 1971

| Modified Gross Income Is: | | And the Total Number of Exemptions for Federal Income Tax Purposes, Including Special Exemptions for the Aged and Blind Are: | | | | | |
Over	But Not Over	1	2	3	4	5	6 or More
$	$ 500	$20	$21	$22	$26	$27	$ 41
500-	999	25	26	28	34	36	56
1,000-	1,499	26	32	37	48	52	85
1,500-	1,999	13	28	38	55	63	107
2,000-	2,499	—	15	32	56	68	123
2,500-	2,999	—	—	19	49	67	131
3,000-	3,499	—	—	—	37	60	133
3,500-	3,999	—	—	—	18	48	128
4,000-	4,499	—	—	—	—	30	115
4,500-	4,999	—	—	—	—	6	96
5,000-	5,499	—	—	—	—	—	71
5,500-	5,999	—	—	—	—	—	39

modified gross income, the taxpayer turns to the equivalent of Table 7 (which is reproduced from the personal income tax return) to determine his credit. The four-person family with income of $2,250 will receive a refund of $56 as indicated in column 4. Section 2 (D) of the Tax Credit Act states, "The tax credit provided for in this section may be deducted from the taxpayer's New Mexico income tax liability for the taxable year. If the tax credit exceeds the taxpayer's income tax liability, the excess shall be refunded to the taxpayer.[12] Application for the credit will be provided for on the individual income tax return. The return will be processed by the New Mexico Bureau of Revenue beginning January 1, 1973, for the prior calendar year.

The credit is discontinuous with respect to income in order to make the tax credit table administratively acceptable. An alternative would be a reporting requirement of modified gross income and number of exemptions. It would then be a relatively simple matter to calculate the credit for any specified income. (Using this method it would also be possible to relate other variables, such as location and age composition, in calculating tax burdens.) However, these

[12]State of New Mexico, Laws of 1972, Chapter 20.

are added complications which do not appeal to the makers of tax policy.[13]

The shape of the credit with respect to income is illustrated in Diagram 2. When incomes are low the difference between the poverty tax rate and the actual tax rate is relatively large; however, since the income is low the absolute tax credit is also low. As income rises the percentage tax credit falls but this is more than offset by rising income so the absolute credit rises. As income approaches the poverty level the percentage credit falls more rapidly than income rises and the absolute credit declines — falling to zero at the poverty level.

The Comprehensive Tax Credit as a Negative Income Tax

The comprehensive tax credit is designed to refund the amount of taxes necessary to

[13]This matter of appealing to the tax policy tant. Some adjustments were made to forestall criticisms which were of little substance but difficult to answer. Tax credits as calculated for single individuals were higher than those for two-person families: even though correct this was intuitively wrong and the credit was hand adjusted downwards. In addition, rates at the bottom of the income range were flattened out, both to moderate excessively high rates for the lowest incomes and to keep the total cost of the credit within politically acceptable limits. The sample for families of six or more in the Western Region was too small and gave inconsistent results: therefore, the U.S. data were substituted.

Credit
$60

50

40

30

20

10

$500 $1,000 $1,500 $2,000 $2,500 $3,000 $3,500 $4,000
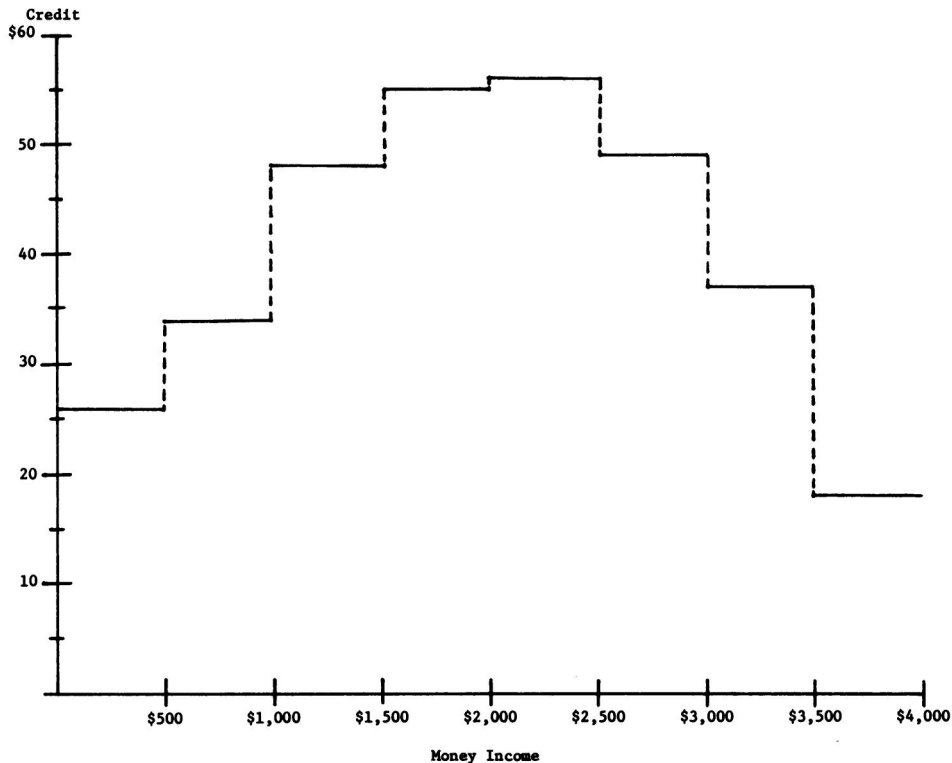
Money Income

DIAGRAM 2

Comprehensive Tax Credit for Four Person Families
New Mexico, 1971

make the tax burden for families with in-
comes below the poverty level equal to that
of families at the poverty level. However, if
previous taxes paid are viewed by the tax-
payer as "sunk costs," then the credit may
be analyzed as a negative income tax.

Diagram 3 illustrates the average and
marginal tax rates implicit in the credit.
The average rates are negative and increase
as modified gross income increases, falling
to zero at the poverty level — in this respect
the credit is similar to other plans for nega-
tive taxation of income. However, the mar-
ginal rates are both negative and positive.
Due to its underlying rationale, the absolute
credit increases as income increases up to
about $2,250, implying negative marginal
rates. As indicated, the marginal rate at
modified gross income of $750 is —1.6%,
declining to —2.4% at $1,250, rising to
zero at about $2,250 where the absolute

credit peaks, and to 3.8% at $3,750. This
unusual pattern of rates results in income
and substitution effects which differ from
most cases.

Income taxes, whether negative or posi-
tive, may generate both income and substi-
tution effects.[14] The income effect, to the
extent that it occurs, does so because impo-
sition of a positive tax reduces net income
and tends to call forth more effort by the
taxpayer to make up the loss. When average
rates are negative, the income effect is more
difficult to assess. When comparing the *ex
post* and *ex ante* positions of a taxpayer
under negative taxation, the income effect
would be reversed at the introduction of
the NIT because such a tax implies that

[14]These effects are discussed in R. A. Mus-
grave, *The Theory of Public Finance*, McGraw-
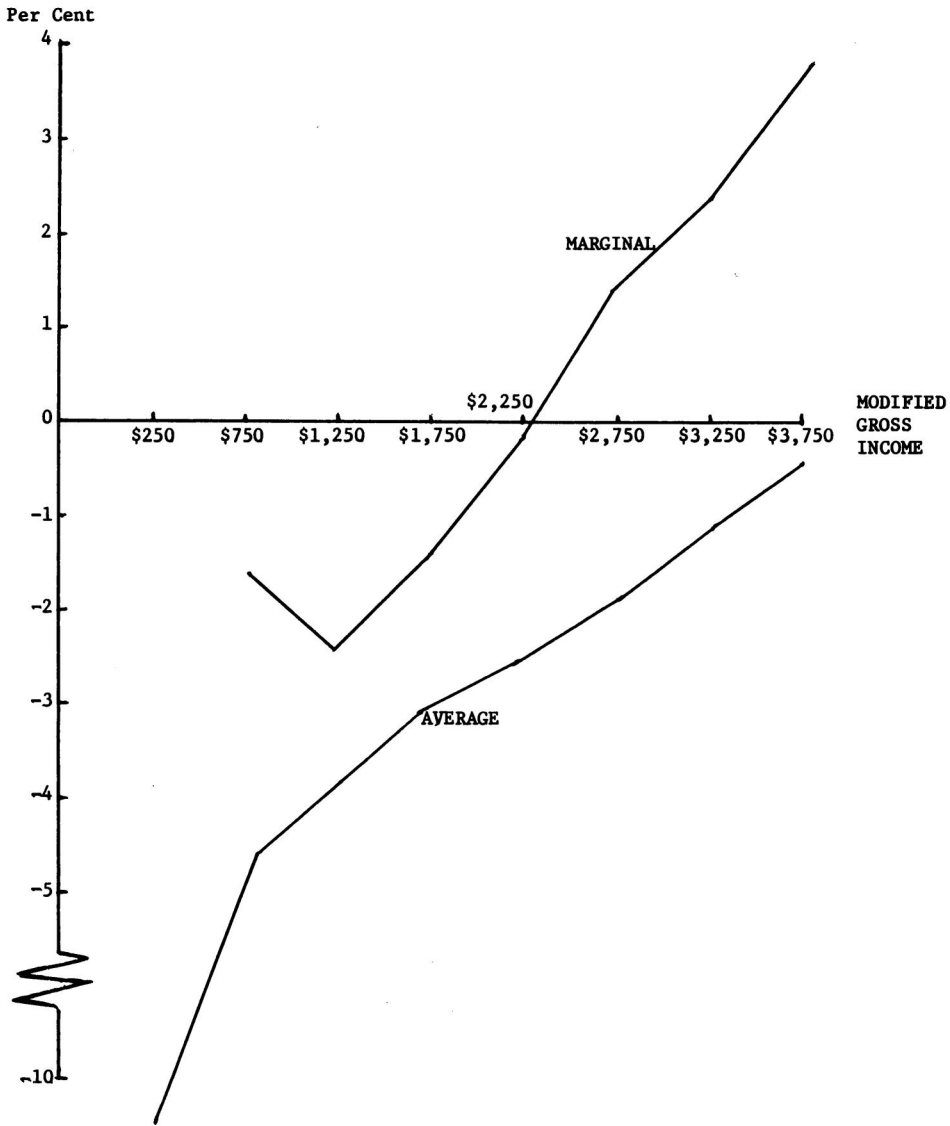Hill Co., New York, 1959: pp. 232-246.

Per Cent

DIAGRAM 3

Average and Marginal Tax Rates Implicit in the Comprehensive Tax Credit
4-Person Family

any income subject to the tax can be main-
tained with less work. However, once the
individual taxpayer has adjusted to this new
situation (and if average rates are increas-
ing), the income effect would tend to call
forth more effort from the taxpayer because
as his income increases, a movement from
negative to positive average rates should

have the same impact as an increase in
positive rates. This is the case with the
comprehensive tax credit.

The substitution effect of a negative as
well as a positive income tax occurs when
leisure is substituted for work. If no tax
was being paid prior to the introduction
of the NIT, then after its introduction,

increases in income would call forth re-
ductions in subsidy, resulting in positive
marginal rates and improving the terms of
trade for leisure with respect to income as
income increases. However, the marginal
rates implicit in the comprehensive tax
credit are negative for incomes up to
$2,250. In fact, going from $750 MGI to
$1,250 MGI the implicit marginal rate de-
clines from —1.6% to —2.4%, telling the
taxpayer that the more he works the higher
his subsidy will be. This would tend to
reverse the substitution effect as the taxpayer
substituted work for leisure. While the mar-
ginal rates are increasing they remain nega-
tive up to ·$2,250 and if the taxpayer is
more impressed by the absolute size of the
credit than changes in his marginal tax
rate, then the substitution effect may be
reversed throughout this income range. Be-
yond $2,250, as the absolute subsidy de-
clines, the marginal rates become positive
and the taxpayer will tend to substitute
leisure for work.

This discussion of income and substitu-
tion effect is only suggestive with respect

to the pattern of rates. The actual amounts
involved are probably too small to effect
work effort.[15]

The credit is limited to families below
the poverty level. There were about 71,000
such families and unrelated individuals in
New Mexico in 1969 according to the
Census of Population: 1970.[16] If the aver-
age credit is about $50 per claimant, then
the total cost will be about $3.5 million.

Equity Effects of the Credit

What is the effect of the comprehensive
tax credit on the tax burden? According
to Diagram 4, the regressivity of the state

[15]The empirical evidence on the relationship
of marginal tax rates and work effort is sum-
marized in Christopher Green, Negative Taxes
and the Poverty Problem, The Brookings Insti-
tution, Washington, D.C., 1967, pp. 115-125.

[16]U.S. Bureau of the Census, Census of Popu-
lation: 1970 "General Social and Economic
Characteristics," Final Report PC(1)-C-33, New
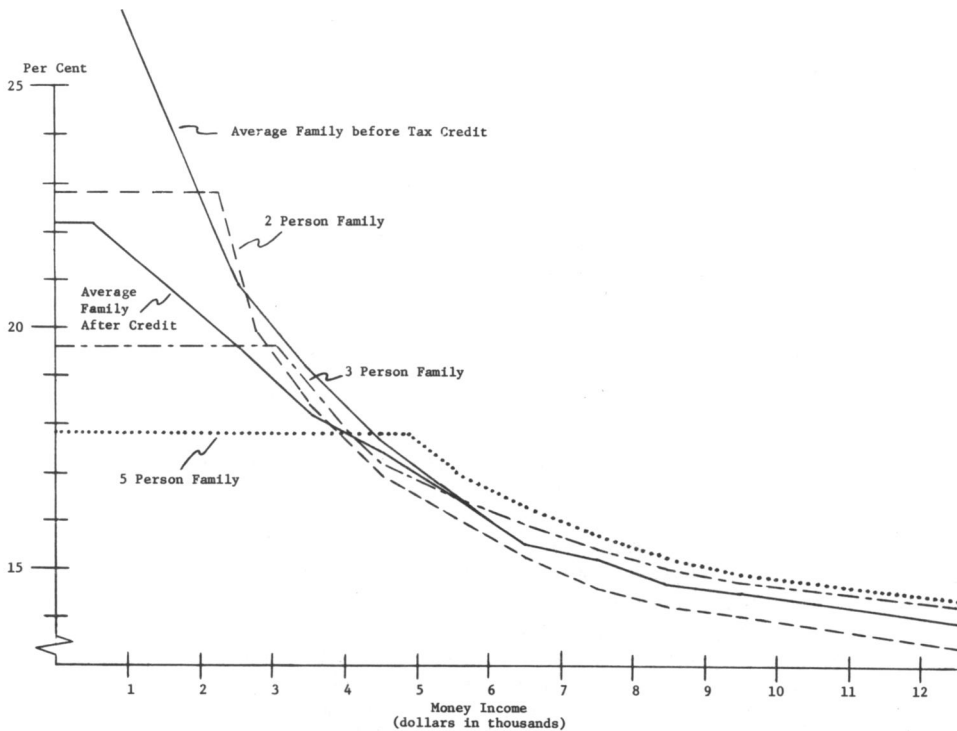Mexico; Washington, D.C., 1971, Table 58,
page 123.

DIAGRAM 4

Effect of New Mexico Comprehensive Tax Credit by Selected Family Size and by "Average" Family

and local government tax structure has been reduced for the "average" family. However, it is clear that discussing the tax burden of the average family tends to obscure what has really taken place. The overall tax burden for each family size is proportional below the poverty level. When the burden for each family size is combined to obtain the "average" burden, this proportionality is obscured. It is more meaningful to relate tax burden to other variables as well as to income. State and local tax systems generate almost four-fifths of their tax revenues from consumption and property based sources. The major determinants of consumption and expenditure on real property are income and family size. In fact, more accuracy could be achieved by measuring tax burden with respect to income, family size and family composition as well as other variables. In its equivalence scale for urban families, for instance, the Bureau of Labor Statistics estimates that in order to have equivalent levels of living, a four-person family composed of husband, wife and two children (older 16-17) requires 41.3% more goods and services than a four-person family composed of husband, wife, two children (older under 6).[17] Applying these equivalencies to the poverty threshold of $4,114 indicates a threshold of $4,649 for the family with older child 16-17 compared to only $3,291 for the family with older child under 6. These are substantial differences and to measure the average tax burden for four-person families tends to obscure significant differentials — much less measuring the "average" for a given income class.[18]

There are no technical limits to devising tax credits to take account of all the major variables which determine tax burdens. However, it is difficult to handle more than family size and income on a tax return. If tax policy makers become convinced that

further refinements are needed, it would be a simple matter to require the taxpayer to report the major variables on his tax return and calculate the credit for each individual return.

Finally, does this tax credit achieve proportionality in the New Mexico state and local tax structure? The answer, of course, is no. However, there has been a significant lowering of the tax burdens for families below the poverty level.[19] As indicated in Diagram 1 for four-person families, the regressivity of the after credit tax system is significant only in the $4,000 to $12,000 income range. Extension of the credit to about double the poverty level would alleviate most of the remaining regressivity. And, as tax increases are required in the future, increased reliance on the state's progressive income tax would complete the change from regressive to proportional tax system.

Low-Income Credit Returns, 1972

The low income credit became effective for calendar year 1972 with results as follows. There were almost 29,000 low-income tax credit returns for 1972 out of an estimated 65,000 eligible. About half the total claimants were on public assistance with the other half made up mainly of the working poor:

Source of Income	Returns, 1972 Number	Per Cent
Public Assistance	14,500	50%
Wages and Salaries	12,200	42
Other	2,300	8
Total	29,000	100%

Only about one-third of eligible individuals claimed the credit compared to one-half of eligible families. The average credit was $42 with a modified gross income of $1,895 — income, family size and amount of credit tend to be positively related. Data on the returns for 1972 are summarized in Table 8.

[17]U.S. Bureau of Labor Statistics, "Revised Equivalence Scale for Estimating Equivalent Incomes or Budget Costs by Family Type," *Bulletin* BLS-1570-2. (Table 1, "Equivalence Scale for Urban Families of Different Size, Age and Composition.")

[18]As indicated in Table 7, the credit allows a double exemption for the aged. This was in recognition of the need to provide property tax relief for the low-income retired.

[19]Based on data developed in calculating the credit, families and unrelated individuals below the poverty level pay about $37.6 million in state and local taxes, representing about 22.25% of money income, and will receive refunds totaling $3.5 million.

TABLE 8

LOW INCOME TAX CREDIT RETURNS, 1972
BY MODIFIED GROSS INCOME CLASS AND NUMBER OF EXEMPTIONS

Modified Gross Income	No. of Returns	Number of Exemptions						Average Credit
		1	2	3	4	5	6 or More	
$ 0-$ 499	1,627	1,167	329	55	73	—	—	$20
500- 999	4,186	2,085	1,608	256	55	55	128	26
1,000- 1,499	7,916	3,109	3,603	731	164	110	201	31
1,500- 1,999	5,521	1,701	1,353	1,243	749	292	183	34
2,000- 2,499	3,345		621	475	969	548	732	61
2,500- 2,999	1,828			384	530	439	475	67
3,000- 3,499	1,115				384	292	439	79
3,500- 3,999	1,316				567	201	548	68
4,000- 4,499	567					238	329	79
4,500- 4,999						256	402	57
5,000- 5,499	603						603	70
5,500- 5,999	274						274	39
TOTALS	28,956	8,062	7,514	3,144	3,491	2,431	4,314	
Exhibits:								
% of Eligible	44.8%	33.7%	64 8%	48.7%	62.2%	51.9%	34.8%	NA
Average MGI	$1,895	$1,085	$1,418	$1,756	$2,534	$2,993	$3,556	NA
Average Credit	NA	$ 23	$ 27	$ 33	$ 45	$ 53	$ 104	$42

Since the claim does require knowledge of its availability on the part of the claimant, the lack of response is not surprising. Such organizations as the New Mexico Health and Social Services Department and the Commission on Aging made efforts to publicize the credit but several more years will be necessary before it is widely known and claimed. In addition to its newness, the credit also suffered from an adverse interpretation by the Health and Social Services Department. The February 1, 1973 mailing to Public Assistance clients included the following information:

"If you file a New Mexico State Income Tax Return, you may be entitled to receive a refund from a tax credit. Should you receive a refund, report this information to your Public Assistance Worker, as it may affect the amount of your assistance or eligibility for continued assistance."

This interpretation of the refund as income was challenged in a class action suit brought by the Albuquerque Legal Aid Society. As a result of this suit, the Department reinterpreted the refund and the March 1, 1973 mailing included the following:

"Should you receive a cash refund you need not report that refund to your caseworker. Such cash refund will not affect your grant in any way."

Despite this change, public assistance clients remained apprehensive and only about 45% of those eligible claimed the credit. However, the statute of limitations for the credit is three years so most of those who failed to file in 1973 will catch up during the next two years.