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ALTERNATE INDEXING SCHEMES FOR NONBUSINESS INCOME TAXATION: DISTRIBUTIONAL AND REVENUE EFFECTS

University of Illinois at Urbana-Champaign PH.D. 1983

ALTERNATE INDEXING SCHEMES FOR NONBUSINESS INCOME TAXATION: DISTRIBUTIONAL AND REVENUE EFFECTS

BY

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THESIS

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CHAPTER 1

INTRODUCTION

> "No comprehensive estimate exists of the impact of indexing the tax base on Treasury revenues." (Aaron, 1976, p.16)

Indexation of the tax bracket amounts, the zero bracket amounts and the exemption amounts as legislated by Congress in the Economic Recovery Tax Act of 1981 (ERTA) is scheduled to begin in 1985. However, there is some debate currently among Congress persons and others concerning whether Congress should repeal this provision prior to its inception in order to reduce growing budget deficits. Whether or not the legislated indexation begins in 1985, an examination of the topic of indexation still is appropriate. This chapter contains a discussion of one of the problems leading to the adoption of such indexation, a set of questions which an examination of the feasibility of indexation is likely to address, and an overview of this study As will be shown in subsequent chapters, this research offers a more comprehensive estimate of the effects of indexing the tax base than do other studies.

1. Statement of the problem

Inflation causes the occurrence of a difference between real and nominal income. That is, income measured by purchasing power (real income) differs from income measured in money terms (nominal income) Hereafter, this type of difference is referred to as distortion. Individuals are affected by inflation since they buy, save, borrow, hold and sell assets and pay taxes based on nominal income and nominal gains. However, due to distortion, such nominal gains may be, in fact, real losses. Because tax rates become progressively higher the greater the nominal income, taxpayers whose nominal incomes increase find themselves in higher tax brackets even though they may not have experienced any real income increase. Concern about this bracket creep has led Congress to make periodic adjustments to the brackets. In addition, occasionally Congress has adjusted exemption, deduction, and credit amounts. In the Economic Recovery Tax Act of 1981 (ERTA), Congress has chosen to index bracket amounts (including the zero bracket amounts) and the personal exemption amount. Using the Consumer Price Index, this indexation becomes effective with the 1985 calendar year.

Besides these items which Congress has chosen to index, inflation causes a decrease in the real value of credits that also are stated in nominal terms Additionally, inflation distorts the computation of capital gains and losses, the value of interest income, and the burden of interest charges. Congress chose not to address these distortions in the 1981 act

In addition to individuals, businesses and government are also affected by inflation. Numerous researchers have studied the impact of inflation on these various components of society. The aspect of the general problem addressed in this research was the effect of inflation on nonbusiness income tax determination when several different tax models were applied. In particular, the focus of this study was twofold:

1. the distributional effects of various tax models on groups of individuals who are nonproprietors and nonrental unit owners (subsequently referred to as nonbusiness taxpayers), and

2. the concomitant revenue amounts which resulted when the various tax models in the study were applied.

Nonbusiness taxpayers were chosen because, effectively, this is the group Congress has chosen to address in its legislated indexation (ERTA).

2. Purpose of and justification for the study

Whenever Congress is considering the adoption of new law or a revision of old law, it conducts hearings and occasionally commissions research so that it can assemble as much information on the topic as is practicable. Given the haste with which the entire ERTA bill was passed in order to implement President Reagan's economic program, it is possible that less information was assembled than Congress normally would gather. However, the indexation of brackets and capital asset amounts had been debated by prior Congressional bodies. In any event, before any indexation scheme is

implemented, an examination of its probable effects seems appropriate so that its potential merits can be evaluated. The following questions might be included in such an examination:

1 How do tax policy analysts view tax indexation with regard to the attainment of tax policy goals?

2. Which aspects of the current tax system are regarded by tax policy analysts as needing indexation?

3 Which index(es) do tax policy analysts advocate using?

4. What are the projected distributional and revenue effects of implementing various indexed systems?

5. What are the expected nonrevenue effects of indexation?

6. Do these effects add to or detract from the likelihood of stated tax policy goals being attained?

Concerning tax policy goals, tax policy analysts differ as to their views of tax indexation. Chapter 2 contains a discussion of the reasons given in favor of and against its adoption. Considering the action of Congress in legislating ERTA, that body apparently views indexation as an appropriate tool. However, the indexation as legislated in ERTA is limited

As is shown in Chapter 3, tax policy analysts have recommended the indexation of more aspects of the tax system than Congress has elected to index at this time The adoption of a more completely indexed system than is currently mandated in the Economic Recovery Tax Act of 1981 might imply or suggest the elimination or revision of some current legislation. For example, if the cost of capital assets were indexed, part or all of the motivation behind the capital gain deduction might be removed.

In no study to date have all of the issues mentioned above been addressed. In particular, no one has determined the distributional and revenue effects of a system in which both nominal quantities (i.e., brackets, credits, and deductions) and base elements (i.e., capital and interest related items) were indexed. Hereafter, this system is referred to the alternate indexation system. Such a study would serve not only as an addition to indexation literature, but also could offer Congress some information as to the merits of the alternate system's adoption.

The purpose of this research was to provide such a study. Specifically, then, the following topics were explored via a review of the literature and logical analyses (items 1-4 and 6) and simulation (item 5):

1. the views of tax policy analysts on tax indexation,
2. the aspects of the current tax system which analysts suggest need indexation,
3. the choice of index(es),
4 an examination of the available research in this area,
5. a comparison of the following:
    1. the distributional and revenue effects of a no tax change system (i.e., the tax law existing in the base year (1973) extended for the period 1974-1978), (this system is referred to as the 1973 Law Model)
    2 the distributional and revenue effects of the indexed system as required by Congress in the Economic Recovery Tax Act of 1981 applied to the base year (1973) tax system developed in step 1 (this system is referred to as the ERTA model)

3. the distributional and revenue effects of a proposed indexed system in which certain existing 1973 provisions have been eliminated and in which the indexing is the same as in step 2 except that it is extended to more items (this system is referred to as the Alternate Model), and

6. the nonrevenue effects of indexation.

As indicated above, only nonbusiness income tax indexation affecting nonrental owners and nonproprietors was considered.

3. Expected contribution of the research

This study offers a more thorough approximation of the impact of tax indexation on Treasury revenue than any other study currently available. Specifically, as is discussed in Chapter 4, authors of previous studies have indexed nominal quantities (e.g., brackets) or base items (e.g., capital assets) separately. The Alternate Model described in this study addressed the indexing of both nominal quantities and base items with the elimination of a certain current aspect of legislation; namely, the capital gain deduction. Also, no previous study has made the distributional and revenue comparisons for various indexation systems. The presentation of different tax mix alternatives could assist Congress in future tax legislation. Finally, the extensive literature search necessary to address the theoretical questions is beneficial in presenting the current state of indexation research. This research adds to that indexation literature.

4. Introductory discussion of data and methodology

Although a thorough discussion of this topic is addressed in Chapter 5, a brief discussion is presented here to provide an overview of basic methodological considerations. A perspective had to be chosen in order to determine what data to seek or generate. The basic objective was to determine the effect various tax models would have on Treasury revenue and on groups of taxpayers given the current tax law. Thus, the ideal setting would be to start with current data and know with certainty what would happen in the future given the specifications of the tax models. Since that certainty is impossible of attainment, one option would be to estimate future conditions in the environment (e.g., interest rates and inflation rates) and determine the effects of the various models on future tax performance. Another option would be to look backwards for past environmental data and past tax data and use that data to project what results would have occurred in past years given model specifications. The latter approach was the one used in this study because it helped to eliminate the potential for bias in the results attained since less estimation was necessary Available empirical data were collected and, where necessary, simulation was used to generate the other data required for making the distributional and revenue comparisons. Trend analysis, a variation of linear regression, was the major methodological tool used.

The data base year used in the study was 1973, with the period studied being 1974-1978. The year 1973 was chosen primarily because

it was the most recent year for which was provided greater detail on capital transactions than was given by the Internal Revenue service in the Statistics of Income. In particular, holding period information was available for that year Such detail was necessary for use in the Alternate Model. The years 1974-1978 were chosen because of the availability of Statistics of Income information.

Distributional comparisons were made for groups of taxpayers rather than for individuals. This grouping of taxpayers was necessitated by the way the 1973 capital transaction data were presented by the Internal Revenue Service The groups studied reported adjusted gross income amounts as follows:

1. under $10,000,
2. $10,000-$49,999,
3. $50,000-$99,999, and
4 $100,000 and over.

To summarize, using 1973-1978 data, calculations for the above four groups of taxpayers were made under each of three different models, the 1973 Law Model, the ERTA Model, and the Alternate Model. The purpose of these calculations was to compare the distributional and revenue effects of these three tax systems. Data on such effects can be evaluated by persons responsible for tax policy to judge whether or not their intended objectives are being realized.

5. Decision rules used for comparing distributional effects

To compare the distributional effects of the tax models used in this study (defined as the tax after credits amounts calculated as percents of AGI amounts), analyses were made of their progressivities. Implied in the concept of progressivity is the notion that those who earn more possess a greater ability to pay; hence they should bear a greater portion of the tax burden. Several definitions and decision rules used in this study were adapted from this concept of progressivity. One such definition described the system with the greatest difference between the lowest taxpayer group and the highest taxpayer group as the most progressive. The decision rule used to apply this definition consisted of determining the average differences between the distributional effect ratios of Groups 1 and 4.

A second definition was adopted to address the change in progressivities of each tax system over time. For this purpose, a system was considered to have become more progressive if the distributional effects ratios converted to percents per group increased over time. In the application of this definition, end year data only were used to determine the percents needed for these comparisons. Group 1 was used as the base. Three like sign change in percent figures were interpreted as implying a movement toward greater progressivity if positive, and toward lesser progressivity if negative. Two like sign changes were interpreted as meaning the system remained essentially unchanged.

To make the distributional effects comparisons among the taxpayer groups over time, differences between groups were calculated and the percent change which occurred between the end years were determined. A negative percent change was interpreted to mean the difference between the groups specified decreased over time, while a positive change implied an increase. Analyses were made of these changes to determine which groups experienced shifts in tax burdens and the direction of those shifts.

One final analysis was made of these distributional effects ratios noting which groups benefited or suffered from the adoption of the indexation models. This analysis was made primarily on the visual inspection of the graph which depicted the distributional effects ratios across the four tax models by year (Figure 3).

6. Preview of chapter contents

Different aspects of indexation literature are discussed in Chapters 2 through 4. Chapters 2 and 3 deal with the theory of tax indexation. First, what do tax policy analysts think about indexation as a tool for making tax adjustments? Are they in favor of its adoption? This is discussed in Chapter 2. The focus of Chapter 3 is on the possible variations of an indexed tax system if one were adopted. A discussion is presented of possible indexes to be employed in an indexed system. With a focus only on the Consumer Price Index, the problems associated with index use are addressed. In Chapter 4, the models contained in this study are developed by

examining those research studies in which were incorporated some or all of the variations suggested in Chapter 3. A complete exposition is contained in Chapter 5 of those models, the data gathered or generated, and the methodology employed to generate and adjust that data so that analyses could be made. The resulting data used to address the key issues of distributional and revenue effects along with concomitant analyses are contained in Chapter 6. Also discussed therein are some possible nonrevenue effects of indexation and implications for future research.

CHAPTER 2

TAX INDEXATION

Given that an income-based taxation system is likely to continue for the forseeable future, one constant concern is to fine tune the system for its perceived imperfections. One such fine tuning might be the adoption of indexation in an effort to mitigate the effects of inflation on the taxpayer The purpose of this chapter is to examine the reasons given for and against the adoption of indexation and the soundness of these reasons. Tax policy analysts provided each reason and some of the concomitant discussion. As will be shown, every reason given by one or more analysts drew criticism from others.

Gramlich (1976, p.279) suggested that the main issue relative to indexation is determining what would produce more sensible tax and expenditure policies. That is, would the nation be better served if Congress continued to make periodic adjustments to the current tax system, or if Congress constrained itself through the use of automatic rules? Which alternative would produce less distortion? Bailey (1976, p 291) was of the opinion that indexation was appropriate only if the set of distortions created by whatever

automatic adjustments Congress enacted were preferable to those associated with inflation without tax adjustments. However, it is extremely difficult to determine what the effects of any specific piece of legislation will be or what new distortions may be introduced.

The decision regarding the appropriateness of indexation ultimately rests with the taxpayers. In an intermediate phase, tax policy researchers can try to relate the proposed legislation to stated or unstated tax policy goals. While they may not be able to establish a causal link between legislation and certain effects, they can help to estimate what the effects of legislation may be. Thus they can aid the public in making the indexation decision.

1. The case for indexation

> "A budget item is indexed if the real revenue yield or real expenditure is unaffected by the rate of inflation." (Gramlich, 1976, p.272)

Bailey (1976, pp.315-317) suggested that the desirability of indexation depended on the magnitude of expected inflation: generally, the greater the percent, the more desirable. For example, he claimed that if the rate of inflation were to average some small percent, such as 2 percent, no one would seriously consider indexation because of its added complexity. On the other hand, he suggested that ordinary indexing is useless when hyperinflation (i.e., inflation greater than 20 percent) occurs because of the lag between the accrual of tax liability and tax

payments. Additional adjustments, such as indexing tax liabilities, would be required given such hyperinflation He recommended that Congress consider the adoption of indexation only where moderate inflation rates (5 percent to 20 percent) are expected.

Following are the reasons most commonly given to support the adoption of indexation. Also, a discussion regarding the validity or lack thereof of each point is presented. The existence of moderate inflation (as defined by Bailey) is assumed.

Equity reason 1

> "A nonindexed tax system raises taxes more than proportionately for low-income households and thus appears to be a regressive force." (Gramlich, 1976, p.279)

Equity theorists ask whether existing tax law treats equals equally (horizontal equity) and whether there is an appropriate differentiation among unequals (vertical equity) (Bittker, 1980, p.19) The first equity reason addresses the vertical equity question. Ignoring the impact of inflation on the tax base (i e , looking only at the rate schedule), superficially it does appear that low-income households bear more than their proportionate share of the tax burden (note high percentages in Table 2-1, Percent increase in tax column for the first two income levels). Low-income households pay so little tax that any increases appear disproportionate relative to higher income households. However, an examination of the Percent change column (Table 2-1) shows the fallaciousness of the claim that a nonindexed system is regressive.

Ignoring the relationship of the federal individual income tax system to other federal taxes and the fact that inflation likely causes a nonindexed individual income tax system to grow in importance relative to those other federal taxes, it appears then, that a nonindexed rate structure is basicly neutral. Hence, this reason supporting indexation is of questionable merit.

Table 2-1. Tax Effects on Taxpayers Who File Jointly and Who Experience a 10% Income Increase (Inflation = 10%)

Before increase			After increase				
Taxable income	Tax	Percent tax	Taxable income	Tax	Percent tax	Percent increase in tax	Percent change
5,000	224	4.5	5,500	294	5 3	31.3	8
7,000	534	7.6	7,700	648	8 4	21.3	8
10,000	1,062	10.6	11,000	1,242	11.3	16.9	7
15,000	2,055	13.7	16,500	2,385	14 5	16.1	.8
20,000	3,225	16.1	22,000	3,777	17.2	17.1	1.1
25,000	4,633	18.5	27,500	5,433	19.8	17.3	1 3
30,000	6,238	20 8	33,000	7,348	22.3	17.8	1.5
35,000	8,088	23 1	38,500	9,581	24 9	18.5	1.8
40,000	10,226	25 6	44,000	11,946	27 2	16 8	1.6
45,000	12,376	27.5	49,500	14,533	29 4	17.4	1.9
50,000	14,778	29.6	55,000	17,228	31.3	16.6	1.7
55,000	17,228	31.3	60,500	19,678	32.5	14.2	1.2
60,000	19,678	32.8	66,000	22,918	34 7	16.5	1 9
65,000	22,378	34 4	71,500	25,888	36.2	15.7	1 8
70,000	25,078	35 8	77,000	28,858	37.5	15.1	1 7
75,000	27,778	37.0	82,500	31,828	38 6	14 6	1.6
100,000	41,998	42.0	110,000	47,928	43.6	14.1	1.6
150,000	73,528	49.0	165,000	83,232	50.4	13.2	1.4
200,000	107,032	53.5	220,000	120,724	54 9	12.8	1 4
300,000	176,724	58.9	330,000	197,724	59 9	11.9	1 0

Source: 1981 joint tax rate schedule and calculations
Percent tax = tax/taxable income
Percent increase in tax = (tax after - tax before)/tax before
Percent change = percent tax after - percent tax before

Equity reason 2

> "the impact of inflation on horizontal equity...(is) the central issue in the debate on indexing" (Musgrave, 1976, p.324)

The first equity reason given for indexation ignored the impact of inflation on the tax base. Musgrave's concern for horizontal equity requires an examination of that impact. Horizontal equity is defined as existing if two taxpayers with the same real income bear the same tax burden. A problem is that, to date, taxable income has not been based on real income. Tax policy analysts such as Bailey (1976, p.315) hold little hope that such an ideal ever will be used by legislators in setting tax policy. Thus, Bailey contended that we cannot tell whether distortions caused by inflation are good or bad. Musgrave (1976, p.324) postulated that the use of real income to define the taxable base was still an ideal to strive for; that people (including legislators) act on the presumption that taxable income is a meaningful concept. Hence, it is important to try to determine the impact of inflation on that real tax base. Indexation seemingly would help in achieving that ideal.

An equity and simplicity reason

> "The argument that real capital gains should be taxed appears to lead Brinner to dispose of the capital gains exclusion entirely." (Fischer, 1976, p.145)

As Brinner has shown in Table 2-2, if the primary purpose of the capital gain exclusion is to adjust capital asset sales for the effects of inflation, then no one percentage, such as the current 60 percent, accomplishes the task equitably. In fact, 60 percent

appears to be close to what he labels the "percentage of capital gain properly subject to tax" only when the rate of inflation is low (i.e., g=0.03 or less) or the holding period is long (generally over 25 years). Neither condition seems to be typical currently. Note however, that the rate of nominal appreciation (n) that he used is 2 percent more than the rate of inflation (g) and that these percentages remained constant over the holding periods shown. One would need to examine similar tables where the difference between n and g were something other than two percent and where these percentages did not remain constant over time. Such an examination probably would show that his argument still held. However, Fischer contended that the capital gains exclusion is not meant as a "rough-and-ready adjustment for inflation" (1976, p.145). Rather he suggested that its purpose is to encourage risk-taking by the politically powerful owners of capital A more thorough discussion on the capital gains topic is presented in Chapter 3

Table 2-2. Proportion of a Capital Gain Properly Subject to Tax, Selected Asset Holding Periods and Rates of Inflation

Asset holding period (years)	Percentage of capital gain properly subject to tax, by rate of inflation (g) and rate of nominal appreciation (n)			
	g = 0.01 n = 0.03	g = 0.03 n = 0.05	g = 0 05 n = 0 07	g = 0.07 n = 0.09
1	67.0	40.6	29.3	23.0
5	68.3	43.0	32.2	26 3
10	69 9	46.1	36.0	30.5
25	74 6	55.1	47.6	44.0
50	81.4	68.9	65.2	63.9

Source: Brinner, 1976, p.128

It would appear that the disposal of the capital gains exclusion could lead to a simplification of the current system. However, using Brinner's model (see Chapter 4), this would not be the case. In fact, the system as suggested by Brinner would introduce greater complexity. In place of the flat 60 percent exclusion applied to the total long-term capital gain amount, he would substitute a system in which the cost of each capital asset is adjusted for inflation. Verification by the Internal Revenue Service of the use of the correct indexes would seem to require manual rather than computer inspection; thus, an added administrative cost. While he would prefer that the indexation be done on an accrual basis, he realized that this change would not be feasible politically because of the well established current practice of taxation upon realization (1976, p 131) Political issues aside, if indexation on an accrual basis were adopted, there would be a further increase in administrative problems such as determining the frequency of reappraisal of capital assets. Thus, how one evaluates the merits of this reason depends partly on one's willingness to make a tradeoff between equity and simplicity.

Efficiency reason 1

> "A tax system with no indexing...magnifies fluctuations in interest rates " (Bailey, 1976, p.293)

Efficiency theorists ask whether existing tax law promotes or inhibits the efficient allocation of resources (Bittker, 1980,

p.19). One of these resources is the money which is loaned or borrowed. If lenders and borrowers bear the same marginal tax rate t, Bailey, Tanzi, and Feldstein (cited by Gramlich, 1976, p.287) have shown that

$$i = i^* + g/(1-t), \text{ where}$$

i=the market interest rate (i.e., the nominal rate)
i*=the interest rate when prices are stable
(i.e., there is no inflation)
g=the anticipated rate of inflation, and
t=the marginal tax rate.

If lenders and borrowers faced the same marginal rate, interest rates would fluctuate more under a nonindexed system than if the system were indexed For example, given a nonindexed system, if the inflation rate were 10 percent; the marginal tax rate, 50 percent; and the stable interest rate, 4 percent; then the nominal rate would be 24 percent (i.e., i = .04+.10/.50 = .24) $1 loaned for one year at 24 percent interest would yield $.24 before tax and $.12 after tax. This $ 12 is nominal income. Subtracting the amount due to inflation ($.10) yields $.02 of real income If the tax system were indexed, however, the increase in the nominal interest rate over the stable rate due to inflation would not be taxed. Hence, a nominal rate of 14 percent in an indexed system would produce the same tax consequences as a 24 percent nominal rate in an nonindexed system. That is, in an indexed system, $1 loaned for one year at 14 percent interest would yield $ 14. Since the amount due to inflation ($.10) would not be taxed, the balance of $.04 taxed at a marginal rate of 50 percent would yield $.02 of real income. Thus, an indexed tax system would minimize the fluctuation in interest rates.

Gramlich (1976, p.287) and Sunley (1979, p.332) suggested that undesirable distortions may arise in a nonindexed system when

1. borrowers and lenders are not in the same tax brackets,
2. interest rates do not rise as suggested by the above equation possibly because of institutional barriers, and
3. everyone does not anticipate the same inflation rate, or lags and other discrepancies prevent full market adjustment

The following example illustrates the effect of different marginal rates for borrowers and lenders using the equation given above. Assume that the inflation rate is 10 percent and the stable interest rate is 4 percent. If the lender has a marginal rate of 50 percent, then he would be willing to lend at a market rate of 24 percent or more (i = 04+.10/ 50 = .24). If the borrower has a marginal rate of 30 percent he would be willing to borrow at a market rate of 18 3 percent or less (i = .04+ 10/ 70 = .183). If the nominal rate of interest is between 18.3 and 24 percent, the loan would be disadvantageous to both borrower and lender. Hence, such loans may not be negotiated. The above example also illustrates the problems with institutional barriers such as usury ceilings. If that ceiling is 18 percent, the lender is clearly out of the lending market. Theoretically, an indexed tax system virtually would eliminate unequal rates between lenders and borrowers since, in effect, only the stable rate is taxed That is, the rate charged would be the sum of the stable rate and the untaxed inflation rate Practically, however, everyone does not anticipate

the same inflation rate. Hence, rate differences likely would occur, but these differences should be less pronounced than with an unindexed tax system.

Efficiency reason 2

> The "lock-in" effect produced by the capital gains tax would be lessened by indexation. (Diamond, 1976, p.323)

The term "lock-in" effect refers to the holding of capital assets for a longer period of time than one otherwise might wish in order to gain preferable tax treatment. Thus, "lock-in" might occur when a holder of a capital asset experiences a positive nominal gain and thus is unwilling to sell the asset since a tax would have to be paid One of the reasons behind the 60 percent capital gain deduction is the mitigation of this "lock-in" (Seltzer, 1978, p 17). For holders of capital assets who experience positive nominal gains but negative real gains (i.e., they have experienced a real loss), the capital gain deduction is a small consolation. This latter group might be more motivated to sell their assets if indexation were introduced, no taxes were assessed and they were allowed to write off the resulting losses.

Efficiency reason 3

> If it is the intent of Congress to encourage investment in certain activities (e.g., homeownership) by offering tax inducements, inflation distorts that incentive. Hence, indexation should be encouraged. (Bailey, 1976, p.311)

The primary current tax provisions which encourage homeownership over renting are the deductibility of mortgage

interest payments, the deductibility of property tax payments, the deferral of capital gains on home sales and the one-time exclusion of $125,000 of capital gains on home sales for taxpayers 55 and older. It has been argued that inflation distorts these incentives in several ways. For example, the Congressional Budget Office (Sept. 1981, p.28) addressed this issue in the following manner. They suggested that even without inflation, the tax benefits available to homeowners increases the demand for homes and hence, increases the price of homes. Inflation increases these prices and the corresponding demand for homes even more. These price increases give existing homeowners returns on their home investments greater than they would have gotten had they made other types of investments This distortion leads to a shift from other investments into housing, further increasing home prices At the same time, inflated home prices and interest rates make homeownership less accessible to the nonhomeowner, the very group the incentives were meant to reach However, high income families remain better able to take advantage of these incentives Hence, the Congressional Budget Office argued that the progressivity of the current tax system is reduced. Bailey (1976, p.311) suggested that high income taxpayers would invest more in those activities in which inflation increases the tax advantages. These same high income taxpayers also would have added incentive to "lock-in" capital gains. Bailey argued (1976, p.313) that an indexed system would help to reduce the advantages occurring because of these

inflationary differences by eliminating both the loss in efficiency caused by the inflation-induced distortions and the gains in efficiency from the reduced incentive to convert personal service income to capital gains. He suggested that the gains outweigh the losses, with the case for indexing becoming stronger as the rate of inflation increases.

Administrative reason 1

> Adoption of indexation could reduce the frequency of tax reforms that generally add complexity to the tax laws (Bailey, 1976, p·294)

While it is likely that the quantity of new or amended laws would be less if indexation were adopted, it is less certain with what frequency Congress would reform the tax system. Such reforms have been enacted in the past without inflation. Since other legislation would not be needed to be implemented, the automatic character of indexation would save taxpayer dollars and would provide Congress some relief from the periodic burden of making adjustments for inflation. However, on occasion it is desirable for Congress to reevaluate past tax policy decisions in order to determine their current value. Frequently in the past Congress has legislated tax cuts just prior to election time. The adoption of indexation could eliminate some or all of the necessity of such tax cuts. Their past record would indicate a loathing to legislate tax increases. However, situations could arise where tax increases would seem necessary. This is the situation currently. Thus, there is a strong possibility that Congress will repeal indexation as

specified in ERTA before it can become effective. Sunley (1979, p 329) argued that, given the inertia of Congress, the country is better off under the current system than if indexation were in place. The complexity issue is discussed in more detail later when the case against indexation is presented.

Administrative reason 2

> Automatic indexation is favored by many people who believe that the U.S government will automatically increase its spending as inflation generates additional taxes. (Sunley, 1979, p.329) (Bailey, 1976, p.294)

While it is true that the "elasticity of the income tax with respect to inflation is about 1.5 (i e., a 10 percent inflation rate leads to tax receipts rising by about 15 percent) (Sunley, 1979, p 328), it is false that the U.S. government benefits from inflation History has shown that when tax receipts have increased, Congress has chosen to reduce taxes rather than launch new programs (Sunley, 1979, p.329). Since 1953, federal tax receipts consisting almost entirely of the personal income tax rose only from 10 6 to 11.5 percent of national income (Bailey, 1976, p 294). Hence, this argument is not persuasive as a reason for indexation.

2 The case against indexation

As will be shown, the reasons generally given for opposing indexation are as vulnerable to attack as were those given in its support. The reasons and a discussion regarding the validity of each reason follow. Again, the existence of moderate inflation is assumed.

An equity and simplicity reason

> "actual legislation emerges from a Byzantine legislative process and may become a grotesque structure containing special favors, compromises, and modifications." (Bailey, 1976, p.318)

Bailey pointed out that, in the past the relationship of tax legislation to theoretical ideals has been less than satisfying. There is no reason to suppose that the adoption of indexation would be any different. Thus, new inequities and inefficiencies could be introduced with any new legislation or in subsequent reforms. For example, an exception might be made for homeowners and farmers if the indexation of interest payments were enacted. For instance, they might be allowed to deduct full interest payments as with current law without having to adjust and reduce those payments for the effects of inflation This more favorable tax treatment likely would serve as an incentive to shift capital into residences and farms.

While Bailey's comments are germane to this reason, he did point out that an incentive already exists to make that type of capital shift Thus, one needs to question whether a distorted indexed system is any worse than the current distorted nonindexed system. He further observed that discriminatory indexation might cause such favored groups to appreciate the benefits they are getting from inflation. Hence, he suggests that they might try to work to protract inflation for their continued benefit. However, would this situation be any different or worse than the current one?

An indexed system containing exceptions could become quite complex; whereas, the theoretical system need be only moderately so. But if a complex indexed system were substituted for complex current rules, the question of which system offers greater complexity still needs to be addressed. Thus, unless one could project that any indexation adopted ultimately by Congress would result in more complexity than is currently in existence, its adoption should be considered. Tax reform advocates will always be needed to try to provoke change to insure that the tax system more closely approximates the theoretical ideal.

Efficiency reason 1

> Automatic increases in real tax revenues have a stabilizing effect during times of inflation. (Gramlich, 1976, p.278)

Theoretically, consumer demand in excess of supply is thought to drive up prices. One of the possible effects of such excess demand is inflation. Future inflationary expectations lead to the demand for wage increases. With inflation acting to increase nominal income and with inflation income tax elasticity approximately 1.5, the resulting tax increase should act as a brake on consumer demand, and hence, on inflation Thus, the economy should stabilize. Indexation would appear to have the opposite effect, and hence, be undesirable. Although theoretically plausible, the reality is less ideal. The following points illustrate practical flaws in that theory.

1. Inflation causes the real tax levels to be raised permanently even after prices have stabilized. (Gramlich, 1976, p.278)

2. Inflation may have been fueled by some outside agent, such as an oil cartel, instead of by excessive domestic demand. A tax increase at such a time may well be inappropriate. (Gramlich, 1976, p.279)

3. The automatic tax revenue increase aggravates declines in output and employment if inflation occurs during a recession. (Bailey, 1976, p.313)

4. Indexation which would appear to eliminate this automatic stabilization may well eliminate none of the interactions between inflation and this stabilization process because it lags price increases by one or two years. (Bailey, 1976, p.314)

5. In a research study, Pierce and Engler (1976, p.187) concluded that an indexed income tax system would not produce significantly greater economic instability than currently exists. However, they studied only the effects of indexation on the rate structure.

These points suggest that a nonindexed tax system is not the great stabilizer it is theorized to be and that an indexed system may not be as problematic as projected. Despite Pierce and Enzler's research, Bailey (1976, p.314) suggested that it is not sufficiently clear whether or not indexation increases or decreases economic stability. Hence, he recommended that the decision to index be based on other reasons.

Efficiency reason 2

> To index the tax system is to confess the inability to control inflation. (Bailey, 1976, p.314)

While tax-related, inflation-induced effects could be corrected by indexation of the tax system, it cannot undo inflation-caused distortions related to wage lags and leads and contracts based on

false expectations (Bailey, 1976, p.291). Bailey asked these questions about the effects of an indexed tax system:

1. Should indexation be rejected if, while removing all harm from inflation, it increases the rate of inflation? That is, should potentially greater inflation be accepted if the end result is a harmless product?

2. Why worry about political resistance if a major reduction in the harm done by inflation can be achieved?

Since there are no certain answers to these questions, Bailey suggested that this argument against indexation not be given much weight.

3. Concluding comments on indexation

There is no obvious answer to the question of whether or not to adopt indexation. Reasonable people will differ as to which approach is more advantageous. But the fact remains that Congress has made the decision to adopt indexation, at least in a moderate form. Questions regarding its impact and the desirability of the adoption of a more complete form of indexation are discussed in subsequent chapters

CHAPTER 3

INDEXATION SUGGESTED BY TAX POLICY ANALYSTS

Having presented the major arguments made for and against indexation, since indexation is now part of our tax system because of ERTA, the only issue remaining would be with possible variations in form. Therefore, the focus of this chapter is on these possible variations of an indexed system as suggested by tax policy analysts. Also contained herein is a discussion relative to the choice of and problems with the index(es) recommended for use.

1. Items suggested for indexation

The tax base

> "'indexation' means expressing amounts of money in 'real' terms, that is, in terms of dollars of constant purchasing power." (Fellner, 1975, p.5)

Before one begins to examine changes that could be made to the current tax system, it seems appropriate to elucidate that current system. The taxpayer adds up all his income which has been defined as taxable in the Internal Revenue Code to arrive at his gross income. Then he subtracts all allowable deduction amounts and exemption amounts to reach a figure called his taxable income.

This, then, is the base to which the tax rates are applied (Pechman, 1977, pp56-57). The tax base is distorted by inflation because items which are included as income or are permitted as deductions from AGI (i.e., deduction amounts and exemption amounts) are denominated in nominal rather than in some sort of "real dollar" amount, in whichever of various ways that "real dollar" income might be defined. Since the progressive rate structure has bracketed amounts also expressed in nominal dollars, an additional distortion occurs These distortions are important because the taxpayer is required to pay a different amount of tax than he would in a noninflationary world The divergence between the taxable income stated in nominal dollars and the taxable income stated in "real dollars" can be attributed largely to income and deduction items which have been held a substantial time (i.e., one year or more). Nonbusiness inflation-sensitive elements consist of capital assets and interest-related assets (Aaron, 1976, p.6).

1. Capital asset indexation

Currently, when an asset characterized as capital (section 1221 of the Internal Revenue Code) is transferred to another party, the difference between its fair market value and its tax basis may be subject to income taxation as a capital gain or loss That difference may not be taxed at all (e.g., an asset transferred via will) or it may be postponed (e g., the rollover of gain on a personal residence). If the asset subject to taxation has been held for more than one year, the asset is characterized as being long-

term. If the difference between the disposal price and the adjusted basis of the asset is positive, then a long-term capital gain deduction is permitted so that only 40 percent of that difference must be included in taxable income. If the difference is negative, then a loss is recorded. Long-term capital losses are deductible dollar for dollar against long-term capital gains and short-term capital gains, but are deductible two dollars for one dollar against ordinary income and are limited to $3,000 of ordinary income in any one year. Long-term asset holdings are inflation-sensitive and, hence, subject to distortion. Does the 60 percent capital gain deduction or the $3,000 loss limitation adequately overcome those distortions?

As was discussed in Chapter 2, the 60 percent capital gain deduction was viewed by Brinner (1976, p.127) as a failure if its primary purpose was to serve as an inflation adjustment. However, Fischer (1976, p.145) posited that the capital gain deduction was a concession to politically powerful owners of capital as an encouragement for risk-taking rather than a rough adjustment for inflation. What is the purpose of the capital gain deduction? Perhaps a glance at the history behind the legislation would offer some insight

The rules for taxation of capital assets have undergone periodic revision since the inception of the federal income tax in 1913. Capital assets were defined for the first time in the Revenue Act of 1921. Capital gains were subjected to a maximum rate of 12.5

percent, and the requisite long-term holding period was two years. Prior to that enactment, all transactions (capital or other) were subject to normal and surtax rates (a combined maximum rate of 77 percent during 1918) (Wells, 1949, p.14). The reduction of "lock-in" was one of the main arguments for the preferential treatment accorded to capital gains in the 1921 Revenue Act (Wells, 1949, p.15).

Table 3-1. Step-scale Reflecting the Percentages of Capital Gain to be Included in Ordinary Income

Period assets held	Percentages of gain included in ordinary income
1 year or less	100
Over 1 year but not over 2 years	80
Over 2 years but not over 5 years	60
Over 5 yars but not over 10 years	40
Over 10 years	30

Source. Wells, 1949, p.21

The Revenue Act of 1934 marked the introduction of a step-scale plan (Table 3-1) for capital gain taxation. The concern motivating this plan was that, from an equity standpoint, this method would better approximate the tax that would have been paid if the gain had been taxed as accrued over the holding period of the asset (Wells, 1949, p 20). The scale was reduced to two steps in 1938 (Wells, 1949, p 25) and finally to one step in 1942 (Wells, 1949, p.29) a modification which remains presently. Besides the periodic rate adjustments, the definition of capital assets, the length of the

holding period, and the amount of capital losses deductible against ordinary income have all been altered since 1921 In summary, Seltzer (1978, pp 16-17) listed the following reasons as given by Congress at one time or other why capital gains should not be taxed as ordinary income:

1. They do not represent economic income in the true sense
2. Many of them represent illusory nominal gains because of changes in price levels.
3. The gain accrued over a number of years would be taxed inequitably in full at progressive rates in the year of realization.
4. Substantial taxes on capital gains increase the likelihood of "lock-in"

Arguments both for and against each of these reasons can and have been made by legislators and tax policy analysts. For the moment, assuming that they are all valid, the question remains as to the best method of equitable, yet administratively simple, taxation.

Indexation would seem to solve the problem of illusory gains and is the method most often cited (e.g., David, 1968, p.210; Brinner, 1976, p.125; Dernburg, 1976, p.4). But "lock-in" seems to be caused not only by capital gains tax rates, but also by estate tax laws which permit the transfer of capital assets at fair market value without capital gain taxation (David, 1968, p.225). The deferral of capital gain recognition until realization has occurred and the lack of a tax deferral correction factor is another probable cause. Additionally, some individuals prefer to retain certain

nonstock capital assets for personal reasons. Thus, it is not clear what indexation alone would do to reduce the "lock-in" problem.

At least partial solutions to the problems addressed by these reasons could lie in the total exclusion of capital gain taxation, some averaging method, or some step-scale plan. These methods have been suggested by tax policy analysts currently and in the past. Because the focus of this research is on distortion caused by inflation, only indexation is considered in this study.

ii. Interest indexation

The other nonbusiness inflation-sensitive elements suggested by Aaron (1976, p.6) were interest-related assets. During inflationary times, given the current tax system, it appears that lenders would lose and borrowers would gain. Consider taxpayer A who lends $1,000 for one year at 8 percent to taxpayer B. At year's end, A receives $1,080 If the inflation rate were 12 percent, in terms of beginning-of-the-year dollars, A's $1,080 is really worth only $964 (i.e., $1,080/1 12) However, instead of being able to deduct a real loss of $36, A must include $80 as interest income. On the other hand, B who has experienced a real gain, is able to deduct $80 as interest expense. It would seem that the net revenue effect to the U S. government is zero. However, that is only true if both A and B have the same marginal tax rate. Assuming that A's rate is 30 percent and B's rate is 50 percent, the U.S government will get $24 from A but lose $40 from B, a net loss to the Treasury of $16. Thus, equity issues aside, without an inflation adjustment for

interest related items, even the U.S. government may be experiencing a real loss. Note that an inflation adjustment still would not remove the difference between the income recorded and the deduction taken which results from the difference in marginal rates.

Two adjustments for financial instruments which have been suggested as a means of nullifying this inflationary distortion are:

1. reducing the amount of interest deduction by the amount of the "inflation premium" (i.e , the amount of interest attributed to inflation), and

2. permitting the full interest deduction (taxing the full interest income) but requiring an adjustment at the time the debt is cancelled for any real gain or loss.

To illustrate the first suggested adjustment using the above example, since the interest rate (8 percent) is less than the inflation rate (12 percent), both A and B's interest amounts would be reduced to zero. If the interest rate had been 15 percent while the inflation rate was 12 percent, then both interest amounts would be $30 (i.e., $150-$120). For these examples, the second suggested adjustment would produce the same results as the first because the note was only of one year duration (assuming the note ran from January 1 to December 31) If the note were to be held for five years with only interest payable annually, then each year A and B would report the full amount of interest At the end of the five year period, an inflation adjustment would be made to reflect the real gain or loss each person experienced. There is, however, no agreement currently among accountants, economists, or businessmen as to the best adjustment for the inflationary distortion of financial instruments (Sunley, 1979, p.331).

iii. Mortgage principal and interest indexation

> "The most important adjustment for most households would be the tax treatment of home mortgages." (Aaron, 1976, p.20)

In this quote, Aaron is referring primarily to the gains experienced by homeowners who, because of inflation, pay off their mortgage principals in cheaper dollars than the dollars they received at the inception of the mortgages. Aaron (1976, p.20) suggested three possible times of taxing these gains garnered by mortgagees:

1. Tax the gains annually, by reducing the mortgage interest deduction by the inflation rate times the mortgage balance.
2. Tax the gains upon realization, where realization is defined as the time when the mortgage is paid off.
3. Tax the gains upon realization, where realization is defined as the time when the house is sold.

The preferability of any of these options rests upon such considerations as administrative simplicity and the desirability of immediate increased revenue collections.

In addition to the gains associated with the repayment of mortgage principals, homeowners also gain because they are allowed to deduct mortgage interest payments. This topic properly in subsumed under the topic of interest indexation. However, because of the importance of the mortgage interest deduction, a separate discussion is presented. Under the current tax system, the mortgage interest deduction, the property tax deduction, the deferral of capital gains from home sales, and the exclusion of $125,000 in

capital gains from home sales for persons 55 or older illustrate the favored state of home ownership over rental dwelling. This preferential treatment is true of the U.S. government and, in some ways, of other foreign governments as well. Additionally, the availability of an unlimited mortgage interest deduction acts as an incentive, especially for wealthier taxpayers, to have the largest possible mortgage (Liesner and King, 1975, p.143). According to estimates made by the Treasury Department's Tax Calculator simulation model, for 1981, 30 percent of the total taxes saved by deducting mortgage interest goes to individuals with expanded incomes (i.e., the sum of adjusted gross income, the capital gain deduction, percentage depletion, and other tax preferences) over $50,000, a group constituting less than 5 percent of all taxpayers (Congressional Budget Office, Sept. 1981, p.8). The projected mortgage interest deductions for 1981 and 1985 are $19.8 billion and $56 5 billion respectively (Congressional Budget Office, Sept. 1981, p.7). A comparison of the projected 1981 deduction ($19.8 billion) with the individual income tax receipts ($285.6 billion) for fiscal year 1981 (Publication 17, 1981, p.169) allows one to judge the magnitude of this deduction The mortgage deduction will constitute about two-thirds of the tax benefits received by homeowners in 1982 (Congressional Budget Office, Sept. 1981, p.xi). Periodically, this provision (Section 163 of the Internal Revenue Code) and others favoring homeowners have been reexamined for possible modification. The most recent such reexamination was undertaken by the Joint

Economic Committee of Congress in 1981. In the report submitted by the Congressional Budget Office, the following nine options were presented to Congress:

1. Maintain current law.
2. Put a ceiling on the deductibility of mortgage interest payments.
3. Limit property tax deductions.
4. Reduce the exclusion of capital gain income from home sales.
5. Tax gains at the time of sale.
6 Create new tax subsidies for renters.
7. Convert the mortgage interest deduction to a tax credit.
8. Limit the mortgage interest deduction to only the principal residence.
9. Concentrate more benefits on first-time homebuyers.

A critical examination of the options presented reveals that the concerns addressed primarily were for increased revenue and equity. The concern for the then depressed housing industry seemed to have been one of the motivating factors behind the decision of Congress to maintain the current law at that time. The issue of the distortion caused by inflation was not the focus of any of these options.

The rate structure

Whenever tax analysts discuss the indexation of the rate structure, other nominal amounts such as exemptions, deductions, and

credits are included. This categorization also will be used in this research. Currently, once the tax base has been determined, the rate structure and credits then are applied to derive the actual tax liability. Because these numbers are specified in nominal dollars, their values are distorted by inflation. Had Congress not made periodic changes to income tax laws, Sunley and Pechman (1976, p.159) showed that the effective tax rate applied to adjusted personal income would have risen from 10.7 percent to 16 2 percent between 1960 and 1975. Real growth (i e., assuming indexation had been in place) would have increased that 1960 rate to 12.2 percent. With the changes made by Congress, the actual rate in 1975 was 11.3 percent. Thus, Congress corrected taxes not only for inflation, but also for real growth. The fact that Congress has made, and probably would continue to make, such periodic adjustments, leads many tax analysts to regard indexing of the rate structure as only of secondary importance and a political decision (Aaron, 1976, p.327). Since Congress has made the decision in the Economic Recovery Tax Act of 1981 to begin indexing the rate structure in 1985, unless they opt subsequently to rescind that decision, no further debate on this point seems necessary The other nominal amounts which will be indexed for 1985 under ERTA are the zero bracket amounts and the personal exemption amcunt. However, other nominal amounts are recommended for indexation Sunley and Pechman (1976, p.154) and Allen and Savage (1975, p.57) suggested that instead of indexing all nominal dollar amounts, almost all of that distortion could be

eliminated by indexing the most important items. Perhaps then, in addition to exemption and bracket amounts, certain important credits such as earned income, child and dependent care, and credit for the elderly also should be indexed. The earned income credit was included in Denison's list of nominal figures to index (1976, p.243).

2. Suggested index(es)

> "The choice of the index depends to a large extent on the objective to be achieved through indexing " (Tanzi, 1976, p.218)

Congress has made its choice already in specifying that the Consumer Price Index be used in the implementation of the indexation portion of the ERTA legislation. However, what is the opinion of tax policy analysts concerning the choice of an index? Also, if more items are indexed, how many indexes have they suggested using? Several potentially appropriate indexes have been suggested. O'Brien (1980, p.267) listed three such indexes:

1. CPI (the Consumer Price Index) - a measure of the average change in the cost of a selected market basket of goods and services
2. WPI (the Wholesale Price Index) - a measure of price changes of about 2,200 commodities sold in primary markets
3. IPD (the Gross National Product Implicit Price Deflator) - a measure of price changes in various components of the Gross National Product

Should one or more indexes be used? Criteria used in the literature to answer that question were mainly of equity and simplicity. For

example, for capital gain taxation, Aaron (1976, p.16) suggested that the use of a separate index for each type of capital asset not only would add complexity to the tax system, but also "would define capital gains out of existence" Similarly, since the current tax system does not adjust for relative price differences arising from geographic differences (differences generally not resulting from inflation), the adoption of indexation should offer no new motivation to attempt to correct that problem (Denison, 1976, p.237). No index reflects changes which any one individual would face. Denison (1976, p.238) suggested that to attempt to adopt a system equitable for each taxpayer would be impractical. Such indexes probably would be politically divisive and would introduce undue complexity to the current system (Denison, 1976, p.239). Hence, the use of only one index seems to be preferable.

If only one index is used, which one should it be? Denison (1976, p.235) suggested that for nominal quantity indexation, the appropriate index, listed third by O'Brien, is the implicit deflator for national income, an official index recently (1976) added by the Bureau of Economic Analysis. The rationale for his choice (1976, p.246) lay in the assertion that factor costs correspond more closely to income subject to taxation than do market prices. Thus, he was of the opinion that an index of factor cost prices was more appropriate than an index of market prices. However, if the goal of indexation is to enable individuals to retain their purchasing power, Aaron(1976, p.22) suggested that some type of consumer-

related index is most appropriate. The Consumer Price Index (CPI) which is supposed to reflect changes in purchasing power seems to be the favorite choice not only for indexing nominal amounts, but also for indexing capital gain items and interest related items (e.g., see Brinner, 1976, pp.130-1; foreign countries such as Canada and the Netherlands use a CPI--see Tanzi, 1976, p.219). While its popularity does not make it the most appropriate, the CPI is probably the one index with which taxpayers are most familiar and with which they would make comparison if some other index were used (Liesner and King, 1975, p 138).

No matter which index is used, problems surrounding it must be addressed. Since the CPI is the index adopted by Congress for the implementation of ERTA, an examination of criticisms concerning indexes will be restricted to problems with that index. The following criticisms have been leveled against the CPI:

1 The prices included in the index do not reflect the quality changes which have occurred in the products bought. For example, today's $10,000 car is significantly different from the $2,000 car purchased years ago.

2. The CPI's statistical weighting system is revised too infrequently, and hence, is too slow to react to major upheavals in the economy For example, the CPI weighting system is revised approximately every ten years The 1972 version was not ready to adjust for the 1973-1974 Arab oil embargo.

3. The actual prices paid by customers differ from the ones included in the CPI. For example, the frequent use of coupons as reductions in the price of products is not captured by the index.

4. Lifestyle changes are not reflected in the CPI. Consumers change their purchase patterns to adapt to changes in prices. For example, when the price of beef goes up, consumers frequently substitute more of a lower priced meat (e.g. chicken).

CPI defenders think too much importance is given to these criticisms. Bureau of Labor and Statistics commissioner Norwood (Synder, 1982, p.14) acknowledged the quality problem, but suggested that the related bias was unsystematic. As for the weighting scheme, she contended that the difference in weights historically have not created more than a tenth of a point per year difference in the CPI. With regard to the lifestyle change criticism, since 1978, gatherers of the statistical data used were instructed to select from within a product category those items which best reflected what consumers in their area were buying. An additional past criticism of the CPI has been corrected effective January, 1983. The object of criticism was the inclusion of current house prices and going mortgage rates into the monthly index even though only 6 percent of all consumers buy a home in a given year (Synder, 1982, p.14). The corrected index eliminated that inclusion but included a factor for rentals of homes similar to those that are owned. In spite of the criticisms leveled against the index, Norwood (Synder, 1982, p.14) claimed that its accuracy was not the main problem. Rather she saw the main problem as being derived from the policy questions stemming from its use.

Another issue that must be dealt with is the lag problem. Two types of lags affect the indexation of taxation: the lag between

earning and collection and the lag between the inflation correction factor and the current inflation rate. Unless hyperinflation (i.e., inflation greater than 20 percent) is occurring, no adjustment is usually suggested for the first type of lag (Bailey, 1976, p.315). With respect to the second type of lag, since indexation usually lags price increases by one to two years, Bailey (1976, p.314) was of the the opinion that none of the interactions between inflation and automatic stabilizers were eliminated by indexation. Therefore, Bailey (1976, p.314) contended that such a lag and other types of lags in the economy were too poorly understood to appraise their benefit or detriment. For the indexation of nominal quantities, the index used by most foreign countries usually has a lag factor of one to two years (Bailey, 1976, p.314).

Because of the errors arising due to the lag problem, Denison (1976, p.244) thought that to scrutinize closely for an appropriate index may be a "superfluous refinement". He suggested a February index release to permit taxpayers to meet the April filing deadline. However, his suggestion would require greater administrative difficulties for taxpayers, a situation not deemed desirable by Blinder (1976, p.263). Thus, a lag between the correction factor and the inflation rate would seem to be inevitable, at least for the indexation of nominal quantities. Allen and Savage (1975, p.55) suggested that a minimum lag period of at least six months is desirable so that unreliable month-to-month changes not be used to alter tax rates. For the indexation as adopted in the Economic

Recovery Tax Act of 1981, a Canadian-type lag will be employed. That is, the index factor used is defined as "the increase in the average Consumer Price Index from the 12-month period beginning September 30 of the calendar year two years before the tax year to the average for the 12-month period ending September 30 one year before the tax year" (Amerkhail, 1981, p.26).

3. Summary

As has been shown, with respect to the indexation of base elements, an area Congress has chosen to ignore at present, the items recommended by the analysts were capital asset costs, interest income and deduction amounts, and mortgage principal amounts. The suggestions regarding the indexation of all these base elements, with the exception of mortgage principal amounts, were incorporated into the Alternate Model. Mortgage principal indexation would have required far more detailed data than was available Its omission introduced a bias in the results of this study for those groups experiencing such mortgage principal gains. That is, since the incidence of homeownership is not uniform across all groups, those groups experiencing the most benefits had less reported income in this study than they would have had if mortgage principal amounts had been indexed

With respect to the rate structure, a phrase which analysts use to include other nominal amounts such as exemptions, deductions,

and credits, in addition to those items which will be indexed under the ERTA legislation (i.e., bracket amounts, zero bracket amounts, and exemption amounts), tax policy analysts also have recommended the indexation of tax credits. At a minimum, they suggested that indexation be applied to the more important credits such as the credit for the elderly, the earned income credit, and the child/dependent care credit. These suggestions have been incorporated into the definition of the Alternate Model.

While several indexes potentially are candidates for use in an indexed tax system, because of the errors introduced by the use of a lagged index, a close scrutiny for the correct choice(es) is probably unnecessary (Denison, 1976, p.244). In ERTA, Congress has chosen a lagged CPI, a choice similar to that made by countries that already have an indexed system. This lagged CPI as specified in the ERTA legislation will be the index used in this study both for those items legislated to be indexed (ERTA Model) and for those additional items to be indexed as part of the Alternate Model. The choice of only one index, particularly the CPI, was based on the recommendations of the analysts and on the actual adoptions of countries who index base amounts or nominal amounts other than those specified in ERTA. The bias introduced into this study because of the choice of the CPI is probably not materially different from the bias which would have resulted had another index been chosen. Hence, the resulting bias has been ignored.

In Chapter 4, research studies which exemplify the recommendations made by analysts in this chapter are examined. The Alternate Model was developed by considering the Chapter 3 recommendations. The intent of its development was to fill the need for research which incorporated most of those recommendations in one study.

Chapter 4

INFLUENCE OF LITERATURE ANALYSIS ON MODEL DEVELOPMENT

The literature was searched for individual income tax indexation research which incorporated the suggestions made by the tax policy analysts (see Chapter 3). This chapter contains descriptions and analyses of those research studies No study found contained a model incorporating all or most of the recommendations made by the analysts. The unique feature of this present study is the development of such a model, referred to as the Alternate Model. The models used in the present study (i e., the 1973 Law Model, the ERTA Model, and the Alternate Model) incorporated some of the features contained in the research cited below. The features which were incorporated are noted in the concluding comments of each of the two sections of this chapter

The research reviewed was dichotomized into rate structure research and base research. Rate structure was defined (as in Chapter 3) to include not only the rate structure itself, but also other nominal amounts such as exemptions, deductions, and credits. Base elements suggested for indexation included capital assets, interest related items, and mortgage principal amounts. With the

exception of Pierce and Engler (1976), who not only indexed rate structure amounts but also indexed the capital gains associated with housing and common stock, the remaining research done was either only of the rate structure variety or of the base variety. Since the research of Pierce and Enzler had more of the rate elements in it, it was grouped with the rate structure research.

The index adjustment factor used in many of the studies cited was a Canadian-type lagged index. That is, any increase in the CPI was measured over a 12-month period; however, the end of that period typically coincided not with the end of the tax year, but with the end of an earlier month one year prior to the tax year. The ERTA index factor is based on such a lag. That index factor is defined later in this study.

1. Rate structure research

Much of the research done in the area of individual income tax indexation has centered on the indexation of the rate structure. For example, Sunley and Pechman (1976) compared income tax liabilities from 1960 to 1975 under the following assumptions:

1. no tax change during those years,
2. the actual tax changes put into law by Congress, and
3. indexation only.

It is not clear from the text if, for this comparison, only rate bracket adjustments were made, or if other nominal amounts (i.e., personal exemption amounts, the per capita credit amount, the low-income allowance amount, the standard deduction amount and the

earned-income credit amount) were also indexed. Actual tax data through 1973 and estimates for 1974 and 1975 were used. The simulations made using the 1972 Brookings Tax File data showed that if no tax changes had occurred during the years in question, the effective tax rate would have risen from 10.7 percent to 16.2 percent. With the changes actually implemented, the final effective rate was only 11.3 percent. If indexation only had been in place, the effective rate would have risen to 12.2 percent. Other comparisons were made for the year 1975 only, showing the effect of 10 percent inflation on tax liabilities with and without indexation of the rate brackets and the nominal amounts mentioned above. Sunley and Pechman concluded that while periodic rate changes had more than offset the inflation-induced increases in effective tax rates, during the time period of the study, the distribution of the cuts did not coincide with those that would have occurred in an indexed system.

Sunley and Pechman did not index the tax base in their study. Nevertheless, Feldstein and Bossons (1976, p 170) contended that, in fact, the methodology which they used implied an indexed tax base. Only if the tax base were indexed would they expect pre-inflation taxable income to rise proportionately without regard to the capital and labor income mix. Or as Bailey (1976, p.171) suggested, Sunley and Pechman's study would hold only for those taxpayers whose incomes were entirely from labor.

Fellner, Clarkson, and Moore (1975) compared 1974 tax revenue estimates expected given the 1974 tax rebate with the revenue estimates expected assuming inflation adjustments for exemption amounts, the standard deduction amount, the low-income allowance amount and bracket intervals, with 1973 as the base year Several estimates were made assuming different inflation rates, but a 10 percent rate was the key figure used since it approximated the actual inflation rate for that year. The Treasury model used by them could not provide accurate estimates of capital gains and losses. Thus, any tax base adjustments were ignored in their study. The results of their study showed that the rebates actually enacted favored the lower income classes (i e., classes with adjusted gross incomes of less than $20,000), a distribution which would not have occurred had indexation been in place. This distributional effect well may have been what Congress intended (their avowed purpose was to stimulate the economy) (Fellner, Clarkson, and Moore, 1975, p 11) However, the resulting distribution, along with the fact that the total inflationary gain to the Treasury since the previous tax cut had not been returned to the taxpayers, seemed to bother Fellner, Clarkson, and Moore. Thus, they (p.22) advocated the adoption of indexation for Congress to avoid changing a "disfigured structure" when they cannot know what the effect will be. The search for evidence in support of their arguments for the adoption of an indexed system seemed to have been their primary motive for the study.

The research of Allen and Savage (1975) was done primarily to examine critically the major arguments made both for and against the adoption of indexation in England. The model used in their study was based on a Canadian-type lagged indexing scheme (i.e., nominal amounts were indexed to reflect the change in the average value of the Consumer Price Index during the previous calendar year). The nominal amounts they indexed were the personal allowance amount, the married allowance amount, and the bracket endpoint amounts. They also estimated the tax revenue effects of indexation While they discussed the effect of inflation on tax base items, no adjustments were made for those items in their illustrations Like the Fellner, Clarkson, and Moore research cited above, their illustrations also emphasized that discretionary changes versus automatic indexation resulted in different patterns of distribution They (p.48) considered the redistribution consequences of inflation given a progressive tax structure as the most important argument for the adoption of indexation. Regarding tax revenue, they (p.50) concluded that the revenue yield would have been reduced by about 15 percent (however their Table 3 shows a 25 percent decline) if the tax system had been indexed over the period 1968 to 1975.

The stated purpose of Bastable and Fogg's research (1982) was to show the accounting profession the significance of the indexation as placed into law by Congress in the Economic Recovery Tax Act of 1981. The motivation for their study lay in the theory that Congress may change its collective mind and rescind this provision

before its implementation in 1985. Their presentation to the profession was meant to spur the profession into protecting this provision from ultimate repeal. With this end in mind, Bastable and Fogg made 1-year and 10-year projections of salaries, taxes, and after-tax incomes assuming constant inflation rates of 8, 10 and 12 percent As is done in most rate studies, it was assumed that salaries kept pace with inflation, an assumption which Bastable and Fogg realized would bias their results somewhat. They concluded that Congress may decide that rescission of indexation is desirable for two major reasons.

1. the apparent loss of significant tax revenue when ERTA theoretically was implemented over a 10-year interval ranged from 11.8 percent to 70 9 percent depending on the initial salaries, and

2. the fact that increasing taxes is politically difficult and therefore, inflation induced increases are preferred to increases requiring a vote

In a study prepared for and submitted to the Joint Economic Committee of Congress on December 23, 1981, Amerkhail used a new econometric model (the Data Resources, Inc. or DRI model) to estimate the revenue and distributional effects of the personal income tax aspects of the Economic Recovery Tax Act of 1981 for the period 1981 to 1990 In the DRI model, developed by Data Resources, Inc., the historical relationship between income distribution and forecasted macroeconomic variables is used to project the before-tax income distribution. While the DRI model cannot handle minor details of the Internal Revenue Code as well as the Treasury's

Individual Income Tax Simulation Model, its usefulness is thought to lie in its ability to forecast long-term revenue and distribution effects. Since indexation goes into effect in 1985, Amerkhail presented results for 1985 and 1990. Since no other provision of the Economic Recovery Tax Act of 1981 becomes operative as late as indexation, it would appear that the major portion of any significant change in revenue between 1985 and 1990 would be due to indexation. However, it is not known how sensitive the DRI model is to different economic assumptions because of its newness and lack of complete testing (Amerkhail, 1981, p.25) Hence, the particular economic variables used may have biased the results

The ERTA index factor used in the Amerkhail study is the one required in the ERTA legislation, and was defined as "the increase in the average Consumer Price Index from the 12-month period beginning September 30 of the calendar year two years before the tax year to the average for the 12-month period ending September 30 one year before the tax year" (Amerkhail, 1981, p 26). This index lag is identical to the one used by Canada.

Table 4-1 below contains a summary of the results of Amerkhail's study listing only the differences between 1985 and 1990 The top 5 percent of 1980 joint taxpayers had reported Adjusted Gross Incomes of more than $55,850 The remaining three groups had Adjusted Gross Incomes of between $44,540 and $55,850, between $22,610 and $44,540 and less than $22,610 respectively. As is evidenced by an examination of Table 4-1, the top 5 percent

received the most benefit from the Economic Recovery Tax Act of 1981 and presumably from indexation. The amount of tax savings indicated in the table is stated in nominal dollars rather than in 1980 dollars.

Table 4-1. Effects of Tax Reductions between 1985 and 1990 on Taxpayers Filing Jointly

	% of 1980 joint taxpayers			
	Lowest 50%	Next 40%	Next 5%	Top 5%
Change in average tax rate	-0.1	0.3	0.5	-2 0
% Change in AGI before tax	-0.1	-0.1	0 0	0 2
% Change in AGI after tax	-0.2	-0.5	-0.1	0.5
% Change in taxes paid	0.0	0.7	0.4	-1.7
Change in average tax savings if 1980 rates had been used	-$132	-$152	$250	$5,723

Source Amerkhail, PP 32-34
AGI = Adjusted gross income

Pierce and Enzler (1976) did their research in order to determine whether or not indexation of the rate structure would have a destabilizing effect on the economy. They theorized that if indexation prevented real tax burdens from increasing when prices did, then it could be destabilizing. Such destabilization would be evidenced if the introduction of an exogeneous shock such as an increased demand for money induced "significantly larger movements in prices and real output when the rate structure is indexed than when it is not" (p.174). They used the Social Science Research Council-MIT-Penn (SMP) model, replacing the model's tax equations

with some developed by Pechman (for taxable income) and by Gramlich and Ribe (for tax liabilities).

In addition to indexing rate brackets and exemptions, Pierce and Enzler also indexed capital gains where the capital assets indexed were houses and common stock. They did not use a lagged index; rather they used a current price index. The results of their simulations indicated that indexation did not generate significantly greater instability than was already in existence. They suggested (p.175) that if a lagged deflator had been used, the likelihood of increased instability would be even less. In making this suggestion, they were relying on an earlier study, namely that of Bossons and Wilson.

Bossons and Wilson (1973) studied what the effects of a lagged deflator would be Using the University of Toronto's quarterly forecasting model, they simulated the effects of an expansionary shock of increased exports on the Canadian economy for the year 1965. This simulated shock produced an inflationary effect on prices and taxes. Rate brackets and personal exemption amounts were indexed in their simulation Because of the lagged deflator in use, they determined that indexation would have had no effect for the first two years Taxes would have been substantially lower in the third year, however. By the fifth year, a further widening between the simulated indexed and nonindexed tax receipts was evidenced. Bossons and Wilson concluded that the indexed system had a stabilizing effect on real output, with only a slightly higher inflation rate resulting.

Concluding comments

Detailed descriptions of the models used in the current study are contained in Chapter 5. The discussion which follows relates to the influence that the cited race structure research had on the development of the models in the current research. The inclusion in the present study of the 1973 Law Model, a no tax change model, was motivated by a similar treatment in the Sunley and Pechman reseach and in the Allen and Savage research. This inclusion permits a comparison between a no tax change situation and a situation in which some particular legislation (proposed or otherwise) has been introduced so that the effects of that particular legislation can be ascertained. Unlike the study of Sunley and Pechman and that of Bastable and Fogg, the current study did not assume that salaries kept pace with inflation, an assumption which likely does not hold for lower income taxpayers and which does not take into account other types of income. Rather, it was assumed in this study that real income shares are fixed. That is, it was assumed that income percentile groups remained unchanged over time. This assumption should not have introduced any systematic bias into the study.

The ERTA Model differed from that used in the Amerkhail study in that it was a static model which was heavily dependent on actual data, rather than being a dynamic model for which forecasted data had to be provided. The use of a lagged index in the current study was motivated by its requirement in ERTA and its use in most of the studies cited. It was assumed (following Pierce and Enzler and

Bossons and Wilson) that the indexation of the rate structure would not have a destabilizing effect on the economy.

The rate structure portion of the Alternate Model was designed so that not only the bracket amounts, the zero bracket amount, and the exemption amount were indexed as was done at least in part in several of the studies cited, but also some credit amounts (i.e , the credit for the elderly, the child and dependent care credit, and the earned income credit) were indexed as was suggested by some tax policy analysts (see Chapter 3). This latter indexation was not a feature of any of the cited research. The Alternate Model also addressed the indexation of certain base elements. A discussion of that portion of the Alternate Model follows the analyses of those research studies whose primary concern was with the indexation of base elements.

2. Base research

While also briefly discussing the indexation of interest, Brinner (1976) concentrated his efforts on showing how the indexation of capital gains and losses could be implemented. He (p.128) defined an inflation-adjusted gain as follows:

$$\begin{array}{l}\text{inflation-}\\ \text{adjusted}\\ \text{gain}\end{array} = \begin{array}{l}\text{net}\\ \text{sales}\\ \text{price}\end{array} - \left[\begin{array}{l}\text{historical-}\\ \text{cost}\\ \text{basis}\end{array}\right] \times \left[\begin{array}{l}\text{inflation}\\ \text{adjustment}\\ \text{factor}\end{array}\right]$$

The inflation adjustment factor he used was calculated by dividing the Consumer Price Index for January of his base year, 1974, by the

Consumer Price Index for the date of purchase. Table 4-2 below shows the current Schedule D and Brinner's revised Schedule D (the schedule used for reporting capital gains and losses) for hypothetical transactions occurring in 1974. Brinner's captions were used, though modified slightly. He did not explain why, in the current Schedule D the caption Gross sales price was used, while in the revised schedule, that caption became Net sales price. Nor did he explain why Cost or adjusted basis became Gross purchase price. The point he tried to make was that the transformation to an indexed capital asset sale schedule was rather simple. In this example, he showed that a gain of $405 and a loss of $2,340 would have been reported had indexation been in place, rather than the $1,000 gain and the $100 gain currently reported before the capital gain deduction is taken. With the capital gain deduction, only a total of $550 for the two transactions would have been added to income. However, Brinner suggested the elimination of the capital gain deduction, considering it unnecessary since asset costs were indexed. He viewed the capital gain deduction as an inflation adjustment.

Brinner (1976, p.123) justified his use of the Consumer Price Index as the appropriate inflation adjustment factor based on his definition of income as the "potential quantity of goods and services an individual could consume" He also accepted as appropriate the taxation of capital gains on a realization rather than accrual basis, not for administrative reasons, but because he

perceived that taxation upon realization was a well established practice.

Table 4-2. Current (1974) and Suggested Revised Schedule D

Kind of property and description	Date acquired	Date sold	Gross sales price	Cost or adjusted basis	Gain or (loss)
100 YBM shares	6/19/63	8/23/74	$2,000	$1,000	$1,000
Bond,XT&T	3/20/71	9/5/74	$10,100	$10,000	$100

Revised Schedule D

Kind of property and description	Date acquired	Date sold	Net sales price	Gross purchase price	Inflation adjusted cost	Inflation adjusted gain or (loss)
100 YBM shares	6/19/63	8/23/74	$2,000	$1,000	$1,595	$405
Bond,XT&T	3/20/71	9/5/74	$10,100	$10,000	$12,440	($2,340)

Source: Brinner, 1976, p 129

On the other hand, with respect to the indexation of interest income amounts and interest deduction amounts, the other base elements he suggested indexing, Brinner supported the concept of current year recognition of inflation gains or losses because "no administrative or political difficulties exist to counter the theoretical case" (p.131). For the implementation of an inflation adjustment to interest, he suggested that lending and saving institutions issue year-end statements to the borrowers and depositors stating nominal interest, the inflation gain/loss on the

average debt/deposit balance and the net inflation-adjusted income or deduction.

Fischer (1976, pp.145-147) critized Brinner for eliminating the capital gain deduction since Fischer viewed that deduction as a means of encouraging risk-taking. He suggested that even if the tax system were indexed, it seemed likely that some deduction would remain. Fischer's other concerns related to:

1. the potential lock-in problem arising from the taxing of only realized gains
2 the political and distributional impact resulting from a changed mortgage interest deduction, and
3. the implementation issues needing to be addressed.

In another part of the same Brinner study, Brinner estimated the impact on reported adjusted gross income when capital asset items and interest related items were adjusted using actual 1962 statistics published by the Internal Revenue Service in combination with statistics gleaned from Projector's 1968 Survey of Changes in Family Finances. Table 4-3 shows these estimates for 1962. The inflation rate in 1962 was 1.2 percent. Net debt was defined as the sum of mortgage loans, personal loans, life insurance loans and investment loans less household provided loans (p.140). The estimates indicated, all else remaining the same, that the two highest income groups would be liable for additional tax to the benefit of the two lower income groups. Brinner recognized the possibility that, since tax would be levied only on realized capital gains, higher income groups might be inclined to defer recognition

and avoid the increased liability. But since he could not assess adequately the probability of that deferral, he did not include it in his estimation procedure. The fact that asset prices probably would change given a different taxing scheme also was noted by Brinner.

Table 4-3. Estimated Change in Reported Adjusted Gross Income if Inflation Adjusted Accounting had been Adopted

Income class (dollars)	Net change in capital gain income (1)	Inflation loss on savings accounts (2)	Inflation gain on net debt (3)	Total change in reported income (4)
	All households (millions of dollars)			
Under 10,000	-2,299	-729	1,296	-1,732
10,000-50,000	-574	-562	1,115	-21
50,000-100,000	228	-36	15	207
100,000 or more	1,230	-7	26	1,249
Total	-1,416	-1,334	2,452	-297

Source: Brinner, 1976, p.140

Fischer (1976, p.147) challenged Brinner's empirical estimates which showed that an actual 1 2 percent inflation rate in 1962 would increase tax liabilities by 1.5 percent. If the inflation rate had been higher, Fischer suggested that the 1962 tax liabilities would have been approximately the same with indexation as without it. This opinion was based on the assumption that indexation reduces taxes as inflation increases. He seemed to imply that indexing base elements was useless since no major swings in tax revenues would be produced.

In an earlier research article, Brinner (1973) argued for a combination inflation and tax deferral taxpayer specific correction factor in order to make the capital gains tax neutral. He (p.565) defined neutral to mean that

> "for any given gross, real rate of return of a capital asset, the after-tax, real wealth position of a hypothetical investor is invariant with respect to the general inflation experienced by the economy and with respect to the frequency of his gain realization and reinvestment. Moreover, the effective rate of taxation should equal that imposed on other forms of income."

In a later study, referring to this Brinner article, Folsom (1978, pp.401-402) criticized Brinner's definition as being too restrictive. If required to pay tax as gains accrue, he suggested that Brinner's definition would require that the asset holder reduce his investment in each asset rather than change the portfolio mix. This strategy, he argued, did not guarantee an optimal portfolio mix nor one which would permit the taxpayer to shift to or from relatively risky investments as his wealth or age changed The implication was that Folsom believed that taxpayers strive to have such optimal portfolios or to make those shifts. Hence, Folsom did not view Brinner's inflation and deferral correction factor as truly neutral. In fact, Folsom (p.402) contended that the attainment of true neutrality is impossible since it would require an equality between the "taxpayer's interest charge on deferred taxes" and his "long-run overall marginal opportunity cost of capital". The government could not determine this precise rate for each taxpayer. Possibly Brinner agreed with Folsom's assessment since he dropped

his idea of a combined inflation and tax deferral factor in his subsequent research.

Feldstein and Slemrod (1978) examined the impact of inflation on the taxation of capital gains on corporate stock. They found that in 1973, the extra tax due to inflation was approximately $500 million. In fact, while a $4.5 billion nominal gain was reported, they determined that a real capital loss of approximately $1 billion was experienced. The distribution of these real losses was not uniform, however. The total sample of taxpayers in their study with Adjusted Gross Incomes between $0 and $50,000 were taxed on nominal gains which were in fact losses. The sample with Adjusted Gross Income's above $50,000 experienced both nominal and real gains.

Their taxpayer sample and data used were derived from statistics published or made available by the Internal Revenue Service (i.e., Statistics of Income-1973, Individual Income Tax Returns and Statistics of Income-1973, Sales of Capital Assets Reported on Individual Income Tax Returns) Feldstein and Slemrod determined the real capital gain by multiplying the acquisition price of the stock by the ratio of the Consumer Price Index for 1973 to the Consumer Price Index for the year of purchase and then by subtracting the adjusted figure from the sales proceeds. Without justification, they used the Consumer Price Index as the appropriate inflation-adjustment factor

Feldstein and Slemrod (p.116) concluded that, while their study was for 1973 only, they had no reason to suppose that the tax

distortion for 1973 was any greater than for other recent years. In fact, they speculated that since share prices were high in 1973, the ratio of real to nominal capital gains may have been higher than expected. As evidence in support of this speculation, they argued that a diversified portfolio of common stock held for twenty years (1957-1977) would have had its prices doubled according to the Standard and Poor's Index. Since the Consumer Price Index also doubled during that period, there was no real gain experienced. Hence, Feldstein and Slemrod urged that indexation be adopted for capital assets.

In a recent unpublished dissertation, Sayre (1980) simulated the effects of inflation on capital asset transactions using three different models:

1 tax law as it existed in 1977 (capital gain deduction of 50%),
2. the then current 1979 tax law (capital gain deduction of 60%), and
3. the reform plan (i.e., capital asset costs indexed and the resulting income treated as ordinary).

The simulations for his 1979 Law Model and his Reform Plan Model were based on the actual 1970-1977 tax return data of 224 individuals. The historical data and the simulated data then were averaged over the eight years to give, he said, better approximations of the normal filing status of those taxpayers than would the data from only one year The purpose of his research was to measure and to compare the equities (both horizontal and vertical) of the three tax models to determine which system was the most equitable.

In order to facilitate the making of the equity comparisons, Sayre had to modify the historical data somewhat so that the data used for all three models would be consistent. He used a holding period of one year to distinguish short-term from long-term. For the 1977 Law Model and the 1979 Law Model, net capital losses of up to $3,000 were allowed. For the Reform Plan, since income which resulted after indexation was treated as ordinary, he allowed unlimited losses. The Consumer Price Index was judged by Sayre (p.100) to be the "most appropriate for broad application to all classes of taxpayers". His choice of annual CPI figures for indexing the asset costs was based primarily on practical considerations such as the lack of month reported on some returns and the ease of calculation.

Sayre (p.190) defined progressivity (vertical equity) as being exhibited if effective tax rates increased as income increased. He determined that all three models exhibited progressivity. He also quantified progressivity by calculating a coefficient termed the "Average Rate Progression", a figure suggested in 1976 by Musgrave and Musgrave in Public Finance in Theory and Practice. Based on this quantification, he determined that the Reform Plan Model was the most progressive system and that the 1979 Law Model was the least progressive However, he noted that there was not a substantial difference between the most and the least progressive systems. The horizontal equity issue produced the same results; that is, the Reform Plan Model was the most equitable, while the

1979 Law Model was the least equitable. Again, the difference between the most and the least was not substantial. Based on the above findings, Sayre (p.208) concluded that perhaps criteria other than equity considerations should be used to evaluate methods of taxing capital asset transactions.

Concluding comments

The following discussion indicates how the above cited base research influenced the model development of the current study. All of the authors cited indexed capital asset costs. Except for Sayre who had access to individual taxpayer data, though a limited amount of such data, the other researchers dealt with the limited data made available to them by the Internal Revenue Service. As a result of these data restrictions, Sayre could not generalize because he had a nonrandom sample, and the others could not generalize because they dealt only with limited capital asset data. Since the data used in the current study also was made available by the IRS, the results are subject to limited generalizations. All of the researchers used current CPI figures for their indexation factors. The Alternate Model of the current study employed lagged CPI figures consistent with the lagged CPI adjustments factors used for the rate structure elements. Like Sayre, the current study is a multiyear study rather than the single year comparisons made by the other researchers. This multiyear presentation should permit a better depiction of the normal status of the taxpayers. The 1973 capital transaction data available for the current study is comparable to the 1962 data

available to Brinner. Hence, similar groupings of taxpayers appear in the current study as were shown by Brinner in Table 4-3. Brinner and Sayre were followed in treating as ordinary the income resulting after the cost was indexed. That is, no capital gain deduction was permitted in the Alternate 0% Model and unlimited losses were allowed. However Fischer, who criticized Brinner for eliminating the capital gain deduction, was followed in the Alternate 60% Model, where not only were capital asset costs indexed, but also a 60 percent deduction was allowed.

Of all the research cited, only Brinner addressed the issue of indexing interest related items, and he did this in a net manner. In the current study, interest income and interest deductions are indexed separately, primarily because different interest rates apply and were applied to these two categories. Additionally, interest deduction amounts were dichotomized into mortgage and nonmortgage interest amounts to apply more realistic rates to each of these categories. Interest indexation is a feature of the Alternate Model No study cited indexed mortgage principal amounts. As already indicated in Chapter 3, the indexation of this base element also was ignored in this study.

To summarize, the unique feature of this research is the introduction of the Alternate Model in which the rate structure elements were indexed, as is required in the ERTA legislation. Additionally, certain credits were indexed also. With respect to base elements, indexed in this model were capital asset costs

followed by two different treatments. With the Alternate 0% Model, the resulting income was treated as ordinary with the permitting of unlimited loss taking. With the Alternate 60% Model, after indexation, a 60 percent capital gain deduction was permitted. Losses were allowed only to the annual limit for the year in question and then only 40 percent of those losses were allowed. Interest related items also were indexed in the Alternate Model.

CHAPTER 5

DATA, METHODOLOGY, AND TAX MODELS

In this chapter, the data (gathered or generated), the methodology, and the models used in the study are described. All assumptions and adaptations made are given and justified.

1. General overview

As was mentioned in Chapter 1, several topics were to be addressed in this research:

1. the views of tax policy analysts on tax indexation,
2. the aspects of the current tax system which analysts suggest need indexation,
3. the choice of index(es),
4. an examination of the available research in this area,
5. a comparison of the following.
    1. the distributional and revenue effects of a no tax change system (i.e., the tax law existing in the base year (1973) extended for the period 1974-1978), (this system is referred to as the 1973 Law Model)
    2. the distributional and revenue effects of the indexed system as required by Congress in the Economic Recovery Tax Act of 1981 applied to the base year (1973) tax system developed in step 1 (this system is referred to as the ERTA model)

3. the distributional and revenue effects of a proposed indexed system in which certain existing 1973 provisions have been eliminated and in which the indexing is the same as in step 2 except that it is extended to more items (this system is referred to as the Alternate Model), and

6. the nonrevenue effects of indexation.

Several of these items already have been examined in previous chapters. Specifically, the first item was addressed in Chapter 2; the second and third items in Chapter 3; and the fourth item in Chapter 4. These topics were explored via a review of the literature and logical analyses. The focus of this chapter is on the gathering or generating of the data and on the development of the models needed to address the fifth item. The actual comparisons of the revenue and distributional effects of the various tax systems alluded to in the fifth item will be discussed in Chapter 6. Also included in that chapter will be a discussion of the nonrevenue effects of indexation (the sixth item).

Another topic addressed in Chapter 1 was the choice of the perspective chosen for the collection and the generation of data. This choice is related to the major objective of this study which was to determine the effect various tax models would have on Treasury revenue and on groups of nonbusiness taxpayers given current tax law. Given these objectives, two approaches could have been taken One approach would be to make estimates of future conditions in the environment (e.g., interest rates and inflation rates) and to determine what effect the tax models would have on

future tax performance. The other approach would be to gather past tax and environmental data, impose the current tax structure on that system, and then determine the effect of the tax models on that past environment The latter approach was the one used in the study since it required less estimation, and hence, should have reduced the potential for bias. Primarily because of data availability, the base year chosen was 1973, with the period studied being 1974-1978. This point is discussed in greater detail later. A multiperiod study was chosen rather than a single year in order to present a better depiction of the normal status of the taxpayer groups. The data was collected mainly from Internal Revenue Service (IRS) publications or Census Bureau statistics. Groups of taxpayers, rather than individuals, were the subject of the study primarily because IRS data is presented in that manner. In particular, the data needed for the indexation of capital asset transactions were summarized in four groupings. The groups studied reported adjusted gross income amounts as follows:

1. under $10,000,
2. $10,000-$49,999,
3. $50,000-$99,999, and
4. $100,000 and over.

As is mentioned in greater detail later, these groups of taxpayers were tracked over the period in the study While the purpose of this tracking was to follow the same taxpayers in the same groups over time, it is very likely that some individuals did not remain in the same group throughout the years of the study. This number of taxpayers should be small, however, since the tracking was done by keeping constant their real income shares.

The following discussion is a brief overview of the models used in this study, namely:

1. the 1973 Law Model,
2. the ERTA Model, and
3. the Alternate Model.

A complete exposition giving the specific details of the implementation of each model is presented later in this chapter.

The 1973 Law Model

The 1973 Law Model can be viewed as a status quo model -- what would have happened if tax law had not changed during the 1974-1978 period. This model was included as a control so that the effects of indexation could be highlighted. Since it is a status quo model, changes that affected the 1974-1978 return amounts had to be factored out Usually, this was accomplished by the use of trend analysis, a form of linear regression. That is, data reported in early years (i e., before a tax change) were used to extrapolate what likely would have been reported in later years if no tax changes had occurred.

The decision of which time period to use for this study was based on several considerations. Since the intent of the research was to use empirical data as the primary data source and to determine what revenue and distributional effects would result under the various tax systems, the availability of such empirical data determined somewhat which years were included in the investigation. The most recent year for which published statistics of income based upon individual tax returns were available was 1978. Therefore, it

was the last year included in the study. The other critical data requirement, used with the Alternate Model, was holding period information on capital asset transactions. This information is published infrequently by the Internal Revenue Service (1962 and 1973), with the 1973 information available only since 1980. To minimize the number of data adjustments that would be required, a five-year period was used. Thus, 1973 was chosen as a suitable base year, with 1974-1978 the period investigated.

Two items were adjusted to make the 1973 tax system more comparable to the 1983 tax system as well as to facilitate the implementation of the Alternate Model. The earned income credit was introduced in this study beginning with 1973, even though, in actuality, it became effective in the 1975 tax year. Similarly, the child/dependent care credit actually replaced the child/dependent care deduction in 1976. In this study, this replacement was applied beginning in 1973. These comparability changes are discussed in more detail later in this chapter.

The ERTA Model

Using the data developed under the 1973 Law Model, indexation as specified by Congress in the Economic Recovery Tax Act of 1981 was implemented That is, using the Consumer Price Index, cost of living adjustments were determined as specified by section 1(f)(3) of the Internal Revenue Code. Then, bracket amounts and personal exemption amounts were indexed. However, as is discussed in greater detail below, standard deduction amounts were indexed rather than

zero bracket amounts since the latter were not available until 1977. That is, standard deduction amounts served as surrogates for zero bracket amounts. This surrogation was based on the fact that there is no essential change in substance when a standard deducton amount is allowed versus when a zero bracket amount is allowed, especially when groups of taxpayers, rather than individuals, are used as occurred in this study. For example, in 1976, the standard deduction amount per individual ranged from $1,700 to $2,100. The group amount would be some weighted average of those figures. In 1977, the zero bracket amount for single taxpayers was $2,200. Thus, the use of standard deduction amounts rather than zero bracket amounts should not produce materially different results, especially since an adjustment (described later) was made for the change in amounts.

The Alternate Model

The alternate indexation system was built upon the ERTA system. While several indexes were suggested by tax policy analysts as potential candidates for an index factor, the index of choice, both here (in ERTA) and in foreign countries, is the Consumer Price Index (CPI) Thus, the CPI was the index used for the Alternate Model. In addition to the indexation specified under ERTA, certain important nonbusiness taxpayer credit amounts such as the credit for the elderly, the child and dependent care credit and the earned income credit also were indexed. As was shown in Chapter 3, tax policy analysts recommended that tax credit amounts be indexed.

They deemed it sufficient to index only the most important credit amounts, and the earned income credit, the child and dependent care credit, and the credit for the elderly were the nonbusiness taxpayer credits they listed as most important. As was recommended also, indexation was applied to interest amounts (income and deduction) and to capital asset cost amounts.

With respect to capital asset indexation, two different treatments were applied. The application of the two treatments was motivated by the fact that the capital gain deduction was legislated not solely as an inflation adjustment. Thus, the use of a deduction is not inconsistent with the adoption of capital asset indexation. The two treatments (i.e., 0% and 60%) allow for an examination of the effects given the extreme positions. In one case, hereafter referred to as the Alternate 0% Model, after indexation no capital gain deduction was allowed. For losses that resulted, the full amounts were allowed. The second treatment, hereafter referred to as the Alternate 60% Model, allowed for 60 percent capital gain deductions and only 40 percent loss deductions after indexation of capital asset cost amounts. A 40 percent rate was used instead of the currently allowed 50 percent rate to maintain logical consistency. This change created a slight bias in the results causing higher income to be reported than if the 50 percent rate had been used This bias is slight because of the ceiling which exists for the deductibility of capital losses.

The interest deduction amount was dichotomized into mortgage interest and nonmortgage interest amounts and then indexed using weighted interest factors and the cost of living adjustment factors. The interest deduction amount constituted approximately 30 percent of the itemized deduction amounts. Since it was assumed that establishment of the standard deduction amount was meant to mirror itemized deduction amounts, the standard deduction amounts were adjusted by reducing them by 30 percent.

2. Data considerations

Actual vs. simulated data

There are three approaches that one could take when deciding what data to use in a study. Empirical data could be used if such data exists and is available to the researcher. Alternatively, the data needed for the research could be simulated using existing data as criteria for reasonableness. Finally, a combination of these two approaches could be used. In this study, complete dependence on empirical data was impossible since data such as indexed brackets or indexed capital transactions were not available for the ERTA Model or the Alternate Models. Consequently both empirical data and simulated data were used; however, data were generated only if adequate empirical data were not available.

Use of Internal Revenue Service data

Most of the empirical data used in this study were published IRS statistics of income data based on individual tax returns and

statistics on capital assets transactions. These data are listed by the IRS in tables arranged according to adjusted gross income (AGI) amounts. Thus, each AGI listing represented a group of taxpayers. In particular, certain capital transaction data were presented in only four AGI groups, namely:

1. under $10,000,
2, $10,000 - $49,999,
3. $50,000 - $99,999, and
4. $100,000 and over.

This four group categorization by the IRS was the motivation behind its use in this study.

Several problems resulted because of the way the IRS presented data. Since amounts were given for groups of taxpayers, indexation had to be done on a group basis. A more thorough discussion of problems and assumptions connected with group usage is presented later in this chapter. Another problem, exemplified by the change to the Zero Bracket Amount (ZBA), is that in 1977 its introduction evoked a change in the way the IRS presented its data. Because of this change in presentation and also because of the other changes which occurred to the standard deduction amounts between 1973 and 1978, the standard deduction amounts, not the ZBA amounts were indexed by groups. Specific details about the indexation of standard deduction amounts appear later in this chapter.

Changes in the law frequently evoked new table presentations. However, even without such changes, frequently tables were not presented in the same manner from year to year. Certain data were missing entirely for some years. Some data from the 1972 tax

returns were used partly to overcome this problem Another problem encountered was with the IRS sampling techniques. This problem surfaced when the totals from one table did not agree with the totals from another table. Since there was no way to overcome the error introduced by this problem other than by examining the individual returns, it was assumed that the bias caused by this error was not material. Thus, the IRS tables were used as presented.

Comparability changes

One of the features of the alternate system is the indexation of certain credits; namely, the credit for the elderly, the child/dependent care credit, and the earned income credit. However, only the credit for the elderly was operative during the entire period of the study, and it was liberalized in 1976 (Statistics of Income, Individual Income Tax Returns, 1976, p.vi). Adjustments described in greater detail later were made to the 1976-1978 elderly credit amounts to remove the effects of this liberalization. The child/dependent care credit was introduced in 1976. Prior to that time, a taxpayer was permitted to itemize up to a maximum of $400 per month of actual expenses The amount deductible had to be reduced by half the amount by which adjusted gross income exceeded $18,000 ($35,000 after March 30, 1975). For purposes of this study, the child/dependent care deduction was transformed to a credit beginning in 1973 The transformation was accomplished by removing the actual deductions taken during the years 1973, 1974, and 1975

and replacing them with the appropriate credit amount. The total amount of the credit was the sum of (1) the previous revenue loss due to its deductibility and (2) the projected revenue loss of the concomitant credit. The latter loss was based on backward projections of estimates of the revenue loss of the credit for child care made by Congress for bill H.R. 10612 (subsequent legislation became the Tax Reform Act of 1976). Presented below are the revenue loss projections, the projections derived from them, the method used in their derivation, and an example showing the determination of a specific child care credit amount total.

Projections of revenue loss by Congress (millions of dollars)
(House Ways and Means Committee, p.50)

1976	1977	1978	1979	1980	1981
-325	-358	-393	-433	-476	-523

An analysis of these projections showed a 10% annual increase. Using this as a guide, one could project backwards to 1973.

Backward projections (millions of dollars)

1973	1974	1975
-244	-268	-295

Hence, for example, in 1973 the total credit was $461,588,000 (value of the revenue loss of the deduction--$217,588,000 plus the estimated revenue loss of credit--$244,000,000)(see Appendix C, Table C-1).

Both in the use of these Congressional estimates, and later when the tax law changes were factored out, estimation was a

necessity. Thus, there exists the likelihood of bias in the results of this study. In this instance however, child care credit amounts are small with respect to income tax before credits. For example, in 1976, for taxpayers filing taxable returns, the child care credit amount of $441,198,000 constituted only 0.29 percent of the tax before credits amounts of $152,616,713,000. Hence, the amount of bias introduced by the use of either a high or low Congressional estimate in this case is negligible.

The Earned Income Credit was introduced into law by the Tax Reduction Act of 1975 and was effective in the 1975 tax year. The maximum credit was $400 (10% of the first $4,000 of Earned Income) phased out to $0 when adjusted gross income reaches $8,000. Effective in calendar year 1979 (Revenue Act of 1978), the credit was increased to a maximum of $500 with phaseout at an adjusted gross income of $10,000. To "introduce" the credit in 1973, the following adjustment was made based on inflation rates. Between the beginning of 1973 and the introduction of the credit beginning in 1975, a 22 percent inflation rate occurred (end 1974 CPI/end 1972 CPI = 155.6/127.3 = 1.22). An additional 38 percent increase occurred between 1975 and 1979 when the credit was increased (end 1978 CPI/end 1972 CPI = 203.5/127.3 = 1.60). Based on Congress' $100 increase from 1975 to 1979 and this inflation increase of approximately 200 percent (38%/22%), extrapolation of the Earned Income credit to to 1973 resulted in a maximum credit of $350 with phaseout at $7,000.

Groups in the study

Because of the manner in which the 1973 capital asset holding period data were reported by the Internal Revenue Service, the following adjusted gross income groups were used for that base year:

1. under $10,000,
2. $10,000-$49,999,
3. $50,000-$99,999, and
4 $100,000 and over.

These groups were tracked over the period in the study. The goal of this tracking was to try to maintain the same taxpayers in the same groups over time so that there could be meaningful interpretations of the effects of the various tax models on those groups. In order to track a group of taxpayers through the 1974-1978 period given the fact that the Internal Revenue Service published nominal data, two possible assumptions could have been made to try to maintain the same taxpayers in the same groups One assumption would be to have their real income shares change in proportion to the rate of inflation (i.e., their AGI positions relative to the other groups would be fixed) This assumes that AGI is a reasonable surrogate of real income, and that the AGI positions of the various groups move proportionately with the rate of inflation. This first assumption is made occasionally by tax policy researchers. For example, as was cited in Chapter 4, Feldstein and Bossons (1976, p.170) suggested that Sunley and Pechman (1976) used a methodology which implied the use of such an assumption. A second assumption would be to increase the wages/salaries of the taxpayers in the same proportion as the rate of inflation. While tax policy researchers use an assumption

such as this on occasion (e.g., Bastable and Fogg, 1982), its bias is well known in that income other than that from wages and salaries is not dealt with specifically in that assumption. Furthermore, even wages and salaries need not follow inflation perfectly. Hence, use of the second assumption should produce more biased results than would the use of the first assumption. While the use of no assumption can insure that all the same individuals would remain in the same groups over time (clearly there were individuals whose AGIs grew faster or slower than the rate of inflation), use of the first assumption should track most individuals better than does the use of the second assumption. Hence, the first assumption was the one used in this study.

In addition to the assumption made regarding the effect of inflation on income, another assumption was made concerning the asset realizations which occurred during the years of the study. These two assumptions (i.e., how inflation affected income and the effect on asset realizations of the different tax models used) are stated as follows.

1. Each group of taxpayers maintained its same position relative to the other groups of taxpayers That is, if the taxpayer group having adjusted gross income between $10,000 and $50,000 constituted 50 percent of the population in 1973, then it was assumed to do so in the 1974-1978 period (e.g., it might constitute the 40th to 90th percentiles of total adjusted gross income).

2. Asset realizations reported in the respective years would have occurred no matter which tax model is used.

The direction of the bias introduced by this second assumption is uncertain since some taxpayers undoubtedly would change the timing of their capital asset realizations, especially if the Alternate Model were in place. It is probable that taxable income for upper income taxpayers would be less than that derived for the Alternate Model in this study since those taxpayers likely would recognize more capital losses and possibly delay recognition of capital gains. Taxpayer use of additional revenue generated by the "tax cuts" resulting from the various models was not addressed in this study.

To implement the first assumption that the groups of taxpayers maintain their positions relative to each other, interpolation of IRS data was necessitated. This interpolative process was required throughout the study. First, the percent of taxpayers in each of the 1973 groups was determined. The positions of the groups in 1973 were made the fixed points. Through interpolation, these percents were held constant through the 1974-1978 period. Thus, as is seen in Table 5-1 below, in 1973, Group 1 taxpayers (i.e., AGIs under $10,000) constituted 48 7 percent of all taxpayers having taxable returns, Group 2 taxpayers (i.e., AGIs between $10,000 and $50,000) constituted 50.2 percent, Group 3 taxpayers (i.e., AGIs between $50,000 and $100,000) constituted 0.9 percent, and Group 4 taxpayers (i.e., AGIs over $100,000) constituted 0.2 percent. Hence, for the years 1974 through 1978, Group 1 was required to constitute 48.7 percent of taxpayers having taxable returns. For example, via interpolation of 1974 data (see Sample Calculation below Table 5-1),

it was determined that taxpayers with AGIs between $0 and $10,380 constituted 48.7 percent of all taxpayers. Similar interpolations were performed for all groups and all years. In all the tables presented hereafter, Group 1 is represented by taxpayers with AGIs less than $10,000 for 1973, $10,380 for 1974, $11,735 for 1975, $12,489 for 1976, $13,643 for 1977, and $14,297 for 1978. The other groups were treated in a similar manner.

Table 5-1, shows the composition, by adjusted gross income, of the four groups in the study. Because the Internal Revenue Service does not always present the same data from year to year, occasionally some needed data were missing for certain years. Also, as is discussed in greater detail subsequently, since occurrences of changes in the law which needed to be factored out began in 1975, in order to determine the data which likely would have occurred had such changes not taken place, trend analysis was used. To establish a trend, the use of data for three years was viewed as preferable to the use of data for only two years. Hence, it was necessary to include 1972 data in the data bank. Similarly, it was necessary for that 1972 data to be grouped comparably to the 1973-1978 data. Thus, 1972 data were included in Table 5-1 (last column).

Table 5-1. Adjusted Gross Income of Groups of Taxpayers in Study

Group	% of Total	Adjusted gross income upper limit (dollars) 1973	1974	1975	1976	1977	1978	1972
1	48.7	10,000	10,380	11,735	12,489	13,643	14,297	9,604
2	50.2	50,000	59,091	69,231	75,000	80,556	86,464	49,091
3	0.9	100,000 over	100,000 over	150,000 over	166,667 over	166,667 over	175,000 over	100,000 over
4	0.2	100,000	100,000	150,000	166,667	166,667	175,000	100,000

Source: Statistics of Income, Individual Income Tax Returns, 1972-1978, Table 1.1, taxable returns.
See Appendix A, Table A-1 for supporting data.

Sample Calculation for 1974 Group 1

$1 under $10,000	46.8%
x	48.7
$1 under $11,000	51.8

(48.7-46.8)/(51.8-46.8)*1,000 = 380
x = $10,380

Use of joint return rates

In calculating tax liability, the filing status of the taxpayer must be known. However, in this study, the taxpayers were groups rather than individuals. To determine what single or weighted marginal rates to use, actual 1973 data on filing status were broken down by group. Then, a weighted marginal rate was determined for each group. There are five possible filings. single, married filing jointly, married filing separately, head of household, and surviving spouse. Table 5-2 shows these weighted marginal rates as well as the regular marginal rates for each filing group (see Appendix A,

Tables A-2 through A-6 for supporting data). A sample calculation is also provided.

Table 5-2. Regular Marginal Rates by Group and Filing Status and Weighted Marginal Rates by Group

Group	Joint	Separate	Head of household	Surviving spouse	Single	Weighted rate
1	.17	.19	.18	.17	.19	.18
2	.22	.28	.23	.22	27	.23
3	.50	.60	.58	.53	.62	.51
4	.64	.70	.68	.66	.70	.65

Source: Appendix A, Table A-2 through A-6 and calculations

Sample Calculation of Weighted Rate for Group 1

For the numerical example that follows, the numerator of each fraction represents the percent of taxable income captured by that filing status. The denominator represents the total filings in that group. For example, of the 18.3% of the population belonging to Group 1 who filed tax returns, 6.7% filed jointly, 0.9% filed separately, 1.7% filed head of household, etc. (see Appendix A, Table A-6). Thus, the weighted average equation for this group can be written:

weighted average =
joint %/total %*joint marginal rate +
separate %/total %*separate marginal rate +
head of household %/total %*head of household rate +
surviving spouse %/total %*surviving spouse rate +
single %/total %*single rate

6.7/18.3*.17 + 0 9/18.3* 19 + 1.7/18.3*.18 +
0.0/18 3*.17 + 9.0/18.3* 19 = .18

An examination of Table 5-2 reveals the proximity of the weighted rates to the joint rates This is not unexpected since for 1973, the taxable income of joint returns represented 77.8 percent of the total taxable income. During the period under study, the

joint return percent ranged from 72.7 percent to 77.8 percent (see Appendix A, Table A-7). Thus, one would expect that the joint return marginal rates would be approximately equal to the weighted marginal rates for each of the years in the study. The added complexity of using weighted rates for each year of the study seemed unwarranted in the light of this proximity. Thus, joint rates were used hereafter. However, any conclusions drawn from this research regarding the taxpayers in the various groups must be tempered by the fact that, had slightly higher rates been used, slightly greater tax liabilities would have resulted.

Distributional and revenue effects

For purposes of comparison among the various models in the study, the key figures derived per group were tax after credits (revenue effect) and tax after credits as a percent of adjusted gross income (distributional effect), where tax after credits means the tax liability remaining after the credit amounts adjusted for in this study have been subtracted. The discussion which follows is general in nature. Greater detail concerning the data and the calculations are presented later. The following computational routine was adopted (see Appendix C, Tables C-1 through C-4). Starting with the group number of taxable returns and the adjusted gross income amount, an adjusted gross income amount per return amount was derived. A division of taxable income amount by the number of taxable returns resulted in the taxable income per return amount. This latter amount then was used to determine an effective

rate which was applied to the taxable income amount to determine the tax before credits amount. For the years 1973-1975, an intermediate tax before adjustments calculation had to be made so that the child care deduction amount could be added back. The credit amounts used in this study then were subtracted from the tax before credits amount to derive the tax after credits amount. Then this latter figure was divided by the number of taxable returns to arrive at the tax after credits per return amount. Finally the tax after credits amount as a percent of the adjusted gross income amount was derived by simple division of the tax after credits amount by the adjusted gross income amount or by dividing tax after credits per return by adjusted gross income per return.

To calculate these two key figures (tax after credits and tax after credits as a percent of adjusted gross income) for each group and tax model, the following data had to be gathered, generated or calculated. adjusted gross income, taxable income, taxable income per return (in order to get marginal and effective tax rates), the number of taxable returns, and the various credit amounts for which adjustments would be made in this study (i.e., the elderly credit, the child care credit, and the earned income credit). Data affecting adjusted gross income amounts pertinent to this study were interest income amounts and capital gain and loss amounts. The amounts of itemized deductions, standard deductions and the number of exemptions taken were important to the determination of taxable income. Mortgage interest, other interest and child care deduction

amounts were specific itemized deduction amounts which had to be known. Tables A-8 through A-12 in Appendix A contain some raw data as presented by the Internal Revenue Service and the interpolated group data as calculated. Tha latter data were determined as specified in Table 5-1. Presented at the end of Appendix B are the Fortran programs used to generate interpolations and other data. Interpolation factors are the weights used in the interpolation programs.

The income tax before credits information and credit data are presented by the Internal Revenue Service in tables arranged by type of tax computation. A decision had to be made as to the type or types of tax computation data to use. For 1973, these types were as follows:

1. regular tax computation only,
2. income averaging tax computation,
3. maximum and regular tax computation,
4. maximum and alternative tax computation, and
5. alternative tax computation only

Note that these five types are not mutually exclusive. Treating them as if they were mutually exclusive, regular-only tax computation returns still ranged from 94.1 percent (1978) to 97.5% (1972) of the total returns (see Table A-13, Appendix A) Hence, regular-only tax computation data were used in this study. However, use of this computation method only produced tax liabilities slightly higher than would have resulted had all types of tax computation been considered.

3. The 1973 Law Model

Changes in the law which affected taxable income

Not all tax changes which occurred between 1973 and 1978 were analyzed directly in this study. Direct adjustments were made only for those tax law changes which affected larger numbers of taxpayers Other changes affecting fewer taxpayers frequently presented the problem of insufficient or no data. For example, in the Employee Retirement Income Security Act (ERISA) of 1974, changes were made increasing the deduction for contributions to retirement funds by self-employed persons (effective in 1974) (Statistics of Income, Individual Income Tax Returns, 1974, p.vi), and employees not covered by a pension plan were allowed to set up individual retirement accounts (IRA) in amounts up to $1,500 (effective in 1975) (Statistics of Income, Individual Income Tax Returns, 1975, p.vi). No ERISA data were made available in 1974. Even when such data were available as in 1975, the total impact of the change was small. For example, in 1975 (Statistics of Income, Individual Income Tax Returns, 1975, Table 1C), IRA deductions of $1,436,443,000 were claimed on 1,211,794 returns, and ERISA deductions of $1,603,788,000 were claimed on 595,892 returns These 1,807,686 returns constituted only 2 9% of the 62,800,311 taxable returns filed. If the deductions were added back to the reported adjusted gross income of $800,268,046,000, the resulting increase would be only 0.4 percent. Thus, these types of changes were considered only indirectly.

One direct adjustment made, which is described later in this chapter, was related to the standard deduction since several changes occurred in this area during the 1973-1978 period. For example in 1973, the standard deduction amount ranged from a minimum of $1,300 to a maximum of $2,000, with a 15 percent rate applied to adjusted gross incomes between $8,667 and $13,333 (Statistics of Income, Individual Income Tax Returns, 1973, p.219). For separate filings, as is the general rule, half of the allowed joint amounts were applicable. In 1975, two sets of minimums and maximums were established, and a 16 percent rate was applicable between the adjusted gross incomes at the minimum and maximum points The minimums were $1,600 (single/head of household) and $1,900 (joint/surviving spouse); the maximums, $2,300 and $2,600, respectively (Statistics of Income, Individual Income Tax Returns,1975, p.205). The Internal Revenue Service attributed this latter change as the major reason for the drop in returns filed (83 3 million in 1974 and 82.2 million in 1975) (Statistics of Income, Individual Income Tax Returns, 1975, p.1). In 1976, the minimum and maximum amounts were increased· $1,700 and $2,400 (single/head of household) and $2,100 and $2,800 (joint/surviving spouse) (Statistics of Income, Individual Income Tax Returns, 1976, p vi). In 1977, a change in form was instituted such that the zero bracket amount was used instead of the standard deduction. The

minimum and maximum amounts and the 16 percent rate were replaced essentially by one figure for each group ($2,200 for single/head of household and $3,200 for joint/surviving spouse) (Statistics of Income, Individual Income Tax Returns, 1977, p.266). Also, these zero bracket amounts were incorporated into the rate schedules (Statistics of Income, Individual Income Tax Returns, 1977, p vi).

Also discussed later in this chapter is the making of another direct adjustment which was related to changes in capital gain/loss transaction amounts which affected adjusted gross income, and hence, which also affected taxable income. The period described as long-term increased from six to nine months (1977) and then to one year (1978). The allowable capital loss deduction increased from $1,000 to $2,000 (1977) and then to $3,000 (1978) And for transactions after October 31, 1978, the capital gain deduction increased from 50 percent to 60 percent (Statistics of Income, Individual Income Tax Returns, 1977-1978, p vi and p.vii).

Use of 1972 data

Because of the changes described above, which did not affect the 1974 data, but which did affect the data from later years, and of those lesser changes which were ignored in this study, the 1975-1978 data could not be used as interpolated since that interpolated data would not have been consistent with the 1973 Law Model which presupposed no change (i.e., the changes in the law have not been factored out yet). Hence, adjustments had to be made to

that interpolated 1975-1978 data to eliminate those changes. That is, all 1975-1978 data had to be adjusted to remove the effect of any changes which occurred during those years. In making these adjustments, the main procedure followed wherever possible was trend analysis, a variation of linear regression. The trend analyses were made to determine what the 1975-1978 interpolated amounts would have been had the laws not changed since 1973. Trend analysis assumes that a linear relationship exists among the data. The assumption of the existence of a linear relationship among the data was justified by the examination of correlations calculated. For example, the correlations among the data for 1975, 1974, and 1973 presented in Table 5-3 below were determined and ranged from .9217 for taxable income amounts to .9986 for the number of standard deduction returns. That is, the correlation between .8544, .8773,and .8758 is .9217, and the correlation between .9712, .9728, and 9752 is .9986. A correlation of 1.0 would indicate perfect linearity. In applying trend analysis, generally a minimum of three years was used to ascertain a trend. Thus, to project 1975 data, 1972 data were required This presented no major problems since the 1972-1974 tax laws essentially were identical. Hence, the 1972 data were used along with the 1973 and the 1974 data in making the 1975 projections. Then, the amount projected for 1975 was included with the three prior years to project the amount for 1976, etc.

However, an initial adjustment had to be made to the 1972 data also since the Internal Revenue Service did not present the 1972 tax computation data in a manner similar to the 1973-1978 data. While they did state the number of returns in which regular-only tax computation was used, other items presented (e.g., standard deduction amounts) were reported in a combined manner. That is, regular-only computations were commingled with maximum and regular computations and with income averaging computations To separate the regular-only amounts from the other two groups, regular-only amounts as a percent of the total of the three computation methods' amounts were calculated for various items (e.g., adjusted gross income and number of returns) for the years 1973-1975. Trend analyses were used to project the 1972 percentages by using the 1973-1975 data. Table 5-3 contains the results of those calculations. For purposes of brevity, the word total used in both Tables 5-3 and 5-4, refers only to the sum of the regular-only, maximum and regular, and income averaging amounts and not to the total amounts for all computation methods.

Use of the 1975 data to project the 1972 percentages is circular since 1972 then would be used to project the 1975 data. Hence, 1972 projections also were made based only on the 1973 and the 1974 data. Given that the 1973-1974 projected number of regular only returns percentage (9717) was closer to the actual 1972 percentage (.9766) than was the 1973-1975 projection (.9688), this circularity problem was avoided by using only the 1973-1974 projections.

Table 5-3. 1973-1975 Regular-only Tax Computation Amounts for the Following Specified Items as a Percent of Total (i.e. Regular-only, Maximum and Regular, Income Averaging) with Projections for 1972

	1975	1974	1973	(1)	(2)
# of regular-only returns	.9550	.9577	.9647	.9688	.9717
adjusted gross income	.8792	.8822	.8992	.9069	.9162
# of itemized deduction returns	.9183	9280	.9420	.9531	.9560
Itemized deduction amounts	.8714	8830	.9010	.9147	.9190
# of standard deduction returns	.9777	.9792	9810	.9826	.9828
Standard deduction amounts	.9712	.9728	.9752	.9771	.9776
# of exemptions	.9420	.9459	.9548	.9604	.9637
Taxable income amounts	.8544	.8573	.8758	.8839	.8943

Source. calculations
(1) 1972 as determined by trend analysis using 1973-1975 data
(2) 1972 as determined by trend analysis using 1973-1974 data
See Appendix A, Table A-14
The actual 1972 percentage of regular-only returns is 9766 (see Table A-14, Appendix A).

Projecting 1972 data

In order to project 1975-1978 group data, 1972 group amounts were needed. However, the projections shown in Table 5-3 are percentages rather than the group amounts that were necessary. These percentages are not even percentages of group amounts, but percentages of totals. Hence, this Table 5-3 percentage data had to be broken down into group percentages, and then converted to group amounts. Because of the nature of the tax computation methods, different groups of taxpayers in the study would be expected to choose computation methods in different proportions For example, Group 4 would be expected to use the maximum and regular method more frequently than would Group 1. In fact, this is the case. As a matter of fact, Group 4 members probably were more likely to use the

alternative tax computation method rather than the regular method. As was noted earlier in this chapter, the adoption of the regular-only method was based on its high usage (over 90%). The bias resulting from this adoption also was noted. Table 5-4 contains the group breakdown of the percentages of several of the items shown in Table 5-3 for the years 1973 and 1974 along with the projections of these items for 1972. A sample calculation follows.

Table 5-4. 1973 and 1974 Regular-only Tax Computation Amounts as a Percent of Total (i.e., Regular-only, Maximum and Regular, Income Averaging) by Group with Projections for 1972

	Number of returns			Adjusted gross income		
Group	1974	1973	1972	1974	1973	1972
1	.9978	.9979	.9980	.9943	.9971	.9999
2	.9291	.9428	.9565	.8916	.9134	.9352
3	.4677	4695	.4713	.4523	.4489	4455
4	.1909	.2186	.2463	.2184	.2477	.2770

	Itemized deduction			Standard deduction		
Group	1974	1973	1972	1974	1973	1972
1	.9931	9977	.9999(1)	.9977	.9982	.9987
2	9079	.9302	.9525	.9379	.9443	.9507
3	.5643	.5661	.5679	.2039	.1588	.1137
4	.3940	4316	.4692	.0858	.0724	.0590

Source: calculations
See Appendix A, Table A-15 and Chapter 5, Table 5-1
(1) Actual projection was 1.0023 with a correlation between .9931 and .9997 of 1.0

Sample Calculation of Group 1, 1974, # of returns percentage

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regular only/(regular only + maximum & regular + income averaging) = percent

32,979,909/(32,979,909+6,388+67,670) = .9978

(11,859,783+19,891,089+380/5000*15,381,870 = 32,979,909)
(10,380/100,000*61,538 = 6,388)
(50,091+380/5000*231,320 = 67,670)

The projected 1972 group percents shown in Table 5-4 were applied to the data presented in Appendix A, Tables A-8 and A-9 to determine the projected 1972 group amounts. For example, the 1972 Group 1 number of taxable returns was derived by multiplying the 1972 Group 1 number of returns percent (Chapter 5, Table 5-4) by the 1972 Group 1 interpolated number of returns (Appendix A, Table A-8) (i.e., .9980 * 30,390,821 = 30,352,847). The 1972 projected amounts and the corresponding data for 1973 and 1974 are contained in Table 5-5. Finally, using these data, projections then were made for the years 1975-1978, the ultimate goal of these manipulations. These latter projections are contained in Table 5-6.

Table 5-5. Returns, Adjusted Gross Income and Deduction Amounts by Group and by Year (money in thousands)

Group	1972	1973	1974
	Number of Taxable Returns		
1	30,352,847	31,588,830	32,919,909
2	28,932,123	30,438,483	31,582,833
3	232,057	257,684	241,718
4	17,287	20,085	24,402
Total	59,534,314	62,305.082	64,768,863
	Adjusted Gross Income		
1	179,081,917	188,730,465	204,316,628
2	454,373,475	502,739,257	545,940,670
3	13,429,905	15,992,482	15,047,087
4	3,577,557	3,908,506	4,751,029
Total	650,462,860	711,370,760	770,055,415
	Itemized Deductions		
1	13,279,265	13,577,220	14,659,343
2	65,433,203	71,930,246	79,565,248
3	2,960,367	3,425,733	3,140,523
4	1,365,117	1,420,257	1,636,278
Total	83,037,952	90,353,456	99,001,392
	Standard Deductions		
1	30,640,338	32,529,535	34,650,639
2	19,423,842	21,230,071	21,935,263
3	4,770	9,417	11,317
4	178	393	711
Total	50,069,128	53,769,416	56,597,750

Source: calculations, Appendix A, Tables A-8 and A-9
Appendix B, Programs B-2 and B-4
Detail may not add to total because of rounding

Table 5-6. Projected Returns, Adjusted Gross Income and Deduction Amounts by Group and by Year (money in thousands)

Number of Taxable Returns

Group	1975	1976	1977	1978
1	34,187,591	35,471,122	36,754,653	38,038,184
2	32,968,523	34,293,878	35,619,233	36,944,588
3	253,481	258,311	263,142	267,972
4	27,706	31,264	34,821	38,379
Total	67,437,301	70,054,575	72,671,849	75,289,123

Adjusted Gross Income

Group	1975	1976	1977	1978
1	215,944,380	228,561,740	241,179,090	253,796,450
2	592,584,990	638,368,590	684,152,180	729,935,780
3	16,440,340	17,248,931	18,057,522	18,866,113
4	5,252,503	5,839,239	6,425,975	7,012,711
Total	830,222,210	890,018,500	949,814,770	1,009,611,100

Itemized Deductions

Group	1975	1976	1977	1978
1	15,218,687	15,908,726	16,598,765	17,288,804
2	86,441,611	93,507,633	100,573,660	107,639,680
3	3,355,697	3,445,775	3,535,853	3,625,931
4	1,745,045	1,880,626	2,016,206	2,151,787
Total	106,761,040	114,742,760	122,724,480	130,706,200

Standard Deductions

Group	1975	1976	1977	1978
1	36,617,138	38,622,289	40,627,439	42,632,590
2	23,374,480	24,630,190	25,885,901	27,141,611
3	14,808	17,992	21,175	24,358
4	960	1,227	1,493	1,760
Total	60,007,386	63,271,698	66,536,008	69,800,319

Source: calculations (See Chapter 5, Table 5-5)
Detail may not add to total because of rounding

Number of exemptions

Given a number of projected taxable returns (Table 5-6) different than the interpolated number or the actual filings for 1975-1978 (Table A-8, Appendix A), an adjusted number of exemptions claimed also needed to be computed. This adjustment had to be made since the interpolated number of exemptions claimed were not consistent with a no tax law change model. The number of exemptions claimed needed to be compatible with the new number of projected taxable returns. The following procedure was used to achieve this compatibility. Using actual Internal Revenue Service data (Table A-10, Appendix A), the number of exemptions per return was computed for each group for each year (Table 5-7). Table 5-8 contains the product of multiplying the projected number of returns by this exemption per return number. The data contained in this latter table represent the number of exemptions used in computing taxable income Also contained in Table 5-8 is the product of the allowed exemptions and $750, the amount allowed per exemption in 1973.

Table 5-7. Actual Number of Taxable Returns and Exemptions Claimed Yielding Number of Exemptions per Return by Group and by Year

	Group 1			Group 2		
Year	Exemptions	Returns	E/R	Exemptions	Returns	E/R
1973	65,192,369	31,588,830	2 0638	103,347,837	30,438,483	3.3962
1974	67,192,369	32,919,909	2.0365	105,358,797	31,582,833	3.3360
1975	71,943,224	33,632,952	2.1391	95,007,059	28,935,450	3.2834
1976	73,247,571	35,007,013	2.0924	96,017,767	29,585,341	3.2455
1977	94,835,578	49,912,628	1.9793	94,288,627	29,491,095	3.1972
1978	94,873,208	49,396,452	1.9206	97,236,932	30,677,663	3.1696

	Group 3			Group 4		
Year	Exemptions	Returns	E/R	Exemptions	Returns	E/R
1973	1,008,406	257,684	3.9133	71,507	20,085	3.5602
1974	933,293	241,718	3.8611	84,245	24,402	3.4524
1975	824,246	217,020	3.7980	50,892	14,887	3.4186
1976	787,436	211,735	3.7190	36,872	11,051	3.3365
1977	720,668	195,755	3.6815	38,920	11,639	3.3439
1978	655,715	182,220	3.6533	40,721	12,240	3.3269

Source: Appendix A, Tables A-8 and A-10 and calculations
E/R = Exemptions per return
See Appendix B, Program B-2

Table 5-8. Number and Amount (thousands) of Exemptions by Group and by Year based on the Projected Number of Returns and Exemptions per Return

	1973		1974	
Group	Number	Amount	Number	Amount
1	65,192,369	48,894,277	67,042,201	50,281,651
2	103,374,837	77,531,130	105,358,797	79,019,100
3	1,008,406	756,305	933,293	699,970
4	71,507	53,630	84,245	63,184

	1975		1976	
Group	Number	Amount	Number	Amount
1	73,130,676	54,848,007	74,219,776	55,664,832
2	108,248,850	81,186,636	111,300,780	83,475,586
3	962,721	722,041	960,659	720,494
4	94,716	71,037	104,312	78,234

	1977		1978	
Group	Number	Amount	Number	Amount
1	72,748,485	54,561,364	73,056,136	54,792,102
2	113,881,810	85,411,359	117,099,570	87,824,675
3	968,757	726,568	978,982	734,237
4	116,438	87,328	127,683	95,762

Source: Chapter 5, Tables 5-6 (Taxable Returns) and 5-7 (Exemptions/Return) and calculations

Marginal and effective tax rates

Using the data in Table 5-6 (adjusted gross income, number of tax returns, itemized deduction amounts, standard deduction amounts) and the data in Table 5-8 (exemption amounts), taxable income and taxable income per return were derived using the following equations:

> Adjusted gross income - (itemized deduction amounts or standard deduction amounts) - exemption amounts = taxable income.
> Taxable income/the number of returns = taxable income per return.

From these derived numbers, the marginal and effective tax rates were computed. The rates were based on the 1973 rate schedule for joint returns (see above-Use of joint rates). Effective rate was defined as the amount of tax determined for the taxable income per return amount divided by the taxable income per return amount. An example of the effective rate for 1973 Group 1 follows:

The tax for $2,967 is $444.72

444.72/2,967 = .150

Thus, while the marginal rate for 1973 Group 1 is .16, the effective rate is .150. These effective rates were needed so that the tax before credits amounts (and also before adjustment amounts) could be determined. These effective rates, and not the marginal rates, were used in the ultimate calculation for the amount of tax liability before the application of the credit amounts. They have no interpretative significance. Contained in Table 5-9 are the taxable

income, the taxable income per return, and the marginal and effective rates for each group and each year.

Table 5-9. Taxable Income (thousands), Taxable Income per Return, Marginal and Effective Tax Rates by Year and by Group

	1973				1974			
Group	Taxable income	$\overline{TI}$ per return	MR	ER	Taxable income	$\overline{TI}$ per return	MR	ER
1	93,729,433	2,967	.16	.150	104,724,995	3,181	.17	.151
2	332,047,810	10,909	.22	.185	365,421,059	11,570	22	.187
3	11,731,027	45,525	.50	.326	11,195,457	46,316	.50	.329
4	2,434,226	121,196	.64	.481	3,050,856	125,025	.64	.486
	1975				1976			
Group	Taxable income	$\overline{TI}$ per return	MR	ER	Taxable income	$\overline{TI}$ per return	MR	ER
1	109,260,550	3,196	.17	.151	118,365,900	3,337	.17	.152
2	401,582,260	12,181	.25	.189	436,755,180	12,736	.25	.192
3	12,347,794	48,713	50	.337	13,064,670	50,577	.50	.343
4	3,435,461	123,997	.64	.485	3,879,152	124,077	.64	.485
	1977				1978			
Group	Taxable income	$\overline{TI}$ per return	MR	ER	Taxable income	$\overline{TI}$ per return	MR	ER
1	129,391,520	3,520	17	.153	139,082,950	3,656	.17	.154
2	472,281,260	13,259	25	.194	507,329,810	13,732	.25	.196
3	13,773,926	52,344	.53	349	14,481,587	54,041	.53	.354
4	4,320,948	124,090	.64	485	4,763,402	124,115	.64	.485

Source: Chapter 5, Tables 5-6 and 5-8 and calculations
See Appendix A, Table A-4
TI = Taxable income
MR = Marginal tax rate
ER = Effective tax rate = tax/taxable income

Child care deduction/credit

Table A-11 (Appendix A) contains the Internal Revenue Service and grouped child care deduction/credit amounts. As indicated in the first part of this chapter (i.e., Comparability changes), the credit was extrapolated backwards to 1973. Thus, it was necessary to add back to taxable income the amount of the deduction taken in the years 1973-1975 and to include the child care credit among the other credits. However, the Internal Revenue Service did not include child care deduction amounts in the 1974 data. An examination of tables from years prior to 1973 showed that such data was available in 1970, but in neither 1971 nor 1972. Since, in 1972, the child care deduction was liberalized (Statistics of Income, Individual Income Tax Returns, 1972, p.iv), the 1970 data was unsatisfactory for the establishment of a trend. Thus, only the 1973 and the 1975 data were available to make the 1974 determinations. Before making those 1974 determinations, because of the standard deduction change which occurred in 1975, that 1975 data had to be adjusted. Using the 1975 child care deduction data and the taxable return data (Appendix A, Tables A-11 and A-8 respectively), child care deduction per return per group amounts were calculated. The product of these numbers and the projected returns per group (Chapter 5, Table 5-5) yielded the desired 1975 child care deduction amounts per group (see Appendix A, Table A-16).

Table 5-10 contains the child care deduction amounts determined for 1974 by interpolation based on the number of taxable returns and

child care deduction amounts. A sample calculation of a child care deduction amount follows. The Group 3 entry was derived by using the average of the 1973 and the 1975 amounts since the 1974 Group 3 number of taxable returns was outside of the 1973-1975 range.

The total value of the child care deduction for each year from 1973 through 1975 was derived by finding the difference between the tax before and the tax after the deduction amount was added back (see Appendix C, Table C-1). To this value was added the projected revenue loss amount discussed earlier Thus, the total amounts of the child care credit for 1973 through 1975 were $461,588,000, $501,933,000 and $547,353,000, respectively. Because child care deduction amounts added back constituted 0.3 percent of taxable income before addition for 1973-1975, the effective tax rates before and after addition were essentially the same. Hence, the same effective rates were used for both tax calculations.

Table 5-10. Child Care Deduction Amounts (thousands) by Group for 1974 based on Taxable Returns and Child Care Deduction Amounts

	Taxable returns			Child care deduction amounts		
Group	1973	1975	1974	1973	1975	1974
1	31,588,830	34,187,591	32,919,909	329,314	307,309	318,580
2	30,438,483	32,968,523	31,582,833	913,920	1,089,427	993,301
3	257,684	253,481	241,718	273	142	208
4	20,085	27,706	24,402	56	0	22
Total	62,305,082	67,437,301	64,768,863	1,243,563	1,396,878	1,312,111

Source. Appendix A, Tables A-8, A-11, and A-16, Chapter 5, Table 5-5 and calculations
See Appendix B, Program B-4

Sample Calculation for 1974 Group 1

31,588,830.....329,314
32,919,909.... x
34,187,591..... 307,309

(32,919,909-31,588,830)/(34,187,591-31,588,830) =
(329,314-x)/(329,314-307,309)
x = 318,580

The next issue that needed resolution was the distribution of the derived 1973-1975 child care credit totals to each group. This distribution was based on the grouped 1976-1978 data (Appendix A, Table A-11) which were converted to percents of the total, with the average percents being calculated (see Appendix A, Table A-17). The latter calculation was made because no clear trend was evidenced among the percents. Then these average percents were used to distribute the total to each group for all the years, 1973-1978. The total amounts used in the study to reflect the elimination of tax changes for 1976-1978 were based on the ratio of the credit amount to the number of returns amount. For example, 64,815,142 actual 1976 returns showed $441,194,000 of credit. Thus, the 70,054,575 projected returns derived for 1976 (Chapter 5, Table 5-6) were allocated $476,859,000 of credit (441,194,000/64,815,142 = 476,859,000/70,054,575). This type of procedure leads to data which, from henceforth is referred to as ratio adjusted data. Table 5-11 contains the distribution of the child care credit for the various years.

This ratio adjustment procedure was used here and elsewhere so that the data derived would be compatible with the projected data derived from trend analysis, and ultimately that the derived data would be consistent with a no tax change system. The ratio adjustment procedure is defined as follows:

> ratio adjusted data = interpolated data*projected number of filings/actual number of filings

Table 5-11. Child Care Credit Amounts (thousands) by Group and by Year

Group	1973	1974	1975	1976	1977	1978
1	93,513	101,687	110,888	96,607	95,404	120.096
2	363,044	394,775	430,499	375,054	370,386	466,244
3	4,440	4,829	5,266	4,587	4,530	5,703
4	591	642	701	610	603	759
Total	461,588	501,933	547,353	476,859	470,924	592,801

Source: Appendix A, Tables A-11, A-16, and A-17 and calculations See Appendix B, Program B-6

Credit for the elderly

Several adjustments had to be made before these credit amounts were finalized. As noted earlier, the credit was liberalized in 1976. Therefore, the 1976-1978 data would not be comparable to the 1973-1975 data. Consequently, a simple ratio adjustment such as was done for the child care credit would not be reasonable. A simple ratio adjustment was possible and was used for 1975, however (67,437,301/62,800,311 times each group amount). In order to adjust the 1976-1978 data, trend analysis was considered as a possible feasible method. However, it was determined that trend analysis

using the 1973-1975 amounts to project 1976-1978 amounts was not appropriate because several group correlations and the total correlation were relatively low (see Appendix A, Table A-18). Therefore, a credit amount per return figure was determined for each group for the years 1973-1975, and averages were calculated (see Appendix A, Table A-18). Then, these averages were applied to the returns for 1976-1978 resulting in the elderly credit amounts used in the study. Table 5-12 contains these calculated elderly credit amounts.

Table 5-12 Elderly Credit Amounts (thousands) by Year and by Group

Group	1973	1974	1975	1976	1977	1978
1	83,085	80,908	68,086	83,712	86,741	89,770
2	51,549	37,931	56,952	52,813	54,854	56,895
3	738	642	915	785	800	815
4	121	140	273	225	251	276
Total	135,493	119,622	126,226	137,535	142,645	147,756

Source: Appendix A, Tables A-11 and A-18 and calculations
See Appendix B, Program B-5 and B-6

Earned income credit

The earned income credit was introduced by Congress in 1975 with a maximum allowable credit of $400. As seen below in Table 5-13, the per return amount taken by those eligible for the credit was approximately half ($200). The exception to this occurred in 1975 when only $95 per return was taken. Perhaps eligible taxpayers were not aware of their eligibility, and hence, did not take the

credit. Whatever the reason, clearly the 1975 data is not similar to the 1976-1978 data. Congress had projected a $1,455 million credit for 1975 in the Tax Reduction Act of 1975 (Senate Finance Committee, p.19) whereas only $252 million was actually credited. A ratio adjustment was used to modify the 1976-1978 number of returns (i.e., projected taxable returns/actual taxable returns*actual earned income returns = adjusted earned income returns).

Table 5-13. Earned Income Credit Total (thousands) and per Return Amounts by Year

Year	Total amount	Actual returns	Per return	Adjusted returns
1978	1,048,303	5,191,384	201.93	4,869,337
1977	1,126,555	5,626,938	200.20	5,268,833
1976	1,294,830	6,472,633	200.05	6,995,858
1975	252,141	2,650,241	95.14	

Source: Appendix A, Tables A-8 and A-12, Chapter 5, Table 5-6 and calculations

Trend analysis was done on the number of eligible returns to determine the 1973-1975 data. Since the earned income credit was extrapolated backwards into the study with a maximum credit of $350, $175 per return was allowed for the credit for each of the years. The number of eligible credit returns and the credit amounts are shown in Table 5-14. The credit totals represent Group 1 totals since the phase-out adjusted gross income was $7,000.

Table 5-14. Earned Income Credit Returns and Amounts (thousands) by Year

	1978	1977	1976	1975	1974	1973
Returns	4,869,337	5,268,833	6,995,858	7,837,864	8,901,124	9,964,385
Amounts	852,134	922,046	1,224,275	1,371,626	1,557,698	1 743,767

Source: Chapter 5, Table 5-13 and calculations

4. The ERTA Model

Specification of the model

An indexation system was one of the provisions legislated by Congress in the Economic Recovery Tax Act of 1981. In particular, the indexation portion of the Economic Recovery Tax Act of 1981 specifies that beginning after 1984, the tax rate schedules, the personal exemption amount, and the zero bracket amount will be inflation adjusted annually, using the Consumer Price Index as the adjustment factor. The ERTA Model used in this study was designed as specified in that act except that standard deduction amounts were indexed rather than zero bracket amounts. Also, as was indicated earlier in this chapter, the data to which the ERTA Model was applied was that data developed under the 1973 Law Model. In the Economic Recovery Tax Act, new section 1(f) of the Internal Revenue Code specifies the use of a lagged Consumer Price Index. That is, "the CPI for any calendar year" is defined as "the average of the Consumer Price Index as of the close of the 12-month period ending on September 30 of such calendar year" (section 1(f)(4)). Thus, for this study the average Consumer Price Index for the 12-month period

ending on September 30, 1972, was the base Consumer Price Index used. For subsequent years, the index used was the "percentage (if any) by which the CPI for the preceding calendar year exceeds the CPI for the calendar year" 1972 (section 1(f)(3)). The following equations were used to compute the cost of living adjustments for the years in the study:

$$\text{average CPI(current year)} = \frac{\sum_{i=1}^{12}}{12}$$

where i=1 = the index from 10/31/previous year and
i=12 = the index from 9/30/current year

cost of living adjustment (current year) =
average CPI(current year)/average CPI(1972)

Bracket amounts and personal exemption amounts were indexed and rounded to the nearest multiple of $10 as specified in section 1 of the Internal Revenue Code As was discussed earlier, standard deduction amounts were indexed rather than zero bracket amounts.

Seasonally adjusted monthly Consumer Price Index figures (1947-1980) were obtained from the Bureau of Economic and Business Research. The relevant figures for this study (Oct. 31, 1971 - Sept 30, 1978) are contained in Appendix A, Table A-19 Table 5-15 contains the average Consumer Price Indexes along with the corresponding adjustment factors and inflation increases since 1973.

Note that the adjustment factor was used to index the bracket amounts, and the exemption amount for the following tax year's determinations. For example, the adjustment factor in 1973 (1.051) was used to multiply the 1973 brackets amounts which were used to

determine the 1974 tax liability. Table 5-16 contains the indexed bracket amounts and the exemption amounts. The joint rate schedule is based on the 1973 table (see also Appendix A, Table A-4).

Table 5-15. Consumer Price Index Averages, Adjustment Factors and Inflation Increases by Year

Year	CPI average	Adjustment factor	Inflation increases
1972	124.2	1.000	
1973	130.5	1.051	5.1
1974	143.6	1.156	10.6
1975	158.4	1.275	11.9
1976	168.4	1.356	8.1
1977	178.7	1 439	8.3
1978	191 4	1.541	10.2

Source: Appendix A, Table A-19 and calculations
CPI = Consumer Price Index
See Appendix B, Program B-7

Table 5-16 Annually Adjusted Joint Taxable Income Rate Schedule including Exemption Amounts

Basic Tax + MR on excess	Amount on which basic tax is calculated					
	1973	1974	1975	1976	1977	1978
0+14%	0	0	0	0	0	0
140+15%	1,000	1,050	1,160	1,270	1,360	1,440
290+16%	2,000	2,100	2,310	2,550	2,710	2,880
450+17%	3,000	3,150	3,470	3,820	4,070	4,320
620+19%	4,000	4,200	4,620	5,100	5,420	5,760
1,380+22%	8,000	8,410	9,250	10,200	10,850	11,510
2,260+25%	12,000	12,610	13,870	15,300	16,270	17,270
3,260+28%	16,000	16,820	18,500	20,400	21,700	23,020
4,380+32%	20,000	21,020	23,120	25,500	27,120	28,780
5,660+36%	24,000	25,220	27,740	30,600	32,540	34,540
7,100+39%	28,000	29,430	32,370	35,700	37,970	40,290
8,660+42%	32,000	33,630	36,990	40,800	43,390	46,050
10,340+45%	36,000	37,840	41,620	45,900	48,820	51,800
12,140+48%	40,000	42,040	46,240	51,000	54,240	57,560
14,060+50%	44,000	46,240	50,860	56,100	59,660	63,320
18,060+53%	52,000	54,650	60,110	66,300	70,510	74,830
24,420+55%	64,000	67,260	73,980	81,600	86,780	92,100

31,020+58%	76,000	79,880	87,860	96,900	103,060	109,360
37,980+60%	88,000	92,490	101,730	112,200	119,330	126,630
45,180+62%	100,000	105,100	115,600	127,500	135,600	143,900
57,580+64%	120,000	126,120	138,720	153,000	162,720	172,680
70,380+66%	140,000	147,140	161,840	178,500	189,840	201,460
83,580+68%	160,000	168,160	184,960	204,000	216,960	230,240
97,180+69%	180,000	189,180	208,080	229,500	244,080	259,020
110,980+70%	200,000	210,200	231,200	255,000	271,200	287,800
Amount per exemption	750	790	870	960	1020	1080

Source: Statistics of Income, Individual Income Tax Returns, 1973 and calculations
MR = marginal rate
See Appendix A, Table A-4 and Appendix B, Program B-7

Determination of taxable income

In the determination of taxable income (adjusted gross income - itemized deduction amount or standard deduction amount - exemption amount = taxable income), standard deduction amounts and exemption amounts were indexed With an increase in the standard deduction amount allowed per taxpayer unit, it is likely that some individual taxpayers who itemized in the nonindexed system would take the standard deduction in the indexed system. However, without specific information on individual taxpayers, it was not possible to ascertain how many would be affected by this change. The difference between the increase in standard deduction amounts and the decrease in itemized deduction amounts and the status quo (i.e., no changes in the taxpayers who itemize) is probably small, however. Hence, it was ignored in this study.

Table 5-17 contains the indexed standard deduction and exemption amounts Taxable income, taxable income per return and marginal and effective tax rates are contained in Table 5-18.

Table 5-17. Indexed Standard Deduction and Exemption Amounts (thousands) by Year and by Group

Group	1974	1975	1976	1977	1978
	Standard Deduction Amounts				
1	36,417,822	42,329,412	49,329,412	55,090,807	61,348,297
2	23,053,961	27,020,899	31,403,492	35,101,282	39,056,778
3	11,705	17,118	22,940	28,713	35,051
4	747	1,110	1,564	2,025	2,533
	Exemption Amounts				
1	52,963,339	57,773,234	58,633,623	57,471,303	57,714,347
2	83,233,452	85,516,592	87,927,616	89,966,630	92,508,660
3	737,302	760,550	758,921	765,318	773,396
4	66,554	74,826	82,406	91,986	100,870

Source: Chapter 5, Tables 5-5, 5-6 and 5-8 and calculations

Table 5-18. ERTA Taxable Income (thousands), Taxable Income per Return, Marginal and Effective Tax Rates by Year and by Group

Group	Taxable income	TI per return	MR	ER	Taxable income	TI per return	MR	ER
	1973				1974			
1	93,729,433	2,967	16	150	100,276,134	3,046	.16	.145
2	332,047,810	10,909	.22	185	360,088,009	11,401	.22	179
3	11,731,027	45,525	50	.326	11,157,557	46,159	.48	306
4	2,434,226	121,196	.64	.481	3,047,450	124,886	62	.460
	1975				1976			
1	100,623,050	2,943	.16	.133	104,775,970	2,954	16	.120
2	393,605,890	11,939	.22	.165	425,529,850	12,408	.22	.150
3	12,306,975	48,552	.48	.272	13,021,295	50,409	.45	.245
4	3,431,522	123,885	.62	406	3,874,643	123,933	.60	.363

Group	1977 Taxable income	1977 TI per return	1977 MR	1977 ER	1978 Taxable income	1978 TI per return	1978 MR	1978 ER
1	112,018,220	3,048	.16	.113	117,455,000	3,088	16	.105
2	458,510,610	12,873	.22	.142	490,730,660	13,283	.22	.133
3	13,727,638	52,168	.45	.227	14,431,735	53,855	45	.209
4	4,315,758	123,941	.60	.329	4,757,430	123,959	.58	.319

Source: Chapter 5, Tables 5-5, 5-6, 5-16, and 5-17 and calculations Appendix A, Table A-4

Effect on child care credit amounts

Since indexation affects taxable income, it affects tax liability also. To maintain the revenue losses predicted by Congress upon converting to the child care credit, the 1974 and the 1975 child care credit amounts had to be adjusted. For 1974, tax liability before and after child care deduction addition differed by $224,067,000. The addition of the expected $268,000,000 revenue loss resulted in a child care credit amount total of $492,067,000 The comparable 1975 amounts were $220,666,000 and $515,666,000. Application of the group credit percents resulted in the following group child care credit amounts for 1974 and 1975.

Table 5-19. ERTA Child Care Credit Amounts for 1974 and 1975 by Group

	Group 1	Group 2	Group 3	Group 4	Total
1974	99,688	387,016	4,734	630	492,067
1975	104,469	405,576	4,961	660	515,666

Source: Appendix A, Table A-17 and calculations

5. The Alternate Model

General discussion of the model

The alternate indexation system differed from the ERTA system in that certain important credits such as the credit for the elderly, the child and dependent care credit and the earned income credit were indexed as was suggested by the tax policy analysts (see Chapter 2). The standard deduction amount was adjusted initially also since indexing nonmortgage and mortgage interest deduction amounts separately would suggest the elimination of those components as factors used to establish that standard deduction amount.

Interest income amounts, interest deduction amounts and capital asset costs were indexed As was discussed earlier, capital asset transactions were subjected to two different treatments the 0% Model and the 60% Model. The purpose of these two treatments was to study the effects of applying or not applying a capital gain deduction as well as the loss limitation. Since 60% is the current deduction, the 0% and 60% treatments reflect the extreme effects of the deduction. Because the two Alternate Models differ only in their treatment of capital asset transactions, any other changes made applies to both equally.

Indexing the credits

One of the consequences of indexing the credits discussed above might be to increase the number of taxpayers eligible to use those credits. This follows from the fact that these credits have their greatest impact on lower income taxpayers who are less likely to

have their incomes increase to the same degree as the rate of inflation. Hence, some taxpayers not currently eligible to use those credits might become eligible over time. Adjusting for such a likelihood would involve data on individual taxpayers which were not available. An alternative to such an adjustment would be to index the ERTA credit amounts (i.e., the 1973 Law Model credit amounts which were carried over to the ERTA), thus understating somewhat the amounts which would have been taken if indexation had been in place. This alternative was the one adopted. Table 5-20 contains these indexed elderly, child care and earned income credit amounts The cost of living adjustment factors were taken from Table 5-15. Note again that these factors were obtained from the previous year

Table 5-20. Alternate Model Elderly, Child Care and Earned Income Credit Amounts by Group and by Year

	Elderly Credit				
Group	1974	1975	1976	1977	1978
1	85,034	78,707	106,733	117,621	129,179
2	39,865	65,837	67,337	74,382	81,872
3	675	1,058	1,001	1,085	1,173
4	147	274	287	340	397
Total	125,721	145,876	175,358	193,428	212,621

	Child Care Credit				
Group	1974	1975	1976	1977	1978
1	104,772	120,766	123,174	129,368	172,818
2	406,754	468,846	478,194	502,243	670,925
3	4,975	5,735	5,848	6,143	8,207
4	662	763	778	818	1,092
Total	517,163	596,110	607,994	638,572	853,042

	Earned Income Credit				
Group	1974	1975	1976	1977	1978
1	1,658,160	1,585,601	1,560,951	1,250,294	1,226,221

Source: Chapter 5, Tables 5-11, 5-12 and 5-14 and calculations
Adjustment factors: 1974--1.051, 1975--1.156, 1976--1.275, 1977--1.356, 1978--1.439

Indexing interest income amounts

Before interest income amounts were indexed, the interpolated reported amounts had to be adjusted Again, the data were ratio adjusted based on the projected number of returns so that compatibility would exist with that data and the other adjusted data similarly based Contained in Appendix A, Table A-20 are the raw interest income amounts as reported by the various groups. Table 5-21 contains the ratio adjusted group interest income amounts (adjustment = Study # of returns/reported # of returns).

Table 5-21. Ratio Adjusted Interest Income Amounts (thousands) by Year and by Group

Group	1974	1975	1976	1977	1978
1	10,510,339	12,318,573	14,252,183	13,498,095	15,404,893
2	20,884,150	24,639,485	28,170,223	27,180,236	31,018,023
3	2,572,744	2,958,913	3,306,792	2,813,537	3,073,201
4	2,288,824	1,661,502	1,612,598	1,687,716	2,039,245
Total	36,256,058	41,578,474	47,341,796	45,179,584	51,535,363

Source: Chapter 5, Table 5-6 , Appendix A, Tables A-8 and A-20 and calculations

To index interest income amounts, besides the inflation rates, it was necessary to know the interest rates applicable to the various groups. Since interest rate information is not collected by the Internal Revenue Service, such information had to be sought elsewhere. However, it was not available according to the group categorization of this study. A composite rate was calculated since no single interest rate was applicable to all circumstances. Thus, a composite interest rate, determined for each year, was used for all groups. The result of making this simplification was to understate the amount of interest income for those groups which were able to earn interest at a rate greater than the interest rate used and overstate it for those who earned interest at a lesser rate. Since higher income taxpayers are likely to be in the first category and lower income taxpayers in the latter category, the use of this simplification would result in slightly more tax reported by higher income taxpayers and slightly less tax reported by lower income taxpayers. However, as is shown subsequently, after the inflation adjustment, only in 1974 is interest income still reported by low income groups. Thus, for these groups, only in 1974 would there be a slight bias. The bias induced by the study for the higher income probably is quite small also since, as will be shown, except for 1974 and 1978, the inflation rate is larger even than the rate earned in the credit markets, a rate more likely received by higher income taxpayers.

The composite interest rate used for each of the years in the study was approximated in the following manner. It was assumed that interest income came from two major sources:

1. time and savings accounts and
2. credit market instruments.

The latter source was classified by the U.S. Bureau of the Census into U.S. government securities, State and local securities, commercial paper, corporate and foreign bonds, and mortgages. Since State and local bond interest is not taxed by the U.S government, those securities were ignored in the calculations. Table 5-22 contains the distribution of these interest earning assets as a percent of all financial assets held by households. Also contained therein is the ratio of time and savings accounts to credit market instruments.

Table 5-22. Distribution of Some Interest Bearing Instruments as a Percent of all Financial Assets held by Households including the Ratio of Time and Savings Accounts to Credit Market Instruments by Year

	1974	1975	1976	1977	1978
Time and savings accounts	31.7	31.9	31.7	34.0	32.7
Credit market instruments	10 0	9.1	10.5	10.6	11 4
U. S. government securities	5.5	4.9	5.1	5 0	5.1
Commercial paper	0.3	--	--	--	--
Corporate and foreign bonds	2.5	2.5	2.3	2.2	1 9
Mortgages	1.8	1.6	2.9	3 1	3.1
Time and savings accounts / Credit market instruments	3 17	3.51	3.02	3.21	2.87

Source: U.S. Bureau of the Census, 1979, Flow of Funds Accounts, p. 524

Maximum allowable interest rates on the various federally insured time and savings accounts ranged from 5% to 7 3/4% during the years in this study (U.S. Bureau of the Census, 1974-1978). A simple arithmetic average of the rates of the seven possible accounts was computed. In 1977 and 1978, savings and loans patrons were allowed an extra 0.25% interest. For those two years, a bank average and a savings and loan average were computed and then averaged together. The average determined is a reasonable surrogate for actual rates earned since a taxpayer was likely to hold a mix of accounts

Credit market securities rates were obtained from the Annual Statistical Digest.1974-1978 (Board of Governors of the Federal Reserve) Rates ranged from a low of 4.98% (1976, 3-month Treasury bills) to a high of 10.96% (1974, 3-month Eurodollar deposits) Again, a simple arithmetic average was computed. Table 5-23 contains the time and savings accounts averages, credit market averages and weighted averages based on the ratio contained in Table 5-22. A sample calculation follows.

Table 5-23 Average Interest Rates for Time and Savings Accounts and Credit Market Instruments by Year

	1974	1975	1976	1977	1978
Time and savings accounts	6.1	6.1	6,1	6.4	6.6
Credit market instruments	8.7	7.5	6.7	6.7	8.3
Weighted interest rate	6.7	6 4	6 2	6.5	7.0

Source: U S. Bureau of the Census, 1974-1978, Maximum Interest Rates, Board of Governors of the Federal Reserve, 1980, p 84 and calculations

Sample Weighted Average Calculation for 1974

Weighted interest rate =
Time and savings account average * ratio/(1+ratio)
+ Credit market average * 1/(1+ratio)

6.1*3.17/4.17 + 8.7*1/4.17 = 6.7

A comparison of the weighted average interest rates (Table 5-23) and the inflation rates (Chapter 5, Table 5-15) led to the conclusion that only in 1974 did the interest rate exceed the inflation rate (6.7% to 5 1%) For that year, only 1.6% of the reported amounts were in fact income. Thus, interest income group amounts for 1974 were reduced by the following amounts. 1) 8,000,408, 2) 15,896,891, 3) 1,958,358 and 4) 1,742,240 (see Appendix A, Table A-21). For all the other years, all the interest figures as shown in Table 5-21 (Chapter 5) were adjusted out of adjusted gross income.

Capital gain adjustment

Capital asset transactions are reported by the Internal Revenue Service in Statistics of Income, Individual Income Tax Returns as net capital gains or net capital losses Table A-20, Appendix A, contains the reported as well as the interpolated group data. Before indexation could be applied, asset costs had to be determined The following steps were taken to determine those asset costs. First, the returns had to be ratio adjusted to match the other data However, before these figures (1975-1978) were return

based ratio adjusted, another adjustment was made to the 1978 figures since the capital gain exclusion increased from 50% to 60% on transactions occurring after October 31, 1978. Table A-22, Appendix A, contains the Internal Revenue Service data and the net gain amounts which would have been reported if the exclusion had remained 50%. Table 5-24 contains the additional net capital gain group amounts, and the sum of the additional amounts with the reported amounts. Table 5-25 contains the return based ratio adjusted group data

Table 5-24. 1978 Net Capital Gain Group Amounts (thousands) - Additional, Reported and Combined Totals

Group	Additional	Reported total	Combined total
1	129,531	2,906,760	3,036,291
2	320,911	13,497,814	13,818,725
3	73,493	3,286,921	3,360,414
4	79,997	4,698,056	4,778,053

Source: Appendix A, Tables A-20 and A-22 and calculations

Table 5-25. Net Capital Gain/Loss Ratio Adjusted Group Data by Year

Group	1974	1975	1976	1977	1978
1	1,688,349	1,958,031	2,559,479	2,436,681	2,851,520
2	6,822,540	7,823,568	10,635,703	10,722,675	12,970,363
3	1,638,266	2,157,038	2,904,586	2,724,662	3,153,985
4	3,654,205	3,147,138	3,771,596	4,310,768	4,483,861

Source: Chapter 5, Tables 5-6 and 5-7, Appendix A, Tables A-8 and A-20 and calculations

Since the figures were presented net rather than net long-term or net short-term, the separation of the long-term portion from the

short-term portion was necessitated because indexing would be applied only to the long-term portion. Table A-23, Appendix A, contains length of period information on corporate stock and on securities other than corporate stock. While these two categories do not exhaust capital asset transactions, they were the only two on which length of period information was provided. Hence, results obtained using those data were used as surrogates for all capital asset transactions. Note, however, the less reliable nature of the other securities transactions' amounts. Because of this lack of reliability, the determination of the long-term/short-term dichotomy was based solely on capital stock transaction information

Note that the all periods total does not equal the short-term total plus the long-term total. Thus, to separate short-term from long-term, the following algebraic manipulation was used·

> Short term total = short term only + short-long mix
> Long-term total = long-term only + short-long mix
> All periods total = short-term total + long-term total + short-long mix
> Therefore, short-long mix = short-term total + long-term total - all periods total

Table 5-26 contains the partial short-term-long term separation based on Appendix A, Table A-23 information. The short-long mix was further separated into short-term only and long term only amounts. The allocation was based on the short-term to long-term ratio A sample calculation follows Table 5-26.

Table 5-26. Separation of Net Capital Gain/Loss Amounts into Short- and Long-term Amounts

	Amounts			
	Group 1	Group 2	Group 3	Group 4
Total	237,412	1,954,589	1,221,297	3,373,975
Short-total	48,994	408,153	430,921	1,406,023
Long-total	224,497	1,852,726	1,159,694	3,296,977
Short-only	12,915	101,863	61,603	76,998
Long-only	188,418	1,546,436	790,376	1,967,952
Short-Long mix	36,079	306,290	369,318	1,329,025

	Percents before allocation			
	Group 1	Group 2	Group 3	Group 4
Total	100.0	100.0	100.0	100.0
Short-only	0544	.0521	0504	.0228
Long-only	.7936	.7912	6472	.5833
Short-Long mix	.1520	.1567	3024	.3939

	Percents after allocation			
	Group 1	Group 2	Group 3	Group 4
Total	100.0	100.0	100 0	100.0
Short-only	.0642	.0618	.0722	.0376
Long-only	9358	9382	.9278	.9264

Source: Appendix A, Table A-23 and calculations

Sample Calculation for Group 1 Percents before allocation

Short-only/(short-only+long-only)*mix = short-only addition
Long-only addition = mix - short-only addition
.0544/(.0544+.7936)*.1520 = .0098 = short-only addition
Short-only = .0544+.0098 = .0642
.1520-.0098 = 1422 = long-only addition
Long-only = .7936+.1422 = .9358

The information contained in Tables 5-25 and 5-26 allowed the calculation of the net long-term amounts and the unadjusted (gross) gain (net long-term amount * two). However, information on cost was sought since indexing would be applied to it. That information was not available directly. Table A-24, Appendix A, contains IRS and calculated group information on selling price, gross gain, and gross loss of long-term capital asset transactions. Then, by using the gross gain to selling price ratio, selling price and cost were determined. Indexing the cost required holding period information so that a composite purchase date CPI could be determined. The holding period information contained in Appendix A, Table A-23 was not adequate because of the large amounts contained under the title Period Not Determinable Because of their magnitudes, the amounts represented by Period Not Determinable were allocated to the various periods. This allocation was made based on the relative weights of the other periods in that section. For example, for corporate stock number of returns (Group 1 - short-term), the six known period return amounts (31,990; 45,520, 22,189, 19,492; 3,569, and 3,541) summed to a total of 126,301. The Period not Determinable amount (26,012) was allocated thus:

1 month = 31,990/126,301*26,012
2 months = 45,520/126,301*26,012
3 months = 22,189/126,301*26,012
4 months = 19 492/126,301*26,012
5 months = 3,569/126,301*26,012
6 months = 3,541/126,301*26,012

In this manner, the unknown period return amounts for both corporate stock transactions and other securities transactions were allocated to the various periods (see Appendix B, Program B-11). Then, the two sets (corporate stock and other securities) of period data were combined, each period's amount being expressed as a percent of the total for all periods. For example:

1 month = (38,578 + 194)/(369,133 +22,057) = .099113
(see Appendix B, Program B-12 and Appendix A, Table A-25).

These weighted percents were used to calculate a composite Consumer Price Index to use as the purchase date index. The following example shows how such a composite Consumer Price Index was calculated for a Group 1 sale that occurred in 1973. See Appendix B, Program B-13 and Appendix A, Table A-26 for a list of average Consumer Price Indexes.

Partial Example

0-6 months--first 6 weighted percents/total weighted percent*1973 index
6-12 months--next 6 weighted percents/total weighted percent*1972 index
1-2 years--next weighted percent/total weighted percent*1971 index
and so on until
15-20 and 20 years or more--last two weighted percents/total weighted percent*1953 index
Weighted Consumer Price Index = 112.8

Tables A-27 and A-28 (Appendix A) show the years assigned to the various periods listed by the Internal Revenue Service and the composite Consumer Price Indexes which were computed. Then, using

the average Consumer Price Indexes (Table A-26, Appendix A) and the composite Consumer Price Indexes (Table A-28, Appendix A), the following index factors (Table 5-27) were derived for 1974-1978.

Table 5-27. Index Factors for 1974-1978 by Group

Group	1974	1975	1976	1977	1978
1	1.2057095	1.2492114	1.2501856	1.2496503	1.2542595
2	1.1799507	1 2165899	1 2123830	1 2090663	1.2144670
3	1.1770492	1.2128637	1.2063037	1.2025572	1.2083333
4	1.1897266	1.2269558	1.2220610	1.2189632	1.2253521

Source: author

The only difference between the 0% model and the 60% model was the manner in which capital gains and capital losses were treated For capital gains, the difference was the allowing or not allowing of a capital gain deduction Thus, once the indexed capital gain amount was determined, all that was required for the 60% model was a reduction by 60% of that indexed amount. See Appendix A, Table A-29, for the derivation of both the 0% model and the 60% model capital gain adjustments

Capital loss adjustment

There were several obstacles to overcome in indexing capital loss amounts First, there was a limit as to the amount of capital loss one was allowed to deduct. $1,000 during 1973-1976; $2,000 in 1977; and $3,000, 1978 to date. Secondly, short term losses had first priority in being reported. Table 5-28 shows the loss amounts per loss return.

Table 5-28. Group Capital Loss Amounts per Loss Return for 1973-1978

Group	1973	1974	1975	1976	1973-1976 average	1977	1978
1	633	699	650	655	659	1,032	1,316
2	650	690	680	660	670	1,037	1,388
3	801	823	816	804	811	1,374	1,861
4	857	878	868	869	868	1,546	2,164

Source: Appendix A, Table A-20 and calculations
Loss limits: 1973-1976--$1,000; 1977--$2,000; 1978--$3,000

Note that the group loss amounts were well below the limit allowed. However, the fact that those loss amounts increased when the limit was increased implies that some individuals had losses in excess of the imposed limit.

The first adjustment made to eliminate the change in limits problem was to use the 1973-1976 average loss per return to determine the 1977 and 1978 loss amounts per group (see Appendix A, Table A-30). Then, the 1974-1978 loss amounts were ratio adjusted (see Appendix A, Table A-31). Because of the priority of short-term losses, the short-term/long-term percents (see Chapter 5, Table 5-26) were probably not very good estimates However, with no better information available, they were the ones used to separate the loss amounts. After multiplying the net long-term loss by two to arrive at gross loss (assuming that the information presented by the IRS was that transferred to the 1040), the selling price was determined by using the loss to selling price ratio (Table A-24,

Appendix A). Next, cost was determined (selling price + gross loss) and indexed (Chapter 5, Table 5-27). Finally, adjusted long term loss amounts were determined by subtracting selling price from indexed cost. For the 0% model, unlimited loss amounts were allowed as a parallel for the unlimited gain amounts. For the 60% model, however, only 40 percent of the adjusted loss was allowed since the parallel gain required only a 40 percent inclusion. This logical construction differs from current law for which a 50 percent loss deduction is allowed As a result of allowing only 40 percent of the loss, slightly higher income amounts resulted. This bias likely would affect Groups 3 and 4 more than it would Groups 1 and 2. However, the amount of bias should be small because of the total dollar loss limitation in effect. See Appendix A, Table A-32, for the derivation of both the 0% model and the 60% model adjustments.

Indexing the interest deduction

For purposes of this study, the interest deduction was divided into mortgage and nonmortgage interest deductions. As one of the allowable itemized deductions, a certain percentage of the standard deduction amount is linked to the interest deduction. The indexing of interest as a separate item would suggest the removal of that percentage from the standard deduction amount, necessitating a standard deduction adjustment. Discussion related to the indexing of the interest deduction via the indexing of mortgage and nonmortgage interest deduction amounts follows the discussion of the adjustment made to the standard deduction amounts.

1. Standard deduction adjustment

Interest deduction amounts constituted approximately 30% of itemized deduction amounts (i.e., 29.8% in 1973 to 36.9% in 1978). Therefore, it was assumed that 30% of the standard deduction amounts represented an allocation for interest expense. Since interest expense deductions were to be indexed separately, it was reasoned that the amount allocated in the standard deduction amount for interest deductions should be removed. Thus, the ERTA standard deduction amounts (see Chapter 5, Table 5-17) were reduced by 30%. Table 5-29 contains the standard deduction adjustments.

Table 5-29. Standard Deduction Adjustments (thousands)

Group	1974	1975	1976	1977	1978
1	10,925,347	12,698,824	14,773,025	16,527,242	18,404,489
2	6,916,188	8,106,270	9,421,048	10,530,385	11,717,033
3	3,512	5,135	6,882	8,614	10,515
4	224	333	469	608	760

Source: Chapter 5, Table 5-17 and calculations

These Table 5-29 amounts then were allocated to the itemized mortgage and nonmortgage interest amounts based on the group mortgage to nonmortgage ratios. Table A-33, Appendix A, contains the reported itemized deduction amounts, the total interest paid deduction amounts, and the mortgage interest deduction amounts. Because mortgage interest information was not available for 1974, approximations were sought. Mortgage interest amounts as a percent of the total interest deduction amounts were calculated (see

Appendix A, Table A-34) Because the Group 3 and the Group 4 percentages in 1978 were inconsistent with those of the other years, only the 1975-1977 amounts were used initially to project the 1974 figures. Once these figures were determined, they were used along with the 1975- 1977 amounts to project the 1973 data However, this method proved unsatisfactory since, for Group 3, the 1973 projection was .0781488, a 24.4% difference from the actual 1973 percentage (.09417046). Thus, the 1974 percentages were determined by averaging the 1973 and the 1975 amounts Then, the group amounts were ratio adjusted (see Table A-35, Appendix A). Nonmortgage interest amounts also were ratio adjusted (see Table A-36, Appendix A). Table 5-30 contains the standard deduction allocated amounts based on the adjusted mortgage and nonmortgage interest amounts.

Table 5-30 Allocation of Standard Deduction Adjustment Amounts to Mortgage and Nonmortgage Interest Deduction Amounts (amounts in thousands)

	Mortgage interest deduction addition				
Group	1974	1975	1976	1977	1978
1	7,007,158	8,082,282	9,716,464	11,038,887	12,401,828
2	4,423,893	5,334,327	6,290,018	7,100,401	7,867,222
3	1,312	2,071	2,974	3,977	3,431
4	29	53	82	126	347
	Nonmortgage interest deduction addition				
Group	1974	1975	1976	1977	1978
1	3,918,189	4,616,542	5,056,562	5,488,355	6,002,661
2	2,492,295	2,771,944	3,131,030	3,429,985	3,849,811
3	2,200	3,064	3,908	4,637	7,084
4	195	280	387	482	413

Source: Chapter 5, Table 5-29, Appendix A, Tables A-35 and A-36, and calculations

11. Indexing mortgage interest amounts

Contained in Table 5-31 are the final mortgage interest deduction amounts to which indexing was applied.

Table 5-31. Mortgage Interest Deduction Amounts (thousands)

Group	1974	1975	1976	1977	1978
1	9,523,866	10,992,048	12,866,571	13,493,087	15,226,690
2	22,702,445	25,909,150	30,585,448	31,189,307	38,553,988
3	618,474	809,090	1,022,459	1,050,130	912,716
4	187,441	176,467	190,845	252,254	722,786

Source: Chapter 5, Table 5-30, Appendix A, Table A-35 and calculations

The mortgage interest rates used for comparison with the inflation rates were determined next. Since the mobility rate is approximately 20% (Wall Street Journal, June 16, 1982, p.17), it was assumed that the average mortgage period was five years: thus, for any given year (t), the oldest mortgage rate applicable was the one which was in use four years prior (t-4). That is, the following mortgage rates were used: the current rate, the rate one year prior, the rate two years prior, the rate three years prior and the rate four years prior Clearly, this assumption contradicts the fact that some individuals hold mortgages for twenty to thirty years. However, some of these taxpayers may no longer be itemizing, and for those who are, the mortgage deduction amount may be quite small since interest rates were lower in the past. The use of assumed higher mortgage rates would introduce only a slight bias in the

results derived in the direction of lower taxes being reported. The bias would be skewed toward higher income taxpayers who are more likely to itemize and to have higher mortgage payments. A weighted rate was determined by adding the rates from the current year and the four previous years, then dividing by five. Annual rates were averages of the FHA rates, conventional, new-home rates, and conventional, existing-home rates (U.S. Bureau of the Census, 1979, p.542). Table 5-32 contains the average annual rates, the weighted mortgage rates determined, and the inflation rates. Table 5-33 contains the amounts added back to income. These amounts were determined by multiplying the mortgage interest amounts by the inflation factor (inflation rate/mortgage rate). Note that, in some years (i.e., 1975 and 1976), new income was generated since the inflation rates exceeded the mortgage rates.

Table 5-32 Annual Mortgage Rates, Weighted Mortgage Rates, and Inflation Rates

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Annual	8 70	7.76	7.62	8.67	9.33	9.14	8.95	8.86	9.69
Weighted					8.34	8.42	8.66	8.91	9.19
Inflation					5.1	10.6	11.9	8.1	8.3

Source: U.S. Bureau of the Census, 1979, p.542, Chapter 5, Table 5-15 and calculations

Table 5-33. Mortgage Interest Adjustments

Group	1974	1975	1976	1977	1978
1	5,852,014	13,870,918	17,599,103	12,280,226	13,737,122
2	13,949,694	32,694,881	41,835,267	28,385,775	34,782,402
3	380,026	1,020,995	1,398,536	955,736	823,429
4	115,175	222,685	261,041	229,579	652,079

Source: Appendix A, Table A-35, Chapter 5, Table 5-31 and calculations
Inflation factors for 1974-1978 respectively: .6144578, 1.2619048, 1.3678161, .9101124 and, .9021739

iii Nonmortgage interest adjustment

Nonmortgage interest group amounts were determined by subtracting the reported mortgage interest amounts from the reported total interest amounts. Then, these were ratio adjusted (Table A-36, Appendix A), and the standard deduction allocation amounts were added. Table 5-34 contains the final nonmortgage interest deduction amounts to which indexing was applied.

Table 5-34. Nonmortgage Interest Deduction Amounts (thousands)

Group	1974	1975	1976	1977	1978
1	5,325,455	6,278,579	6,695,914	6,708,543	7,369,934
2	12,789,909	13,463,494	15,224,744	15,066,591	18,866,318
3	1,037,299	1,197,211	1,343,908	1,224,397	1,884,721
4	1,265,654	935,941	896,165	969,083	861,875

Source: Chapter 5, Table 5-30, Appendix A, Table A-36 and calcultions

The weighted rates used in the indexation process were developed from consumer credit information which was dichotomized into installment credit and noninstallment credit (Table A-37,

Appendix A). Further information was available on installment credit amounts by lender (Table A-38, Appendix A) and finance rates on installment credit charged by commercial banks and finance companies (Table A-39, Appendix A). For purposes of surrogation, installment and noninstallment items were combined and matched (Tables A-37 and A-39, Appendix A) in the following manner:

Other consumer goods--Revolving
Personal loans--All other loans, single payment loans and service credit
Credit card plans--charge accounts

Finance company new and used automobile rates were averaged together (Table A-39, Appendix A). The following sample shows how the weighted interest rates (Table A-40, Appendix A) were computed:

Sample Calculation of 1973 Weighted Interest Rate

Automobile rate =
auto loan amount/total loan amount*bank amount/(bank+finance co. amount)*bank rate +
auto loan amount/total loan amount*finance co. amount/(bank+finance co. amount)*finance co. rate

total loan amount =
auto amount+mobile home amount+other consumer goods amount+personal loan amount+credit card plan amount

Automobile rate = 53.8/203.6*75 9/(75.9+35.4)*10.21 +
53.8/203.6*35.4/(75.9+35.4)*14.39

Automobile rate = 1.8398+1.2094 = 3 0492

Similarly, the following rates were determined:

Mobile home rate = 0 7653
Other consumer goods rate = 0 8387
Personal loan rate = 8.5205
Credit card plan rate = 0.9467

1973 weighted interest rate = 14.1204

Like the inflation adjustment factors determined for mortgage interest, similar factors were derived for nonmortgage interest. That is,

> the inflation factor = the inflation rate/the nonmortgage rate.

Table 5-35 contains these nonmortgage interest adjustments.

Table 5-35. Nonmortgage Interest Adjustments (thousands)

Group	1974	1975	1976	1977	1978
1	1,926,228	4,589,858	5,420,502	3,799,944	4,247,948
2	4,626,137	9,842,279	12,324,793	8,534,223	10,874,336
3	375,193	875,203	1,087,926	693,540	1,086,332
4	457,790	684,205	725,467	548,921	496,775

Source: Appendix A, Tables A-36 and A-40, Chapter 5, Tables 5-15 and 5-34 and calculations
Inflation factors for 1974-1978 respectively: 0.3617021, 0.7310345, 0.8095238, 0.5664336, and 0.5763889

Effect on adjusted gross income

Because of the adjustments made to capital transaction amounts and to interest amounts, adjusted gross income amounts were also affected. Table 5-36 contains the adjusted gross income amounts for the two alternate models (see Appendix A, Table A-42 for the derivations) Note that the 1975 and the 1976 mortgage interest adjustments (Chapter 5, Table 5-33) which were in excess of the deductions (Chapter 5, Table 5-31) were considered income and added to adjusted gross income.

Table 5-36. Adjusted Gross Income Amounts (thousands)

			0% Model		
Group	1974	1975	1976	1977	1978
1	194,120,818	204,329,369	217,038,163	226,272,160	236,443,260
2	527,626,676	571,016,181	618,674,786	655,169,381	697,668,663
3	13,569,253	14,255,548	15,339,238	16,490,909	17,248,168
4	5,829,765	5,999,674	7,205,591	8,093,061	8,445,612

			60% Model		
Group	1974	1975	1976	1977	1978
1	194,674,737	204,698,325	216,963,979	225,906,321	236,147,392
2	525,942,639	569,534,303	614,989,926	650,762,887	691,606,306
3	12,441,817	12,789,432	13,177,176	14,388,370	14,764,049
4	2,053,153	2,782,412	3,296,313	3,604,541	3,787,658

Source: Appendix A, Table A-42

Marginal and effective rates

All the adjustments having been made, all that remained was to derive the taxable income amounts for the Alternate Models. They were derived in the following manner:

> Alternate (0%) Model taxable income = ERTA taxable income + interest income adjustment + capital gain (0% Model) adjustment + capital loss (0% Model) adjustment + mortgage interest adjustment + nonmortgage interest adjustment
>
> Alternate (60%) Model taxable income = alternate (0%) Model taxable income + capital gain (60%) Model adjustment + capital loss (60% Model) adjustment.
> See Appendix A, Table A-41 for those derivations.

Table 5-37 contains those taxable income amounts as well as the marginal and effective tax rates. As was mentioned earlier in this chapter, for the purpose of this table, effective rate was defined as the tax amount related to the taxable income per return amount divided by the taxable income per return amount. It was needed for calculation purposes, and has no interpretative significance.

Table 5-37. Alternate Models Taxable Income (thousands), Taxable Income per Return and Marginal and Effective Tax Rates

0% Model

	1974				1975			
Group	Taxable income	TI per return	MR	ER	Taxable income	TI per return	MR	ER
1	97,858,565	2,973	.16	.145	104,589,945	3,059	.16	.134
2	360,349,846	11,410	.22	.179	407,788,510	12,369	.22	.167
3	10,434,942	43,170	.45	.299	11,806,476	46,577	48	.264
4	4,699,151	192,572	.69	.517	5,039,365	181,887	.66	460

	1976				1977			
Group	Taxable income	TI per return	MR	ER	Taxable income	TI per return	MR	ER
1	111,539,466	3,145	.16	.122	113,191,460	3,080	.16	.113
2	448,773,287	13,086	.22	154	466,447,809	13,095	.22	.143
3	13,221,987	51,186	.48	.239	13,626,426	51,784	.45	.225
4	6,157,307	196,945	.66	.419	6,761,344	194,174	.66	.377

	1978			
Group	Taxable income	TI per return	MR	ER
1	118,808,688	3,123	.16	.105
2	504,120,281	13,645	.22	.136
3	14,559,547	54,332	.45	.221
4	7,339,185	191,229	.64	.363

60% Model

Group	1974 Taxable income	1974 TI per return	1974 MR	1974 ER	1975 Taxable income	1975 TI per return	1975 MR	1975 ER
1	98,412,485	2,989	.16	.145	104,958,901	3,070	.16	.134
2	358,665,809	11,356	.22	.179	406,306,632	12,324	.22	.167
3	9,307,506	38,506	.45	.276	10,340,370	40,793	.42	.251
4	922,539	37,806	.42	.275	1,822,103	65,766	.53	320

Group	1976 Taxable income	1976 TI per return	1976 MR	1976 ER	1977 Taxable income	1977 TI per return	1977 MR	1977 ER
1	111,465,282	3,142	.16	.122	112,825,621	3,070	16	.115
2	445,088,427	12,979	.22	.153	462,041,315	12,972	.22	.143
3	11,059,925	42,816	.42	.222	11,523,887	43,793	.42	.202
4	2,248,029	71,905	.53	.292	2,272,825	65,272	.50	.258

Group	1978 Taxable income	1978 TI per return	1978 MR	1978 ER
1	117,791,012	3,097	.16	.105
2	498,057,920	13,481	.22	.135
3	12,075,428	45,062	42	.195
4	2,681,231	69,862	50	.248

Source· Chapter 5, Table 5-16, Appendix A, Table A-41 and calculations

6. Summary

This chapter contained information concerning the data obtained from the IRS, the motivation for and the procedures taken to adjust the data, and the adjusted data derived from those procedures for each of the tax models used in this study. The tax models also were described in great detail. The adjusted data were used to derive the distributional and revenue effects for each model (contained in Appendix C, Tables C-1 through C-4). In Chapter 6, those effects are presented and analyses are made.

CHAPTER 6

EFFECTS OF THE RESEARCH WITH IMPLICATIONS FOR THE FUTURE

In this chapter, the effects of implementing the various tax models are reported, discussed, and analyzed. Furthermore, potential nonrevenue effects are discussed. Some implications for future research also are presented Finally, a summary of the findings of the research is given Initially, however a review of the specifications of each model is presented

1. Review of the models

The primary purpose of this research was the determination of the distributional and revenue effects of the various tax models developed in the study; namely, the 1973 Law Model, the ERTA model, and the Alternate Model. While the exact specifications of each model and related detailed information about the gathered or generated data used can be found in Chapter 5, a brief summary will be given below. Initially, though, some introductory comments are presented.

The current study is multiperiod in nature, a choice made to reflect better the normal positions of the taxpayer groups studied

as well as to observe the change in tax distribution for each group over the time for which each of the three models was applied The period of the study was 1974-1978, with the base year being 1973. Groups of taxpayers were the objects of the study because the primary data was obtained from IRS publications which presented such data in group form. The groups in the study were taxpayers whose reported 1973 AGI amounts were as follows:

1. under $10,000,
2. $10,000-$49,999,
3. $50,000-$99,999, and
4. $100,000 and over

Through interpolation, the percentage of taxpayers in each group was maintained throughout the years of the study. Thus, the range of AGIs reported by each group changed over time (see Chapter 5, Table 5-1) The discussion which follows is a brief summary of the specifications of the models developed.

The 1973 Law Model is a no tax change model. It was introduced as a control so that comparisons could be made between it and each of the other models to highlight the effects of those other models. While the model is entitled the 1973 Law Model because 1973 was the base year used in this study, the model was intended to reflect the 1983 tax law Since that was the intent, aspects of the 1983 law were incorporated into the 1973 Law Model These aspects were the earned income credit and the child/dependent care credit. Neither of these credits was in existence in 1973 Since this was a no tax change model, the primary tax law changes which occurred during 1974-1978 had to be factored out. Trend analysis and ratio adjustments were used to accomplish this.

The ERTA model was the first of the indexation models, and was named after the legislation which contains indexation requirements. The items indexed were those required in the ERTA legislation, except for the substitution of the standard deduction amount for the zero bracket amount. As detailed in Chapter 5, the primary reason for this substitution was the lack of consistent availability of zero bracket amount data. It was deemed that the use of this surrogate would not produce materially different results since the two measures are equivalent in essence For the ERTA Model, the following items listed below were indexed in the manner specified in the ERTA legislation:

1. the tax rate schedules,
2. the personal exemption amounts, and
3 the standard deduction amount.

The indexation factor used was a lagged average CPI This lagged average feature was a requirement of the ERTA legislation. The adjustment factors used in this study can be found in Chapter 5, Table 5-15. The data to which the ERTA Model was applied were the data gathered or generated for the 1973 Law Model.

There are two variations of the Alternate Model· the 0% Model and the 60% Model. These titles refer to the percent of capital gain deduction allowed for use in each variation of the model The basic Alternate Model built upon the ERTA Model; that is, the ERTA derived data constituted the base to which the Alternate Model was applied. Additional nominal amount elements were indexed; namely, the credit for the elderly, the earned income credit, and the

child/dependent care credit. Certain base elements such as interest related items (income and deductions) and capital asset costs also were indexed. The interest deduction was dichotomized into a mortgage interest deduction and a nonmortgage interest deduction. These amounts were indexed separately.

After the indexation of the capital asset costs, the Alternate Model variations were applied. For the 0% Model, no capital gain deduction and unlimited capital losses were permitted. A 60 percent capital gain deduction was permitted for the 60% Model with only 40 percent of long term capital losses allowed. This more logically consistent treatment for the latter allowance differs from the current law for which 50 percent of loss is allowed Some bias was introduced into the study because of this modification of current law. Refer to Chapter 5 for a more complete discussion of this point.

To summarize, the details of models used in this study are as follows:

1. The 1973 Law Model is a no tax change model The effects of major tax changes which occurred during the period of the study, 1974-1978, were factored out, as described in Chapter 5 The child/dependent care credit and the earned income credit were made applicable to 1973 and to subsequent years.

2. The ERTA Model built upon the data base of the 1973 Law Model. Additionally, the tax rate schedules, the personal exemption amount, and the standard deduction amounts were indexed.

3. With the data base of the ERTA Model as its base, further indexing occurred with the Alternate Model. Indexed were the amounts of the credit for the elderly, the earned income credit, the child/dependent care credit, the interest income amounts, the mortgage

> interest deduction amounts, the nonmortgage interest deduction amounts, and the capital asset costs. At this point, two different capital gain and loss rates were applied: a 0 percent rate and a 60 percent rate.

The effects of implementing these models are reported, discussed, and analyzed next.

2. Derived data

To determine the revenue and distributional effects using the gathered or generated data described in Chapter 5, two key figures per group were derived: the tax after credits amount (revenue effect) and the tax after credits as a percent of AGI (distributional effect). As previously indicated, the tax after credits amount is defined as the tax liability remaining after the credit amounts adjusted for in this study have been subtracted (i e., the credit for the elderly, the child/dependent care credit, and the earned income credit). These derived figures were calculated in the following manner. Starting with the group number of taxable returns, an AGI per return amount was derived. A division of the taxable income amount by the number of taxable returns resulted in a derived taxable income per return amount This latter amount in combination with the tax rate schedule was used to determine an effective tax rate which was applied to the taxable income amount to determine the tax before credits amount. For the years 1973-1975, an intermediate tax before adjustments calculation had to be made so that the child care deduction amount

could be added back. As was discussed in Chapter 5, this step was necessary because the child care credit became applicable law only in the 1976 tax year. The tax after credits amount was derived by subtracting the amounts for the elderly credit, the child/dependent care credit, and the earned income credit from the tax before credits amounts. Then, a tax after credits amount per number of taxable returns figure was derived. Finally, the tax after credits amount as a percent of the AGI amount was determined by a division of the tax after credits per return amount and the AGI per return amount.

All of these figures mentioned above can be found in Appendix C In that appendix, data arranged by year and by group for the 1973 Law Model, the ERTA Model, the Alternate 0% Model, and the Alternate 60% Model can be found in Tables C-1 through C-4, respectively Data for 1973, which were not used for comparison purposes, are contained only in Table C-1 for completeness. References are made at the end of each of these tables indicating which tables contained in Chapter 5 were the sources of that data. The data relevant to this chapter are repeated herein as needed. These consist of the revenue effects (tax after credits amount) and the distributional effects (tax after credits as a percent of AGI).

3. Revenue effects

The revenue effects were derived to determine the impact on the Treasury of the application of each of the tax models. It was

anticipated that each of the indexation models would generate less revenue than would the 1973 Law Model. Of the two Alternate models, the 60% Model was expected to generate less revenue than would the 0% Model because of the allowance of the 60 percent capital gain deduction. However, comparatively speaking, it was unclear where the ERTA Model would be positioned. The revenue effects data from Appendix C, Tables C-1 through C-4 are repeated in Table 6-1 where they are listed by year, by group, and by tax model. Figure 1 is the graph of the revenue totals only (i.e., the sum of the four group amounts) for each year and each model contained in Table 6-1

Table 6-1. Revenue Amounts (thousands) by Year, by Group, and by Tax Model

		1974		
Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	14,121,289	12,827,940	12,387,720	12,468,038
2	68,086,780	64,208,607	64,233,804	63,932,361
3	3,677,903	3,408,900	3,114,460	2,563,279
4	1,481,947	1,401,067	2,428,663	252,895
Total	87,367,919	81,846,514	82,164,647	79,216,573

		1975		
Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	14,994,147	11,879,557	12,271,157	12,320,598
2	75,617,498	64,622,199	67,748,011	67,500,537
3	4,155,073	3,341,660	3,110,154	2,588,676
4	1,665,225	1,392,301	2,317,071	582,036
Total	96,431,943	81,235,717	85,446,393	82,991,847

Table 6-1 continued

1976

Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	16,587,023	11,168,522	11,816,957	11,807,906
2	83,429,128	63,401,611	68,565,555	67,552,988
3	4,475,810	3,184,845	3,153,196	2,448,454
4	1,880,554	1,405,660	2,578,847	665,359
Total	106,372,515	79,160,638	86,114,555	82,464,707

1977

Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	18,692,712	11,553,868	11,293,351	11,477,663
2	91,197,324	64,683,267	66,125,411	65,495,283
3	4,801,770	3,110,844	3,058,718	2,320,597
4	2,094,806	1,419,030	2,547,869	585,231
Total	116,786,612	80,767,009	83,025,349	79,878,774

1978

Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	20,356,774	11,270,775	10,946,694	10,839,838
2	98,913,504	64,744,039	67,807,561	66,485,022
3	5,119,964	3,009,715	3,208,280	2,345,328
4	2,309,215	1,519,585	2,662,635	663,456
Total	126,699,457	80,544,414	84,625,170	80,333,644

Source: Appendix C, Tables C-1 through C-4

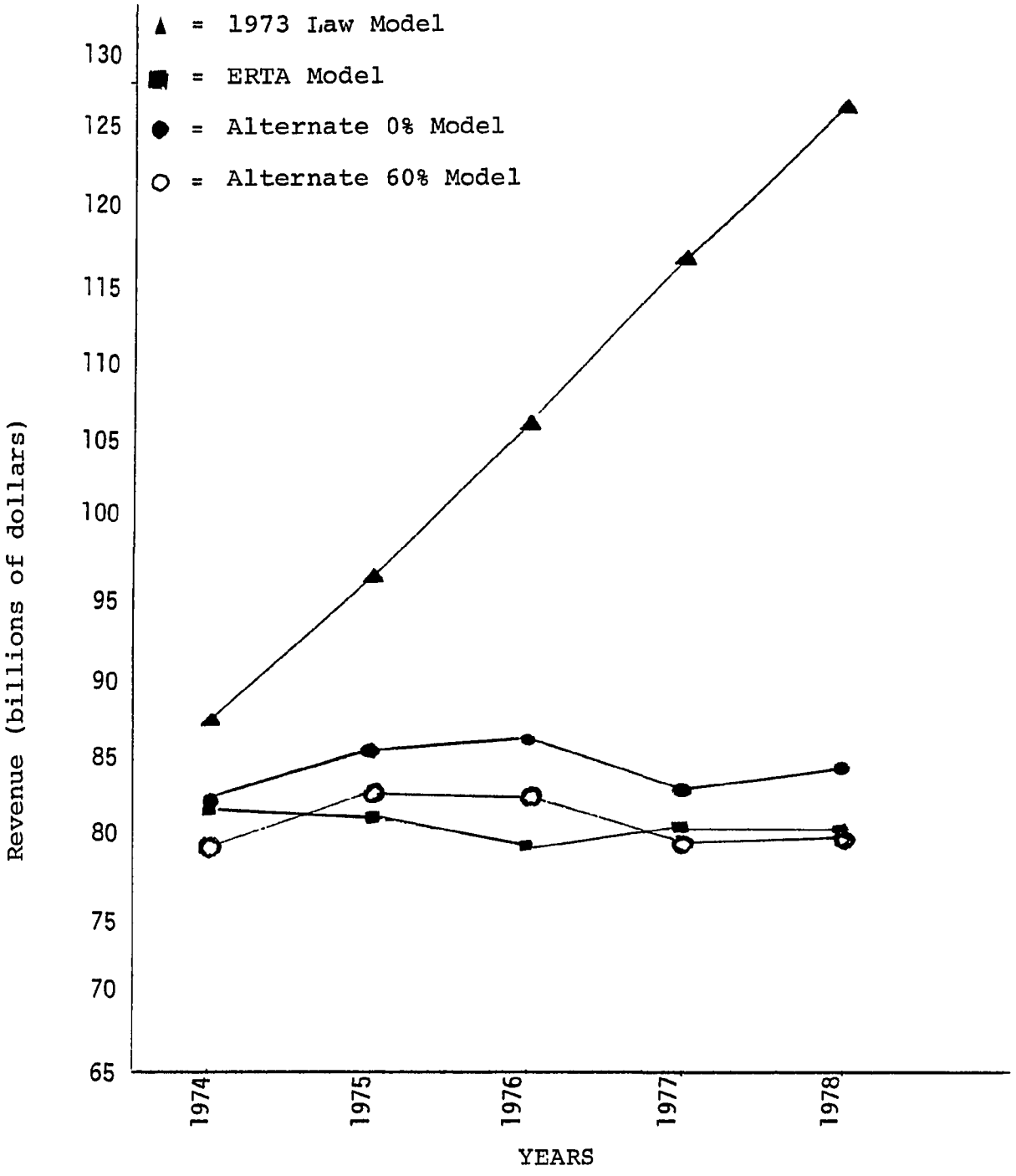

Figure 1. Revenue Totals by Year for Each Tax Model

As is shown in Figure 1, while the revenue amounts associated with the 1973 Law Model appear to have increased uniformly over time, the revenue amounts of the indexation models remained relatively constant. These results conformed fairly well with what had been expected. For example, with respect to the 1973 Law Model, inflationary increases in income should cause rather proportional increases in tax revenue in the absence of a change in the tax law. The nearly perfect straight line pictured in Figure 1 is somewhat deceiving; the deception being caused by the scale and the large "points" used. In fact, the increase from one year to the next declined over the years in the study, from a 10.37 percent increase (1974 to 1975) to a 8 49 percent increase (1977 to 1978) This fact is illustrated by the appearance of a slight change in the slope of the line from point to point Since real growth likely occurred during the years of the study, for the indexation models, it had been expected that relatively constant revenue amounts would result with evidence of a slight increase for such real growth. As can be seen in Figure 1, no indexation model uniformly exhibited such a real growth pattern. This lack of a uniform real growth pattern can be explained, in part, by the trend analysis and ratio adjustment methodology used to factor out the effect of the tax changes which occurred during the period of the study Such a straight line methodology would have eliminated some real growth While some bias was introduced into the study because of the use of this methodology, the magnitude of that bias should have been small since

trends were determined separately for each group. However, the small number of taxpayers in Group 4 made this group more sensitive to any change. Hence, if this group experienced more fluctuations than did the other groups, trend determinations made would have been subject to greater variances; therefore, the results obtained for this group would be less reliable. The following differences of the revenue totals (high year - low year revenue) taken from Table 6-1 illustrate the relative constancy of the revenue amounts of the indexation models

1. ERTA Model - $2.686 billion,
2. Alternate 0% Model - $3.950 billion, and
3 Alternate 60% Model - $3.775 billion.

Based on revenue totals which averaged more than $80 billion, these differences represent less than 5 percent of that average

Further examination of Figure 1 reveals that the Alternate 0% Model generated the most revenue of any indexation model. Since it was not obvious from that figure which of the indexation models produced the least revenue, the group amounts for the years 1974-1978 as presented in Table 6-1 were totaled Table 6-2 contains these 1974-1978 revenue totals by group and by tax indexation model. As can be seen in this table, the ERTA Model generated the least total revenue ($403,553,992,000). However, the Alternate 0% Model and the Alternate 60% Model generated only 4.4 percent and 0.3 percent more revenue, respectively, than did the ERTA Model. Using the 1973 Law Model total revenue as the base, the ERTA, the Alternate 0%, and the Alternate 60% revenue totals were

24.4%, 22.0%, and 24.1% less, respectively. Thus, the adoption of any indexation model in preference to maintaining the 1973 Law Model resulted in a sizable loss in revenue. While revenue losses were expected, it had been unclear what magnitude of losses to anticipate. Furthermore, it had not been anticipated that the revenue amounts of the various indexation models would be so nearly the same. Nor was the ERTA Model expected to generate the least revenue total.

Table 6-2. 1974-1978 Revenue Amount Totals (thousands) by Group and by Tax Model

Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	84,751,945	58,700,662	58,715,879	58,914,043
2	417,244,234	321,659,723	334,480,342	330,966,191
3	22,230,520	16,055,964	15,644,808	12,266,334
4	9,431,747	7,137,643	12,535,085	2,738,977
Total	533,658,446	403,553,992	421,376,114	404,885,545

Source: Chapter 6, Table 6-1 and calculation

Concluding comments

If Congress chooses to implement the indexation portion of ERTA, yet they want to generate extra revenue, further examination of Table 6-2 suggests that adopting the provisions of the Alternate 0% Model would be a viable option Because of the sizeable increase (176%) expected of Group 4 in making this change (from $7.1 billion to $12.5 billion) compared to the small increase (4%) for the group experiencing the next largest change (Group 2 - from $321.7 billion

to $334.4 billion), Congress might be persuaded to allow a capital gain deduction along with the adoption of the indexation suggested in the Alternate 0% Model. Permitting a small deduction (e.g., 10 percent), should allow for some reduction of this 176 percent increase without an appreciable loss of total revenue. Hence, the change might be more appealing to Group 4. However, the added complexity and other potential nonrevenue effects such as a decline in capital assets sales incurred in switching from the ERTA Model to some Alternate Model might not be worth the additional revenue generated Potential nonrevenue effects associated with the various models are discussed later in this chapter If Congress desires more revenue than that, they could decide to negate the indexation portion of ERTA. Using the 1973 Law Model as the surrogate for current tax law and the ERTA revenue amounts as the base, this would mean revenue increases of 44 percent, 30 percent, 39 percent, and 32 percent from Groups 1 through 4 respectively.

While the reduction in revenue caused by switching from the 1973 Law Model to the ERTA Model was quite large ($130.1 billion), the additional decrease which resulted when the child/dependent care credit, the credit for the elderly, and the earned income credit all were indexed was quite small ($2.1 billion) See Appendix A, Table A-43 for the total 1974-1978 credit amounts taken by each group, indexed under the Alternate Model and unindexed under the ERTA Model This table also shows the group benefit breakdown. As expected, most of the benefits went to Groups 1 and 2 Since the

indexing of the above named credits resulted in such a small revenue loss with most of the benefits going to lower income taxpayers, should Congress decide to offer additional relief to these groups, this indexation would be a simple addition to the indexation as specified in ERTA.

The reduction in government revenue resulting from the adoption of any of the indexation models, with the concomitant burgeoning of the national debt, could produce one of the following responses. Congress might elect to cut government spending. While this balanced budget approach has been proposed by the Reagan administration, to date the attainment of that goal appears to be elusive Another response might be to add new taxes to the system, possibly a valued added tax (VAT). Such an addition has met with defeat in the past when it was considered Simply raising tax rates or narrowing bracket widths might be a third response to the revenue shortfall The simplest response might be to elect not to respond (i.e., Congress could ignore the impact of the revenue loss and the resulting deficit growth).

4. Distributional effects

Having addressed the revenue effects which resulted from applying the various tax models, attention now is turned to the distributional effects which occurred. These distributional effects, in terms of the tax after credits amounts calculated as percents of AGI amounts, contained in Appendix C, Tables C-1 through

C-4, were retabulated with an emphasis on the tax model and arranged by year and by group (Table 6-3). Figure 2 is the graph of this table.

Table 6-3. Tax after Credits Amounts as Percents of AGI Amounts by Tax Model, by Year, and by Group

	1973 Law Model				
Group	1974	1975	1976	1977	1978
1	.0691	.0695	.0726	.0776	0802
2	.1247	.1276	.1307	.1333	.1355
3	.2444	.2527	.2595	.2659	.2714
4	3119	.3170	.3221	.3260	.3293
	ERTA Model				
Group	1974	1975	1976	1977	1978
1	0628	.0549	.0489	.0479	0444
2	.1176	1091	.0993	.0945	0887
3	2266	.2033	.1846	.1723	.1595
4	.2949	.2651	.2407	.2208	.2163
	Alternate 0% Model				
Group	1974	1975	1976	1977	1978
1	0638	.0601	.0544	.0499	.0463
2	.1218	1186	.1108	.1009	0974
3	.2295	.2182	.2056	.1943	.1860
4	.4166	3862	.3579	.3148	3153
	Alternate 60% Model				
Group	1974	1975	1976	1977	1978
1	.0640	0602	.0498	.0508	0459
2	1156	1185	.1098	.1006	.0961
3	.2060	.2024	.1858	.1613	.1589
4	.1232	.2092	.1988	.1624	.1752

Source: Appendix C, Table C-1 through C-4

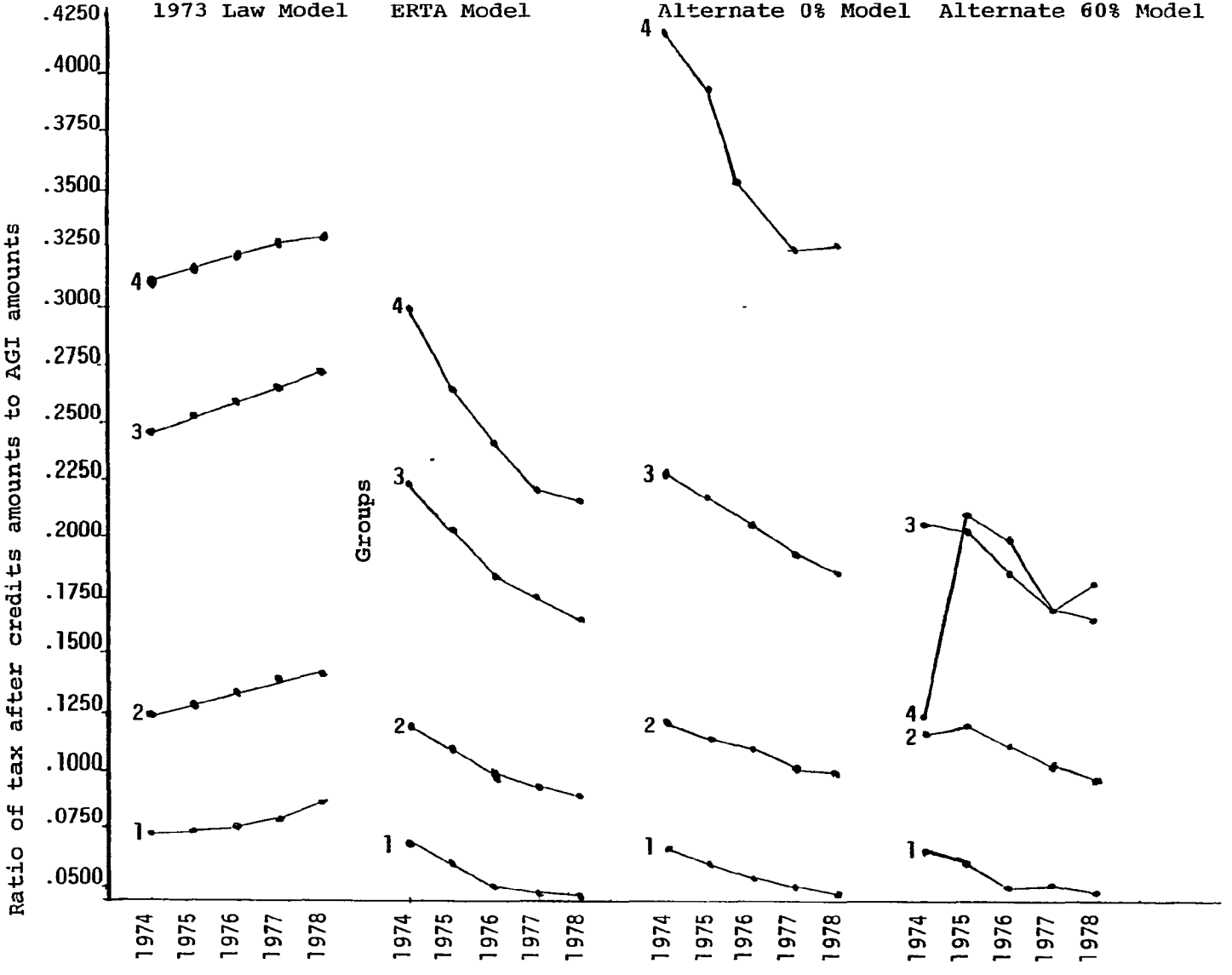

Figure 2. Ratio of Tax after Credits Amounts to AGI Amounts by Year and by Group with an Emphasis on the Tax Model Used

An examination of Figure 2 reveals the upward ratio trend for each group over time when the 1973 Law Model was used, and the generally downward ratio trend when an indexation model was used. Use of the Alternate 60% Model produced an exception to this downward ratio trend, particularly with respect to Group 4 and the 1974 ratio. To determine a reason for this exceptional behavior, an examination of Appendix A, Table A-41 proved helpful. This table contains the algorithm and the data used in converting the taxable income of the ERTA Model to the taxable income of the Alternate 0% Model which, in turn, was used to determine the taxable income of the Alternate 60% Model With regard to this Group 4 exception, the portion of the algorithm of particular interest is the transition from the taxable income of the Alternate 0% Model to the taxable income of the Alternate 60% Model. That portion of the algorithm is as follows:

taxable income - 0%
- capital gain adjustment
+ capital loss adjustment
= taxable income - 60%

The data contained in that table for Group 4 revealed that, as expected, the 1974 taxable income for the Alternate 0% Model was the lowest income figure presented, $340 million less than the 1975 figure (i.e., $5.039 billion - 4 699 billion). However, the 1974 capital gain adjustment used for deriving the taxable income of the Alternate 60% Model unexpectedly was $595 million more than was the 1975 capital gain adjustment (i.e., $3.921 billion - $3.326

billion). Those two figures (i.e., the low taxable income figure and the high capital gain figure) combined to yield for the Alternate 60% Model a 1974 taxable income figure of $923 million, an amount only 50.6 percent of the 1975 taxable income of $1.822 billion. Another reason for this deviation from the overall trend probably is related to the small number of taxpayers comprising Group 4. As a consequence, this group was more sensitive to any change so that trend determinations made would have been subject to greater variances, and the results obtained for this group would be less reliable

The progressive rate structure, as a feature of the federal tax system, is intended to place a heavier burden on those who have more income, hence, presumably possessing a greater ability to pay. The decision as to how progressive any tax system should be is left ultimately to the taxpayers and Congress. The tax after credits amount written as a percent of the AGI amount shows what portion of each AGI dollar represents tax liability. In a progressive tax system, one would expect greater tax liability as the absolute number of AGI dollars increases Hence, comparing progressivities can serve as a surrogate process for comparing distributional effects. Figure 2 and Table 6-3 from which it was derived show that each of the tax models exhibited some degree of progressivity since a group having more income experienced a greater tax liability than did a group having less income. The exception to this pattern of progressivity is Group 4, the 1974 entry of the Alternate 60% Model.

The reason for this exception was explained above. The Alternate 60% Model also exhibited the smallest differences between Group 3 and Group 4 ratios.

Contained in Chapter 1 are several definitions of progressivities which were used in this study. One way to compare systems to determine which is the most progressive would be to measure the differences between the lowest taxpayer group and the highest taxpayer group Then, the system with the greatest difference between these groups would be deemed to be the most progressive. Using this definition, one conclusion that can be drawn from this study is that the systems as arranged from most progressive to least progressive are the Alternate 0% Model, the 1973 Law Model, the ERTA Model, and the Alternate 60% Model This finding is based on average differences (derived from Table 6-3) between Group 1 and Group 4 taxpayers of .3033, .2475, .1958, and .1196, respectively. However, while this definition addresses overall progressivity, it does not address the change in progressivities of each system over time, nor does it address the distributional effect each system had on the taxpayer groups.

To address the change in progressivities of each system over time, the following definition, stated in Chapter 1, was adopted: a system became more progressive over time if the distributional effects ratios converted to percents per group increased over time. This definition conforms with the notion that a progressive tax system places a heavier burden on those with a greater ability to

pay. To apply the definition adopted, the data shown in Table 6-4 were derived using the data contained in Table 6-3. Since progressivities were ascertained over time, only the data from the end years 1974 and 1978 were necessary. However, because of the anomalous 1974 Group 4 ratio for the Alternate 60% Model, a ratio which did not conform to the general trend which occurred for that group, 1974 was deemed to offer an unsatisfactory data base for this particular comparison. To be consistent across all models, 1975 data was deemed to be a more satisfactory choice. Hence, 1975 data was used along with 1978 data. To compare the results across all models, the 1975 data and the 1978 data for each model were converted to percents using the Group 1 distributional effects ratios for the years 1975 and 1978 as the bases for the division of the Groups 2 through 4 ratios. These derived percents then were subtracted to determine change in percent figures. A positive change in percent figure implies an increase in spread between the Group 1 entry and the group exhibiting the positive change, while a negative change implies a decrease in spread. Three like sign change in percent figures were interpreted as implying a movement toward greater progressivity if positive, and toward lesser progressivity if negative. Two like sign changes were interpreted as meaning the system remained essentially the same Comparisons of the resulting 1975 and the 1978 changes in percent for each model yielded the following conclusions:

1. the 1973 Law Model tax system became less progressive,
2. both Alternate Models tax systems became more progressive, and
3. the ERTA Model tax system remained essentially the same.

Table 6-4. 1975 and 1978 Distributional Effects Ratios Retabulated and Written as Percents of the Group 1 Entry for that Year by Tax Model and by Group

Group	1975	Percent of Group 1	1978	Percent of Group 1	Change in percents
			1973 Law Model		
Group	1975	Percent of Group 1	1978	Percent of Group 1	Change in percents
			ERTA Model		
1	0549	1.0000	.0444	1.0000	0 0000
2	1091	1.9872	.0887	1.9977	+0.0105
3	.2033	3.7031	.1595	3.5923	-0.1108
4	.2651	4 8288	.2163	4.8716	+0.0428
			Alternate 0% Model		
Group	1975	Percent of Group 1	1978	Percent of Group 1	Change in percents
1	0601	1.0000	0463	1.0000	0 0000
2	.1186	1.9734	0974	2 1037	+0.1303
3	.2182	3.6306	.1860	4.0173	+0.3867
4	.3862	6.4259	.3153	6.8099	+0 3840
			Alternate 60% Model		
Group	1975	Percent of Group 1	1978	Percent of Group 1	Change in percents
1	.0602	1.0000	.0459	1.0000	0.0000
2	1185	1.9684	0961	2.0937	+0.1253
3	.2024	3.3621	1589	3 4619	+0 0998
4	2092	3.4751	.1752	3 8169	+0 3418

Source: Chapter 6, Table 6-3

Having discussed the overall progressivity of the models and the change in progressivities of the models over time, attention is now given to the distributional effect each model had on the various

taxpayer groups. One approach taken was to find the differences among the distributional effects ratios across the various groups and note the direction of change among these differences over time. With this purpose in mind, Table 6-5 was derived from Table 6-3 by subtracting the various group entries to determine the differences between pairs of groups for each model. Since the goal sought was to determine the effects over time, only end year data were used. Again, because of the anomalous 1974 Group 4 ratio for the Alternate 60% Model, 1975 data was substituted for 1974 data and was used along with 1978 data. In addition to deriving the 1975 and the 1978 group differences, the percent changes which occurred between those differences also were calculated and are contained in Table 6-5. These percent changes were calculated to determine the relative amount of change which occurred between the groups over time. It was thought that such relative amount of change data offered more insight than would absolute amount of change data since the former represents standardization across scales of measurement. The percent change was determined in the following manner.

percent change =
(1978 group difference - 1975 group difference)/1975 group difference

A negative percent change was interpreted to mean that the difference between the groups specified decreased over time, while a positive change implied an increase. The following analyses were made based upon the percent change section of Table 6-5.

Viewing each tax system in isolation and observing the generally negative changes, it is interesting to note that the group percent changes for each indexation system generally declined over time. This is in contrast to the results associated with the 1973 Law Model for which there were some group increases (i e., some positive changes). The following set of analyses treated Group 1 as the base for comparison (i.e., a fixed point). This was deemed to be a plausible approach because, as will be seen subsequently in Figure 3, Group 1 experienced little change no matter which indexation model was used and experienced one of the smallest changes when the 1973 Law Model was applied. With respect to the 1973 Law Model, since the percent change between Groups 1 and 2 declined over time, while those between Groups 1 and 3 and between Groups 1 and 4 increased, it would seem that a lessening of the tax burden for Group 2 at the expense of Groups 3 and 4 occurred. Noting that the percent change between Groups 3 and 4 declined, one could conclude that while Groups 3 and 4 experienced tax liability increases over time, relatively speaking, Group 3 experienced more of the burden than did Group 4.

Table 6-5. Group Differences Occurring with the Various Tax Models for 1975 and 1978 Followed by the Percent Changes Occurring during that Period with the 1975 Difference as the Base

	1975			
Groups	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1&2	.0581	.0542	0585	.0583
1&3	.1832	.1484	.1581	.1422
1&4	.2475	.2102	.3261	.1490
2&3	.1251	.0942	.0996	.0839

2&4	.1894	.1560	.2676	.0907
3&4	.0643	.0618	.1680	.0068

1978

Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1&2	.0553	.0443	.0511	.0502
1&3	.1912	.1151	.1397	.1130
|&4	.2491	.1719	.2690	1293
2&3	.1359	.0708	.0886	.0628
2&4	.1938	.1276	.2179	.0791
3&4	.0579	.0568	.1293	.0163

Percent changes occurring from 1975 to 1978

Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1&2	-.0482	-.1827	-.1265	- 1389
1&3	+.0437	-.2244	-.1164	- .2053
1&4	+.0065	-.1822	-.1751	- .1322
2&3	+.0863	-.2484	-.1104	- .2515
2&4	+.0232	-.1821	-.1857	- .1279
3&4	- 1000	-.0809	-.2304	+1.3971

Source: Chapter 6, Table 6-3 and calculations

An examination of the ERTA Model percent changes revealed that the greatest decline occurred between Groups 2 and 3 and the least decline occurred between Groups 3 and 4 Note also the smaller declines between Groups 1 and 4 and Groups 2 and 4 Thus, it appeared that a portion of the tax burden was being shifted away from Group 3 in this model and toward Groups 2 and 4. For the Alternate 0% Model, the greatest decline occurred between Groups 3 and 4, with the least decline occurring between Groups 2 and 3 The tax burden seemed to shift away from Group 4 and toward Group 3. Evidence that some of the tax burden was shifted toward Group 2 was

shown by the small decline between Groups 1 and 2. The greatest decline for the Alternate 60% Model occurred between Groups 2 and 3 with the greatest increase (i.e., least decline) between Groups 3 and 4. The small declines occurring between Groups 1 and 4 and Groups 2 and 4 seemed to indicate that the burden was shifted away from Group 3 and toward Group 4 and, to a lesser extent, toward Group 2.

Having observed how the tax burdens shifted over time (i.e., the distributional effects) for each of the models, another approach was taken to reexamine those distributional effects from a different perspective. Specifically, the data in Table 6-3 were retabulated with an emphasis on the year rather than on the tax model The retabulated data are contained in Table 6-6 Figure 3, the graph of this table, was included to facilitate visualization of the data.

Table 6-6 Tax after Credits Amounts as Percents of AGI by Year, by Group, and by Tax Model

	1974			
Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	.0691	0628	.0638	0640
2	1247	1176	.1218	1156
3	2444	.2266	.2295	.2060
4	.3119	2949	.4166	.1232
	1975			
Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	0695	0549	.0601	.0602
2	.1276	.1091	1186	.1185
3	.2527	.2033	.2182	.2024
4	.3170	.2651	.3862	.2092

1976

Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	.0726	.0489	.0594	.0498
2	.1307	.0993	.1108	.1098
3	.2595	.1846	.2056	.1858
4	.3221	.2407	.3579	1988

1977

Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	.0776	.0479	.0499	.0508
2	.1333	0945	.1009	.1006
3	.2659	.1723	.1943	.1613
4	3260	.2208	.3148	1624

1978

Group	1973 Law Model	ERTA Model	Alternate 0% Model	Alternate 60% Model
1	.0802	.0444	.0463	0459
2	1355	.0887	.0974	.0961
3	.2714	.1595	.1860	.1589
4	.3293	.2163	.3153	.1752

Source: Chapter 6, Table 6-3

With respect to Groups 1, 2, and 3, an examination of Figure 3 reveals that the largest distributional effects ratio (i.e., the ratio of tax after credits amounts to AGI amounts) is generated by the 1973 Law Model. That is, considering each of these three groups in any one year, the highest point (i.e., distributional effects ratio) was generated by the 1973 Law Model. This statement is not true for Group 4, since for that group during 1974-1976, the highest point was generated by the Alternate 0% Model. Over time, for

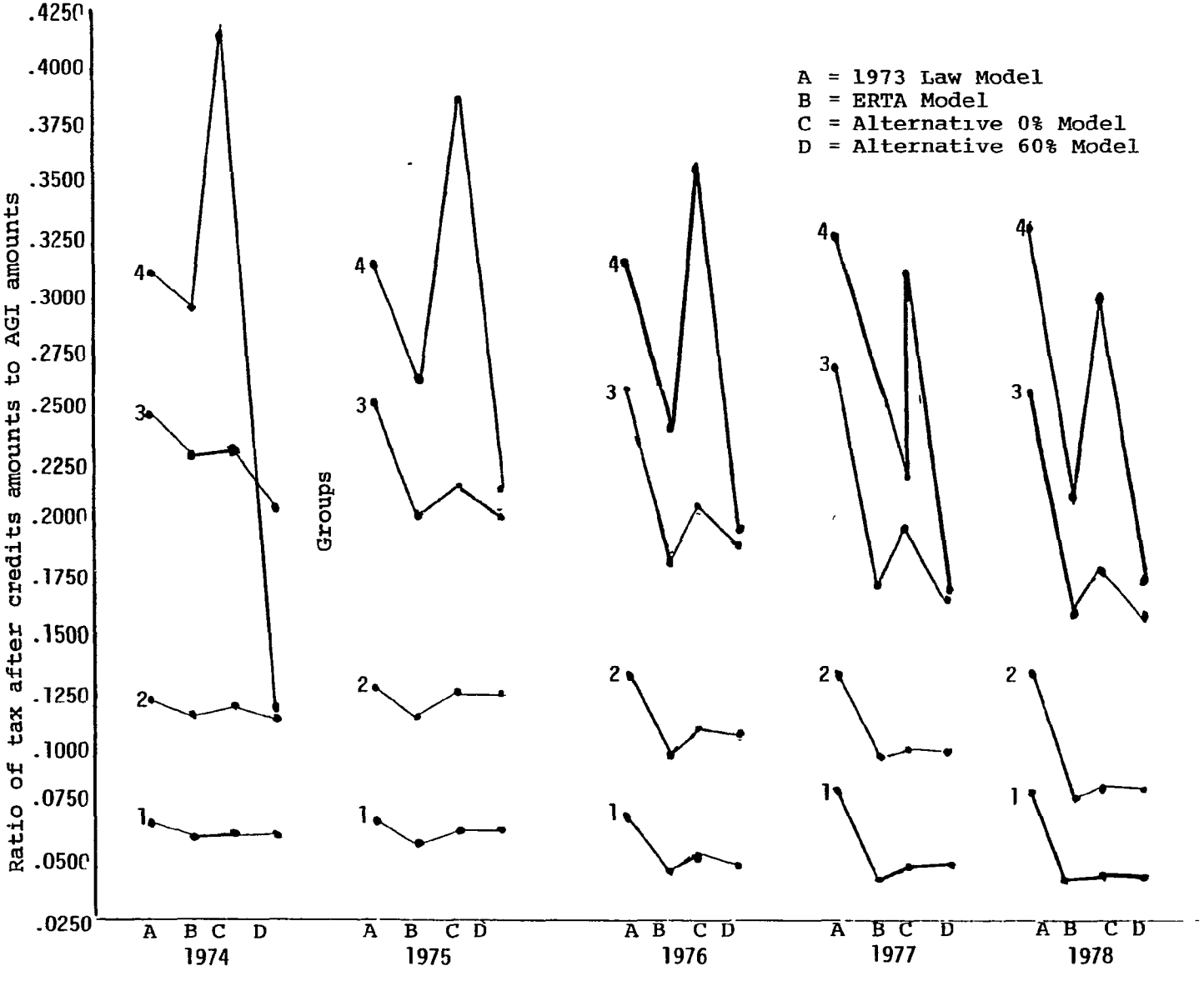

Figure 3. Ratio of Tax after Credits Amounts to AGI Amounts by Tax Group and by Model with an Emphasis on the Year

Groups 1, 2, and 3, the difference between the 1973 Law Model ratio and the other ratios increased. That is, the distance between the point associated with the 1973 Law Model and any other point became larger over time. This increase in distance occurred because, as was noted for Figure 2, the ratios associated with the 1973 Law Model increased over time, whereas the ratios of the indexation models generally decreased. Note also the change over time for Group 4 which was affected by the 1973 Law Model ratio increase and the Alternate 0% Model ratio decrease. By 1977, the 1973 Law Model ratio was slightly larger than the Alternate 0% Model ratio, and by 1978, it was clearly larger. This trend of the 1973 Law Model ratio being the largest for all four groups would be expected to continue beyond the years of the study,

A further examination of Figure 3 reveals that when only the indexation models were considered, it seemed of little consequence to Groups 1 or 2 which model was used. This result held primarily because of the relative unimportance to these groups of the adjustments made in deriving the taxable income of one model from that of another. This conclusion was drawn from an examination of these adjustments. Table A-41, Appendix A contains the underlying data used for these adjustments. Tables 6-7 and 6-8, both derived from Table A-41 by standardizing those data (i.e., converting them to percents), contain the taxable incomes of the Alternate 0% and 60% Models written as percents of the taxable incomes of the ERTA Model and the Alternate 0% Model, respectively, from which they were

derived. Also contained therein are the adjustments leading to the derivation of the taxable income of the Alternate Models similarly written as percents. Considering Table 6-7 and only Group 1, note that for the years 1974, 1977, and 1978, the taxable income amounts associated with the Alternate 0% Model were virtually equivalent to those of the ERTA Model. The range of differences was from 1.1 percent to 2.4 percent (101.1% - 100% to 100% - 97.6%). The differences, while higher in 1975 and 1976 (3.9 percent and 6 5 percent respectively), still were quite small. In adjusting the taxable income of the Alternate 0% Model to derive that of the Alternate 60% Model, for Group 1 in Table 6-8, the taxable incomes of the latter differed by only 0.6 percent to 0.9 percent of the former. These small differences in percents of taxable income occurred even though some specific adjustments, such as the mortgage interest adjustment and the interest income adjustments (Table 6-7) were rather large (up to 16.8%). However, many adjustments were rather small (i.e., less than 5%). Specific adjustments made ranged from 0.1 percent (Table 6-7, 1974, Capital gain (0%)) to 16.8 percent (Table 6-7, 1976, Mortgage interest). Similar results held for Group 2 where the taxable income of the Alternate 0% Model differed from the taxable income of the ERTA Model only by 0.0 percent to 5.5 percent (Table 6-7). The taxable income of the Alternate 60% Model differed only from 0.0 percent to 1.0 percent of the taxable income of the Alternate 0% Model (Table 6-8). Specific adjustments ranged from a low of 0.3 percent (Table 6-7, 1975

Capital gain (0%)) to a high of 9.8 percent (Table 6-7, 1976, Mortgage interest).

Table 6-7. Taxable Income of the Alternate 0% Model and the Adjustments to the Taxable Income of the ERTA Model in the Derivation of the Taxable Income of the Alternate 0% Model Written as Percents of the Taxable Income of the ERTA Model by Group and by Year

	Group 1		
	1974	1975	1976
Taxable income - ERTA	100,276,134	100,623,050	104,775,970
Adjustments:			
Interest income	-.07984	-.12242	-.13603
Capital gain (0%)	-.00116	-.00548	-.00699
Capital loss (0%)	-.02073	-.01614	-.01213
Mortgage interest	+.05836	+.13785	+.16797
Nonmortgage interest	+.01921	+.04561	+.05173
Taxable income - 0%	0.97589	1.03940	1.06455

	1977	1978
Taxable income - ERTA	112,018,220	117,455,000
Adjustments:		
Interest income	-.12050	-.13116
Capital gain (0%)	-.00617	-.00743
Capital loss (0%)	-.00640	-.00916
Mortgage interest	+.10963	+.11696
Nonmortgage interest	+.03392	+.03617
Taxable income - 0%	1.01047	1.01153

	Group 2		
	1974	1975	1976
Taxable income - ERTA	360,088,009	393,605,890	425,529,850
Adjustments:			
Interest income	-.04415	-.06260	-.06620
Capital gain (0%)	+.00558	+.00324	+.00445
Capital loss (0%)	-.01229	-.01268	-.01091
Mortgage interest	+.03874	+.08307	+.09831
Nonmortgage interest	+.01285	+.02435	+.02896
Taxable income - 0%	1.00073	1.03603	1.05462

	1977	1978
Taxable income - ERTA	458,510,610	490,730,660
Adjustments:		
Interest income	-.05930	-.06321
Capital gain (0%)	+.00445	+.00451
Capital loss (0%)	-.00838	-.00706
Mortgage interest	+.06191	+.07088
Nonmortgage interest	+.01861	+.02216
Taxable income - 0%	1.01731	1.02729

Group 3

	1974	1975	1976
Taxable income - ERTA	11,157,557	12,306,975	13,021,295
Adjustments:			
Interest income	-.17552	-.24043	-.25395
Capital gain (0%)	+.08439	+.08821	+.11519
Capital loss (0%)	-.04132	-.04253	-.03678
Mortgage interest	+ 03406	+.08296	+.10740
Nonmortgage interest	+.03363	+.07111	+.08354
Taxable income - 0%	0.93524	0.95933	1.01541

	1977	1978
Taxable income - ERTA	13,727,638	14,431,735
Adjustments:		
Interest income	- 20495	- 21295
Capital gain (0%)	+.10398	+.11190
Capital loss (0%)	-.02654	-.02242
Mortgage interest	+.06962	+.05706
Nonmortgage interest	+.05052	+.07527
Taxable income - 0%	0.99263	1 00886

	Group 4		
	1974	1975	1976
Taxable income - ERTA	3,047,450	3,431,522	3,874,643
Adjustments:			
Interest income	-.57170	-.48419	-.41620
Capital gain (0%)	+.99041	+.73295	+.78136
Capital loss (0%)	-.06472	-.04450	-.03064
Mortgage interest	+.03779	+.06489	+.06737
Nonmortgage interest	+.15022	+.19939	+.18723
Taxable income - 0%	1.54995	1.47855	1.58913

	1977	1978
Taxable income - ERTA	4,315,758	4,757,430
Adjustments:		
Interest income	-.39106	-.42864
Capital gain (0%)	+.80400	+.75394
Capital loss (0%)	-.02666	-.02411
Mortgage interest	+.05320	+.13707
Nonmortgage interest	+.12719	+.10442
Taxable income - 0%	1.56666	1 54268

Source: Appendix A, Table A-41 and calculations

Table 6-8. Taxable Income of the Alternate 60% Model and the Adjustments to the Taxable Income of the Alternate 0% Model in thee Derivation of the Taxable Income of the Alternate 60% Model Written as Percents of the Taxable Income of the Alternate 0% Model by Year and by Group

	Group 1		
	1974	1975	1976
Taxable income - 0%	97,858,565	104,589,945	111,539,466
Adjustments:			
Capital gain (60%)	-.00897	-.00735	-.00894
Capital loss (60%)	+.01463	+.01369	+.00828
Taxable income - 60%	1.00566	1.00353	0.99933

Table 6-8 continued

	1977	1978
Taxable income - 0%	113,191,460	118,808,688
Adjustments:		
Capital gain (60%)	-.00842	-.00905
Capital loss (60%)	+.00519	+.00656
Taxable income - 60%	0.99677	0.99143

Group 2

	1974	1975	1976
Taxable income - 0%	360,349,846	407,788,510	448,773,287
Adjustments:			
Capital gain (60%)	-.01400	-.01268	-.01588
Capital loss (60%)	+.00933	+.00904	+.00766
Taxable income - 60%	0.99533	0.99637	0.99179

	1977	1978
Taxable income - 0%	466,447,809	504,120,281
Adjustments:		
Capital gain (60%)	-.01556	-.01711
Capital loss (60%)	+.00612	+.00508
Taxable income - 60%	0.99055	0.98797

Group 3

	1974	1975	1976
Taxable income - 0%	10,434,942	11,806,476	13,221,987
Adjustments:			
Capital gain (60%)	-.14154	- 15688	-.19035
Capital loss (60%)	+.03349	+.03270	+.02683
Taxable income - 60%	0.89196	0.87582	0.83648

	1977	1978
Taxable income - 0%	13,626,426	14,559,547
Adjustments:		
Capital gain (60%)	-.17416	-.18706
Capital loss (60%)	+.01986	+.01645
Taxable income - 60%	0.84570	0.82938

	Group 4		
	1974	1975	1976
Taxable income - 0%	4,699,151	5,039,365	6,157,307
Adjustments:			
Capital gain (60%)	-.83441	-.66008	-.64872
Capital loss (60%)	+.03073	+.02165	+.01382
Taxable income - 60%	0.19632	0.36157	0.36510

	1977	1978
Taxable income - 0%	6,761,344	7,339,185
Adjustments:		
Capital gain (60%)	-.67067	-.64585
Capital loss (60%)	+.01222	+.01118
Taxable income - 60%	0.33615	0.36533

Source: Appendix A, Table A-41 and calculations

These adjustments became increasingly important as the AGI of the group increased. For example, for Group 3, ignoring algebraic signs, the adjustments ranged from a low of 1.6 percent (Table 6-8, 1978, Capital loss (60%)) to a high of 25.4 percent (Table 6-7, 1976 Interest income) However, even with larger adjustments than experienced by Group 1, the taxable incomes of the Alternate 0% Model still hovered near the 100 percent figure, with differences above or below that ranging from 1.5 percent to 6.5 percent of the taxable income of the ERTA Model (Table 6-7). However, the taxable income of the Alternate 60% Model reached a low of 82.9 percent of the taxable income of the Alternate 0% Model (Table 6-8, 1978). Note, though, that an examination of Figure 3 revealed little difference between the ERTA Model distributional effects ratio and

that of the Alternate 60% Model. This would seem to imply that, at least for Group 3, indexing capital asset cost followed by a 60% capital gain deduction (the Alternate 60% Model) was approximately equivalent to the use of the ERTA Model alone.

For Group 4, the adjustments were very significant. For example, the taxable income of the Alternate 0% Model ranged from 147.9 percent to 156.7 percent of the taxable income of the ERTA Model (Table 6-7), differences of approximately 50 percent. The taxable income of the Alternate 60% Model ranged from 19.6 percent to 36.5 percent of the taxable income of the Alternate 0% Model income (Table 6-8), differences of greater than 60 percent. Specific adjustments ranged from 1.1 percent (Table 6-8, 1978, Capital loss (60%)) to 99.0 percent (Table 6-7, 1974, Capital gain (0%)).

To summarize, as was noted in the discussion of Figure 2, all groups benefited in the change from the 1973 Law Model to the ERTA Model. Figure 3 and the above analyses showed that Groups 1 and 2 received no further benefit and bore little additional tax burden if a switch were made from the ERTA Model to either of the Alternate Models. These results occurred because, for these groups, the adjustments made in deriving the data from one model from that of another were relatively minor On the other hand, groups having larger AGIs, namely Groups 3 and 4, experienced larger adjustments. Hence, these groups were more sensitive to the adoption of one of the Alternate Models. Figure 3 revealed that, for the indexation

models only, both of these groups, but especially Group 4 would bear the greatest tax burden if the Alternate 0% Model were adopted. Conversely, Group 4 would receive the most benefit if the Alternate 60% Model were adopted. This latter result was as expected since net capital gains per return were the highest for this group (see Appendix A, Table A-20, Net gain returns and Net gains).

With respect to the individual adjustment items shown in the two preceding tables, it is interesting to note for which group the largest and smallest adjustments occurred. That is, should one of these provisions be adopted, which of the groups would benefit the most or the least or which would take on the largest or the smallest added burden. The data as shown in Tables 6-7 and 6-8 are summarized in Table 6-9 (the year is given only for reference). Not unexpectedly, Group 4 experienced most of the largest adjustments, with the smallest adjustments generally going to Groups 1 or 2. Hence, the adoption of any of these provisions generally would affect Group 4 the most.

Table 6-9. Largest and Smallest Percent Adjustments in Absolute Magnitude per Adjustment Item Identified by Year and by Group

Adjustment	Largest	Group	Year	Smallest	Group	Year
Interest income	-.57170	4	1974	- 04415	2	1974
Capital gain (0%)	+ 99041	4	1974	-.00116	1	1974
Capital loss (0%)	- 06472	4	1974	-.00640	1	1977
Mortgage interest	+.16797	1	1976	+.03406	3	1974
Nonmortgage interest	+.19939	4	1975	+ 01285	2	1974
Capital gain (60%)	-.83441	4	1974	-.00735	1	1975
Capital loss (60%)	+ 03349	3	1974	+.00508	2	1978

Source· Chapter 6, Tables 6-7 and 6-8

Summary of distributional effects

The following conclusions were drawn relative to the distributional effects. Considering the tax systems as a whole, the models as arranged from most progressive to least progressive are the Alternate 0% Model, the 1973 Law Model, the ERTA Model, and the Alternate 60% Model. Over time, the 1973 Law Model became less progressive; both Alternate Models, more progressive; and the ERTA Model remained essentially unchanged.

The following discussion summarizes the distributional effects each of the tax models had on the taxpayer groups over time. Group 1 was treated as the base. For the 1973 Law Model, the tax burden seemed to be lessened for Group 2 at the expense of Groups 3 and 4. Of the latter two, Group 3 experienced more of the shift of the burden. For the ERTA Model, the tax burden seemed to be shifting away from Group 3 and toward Groups 2 and 4. For the Alternate 0% Model, the tax burden seemed to shift away from Group 4, toward Group 3, and to a lesser extent, toward Group 2. The shifts associated with the Alternate 60% Model were away from Group 3, toward Group 4, and to a lesser extent, toward Group 2

Considering the various tax systems without regard for the time dimension, all groups benefited in changing from the 1973 Law Model to the ERTA Model. However, the Alternate Models had little impact on Groups 1 and 2. Both Groups 3 and 4, but especially Group 4, experienced increased tax burdens with the adoption of the Alternate 0% Model. Conversely, Group 4 received the most benefit with the

adoption of the Alternate 60% Model. These results occurred because Group 4 generally was most sensitive to the adjustments made in deriving the taxable income of one model from that of another model.

5. Nonrevenue effects of indexation

In addition to the revenue and distributional effects which are the direct results of any legislation, certain other effects, previously designated as nonrevenue effects, also may occur In fact, the tax legislation may have been motivated by the anticipated outcomes of these nonrevenue effects. For example, when the capital gain deduction was increased from 50 percent to 60 percent, a stated purpose of the change was to stimulate increased investment in the capital markets. Stated in Chapter 1 are the following effects which might result with the adoption of any of the indexation models, but in particular with the adoption of an Alternate Model:

1. simplicity considerations,
2. effect on saving and consumption,
3. effect on housing and related issues, and
4. effect on capital asset sales

Each of these nonrevenue effects are discussed below.

Simplicity considerations

Implementation of the ERTA Model potentially offers little change in simplicity with respect to the taxpayer. While the taxpayer currently must multiply the $1,000 per person exemption amount by the number of exemptions claimed to derive taxable income, there likely would be an increase in mathematical errors were that

number changed to some figure not as easy to multiply, for example, to $1,060. This slight complication could be overcome if the IRS included the exemption amount in the tax tables. From the perspective of the IRS however, slightly more complexity would result from the requirement of an annual update of tables and amounts. A simplifying effect might result for some lower income taxpayers who currently itemize. Because of the indexing of the zero bracket amount and the fact that the income of those taxpayers often does not keep pace with the rate of inflation, some taxpayers likely would cease itemizing. This change also would result in a simplification for the IRS which no longer would need to scrutinize those itemizations.

Greater complexity would result from the implementation of the Alternate Models. Recall that, for these models, interest related items, capital asset costs, and some credits were indexed. Banks and other lending or saving institutions could be directed to send inflation adjusted interest statements to their customers indicating the income amounts which must be reported or the deduction amounts which could be itemized. However, since private individuals also are involved in the lending process, the IRS would need to inform the taxpayer how to adjust those income and deduction amounts This could be accomplished by directing the taxpayer to a schedule provided by the Service. To insure that the taxpayer has calculated the adjustments correctly, it would be advisable to require the inclusion of this schedule with the taxpayer's return. The

indexation of the credits merely would require an annual update of the forms provided by the IRS for this purpose.

The implementation of capital asset cost indexation would be slightly more complex than is currently the case. As was suggested by Brinner (1976, p.129), schedule D could be revised so that it included the inflation adjusted asset cost. A table of adjustment factors would have to be made available or a formula provided so that the taxpayer could determine the inflation adjusted cost. This would be an additional mathematical step associated with the Alternate 0% Model for which the 60 percent capital gain deduction is eliminated.

In summary, then, implementing the ERTA Model, with or without the additional indexation of some credits, would introduce only a minor amount of complexity into the current system. The indexation of interest related items would introduce more complexity because individuals as well as banks and other lending institutions would need to make adjustments. Similar mathematical problems could result if capital asset costs were indexed.

Effect on saving and consumption

Another area which probably would be affected by the adoption of an indexation model is that of savings and its counterpart, consumption. Since the ERTA Model has no provision which affects savings/consumption directly, there is no reason to believe that taxpayers would change their current savings/spending pattern if the ERTA Model were adopted. However, one of the features of the

Alternate Model is the indexation of interest related items. This would have a direct bearing on savings and consumption. While the current study offers no direct evidence to support the arguments made in the following discussion, these arguments are presented to suggest changes which might occur if the Alternate Model were adopted. The indexation of interest income associated with use of the Alternate Model could stimulate greater saving since only the inflation adjusted amount would be taxed. If savers were made aware of their negative savings (see Table 6-7, Interest income adjustment); that is, if they were confronted with the fact that inflation was greater than the current passbook rate of 5.25-5.50 percent, then they might urge Congress to raise or to eliminate the current ceiling on such accounts. Consequently, the regular passbook rate might rise, or more savers might move their funds to money market accounts which have no ceilings. The interest rates on these latter accounts theoretically could be lower than they would be if interest income were not inflation adjusted.

Income is either saved or consumed. Since savings and consumption are inversely related, an increase in savings results in a decrease in consumption. Besides the motivation to save more provided by the indexation of interest income, the indexation of the consumer interest deduction which results in smaller allowable deductions (see Table 6-7) could motivate a decrease in consumption.

Effect on housing and related issues

Another area which likely would be affected by the provisions in the Alternate Model is that of housing and related items like mortgage interest rates. Again, this research offered little direct evidence to support the following speculations. Mortgage interest rates, similar to other interest rates, could be lower provided the lender's interest income also is inflation adjusted. The Alternate Model used in this study dealt only with non-business taxpayers. Little, if any, change in mortgage rates likely would result if the interest income of business taxpayers were not inflation adjusted in conjunction with the corresponding adjustment for non-business taxpayers. While lowered mortgage interest rates would be advantageous for the housing market, the reduction in the mortgage interest deduction due to the inflation adjustment would offset that advantage, notably for Group 1 taxpayers who experienced the largest mortgage interest deduction (see Table 6-7). It is unclear which of the two conditions, lower mortgage interest rates or reduced mortgage interest deductions, would have a greater impact on housing. The indexation of capital asset cost also could have an impact on housing. Since upper income taxpayers paid less tax with the ERTA Model than with the Alternate 0% Model (see Figure 2), given the importance of the change from the 60 percent capital gain deduction to the indexation of capital asset cost, capital asset indexation alone might have little impact on housing prices. Lower prices would be more probable if capital asset cost indexation were

combined with a capital gain deduction as with the Alternate 60% Model. Refer again to Figure 2 to note the change experienced by Group 4 in switching from the Alternate 0% Model to the Alternate 60% Model

Effect on capital asset sales

The capital asset cost indexation specified in both versions of the Alternate Model probably would affect capital asset sales. The nature of this effect depends on the specific change in legislation suggested. As is clear from an examination of Figure 2, Group 4 was affected most by the changes in the capital asset realization tax laws which occurred in making the adjustments from the Alternate 0% Model to the Alternate 60% Model. As was expected, the data contained in Table A-43 (Appendix A) revealed that the greatest capital gain amount per return was realized by Group 4, an amount markedly greater than for any other group. Thus, the theoretical impact of any capital gain legislation can be assessed best by determining its effect on Group 4.

As is seen in Table 6-7, with respect to Group 4, the capital gain adjustment is the largest adjustment made in deriving the taxable income of the Alternate 0% Model from the taxable income of the ERTA Model. Thus, the replacement of the capital gain deduction with the indexation of capital asset cost would be disadvantageous for this group Hence, if the Alternate 0% Model were in place, this group likely would hold those capital assets whose realizations would result in gains longer than they otherwise

would have. With respect to loss situations however, since this model allows unlimited losses, more such realizations probably would result.

Combining a capital gain deduction with indexation, as was done with the Alternate 60% Model, definitely was more advantageous to Group 4 than was the use of either the current law, the ERTA Model or the Alternate 0% Model (refer to Figure 2). Because of the benefits derived by Group 4 and the fact that this group realized the largest capital gain amounts per taxpayers (as noted previously), a probable result would be greater capital asset realizations. The likelihood of this greater realization would depend on the indexation/deduction mix. If the deduction were a full 60%, any indexation scheme would be advantageous. However, the effect of any other mix would have to be assessed relative to the current law and the ERTA Model.

Since loss amounts are minimized somewhat by reducing them by 60 percent instead of the current 50 percent, and since indexation would convert some current gain situations to loss situations, the effect on loss realizations would depend on any loss limitation specified. An indexing of the current limit may be an adequate solution to this problem Without an adjustment to the loss limitation amount, loss realizations might be reduced if the Alternate 60% Model were in place.

6. Implications for future research

This research was restricted by the limited data available in Internal Revenue Service publications, particularly the data on capital asset sales. Based on such a restriction, the number of groups used in the study was limited to four. If data from more groups could be accessed from IRS records, the current study could be verified by tracking this larger number of taxpayer groups over time. However, the use of more groups with fewer taxpayers per group might be more problematic since it could result in more derived data that must be interpreted cautiously such as occurred in this study with respect to Group 4. A compromise solution might be to decrease the number of taxpayer groups to that point where such sensitivity to change would be minimized. An additional problem in attempting to overcome the restriction cited herein is the lack of general accessibility to IRS records.

Another research approach which could be used to verify the results of this study would be to use known data on individuals. The individual-based data then could be placed in the desired number of groups. The use of individual-based data would eliminate the need for the assumption that, over time, each group of taxpayers maintained its same position relative to the other groups of taxpayers In making this assumption, the results of this research may have been biased somewhat since individuals who were treated as remaining in a certain group may not have done so in actuality. Use of individual-based data also would eliminate many of the

uncertainties surrounding the capital asset data since the researcher then would have such information as capital asset costs and the actual amount of short term verus long term losses. Other problematic areas such as knowing whether the indexation of the earned income credit amount might make some taxpayers eligible for this credit could be resolved if individual-based data were available. However, again, the problem of accessibility of such data could decrease the possibility of its being used. In such instances, another possible approach could be the creation of a data bank which simulated the individual-based data. While this would permit the researcher greater control than was available for this study, care would have to be taken to ensure that plausible data were used in the creation of the data bank.

Research needs to be done on the possible nonrevenue effects which might accompany the adoption of an indexation model since a detrimental nonrevenue effect could destroy or, at least, minimize the expected benefits of making the adoption. For example, the adoption of the Alternate 0% Model theoretically would result in a more progressive system. However, because of the change in capital asset realization laws, an increase of "lock-in" might result when assets could be sold at a gain, and an increase in loss realization might result because of the availability of unlimited loss realizations. These two indirect consequences could result in lower tax liability for Group 4, hence produce a lesser degree of progressivity than occurred in this study.

The impact of indexing both business and nonbusiness interest should be investigated. This is particularly true because of the positive effects such indexation could have on savings and housing. Stimulating an increase in both of these areas has been a concern of Congress recently. As was indicated in the discussion of these nonrevenue effects, the indexation of interest related items only for nonbusiness taxpayers would seem to offer little probability of a change in interest rates. However, the indexing of business interest also might produce undesirable consequences such as a shift of capital from some other industry to banking. Hence, a thorough investigation in this area seems appropriate.

7. Summary of the findings

As was stated in Chapter 1, the purpose of this research was to address the following topics:

1 the views of tax policy analysts on tax indexation,

2. the aspects of the current tax system which analysts suggest need indexation,

3. the choice of index(es),

4 an examination of the available research in this area,

5. a comparison of the following.

    1. the distributional and revenue effects of a no tax change system (i.e., the tax law existing in the base year (1973) extended for the period 1974-1978), (this system is referred to as the 1973 Law Model)

    2. the distributional and revenue effects of the indexed system as required by Congress in the Economic Recovery Tax Act of 1981 applied to the base year (1973) tax system developed in step 1 (this system is referred to as the ERTA model)

3. the distributional and revenue effects of a proposed indexed system in which certain existing 1973 provisions have been eliminated and in which the indexing is the same as in step 2 except that it is extended to more items (this system is referred to as the Alternate Model), and

6. the nonrevenue effects of indexation.

Items 1 through 4 and item 6 were explored through review of the literature and by logical analysis; item 5, through simulation. The results of these activities are summarized below.

The arguments presented for or against indexation reflected the differences of opinion among tax policy analysts (item 1 of the list of topics). As was shown in Chapter 2, every reason given by one or more analyst drew criticism from others. In the case made for indexation, various equity reasons, a simplicity reason, and several efficiency and administrative reasons were listed. The equity reasons addressed the purported unfair burden which is currently borne by low income taxpayers (Equity reason 1), and the unfairness which supposedly occurs now when income other than real income is taxed (Equity reason 2). Fischer (1976, p. 145) argued as unjustified Brinner's decision to index capital asset cost and to eliminate the capital gain deduction (An equity and simplicity reason). The efficiency reasons stated included the suggestion that a nonindexed system magnified fluctuations in interest rates (Efficiency reason 1), the opinion that indexation would reduce the "lock-in" effect produced by the capital gains tax (Efficiency reason 2), and the comment that indexation would lessen the

inflation induced distortion to the various tax incentives provided by Congress which are aimed at encouraging investment in certain activities (Efficiency reason 3). One of the two administrative reasons given suggested that the adoption of indexation could reduce the frequency of tax reform (Administrative reason 1), while the other looked to indexation as a means of preventing Congress from increasing government spending.

One equity and simplicity reason and two economic efficiency reasons were listed for the case made against the adoption of indexation. It was suggested that indexation, as ultimately adopted, would favor special interests and would introduce more complexity into the tax system. Contained in the first efficiency reason was the thought that indexation would eliminate the stabilizing effect which results from the automatic increases in tax revenue caused by inflation. The other efficiency reason given suggested that the adoption of indexation would be interpreted as a confession by Congress that it was unable to control inflation.

A portion of the discussion in Chapter 3 was related to those elements of the tax system which analysts thought should be indexed (item 2 in the list of topics). These elements were dichotomized into tax base elements and rate structure elements The tax base elements suggested by the analysts were capital asset costs, interest related items, and mortgage principal amounts. Included in the list of rate structure elements were the bracket widths, the zero bracket amounts, the personal exemption amounts, and some of

the more important nonbusiness taxpayer credit amounts such as the credit for the elderly, the child/dependent care credit, and the earned income credit. The choice of an index (item 3 in the list of topics) also was discussed in Chapter 3. Although several indexes (e.g., the Consumer Price Index, the Wholesale Price Index, and the Implicit Price Deflator) were suggested, the use of one index rather than several was favored by tax analysts. The CPI was the index of choice since it was the choice already made in the ERTA legislation. It was recognized that problems were inherent in the use of any index. One specific problem addressed was that of the lagged nature of any inflation adjustor. This problem results from the fact that tax forms are printed well in advance of tax filing dates. Consequently, the time period used to determine the annual inflation adjusted factor does not coincide with the calendar year of the taxpayer.

The purpose of Chapter 4 was to examine that indexation research which incorporated some or all of the elements suggested by the analysts (item 4 in the list of topics). No previous study indexed all of those elements. Generally, the cited research was characterized by its emphasis on the indexation of either rate structure elements (excluding credits) or base elements, primarily capital asset costs The models developed for this study incorporated some of the features of the models in the literature which was reviewed. The unique feature of this research, however, was that it expanded upon the studies cited in the literature by

incorporating all of the suggestions made by the tax policy analysts except for the indexation of the mortgage principal amount.

Contained in Chapter 5 are complete descriptions of the models used in this study and of the data which were gathered or generated. The purpose of Chapter 5 was to facilitate the derivation of the data necessary to address the fifth item in the list of topics. IRS publications served as the primary data source, and taxpayers were assigned to one of four groups depending upon their level of AGI. The comparisons of the distributional and the revenue effects of the tax models developed in this study (item 5 of the list of topics) were made in the current chapter with the following conclusions being drawn:

1. The tax models as arranged from most to least in generation of revenue were the 1973 Law Model, the Alternate 0% Model, the Alternate 60% Model, and the ERTA Model. However, the last three models were only 4.4 percent apart in revenue generation, while the difference between the 1973 Law Model and the Alternate 0% Model was 22 percent.

2. Indexing the credit for the elderly, the child/dependent care credit, and the earned income credit in addition to those items specified in the ERTA legislation cost the Treasury an additional $2.1 billion. Note for comparison, that the switch from the 1973 Law Model to the ERTA Model reduced revenues by $130.1 billion

3. Examining the tax systems without regard to the passage of time, the models, as arranged from most progressive to least progressive, were the Alternate 0% Model, the 1973 Law Model, the ERTA Model, and the Alternate 60% Model.

4. When the change in progressivities over time was examined, it was determined that the 1973 Law Model became less progressive, both versions of the Alternate Model became more progressive, and the ERTA Model remained essentially the same.

5. With Group 1 serving as the base, the tax models had the following distributional effects over time:
   a. The 1973 Law Model. the tax burden shifted away from Group 2, toward Group 3, and to a lesser extent, toward Group 4.
   b. The ERTA Model· the tax burden shifted away from Group 3 and toward Groups 2 and 4.
   c. The Alternate 0% Model: the tax burden shifted away from Group 4, toward Group 3, and to a lesser extent, toward Group 2.
   d. The Alternate 60% Model: the tax burden shifted away from Group 3, toward Group 4, and to a lesser extent, toward Group 2.

6. Considering the tax systems without regard for the time dimension, all groups benefited in changing from the 1973 Law Model to the ERTA Model Both Groups 3 and 4, but especially Group 4, experienced increased tax burdens with the adoption of the Alternate 0% Model. Group 4 received the most benefit from the implementation of the Alternate 60% Model.

Regarding only the ERTA Model and comparisons made between it and the 1973 Law Model, it must be remembered that the tax system in place in 1973 is not the same as the 1983 tax system, particularly with respect to the rate schedule. For example, the maximum rates applied to taxpayers who file jointly are 70 percent and 50 percent for 1973 and 1983, respectively; the number of brackets has been reduced from 24 to 14, and the 50 percent marginal rate in 1973 was applied to taxable income in excess of $44,000 whereas in 1983, it will be applied to taxable income in excess of $81,200. However, even with a less progressive system in place in 1983, given the higher income levels and some degree of inflation, the magnitude of revenue decrease from indexing under ERTA during 1984-1988 probably will be quite similar to that obtained for the 1974-1978 period used in this study.

The four nonrevenue effects (item 6 in the list of topics) were the following:

1. simplicity considerations,
2. effect on saving and consumption,
3. effect on housing and related issues, and
4. effect on capital asset sales

After considering each of the indexation systems, it was concluded that adoption of the ERTA Model would introduce the least complexity; the Alternate 60% Model, the most. Adoption of the Alternate Model potentially could lead to the occurrence of some shifting from consumption to savings, and to the lowering of interest rates provided that business interest also was indexed. This could include mortgage interest rates. The effect that the Alternate Model would have on housing would depend upon whether either lowered mortgage rates or reduced mortgage interest deductions had a greater impact. Depending upon which version of the Alternate Model was adopted, capital asset sales potentially could be reduced (Alternate 0% Model) or increased (Alternate 60% Model).

APPENDIX A

Table A-1. Number of Taxable Returns and Percent of Total Cumulated from Smallest Size of Adjusted Gross Income by Year

	1972	
Size of AGI	# of returns	% of total
No AGI	1,801	(1)
$1 under $1,000	22,894	(1)
$1 under $2,000	179,117	0.3
$1 under $3,000	3,213,640	5.3
$1 under $4,000	6,889,825	11.3
$1 under $5,000	11,222,559	18.4
$1 under $6,000	15,579,960	25.6
$1 under $7,000	19,630,334	32.3
$1 under $8,000	23,752,741	39.0
$1 under $9,000	27,702,531	45.5
$1 under $10,000	31,548,161	51.8
$1 under $11,000	35,164,776	57.8
$1 under $12,000	38,605,712	63.4
$1 under $13,000	41,697,161	68.5
$1 under $14,000	44,467,807	73.1
$1 under $15,000	46,832,464	76.9
$1 under $20,000	54,587,611	89.7
$1 under $25,000	57,674,951	94.8
$1 under $30,000	58,936,594	96.8
$1 under $50,000	60,270,918	99.0
$1 under $100,000	60,753,005	99 8
$1 under $200,000	60,844,395	100.0
$1 under $500,000	60,863,540	100.0
$1 under $1,000,000	60,866,192	100.0
Returns with AGI	60,867,216	100.0
All returns	60,869,017	100.0

	1973		1974	
Size of AGI	# of returns	% of total	# of returns	% of total
No AGI	2,266	(1)	1,957	(1)
$1 under $1,000	65,657	0.1	12,058	(1)
$1 under $2,000	272,725	0.4	134,166	0 2
$1 under $3,000	3,537,368	5.5	3,533,764	5 2
$1 under $4,000	7,272,514	11.3	7,314,871	10.9
$1 under $5,000	11,543,522	18.0	11,718,275	17 4
$1 under $6,000	15,975,607	24.9	15,981,945	23.7
$1 under $7,000	19,814,310	30.8	20,130,700	29.9
$1 under $8,000	23,863,358	37.1	24,030,983	35.7
$1 under $9,000	27,702,764	43.1	27,829,714	41.3

$1 under $10,000	31,327,646	48.7	31,506,895	46.8
$1 under $11,000	34,805,603	54.2	34,853,913	51.8
$1 under $12,000	38,127,849	59.3	38,162,953	56.7
$1 under $13,000	41,418,626	64.4	41,260,246	61.3
$1 under $14,000	44,368,877	69.0	44,335,270	65.8
$1 under $15,000	47,054,310	73.2	47,072,428	69 9
$1 under $20,000	56,112,069	87.3	57,117,998	84.8
$1 under $25,000	60,046,293	93.4	62,050,503	92.2
$1 under $30,000	61,783,153	96.1	64,304,550	95.5
$1 under $50,000	63,535,678	98.9	66,469,479	98.7
$1 under $100,000	64,129,875	99 8	67,167,340	99.8
$1 under $200,000	64,239,593	100.0	67,301,922	100.0
$1 under $500,000	64,261,380	100.0	67,328,568	100.0
$1 under $1,000,000	64,264,000	100.0	67,331,726	100.0
Returns with AGI	64,264,896	100.0	67,332,810	100.0
All returns	64,267,162	100.0	67,334,767	100.0

	1975		1976	
Size of AGI	# of returns	% of total	# of returns	% of total
No AGI	1,710	(1)	6,546	(1)
$1 under $1,000	(2)	(2)	(2)	(2)
$1 under $2,000	53,332	0 1	64,839	0.1
$1 under $3,000	1,371,762	2.2	1,178,686	1 8
$1 under $4,000	4,079,535	6.6	4,014,838	6 2
$1 under $5,000	7,165,269	11 7	6,801,742	10.6
$1 under $6,000	10,606,479	17.2	10,108,442	15.7
$1 under $7,000	14,089,836	22.9	13,606,529	21.1
$1 under $8,000	17,634,205	28.7	17,201,787	26 7
$1 under $9,000	21,154,283	34 4	20,682,041	32 1
$1 under $10,000	24,503,630	39 8	23,937,231	37 2
$1 under $11,000	27,709,680	45.1	27,074,402	42 0
$1 under $12,000	30,775,207	50 0	29,943,506	46.5
$1 under $13,000	33,683,748	54.8	32,832,161	51 0
$1 under $14,000	36,571,133	59.5	35,556,635	55 2
$1 under $15,000	39,227,902	63 8	38,266,132	59 4
$1 under $20,000	49,488,230	80 5	49,393,172	76 7
$1 under $25,000	55,059,237	89.5	56,011,699	86.9
$1 under $30,000	57,793,171	94.0	59,624,124	92.6
$1 under $50,000	60,527,644	98 4	63,243,624	98.2
$1 under $100,000	61,304,066	99.7	64,188,478	99 6
$1 under $200,000	61,455,681	99.9	64,373,128	99 9
$1 under $500,000	61,484,670	100.0	64,409,425	100.0
$1 under $1,000,000	61,487,915	100.0	64,413,466	100.0
Returns with AGI	61,489,027	100.0	64,414,821	100 0
All returns	61,490,737	100.0	64,421,367	100 0

Size of AGI	1977 # of returns	1977 % of total	1978 # of returns	1978 % of total
No AGI	7,117	(1)	14,780	(1)
$1 under $1,000	(2)	(2)	(2)	(2)
$1 under $2,000	58,840	0.1	140,001	0.2
$1 under $3,000	190,011	0.3	280,763	0.4
$1 under $4,000	2,282,691	3.5	2,553,912	3.7
$1 under $5,000	4,942,805	7.7	5,121,741	7.5
$1 under $6,000	7,818,686	12.1	8,155,610	11.9
$1 under $7,000	11,021,721	17.1	11,543,905	16.8
$1 under $8,000	14,251,536	22.1	14,913,245	21.7
$1 under $9,000	17,526,248	27.2	18,368,733	26.7
$1 under $10,000	20,817,769	32.3	21,422,885	31.2
$1 under $11,000	23,920,076	37.2	24,421,205	35.6
$1 under $12,000	26,751,672	41.6	27,257,097	39.7
$1 under $13,000	29,599,896	46.0	30,110,583	43.8
$1 under $14,000	32,345,520	50.2	32,727,779	47.6
$1 under $15,000	34,832,188	54.1	35,242,668	51.3
$1 under $20,000	46,142,097	71.7	46,522,344	67.7
$1 under $25,000	53,868,679	83.7	55,013,359	80.1
$1 under $30,000	58,201,972	90.4	60,365,515	87.9
$1 under $50,000	62,961,856	97.8	66,860,740	97.3
$1 under $100,000	64,096,052	99.6	68,320,909	99.5
$1 under $200,000	64,320,678	99.9	68,605,117	99.9
$1 under $500,000	64,367,009	100.0	68,664,913	100.0
$1 under $1,000,000	(2)	100.0	(2)	100.0
Returns with AGI	64,374,021	100.0	68,673,525	100.0
All returns	64,381,138	100.0	68,688,305	100 0

Source· Statistics of Income, Individual Income Tax Returns, Tables 1 1, 1972-1978
(1) less than 0 05 percent
(2) Estimate not shown because of small sample or data was deleted

Table A-2. Number of 1973 Taxable Returns and Taxable Income (thousands) by Filing Status

AGI (upper limit)	Joint # of returns	Joint Taxable income	Separate # of returns	Separate Taxable income
0	1,992	0	21	0
1,000	(1)	(2)	(1)	(1)
2,000	546	(2)	124,880	46,182
3,000	59,486	6,748	168,896	156,688
4,000	434,714	237,306	160,651	267,167
5,000	1,085258	1,087,386	224,606	535,183

6,000	1,536,420	2,578,117	204,714	816,405
7,000	1,595,395	3,826,666	164,774	610,468
8,000	2,027,585	6,726,071	186,766	848,569
9,000	2,086,672	8,455,323	121,644	641,712
10,000	2,311,980	11,256,805	134,240	890,540
11,000	2,432,819	13,864,652	77,170	553,461
12,000	2,532,958	16,231,755	75,935	624,529
13,000	2,623,307	19,173,989	53,149	464,396
14,000	2,436,732	19,753,769	33,358	307,981
15,000	2,355,548	21,078,529	25,577	251,560
20,000	8,253,054	93,311,511	55,088	674,404
25,000	3,707,991	57,518,454	14,721	234,414
30,000	1,626,226	32,161,493	5,102	91,978
50,000	1,622,034	45,220,591	7,057	194,622
100,000	547,627	28,454,635	1,858	90,443
200,000	99,837	10,345,544	424	39,493
500,000	19,043	4,108,272	172	32,741
1,000,000	2,175	1,092,877	35	16,590
over 1,000,000	710	1,023,375	28	64,364
Total	39,399,109	397,513,916	1,840,866	8,255,890

AGI (upper limit)	Head of household		Surviving spouse	
	# of returns	Taxable income	# of returns	Taxable income
0	58	0	(2)	0
1,000	(2)	(2)	0	0
2,000	(2)	(2)	0	0
3,000	93,524	36,250	(1)	(1)
4,000	299,803	281,442	10,445	5,558
5,000	419,592	657,688	15,042	21,743
6,000	532,047	1,214,691	8,493	16,555
7,000	409,654	1,291,492	11,280	19,578
8,000	402,410	1,702,636	4,328	13,344
9,000	376,485	1,830,045	(1)	(1)
10,000	261,381	1,463,500	10,977	69,475
11,000	196,820	1,283,772	5,653	21,377
12,000	151,358	1,095,001	(1)	(1)
13,000	143,631	1,120,246	4,956	39,604
14,000	112,511	983,938	(1)	(1)
15,000	53,571	519,160	8,478	77,607
20,000	146,622	1,725,979	13,895	155,089
25,000	42,873	677,107	4,300	66,492
30,000	20,694	441,497	2,730	56,145
50,000	20,346	590,388	2,485	65,889
100,000	7,620	399,935	1,026	55,373
200,000	1,607	163,031	217	21,017

500,000	397	86,115	21	5,290
1,000,000	73	35,800	6	3,296
over 1,000,000	23	30,647	0	0
Total	3,696,036	17,630,496	104,434	713,432

Single

AGI(upper limit)	# of returns	Taxable income
0	193	0
1,000	57,638	7,151
2,000	86,725	46,535
3,000	2,941,902	1,283,676
4,000	2,830,368	3,712,932
5,000	2,526,510	5,818,023
6,000	2,150,411	6,937,893
7,000	1,657,600	7,018,462
8,000	1,427,859	7,372,528
9,000	1,254,289	7,693,643
10,000	906,620	6,285,697
11,000	765,495	5,965,547
12,000	559,966	4,809,452
13,000	467,763	4,411,332
14,000	364,366	3,703,692
15,000	246,543	2,756,655
20,000	589,100	7,733,933
25,000	164,339	2,856,972
30,000	82,108	1,777,561
50,000	100,603	2,938,772
100,000	36,066	1,852,393
200,000	7,633	767,165
500,000	2,154	449,139
1,000,000	331	159,570
over 1,000,000	135	176,239
Total	19,226,717	86,534,962

Source: Statistics of Income, Individual Income Tax Returns, 1973, Table 1.2
(1) Figure is shown combined with next entry
(2) Estimate is based on small number of sample returns and hence not shown

Table A-3. Number of 1973 Taxable Returns, Amount (thousands) of Taxable Income and Percents of Total by Filing Status

Filing status	# of returns	% of total	Taxable income	% of total
Joint	39,399,109	61.3	397,513,916	77.8
Separate	1,849,866	2.9	8,255,890	1.6
Head of household	3,696,036	5.8	17,630,496	3.6
Surviving spouse	104,434	0.2	713,432	0.1
Single	19,226,717	29.9	86,534,962	16.9
Total	64,267,162	100.0	510,648,690	100.0

Source: Statistics of Income, Individual Income Tax Returns, Table 1.2, 1973 and calculations
Note: Detail may not add to total because of rounding

Table A-4. 1973 Rate Schedules based on Amount of Taxable Income

Single		
Not over	Basic tax	Marginal rate on excess
500	0	.14
1,000	70	.15
1,500	145	.16
2,000	225	.17
4,000	310	.19
6,000	690	.21
8,000	1,110	.24
10,000	1,590	.25
12,000	2,090	.27
14,000	2,630	.29
16,000	3,210	.31
18,000	3,830	.34
20,000	4,510	.36
22,000	5,230	.38
26,000	5,990	.40
32,000	7,590	.45
38,000	10,290	.50
44,000	13,290	.55
50,000	16,590	.60
60,000	20,190	.62
70,000	26,390	.64
80,000	32,790	.66
90,000	39,390	.68
100,000	46,190	69
100,000 and over	53,090	.70

Married filing jointly or Surviving spouse

Not over	Basic tax	Marginal rate on excess
1,000	0	.14
2,000	140	.15
3,000	290	.16
4,000	450	.17
8,000	620	.19
12,000	1,380	.22
16,000	2,260	.25
20,000	3,260	.28
24,000	4,380	.32
28,000	5,660	.36
32,000	7,100	.39
36,000	8,660	.42
40,000	10,340	.45
44,000	12,140	.48
52,000	14,060	.50
64,000	18,060	.53
76,000	24,420	.55
88,000	31,020	.58
100,000	37,980	.60
120,000	45,180	.62
140,000	57,580	.64
160,000	70,380	.66
180,000	83,580	.68
200,000	97,180	.69
200,000 and over	110,980	.70

Married filing separately

Not over	Basic tax	Marginal rate on excess
500	0	.14
1,000	70	.15
1,500	145	.16
2,000	225	.17
4,000	310	.19
6,000	690	.22
8,000	1,130	.25
10,000	1,630	.28
12,000	2,190	.32
14,000	2,830	.36
16,000	3,550	.39
18,000	4,330	.42
20,000	5,170	.45
22,000	6,070	.48
26,000	7,030	.50

32,000	9.030	.53
38,000	12,210	.55
44,000	15,510	.58
50,000	18,990	.60
60,000	22,590	.62
70,000	28,790	.64
80,000	35,190	.66
90,000	41,790	.68
100,000	48,590	.69
100,000 and over	55,490	.70

Head of household

Not over	Basic tax	Marginal rate on excess
1,000	0	.14
2,000	140	16
4,000	300	.18
6,000	660	.19
8,000	1,040	.22
10,000	1,480	.23
12,000	1,940	25
14,000	2,440	.27
16,000	2,980	.28
18,000	3,540	31
20,000	4,160	32
22,000	4,800	.35
24,000	5,500	.36
26,000	6,220	.38
28,000	6,980	.41
32,000	7,800	.42
36,000	9,480	.45
38,000	11,280	.48
40,000	12,240	.51
44,000	13,260	.52
50,000	15,340	.55
52,000	18,640	.56
64,000	19,760	.58
70,000	26,720	.59
76,000	30,260	.61
80,000	33,920	62
88,000	36,400	.63
100,000	41,440	.64
120,000	49,120	.66
140,000	62,320	67
160,000	75,720	68
180,000	89,320	.69
180,000 and over	103,120	.70

Source: Statistics of Income, Individual Income Tax Returns, 1973, p.232

Table A-5. Number of 1973 Returns, Taxable Income (thousands), Percent of Total (i.e., 510,648,690), Taxable Income per Return (dollars), and Marginal Rates by Group and by Filing Status

Joint

Group	# of returns	Taxable income	% of total	TI/return	Marginal rate
1	11,140,048	34,174,470	6.7	3,068	.17
2	27,589,669	318,314,743	62.3	11,537	.22
3	547,627	28,454,635	5.6	51,960	.50
4	121,765	16,570,068	3.2	136,082	.64
Total	39,399,109	397,513,916	77.8		

Separate

Group	# of returns	Taxable income	% of total	TI/return	Marginal rate
1	1,491,192	4,614,914	0.9	3.095	.19
2	347,157	3,397,345	0.7	9,786	.28
3	1,858	90,443	0.0	48,478	.60
4	659	153,188	0.0	232,455	.70
Total	1,840,866	8,255,890	1.6		

Head of household

Group	# of returns	Taxable income	% of total	TI/return	Marginal rate
1	2,797,890	8,477,880	1.7	3,030	.18
2	888,426	8,437,088	1.7	9,497	.23
3	7,620	399,935	0.1	48,678	.60
4	2,100	315,593	0.1	150,282	.8
Total	3,696,036	17,630,496	3.6		

Surviving spouse

Group	# of returns	Taxable income	% of total	TI/return	Marginal rate
1	60,667	146,253	0.0	2,411	.17
2	42,497	482,203	0.1	11,347	.22
3	1,026	55,373	0.0	53,970	53
4	244	29,603	0.0	121,324	.66
Total	104,434	713,432	0.1		

Single

Group	# of returns	Taxable income	% of total	TI/return	Marginal rate
1	15,840,115	46,176,540	9.0	2,915	.19
2	3,340,283	36,953,916	7.2	11,063	.27
3	36,066	1,852,393	0.4	51,361	.62
4	10,253	1,552,113	0.3	151,381	70
Total	19,226,717	86,534,962	16.9		

Source. Appendix A, Tables A-3 and A-4 and calculations
Note: Detail may not add to total because of rounding

Table A-6. 1973 Taxable Income Percent of Total by Group and Filing Status

Group	Joint	Separate	Head of household	Surviving spouse	Single	Total
1	6.7	0.9	1.7	0 0	9.0	18.3
2	62.3	0.7	1.7	0.1	7.2	72.0
3	5.6	0.0	0.1	0.0	0.4	6.1
4	3.2	0.0	0.1	0.0	0.3	3.6
Total	77.8	1.6	3.6	0.1	16.9	100.0

Source· Appendix A, Table A-5 and calculations

Table A-7. Joint Taxable Income (thousands) as a Percent of Total Taxable Income

	Taxable returns			
Year	Total	Joint	% of total	Table
1973	510,648,690	397,513,916	77 8	1.2
1974	572,423,301	438,948,889	76.7	1.2
1975	590,413,547	456,709,319	77.4	1 4
1976	669,416,468	511,969,178	76.5	1 4
1977	905,858,073	667,069,551	73.6	1 2
1978	1,027,301,022	747,020,048	72.7	1.2

Source: Statistics of Income, Individual Income Tax Returns, 1973-1078, and calculations
Tables are Internal Revenue Service listings

Table A-8. Raw Number of Taxable Returns, Adjusted Gross Income, Itemized Deduction and Taxable Income Amounts by Year Followed by Interpolated Results

1972

AGI (upper limit)	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Regular only returns(2)
1,000	22,979	21,372	710	22,979
2,000	157,680	262,104	7,210	157,680
3,000	3,074,337	7,764,964	77,077	3,074,337
4,000	3,773,294	13,277,918	328,371	3,773,294
5,000	4,406,217	19,810,001	774,833	4,406,217
6,000	4,419,504	24,303,714	1,429,433	4,419,504
7,000	4,097,297	26,644,349	1,879,672	4,094,685
8,000	4,155,966	31,139,548	2,790,017	4,152,232
9,000	3,972,052	33,738,611	3,568,767	3,960,963
10,000	3,864,831	36,667,627	4,011,903	3,855,861
11,000	3,628,141	38,079,987	4,310,653	3,607,601
12,000	3,450,223	39,657,375	4,856,664	3,429,708
13,000	3,100,974	38,742,604	4,774,928	3,074,028
14,000	2,776,251	37,414,172	4,753,482	2,745,139
15,000	2,368,361	34,293,494	4,580,353	2,331,010
20,000	7,764,900	133,111,014	19,578,376	7,528,565
25,000	3,090,865	68,385,939	10,806,163	2,853,599
30,000	1,264,116	34,354,168	5,569,639	1,079,161
50,000	1,334,244	49,441,093	8,252,376	978,809
100,000	431,736	27,898,595	4,837,763	226,067
200,000	57,249	7,414,667	1,455,472	14,450
500,000	10,866	3,057,670	711,087	2,667
1,000,000	1,477	989,490	269,122	495
over 1,000,000	595	1,453,542	473,777	297
Total	61,224,145	707,914,018	90,097,848	59,789,348

Interpolation factors for year 1972· .60400 95455 .00000

Interpolated results by group

Group	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Regular only returns
1	30,390,821	179,099,827	13,279,279	30,390,821
2	29,110,054	485,753,128	68,696,277	29,110,054
3	270,553	30,145,692	5,212,833	270,553
4	17,919	12,915,369	2,909,458	17,919

1973

AGI (upper limit)	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Taxable income
5,000	11,686,350	41,438,464	1,147,445	14,317,851
10,000	19,902,480	147,292,001	12,429,775	79,433,877
15,000	15,568,312	192,430,937	22,873,335	117,615,506
20,000	8,694,914	149,352,967	21,903,068	99,071,750
50,000	6,175,257	160,955,353	27,153,843	115,371,256
100,000	257,684	15,992,482	3,425,733	11,801,065
200,000	16,283	2,101,723	692,740	1,364,624
500,000	3,053	881,682	357,553	516,318
1,000,000	490	330,424	131,714	197,487
over 1,000,000	259	594,677	238,250	355,800
Total	62,305,082	711,370,710	90,353,456	440,045,534

Interpolation factors for year 1973: .00000 .00000 .00000

Interpolated results by group

Group	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Taxable income
1	31,588,830	188,730,465	13,577,220	93,751,728
2	30,438,483	502,739,257	71,930,246	332,058,512
3	257,684	15,992,482	3,425,733	11,801,065
4	20,085	3,908,506	1,420,257	2,434,229

1974

AGI (upper limit)	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Taxable income
5,000	11,859,798	42,462,017	1,100,544	14,778,015
10,000	19,891,089	147,367,200	11,862,924	81,011,411
15,000	15,381,870	190,623,836	22,314,156	117,695,812
20,000	9,564,311	164,679,944	24,048,080	109,599,250
50,000	7,751,959	201,780,464	34,200,986	144,592,006
100,000	295,434	18,390,925	3,838,426	13,683,457
200,000	19,490	2,515,301	810,006	1,653,445
500,000	3,948	1,142,698	405,995	727,021
1,000,000	663	441,974	170,825	269,497
over 1,000,000	301	651,056	249,452	400,904
Total	64,768,863	770,055,415	99,001,394	484,410,818

Interpolation factors for year 1974: .07600 .18182 .00000

Interpolated results by group

Group	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Taxable income
1	32,919,909	204,316,628	14,659,343	104,734,307
2	31,582,833	545,940,670	79,565,248	365,430,112
3	241,718	15,047,087	3,140,523	11,195,530
4	24,402	4,751,029	1,636,278	3,050,867

1975

AGI (upper limit)	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Taxable income
5,000	9,337,854	34,561,215	625,442	10,147,330
10,000	19,191,858	141,559,739	9,373,056	72,227,598
15,000	14,706,746	182,395,693	20,431,316	112,085,023
20,000	9,896,765	170,866,840	22,776,012	112,076,095
50,000	9,305,850	245,210,304	40,759,897	175,196,762
100,000	336,254	20,840,391	4,461,844	15,391,338
200,000	20,193	2,600,976	806,892	1,739,921
500,000	3,797	1,092,985	383,187	700,394
1,000,000	699	471,687	177,990	291,989
over 1,000,000	295	668,216	276,702	390,835
Total	62,800,311	800,268,046	100,072,338	500,247,285

Interpolation factors for year 1975: .34700 .38642 .50000

Interpolated results by group

Group	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Taxable income
1	33,632,952	239,412,259	17,088,164	121,268,430
2	28,935,450	543,197,162	78,593,672	366,384,193
3	217,020	14,125,247	3,149,175	10,341,482
4	14,887	3,533,376	1,241,325	2,253,178

1976

AGI(upper limit)	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Taxable income
5,000	8,816,476	32,754,061	430,834	9,553,438
10,000	19,081 470	140,575,423	7,657,790	71,434,535
15,000	14,280,972	177,285,386	17,756,320	110,203,801
20,000	10,697,397	185,305,920	23,574,961	121,945,616
50,000	11,516,924	306,262,609	50,073,245	218,449,980
100,000	398,232	24,486,130	5,312,442	18,016,882
200,000	18,929	2,427,796	764,828	1,613,414
500,000	3,740	1,090,489	368,026	713,310
1,000,000	671	458,289	161,342	295,384
over 1,000,000	331	715,025	277,804	436,427
Total	64,815,142	871,361,128	106,377,592	552,662,787

Interpolation factors for year 1976: .49780 .50000 .66667

Interpolated results by group

Group	Number of returns	Amount (thousands) Adjusted gross income	Excess itemized deductions	Taxable income(1)
1	35,007,013	261,582,149	16,927,720	135,847,425
2	29,585,341	592,844,314	85,221,650	404,748,385
3	211,735	13,861	3,166,108	10,084,055
4	11,051	3,073,060	1,062,112	1,982,920

1977

AGI(upper limit)	Number of returns	Amount (thousands) Adjusted gross income	Excess itemized deductions	Taxable income(1)
5,000	18,440,726	52,628,800	136,157	33,709,078
10,000	19,181,601	141,513,242	1,721,940	108,406,000
15,000	14,123,389	174,897,943	4,575,825	142,217,649
20,000	10,983,359	190,523,137	7,863,793	157,189,253
50,000	14,388,443	387,769,344	30,646,015	320,321,948
100,000	468,330	28,625,843	4,771,012	22,558,680
200,000	20,447	2,625,843	769,020	1,802,756
500,000	3,767	1,091,020	372,928	709,397
1,000,000	698	473,167	172,489	299,053
over 1,000,000	359	838,153	310,586	526,740
Total	77,611,119	980,994,927	51,339,765	787,740,554

Interpolation factors for year 1977: .72860 .61112 .66667

Interpolated results by group

Group	Number of returns	Amount (thousands) Adjusted gross income	Itemized deductions	Taxable income
1	47,912,628	321,572,683	5,192,043	245,734,857
2	29,491,095	643,262,262	42,667,347	529,895,131
3	195,755	12,882,368	2,368,033	9,974,462
4	11,639	3,277,612	1,112,340	2,136,102

1978

AGI(upper limit)	Number of returns	Amount (thousands) Adjusted gross income	Excess itemized deductions	Taxable income(1)
5,000	17,884,088	51,191,143	117,252	33,705,090
10,000	19,450,913	142,820,898	1,996,587	110,917,721
15,000	14,034,735	173,863,446	4,817,732	142,167,848
20,000	10,950,897	190,703,638	8,630,341	157,747,475
50,000	17,318,147	476,031,097	39,584,020	392,824,213
100,000	598,581	36,256,114	6,013,581	28,625,039
200,000	25,301	3,271,079	916,639	2,287,297
500,000	4,765	1,369,721	466,110	892,484
1,000,000	783	530,728	194,585	334,381
over 1,000,000	367	878,916	309,839	568,231
Total	80,268,577	1,076,916,780	63,046,686	870,069,779

Interpolation factors for year 1978: .85940 .72728 .75000

Interpolated results by group

Group	Number of returns	Amount (thousands) Adjusted gross income	Excess itemized deductions	Taxable income(1)
1	49,396,452	343,430,286	6,254,197	266,801,859
2	30,677,663	717,548,282	53,265,291	591,378,905
3	182,220	12,341,076	2,327,503	9,522,093
4	12,240	3,597,134	1,199,693	2,366,920

Source: Statistics of Income, Individual Income Tax Returns, 1972-1978, Table 3.1 except for 1972 (Table 3.2) and calculations
(1) Taxable income includes zero bracket amount
(2) Regular only computation returns. Rest of 1972 data shown is a combination of Regular only, Income averaging, and Maximum and Regular computations.
See Appendix B, Programs B-1 and B-2

Table A-9. Raw Standard Deduction Amounts (thousands) by Year and by Group Followed by Interpolated Results

AGI(upper limits)	1972
1,000	1,610
2,000	73,035
3,000	3,758,430
4,000	4,453,781
5,000	4,980,483
6,000	4,641,039
7,000	4,071,872
8,000	3,686,030
9,000	3,113,932
10,000	3,145,714
11,000	3,067,838
12,000	2,942,588
13,000	2,809,581
14,000	2,492,137
15,000	1,915,657
20,000	4,484,609
25,000	1,007,592
30,000	278,157
50,000	196,149
100,000	33,042
200,000	2,604
500,000	387
1,000,000	27
over 1,000,000	0
Total	51,156,294

Interpolations factors for 1972 .60400 95455 .00000

Interpolation results by group

Group	1972
1	30,680,223
2	20,431,095
3	41,956
4	3,018

AGI (upper limit)	1973	1974	1975	1976
5,000	13,625,695	14,155,277	14,294,106	14,288,435
10,000	18,903,840	19,378,021	26,830,587	30,127,056
15,000	14,314,253	14,701,856	17,229,925	18,995,247
20,000	5,363,986	6,223,490	11,032,714	13,731,404
50,000	1,551,832	2,214,783	4,671,961	7,569,716
100,000	9,417	13,613	25,810	40,841
200,000	327	618	1,094	662
500,000	62	88	140	135
1,000,000	4	5	15	18
over 1,000,000	0	0	0	0
Total	53,769,416	56,597,751	74,086,352	84,753,514

Interpolation factors for 1973: .00000 .00000 .00000
Interpolation factors for 1974: .07600 18182 .00000
Interpolation factors for 1975: .34700 38642 50000
Interpolation factors for 1976: .49780 50000 66667

Interpolated results by group

Group	1973	1974	1975	1976
1	32,529,535	34,650,639	47,103,476	53,871,324
2	21,230,071	21,935,263	26,965,743	30,860,953
3	9,417	11,137	16,429	20,861
4	393	711	702	373

Source: Statistics of Income, Individual Income Tax Returns, 1972-1976, Table 3.1 (except Table 3.2-1972) and calculations
See Appendix B, Programs B-2 and B-3

Table A-10. Raw Number of Exemptions Claimed by Year and by Group Followed by Interpolated Results

AGI(upper limit)	1973	1974	1975
5,000	16,471,269	16,573,664	12,661,906
10,000	48,721,100	46,828,868	44,174,958
15,000	50,179,425	47,890,382	43,534,181
20,000	30,687,558	33,081,870	33,310,134
50,000	22,507,854	27,818,813	32,776,054
100,000	1,008,406	1,140,695	1,281,918
200,000	58,713	68,316	70,759
500,000	10,332	12,799	12,351
1,000,000	1,626	2,196	2,261
over 1,000,000	836	934	901
Total	169,647,119	173,418,537	167,825,423

AGI(upper limit)	1976	1977	1978
5,000	11,308,472	24,572,343	24,051,083
10,000	41,808,055	41,940,940	39,987,620
15,000	40,440,025	37,499,718	35,879,107
20,000	34,738,585	33,975,102	32,438,337
50,000	40,226,225	49,079,107	58,184,410
100,000	1,487,953	1,729,603	2,158,155
200,000	65,190	72,090	89,524
500,000	12,025	11,620	14,862
1,000,000	2,059	2,167	2,348
over 1,000,000	1,059	1,103	1,130
Total	170,089,648	189,883,793	192,806,576

Interpolation factors for 1973	.00000	.00000	00000
Interpolation factors for 1974:	.07600	.18182	.00000
Interpolation factors for 1975:	.34700	.38642	.50000
Interpolation factors for 1976:	.49780	.50000	.66667
Interpolation factors for 1977:	.72860	.61112	66667
Interpolation factors for 1978.	.85940	72728	.75000

Interpolated results by group

Group	1973	1974	1975
1	65,192,369	67,042,201	71,943,224
2	103,374,837	105,358,797	95,007,059
3	1,008,406	933,293	824,246
4	71,507	84,245	50,892

Group	1976	1977	1978
1	73,247,571	94,835,578	94,873,208
2	96,017,767	94,288,627	97,236,932
3	787,436	720,668	655,715
4	36,872	38,920	40,721

Source: Statistics of Income, Individual Income Tax Returns, Table 3 1, 1973-1978
See Appendix B, Program B-3

Table A-11. Raw Amounts (thousands) of Elderly Credit and Child Care Credit (Deduction) by Adjusted Gross Income and by Group Followed by Interpolated Results

AGI(upper limit)	1973 Elderly credit	1974 Elderly credit
5,000	16,783	15,181
10,000	66,302	55,445
15,000	29,671	27,059
20,000	13,437	11,799
50,000	8,441	9,213
100,000	738	785
200,000	87	89
500,000	26	39
1,000,000	6	8
over 1,000,000	2	4
Total	135,493	119,622

Group	1973 Elderly credit	1974 Elderly credit
1	83,085	80,908
2	51,549	37,931
3	738	642
4	121	140

Interpolation factors for 1973: .00000 .00000 .00000
Interpolation factors for 1974: .38000 .18182 .00000

Interpolation results by group

Agi (upper limit)	1973 Child care deduction	1975 Child care deduction
1,000	0	0
2,000	0	0
3,000	0	0
4,000	0	0
5,000	23,971	0
6,000	46,035	0
7,000	66,547	25,215
8,000	47,038	54,756
9,000	82,837	66,536
10,000	62,886	94,689
11,000	87,720	83,167
12,000	89,743	81,180
13,000	98,890	95,303
14,000	85,389	101,235
15,000	117,321	110,598
20,000	378,389	455,553
25,000	47,899	73,184
30,000	6,630	11,162
50,000	1,939	5,826
100,000	273	199
200,000	53	0
500,000	3	0
1,000,000	0	0
over 1,000,000	0	0
Total	1,243,563	1,258,601

Interpolation factors for 1973: .00000 .00000 .00000
Interpolation factors for 1975: .73500 .38462 50000

Interpolation results by group

Group	1973 Child care deduction	1975 Child care deduction
1	329,314	302,323
2	913,920	956,156
3	273	122
4	56	0

Elderly credit

AGI(upper limit)	1975	1976	1977	1978
2,000	0	304	0	0
4,000	0	0	163	0
6,000	9,760	16,018	10,615	3,756
8,000	15,680	42,235	32,740	25,866
10,000	24,155	33,785	22,153	27,748
12,000	15,919	27,254	23,571	20,273
14,000	11,899	17,031	14,047	11,626
16,000	8,640	13,667	11,059	12,400
18,000	7,521	7,591	4,162	4,225
20,000	5,289	4,680	4,687	3,734
25,000	9,074	9,137	10,379	9,606
30,000	3,329	4,576	5,972	2,692
50,000	4,739	3,571	2,793	6,680
100,000	1,133	453	368	428
200,000	311	40	5	21
500,000	74	8	2	5
1,000,000	16	2	1	1
over 1,000,000	9	0	0	0
Total	117,548	180,352	142,717	129,080

Interpolation factors for 1975: .86750 .38462 .50000
Interpolation factors for 1976: .24450 .50000 .66667
Interpolation factors for 1977: 82150 .61112 .66667
Interpolation factors for 1978· .14850 72728 .75000

Interpolation results by group

Elderly credit

Group	1975	1976	1977	1978
1	63,404	123,760	100,781	91,110
2	53,036	56,315	41,784	37,806
3	852	253	146	132
4	254	23	4	11

Child care credit

AGI(upper limit)	1976	1977	1978
2,000	0	0	0
4,000	0	0	0
6,000	2,201	13	845
8,000	16,387	12,767	15,873
10,000	28,046	26,100	30,707
12,000	33,652	35,806	29,980
14,000	36,846	37,844	39,044
16,000	35,937	35,788	46,033
18,000	45,412	43,517	47,870
20,000	47,069	39,900	54,177
25,000	91,228	108,008	137,163
30,000	59,804	78,416	97,093
50,000	37,654	71,023	114,817
100,000	5,916	12,051	15,831
200,000	908	1,492	2,233
500,000	119	199	294
1,000,000	12	0	36
over 1,000,000	5	9	14
Total	441,196	502,933	632,010

Interpolation results by group

Group	Child care credit 1976	1977	1978
1	89,294	105,774	123,284
2	347,899	390,771	501,830
3	3,563	5,681	5,992
4	438	705	902

Source: Statistics of Income, Individual Income Tax Returns, and calculations
1973, Tables 2.9 and 3.1
1974, Table 3.1. No data was available for child care deduction.
1975, Table 2.6 and 3.7
1976, Table 3.6
1977, Table 3.12
1978, Table 3.6
Note. detail may not add to total because of rounding
See Appendix B, Programs B-4 through B-6

Table A-12. Raw Amount (thousands) of Earned Income Credit by Year

AGI(upper limit)	1975(1)	1976	1977	1978
No AGI		10,197	7,705	6,422
1,000		20,497		
2,000		82,961	88,375	78,342
3,000		147,746		
4,000		246,652	363,555	327,885
5,000		302,618		
6,000	30,196	260,749	469,255	448,060
7,000		170,541		
8,000	121,402	52,869	197,664	187,594
Total	151,597	1,294,830	1,126,555	1,048,303

Source· Statistics of Income, Individual Income Tax Returns, Table 3.7 (except 1977 Table 3.13), 1975-1978
(1) 1975 data were presented in a combined manner. Since all of the credit falls in Group 1, the exact placement is immaterial.

Table A-13. Returns Filed using Regular Tax Computation as a Percent of All Returns using any Computation Method by Year

Year	Regular	Total	% of Total
1972	59,789,348	61,323,337	.975
1973	62,305,082	64,673,050	.963
1974	64,768,863	67,705,542	.957
1975	62,800,311	65,852,602	.954
1976	64,815,142	68,716,772	.943
1977	77,611,119	81,674,633	.950
1978	80,268,577	85,280,660	.941

Source: Statistics of Income, Individual Income Tax Returns, Table 3-1, 1972-1978

Table A-14. Returns with Adjusted Gross Income, Deductions, Exemptions, and Taxable Income by Year and Type of Tax Computation

	1972		
	Regular only	Maximum and regular	Income averaging
# of returns	59,789,348	52,268	1,382,529

	1973		
	Regular only	Maximum and regular	Income averaging
# of returns	62,305,082	78,730	2,198,373
adjusted gross income	711,370,710	8,831,003	70,881,173
# of itemized deduction returns	25,350,184	77,692	1,483,616
Itemized deduction amounts	90,353,456	1,328,504	8,597,349
# of standard deduction returns	36,953,575	1,038	714,757
Standard deduction amounts	53,769,416	2,074	1,366,009
# of exemptions	169,647,119	317,148	7,714,160
Taxable income amounts	440,045,534	7,262,564	55,136,139

	1974		
	Regular only	Maximum and regular	Income averaging
# of returns	64,768,863	115,338	2,745,024
adjusted gross income	770,055,415	13,652,340	89,146,131
# of itemized deduction returns	26,330,533	113,388	1,928,640
Itemized deduction amounts	99,001,394	1,999,228	11,120,143
# of standard deduction returns	38,438,330	1,950	816,384
Standard deduction amounts	56,597,751	3,958	1,579,606
# of exemptions	73,418,537	451,262	9,473,391
Taxable income amounts	84,410,818	11,310,706	69,342,292

	1975		
	Regular only	Maximum and regular	Income averaging
# of returns	62,800,311	148,182	2,813,421
adjusted gross income	800,268,046	17,695,198	92,274,035
# of itemized deduction returns	23,119,583	145,557	1,910,375
Itemized deduction amounts	100,072,338	2,664,061	12,105,701
# of standard deduction returns	39,680,728	2,625	903,045
Standard deduction amounts	74,086,352	6,544	2,192,569
# of exemptions	167,825,423	580,806	9,755,766
Taxable income amounts	500,247,285	14,588,989	70,659,045

Source: Statistics of Income, Individual Income Tax Returns, 1972-1975, Table 3.1

Table A-15 Regular-only, Maximum and Regular, and Income Averaging Tax Computation Amounts by Year (money in thousands)

	1973 regular-only			
AGI(upper limit)	Number of returns	Adjusted gross income	Itemized deductions	Standard deductions
5,000	11,686,350	41,438,464	1,147,445	13,635,695
10,000	19,902,480	147,292,001	12,429,775	18,903,840
15,000	15,568,312	192,430,937	22,873,335	14,314,253
20,000	8,694,914	149,352,967	21,903,068	5,363,986
50,000	6,175,257	160,955,353	27,153,843	1,551,832
100,000	257,684	15,992,482	3,425,733	9,417
200,000	16,283	2,101,723	692,740	327
500,000	3,053	881,682	357,553	62
1,000,000	490	330,424	131,714	4
over 1,000,000	259	594,677	238,250	0
Total	62,305,082	711,370,710	90,353,456	53,769,416

1973 income averaging

AGI (upper limit)	Number of returns	Adjusted gross income	Itemized deductions	Standard deductions
5,000	(1)	(1)	(1)	(1)
10,000	66,865	545,528	30,581	59,948
15,000	205,162	2,628,141	191,507	243,190
20,000	383,455	6,727,221	646,094	372,681
50,000	1,258,187	38,284,677	4,559,754	637,271
100,000	246,164	15,997,235	2,115,140	48,533
200,000	31,310	4,039,564	581,164	3,986
500,000	6,292	1,759,934	313,929	382
1,000,000	734	492,951	93,904	10
over 1,000,000	240	405,921	65,276	8
Total	2,198,373	70,881,173	8,597,349	1,366,009

1973 maximum and regular

AGI (upper limit)	Number of returns	Adjusted gross income	Itemized deductions	Standard deductions
50,000	412	19,310	1,392	(1)
100,000	45,049	3,636,706	510,697	1,424
200,000	28,664	3,703,108	576,047	552
500,000	4,230	1,143,978	182,578	92
1,000,000	294	190,030	32,413	(1)
over 1,000,000	81	137,870	25,377	6
Total	78,730	8,831,003	1,328,504	2,074

1974 regular-only

AGI (upper limit)	Number of returns	Adjusted gross income	Itemized deductions	Standard deductions
5,000	11,859,798	42,462,017	1,100,544	14,155,277
10,000	19,891,089	147,367,200	11,862,924	19,378,021
15,000	15,381,870	190,623,836	22,314,156	14,701,856
20,000	9,564,311	164,679,944	24,048,080	6,223,490

50,000	7,751,959	201,780,464	34,200,986	2,124,783
100,000	295,434	18,390,925	3,838,426	13,613
200,000	19,490	2,515,301	810,006	618
500,000	3,948	1,142,698	405,995	88
1,000,000	663	441,974	170,825	5
over 1,000,000	301	651,056	249,452	0
Total	64,768,863	770,055,415	99,001,394	56,597,751

1974 income averaging

AGI(upper limit)	Number of returns	Adjusted gross income	Itemized deductions	Standard deductions
5,000	0	0	0	0
10,000	50,090	432,452	13,356	58,404
15,000	231,320	2,964,519	238,315	275,302
20,000	498,635	8,772,464	947,178	435,793
50,000	1,611,134	48,872,225	6,099,395	751,853
100,000	304,214	19,784,853	2,623,007	51,659
200,000	41,102	5,327,663	712,529	5,888
500,000	7,580	2,113,847	335,740	681
1,000,000	739	485,741	90,659	20
over 1,000,000	210	392,367	59,964	6
Total	2,745,024	89,146,131	11,120,143	1,579,606

1974 maximum and regular

AGI(upper limit)	Number of returns	Adjusted gross income	Itemized deductions	Standard deductions
50,000	(1)	(1)	(1)	(1)
100,000	61,538	4,966,723	681,433	2,974
200,000	45,540	5,941,185	896,808	409
500,000	7,487	2.049,656	319,819	148
1,000,000	605	395,980	57,123	18
over 1,000,000	168	298,796	44,045	0
Total	115,338	13,,652,340	1,999,228	3,958

Source: Statistics of Income, Individual Income Tax Returns, Table 3-1, 1973-1974
(1) Figure is shown combined with following entry

Table A-16. Child Care Deduction Amounts (thousands) for 1975 based on Amount per Actual Return and Projected Returns by Group

Group	Number of returns	Deduction amount	Per return	Projected returns	Projected amount
1	33,632,952	302,323	8.98	34,187,591	307,309
2	28,935,450	956,156	33.04	32,968,523	1,089,427
3	217,020	122	.56	253,481	142
4	14,887	0	.00	27,706	0
Total	62,800,311	1,258,601		67,437,301	1,396,878

Source: Appendix A, Tables A-8 and A-11, Chapter 5, Table 5-5 and calculation

Table A-17. Child Care Credit Amounts (thousands) as a Percent of Total by Group (1976-1978) including Average Percents

	Amounts			Percents			
Group	1976	1977	1978	1976	1977	1978	Average
1	89,294	105,774	123,284	20.239	21.031	19.507	20.259
2	347,899	390,771	501,830	78.854	77.698	79 402	78.651
3	3,563	5,681	5,992	808	1 130	948	962
4	438	705	902	.099	140	143	128
Total	441,196	502,933	632,010	100.000	100.000	100.000	100.000

Source Appendix A, Table A-11 and calculations

Table A-18. 1973-1975 Elderly Credit Amounts (thousands) by Group, Correlations and Amounts per Return

	Amount				Amount per return			
Group	1973	1974	1975	Correlation	1973	1974	1975	Average
1	83,085	80,908	68,086	.9253	2.63	2.46	1.99	2.36
2	51,549	37,931	56,952	.2756	1 69	1.20	1 73	1 54
3	738	642	915	.6394	2 86	2 66	3 61	3.04
4	121	140	273	.9177	6.02	5 74	9.85	7.20
Total	135,493	119,622	126,226	.5812	2.17	1.85	1.87	1.96

Source: Appendix A, Table A-11 and calculations

Table A-19. Seasonally Adjusted Consumer Price Index Figures - 10/31/71 to 9/30/78

Year-Month	CPI	Year-month	CPI	Year-month	CPI	Year-month	CPI
71-10	122.3	73-10	136.3	75-10	164.6	77-10	184.5
71-11	122.6	73-11	137.5	75-11	165.7	77-11	185.6
71-12	123.1	73-12	138.5	75-12	166.7	77-12	186.6
72-01	123.4	74-01	140.0	76-01	167.3	78-01	187 8
72-02	123.9	74-02	141.8	76-02	167.4	78-02	188.9
72-03	124.1	74-03	143.2	76-03	167.9	78-03	190.4
72-04	124.4	74-04	144.1	76-04	168.2	78-04	191.8
72-05	124.7	74-05	145.7	76-05	169.0	78-05	193.3
72-06	125.0	74-06	146.9	76-06	169.7	78-06	195.0
72-07	125.4	74-07	147.8	76-07	170 6	78-07	196.3
72-08	125.7	74-08	149.7	76-08	171.6	78-08	197.5
72-09	126.1	74-09	151.5	76-09	172.5	78-09	199.2
72-10	126.4	74-10	152.8	76-10	173.2		
72-11	126.9	74-11	154.2	76-11	173.9		
72-12	127.3	74-12	155.6	76-12	174.7		
73-01	127.9	75-01	156.7	77-01	175.9		
73-02	129.4	75-02	157.5	77-02	177.5		
73-03	129.9	75-03	158.2	77-03	178.5		
73-04	130.9	75-04	158.6	77-04	179.6		
73-05	131.7	75-05	159.2	77-05	180.3		
73-06	132.4	75-06	160.2	77-06	181.3		
73-07	132.5	75-07	161 8	77-07	182.2		
73-08	134.9	75-08	162.4	77-08	182.9		
73-09	135.3	75-09	163.5	77-09	183.8		

Source: Bureau of Economic and Business Research

Table A-20. Interest Income Amounts, Capital Gain/Loss Amounts, Capital Gain/Loss Returns (money in thousands) by Year and by Group

		1974			
AGI (upper limit	Net gain returns	Net gains	Net loss returns	Net losses	Interest income
0	1,817	198,901	24	24	53,457
1,000	0	0	0	0	2,389
2,000	7,566	11,360	0	0	17,409
3,000	71,063	42,094	16,172	10,532	347,447
4,000	100,182	92,785	27,172	19,719	959,656
5,000	144,628	133,182	50,084	34.917	1,324,082
6,000	177,896	194,299	59,414	52,429	1,519,662
7,000	168,765	191,437	55,460	33,160	1,617,807
8,000	182,655	244,810	70,612	52,688	1,470,284
9,000	170,017	208,039	83,392	51,495	1,303,067
10,000	189,287	287,704	75,444	50,995	1,467,948

11,000	143,557	220,365	85,668	60,562	1,124,029
12,000	196,264	259,127	79,959	52,155	1,246,951
13,000	158,656	236,144	87,382	55,824	1,209,072
14,000	175,028	297,727	77,835	47,840	1,091,739
15,000	166,390	223,657	83,586	55,050	1,012,586
20,000	735,958	1,224,635	424,125	277,571	4,787,496
25,000	548,136	1,079,268	322,855	224,408	3,363,166
30,000	360,911	862,818	238,783	163,295	2,470,289
50,000	496,475	2,138,475	405,528	311,831	4,434,225
100,000	235,131	2,002,330	104,501	159,989	3,144,473
200,000	56,882	1,376,777	43,810	38,287	1,347,544
500,000	13,962	1,042,477	8,464	7,585	611,400
1,000,000	1,999	507,694	829	761	183,559
over 1,000,000	220	727,257	256	247	146,321
Total	4,504,954	13,803,362	2,501,395	1,761,278	36,256,058

1975

AGI(upper limit	Net gain returns	Net gains	Net loss returns	Net losses	Interest income
0	0	0	37	35	42,565
1,000	0	0	0	0	436
2,000	1,486	207,738	0	0	23,960
3,000	40,308	34,957	5,529	4,713	128,523
4,000	49,183	49,100	23,206	10,167	665,923
5,000	93,973	75,006	25,404	14,699	1,150,523
6,000	148,991	191,058	39,642	28,874	1,366,298
7,000	135,245	165,521	38,654	26,503	1,531,840
8,000	160,447	177,968	38,472	25,427	1,237,627
9,000	165,161	257,127	69,480	47,761	1,544,036
10,000	145,033	244,854	59,586	39,163	1,478,770
11,000	156,934	225,237	66,685	40,601	1,316,264
12,000	157,089	286,611	67,949	44,457	1,339,844
13,000	172,420	289,514	58,752	36,013	1,272,069
14,000	172,158	291,156	72,810	48,667	1,237,904
15,000	152,361	278,291	80,730	48,020	1,248,121
20,000	681,380	1,200,309	379,626	241,119	5,413,019
25,000	536,318	1,121,774	323,010	210,604	4,015,075
30,000	343,149	928,204	249,000	171,186	2,780,196
50,000	564,918	2,263,182	425,791	316,796	5,320,434
100,000	257,038	2,176,791	201,024	162,407	3,388,793
200,000	62,799	1,338,334	47,809	41,018	1,340,127
500,000	15,294	1,034,318	8,698	7,726	567,319
1,000,000	1,971	447,489	897	831	152,170
over 1,000,000	760	779,767	268	245	158,705
Total	4,214,473	14,048,478	2,283,359	1,567,032	38,719,539

1976

AGI (upper limit	Net gain returns	Net gains	Net loss returns	Net losses	Interest income
0	5,956	275,533	27	25	57,877
1,000	376	10,000	0	0	1,484
2,000	12,871	18,138	16	16	47,528
3,000	12,896	12,758	9,015	3,015	112,655
4,000	67,864	54,066	9,270	5,201	735,132
5,000	95,002	101,890	10,679	5,689	881,168
6,000	114,143	152,709	24,956	19,233	1,291,227
7,000	165,869	187,877	48,196	29,508	1,611,839
8,000	191,719	223,826	43,988	22,579	1,729,146
9,000	162,163	231,242	50,606	35,854	1,636,418
10,000	173,746	238,836	55,713	40,025	1,549,415
11,000	191,744	302,647	60,551	44,146	1,418,746
12,000	171,585	404,363	65,409	43,012	1,405,397
13,000	180,472	315,263	51,942	31,310	1,448,304
14,000	180,953	322,062	59,868	33,300	1,295,872
15,000	171,681	325,654	71,999	47,649	1,355,840
20,000	806,407	1,746,936	353,543	240,453	5,999,841
25,000	637,587	1,400,381	301,384	188,748	4,575,053
30,000	489,505	1,281,062	256,329	165,839	3,632,621
50,000	813,204	3,153,923	453,298	298,962	6,427,912
100,000	353,634	2,898,268	214,138	169,066	4,072,259
200,000	88,725	1,857,316	48,727	41,421	1,535,011
500,000	21,410	1,356,086	9,088	8,120	636,611
1,000,000	3,752	1,514,330	1,200	1,118	343,715
over 1,000,000	0	0	0	0	0
Total	5,113,264	18,385,170	2,199,941	1,475,243	43,801,074

1977

AGI(upper limit	Net gains returns	Net gains	Net loss returns	Net losses	Interest income
2,000	13,278	428,965	38,852	42,016	130,394
4,000	47,983	88,549	13,865	10,000	319,659
6,000	166,369	207,771	58,801	72,749	1,868,688
8,000	274,354	380,077	54,261	63,910	2,919,427
10,000	312,277	546,906	92,760	87,097	3,489,735
12,000	319,661	547,668	115,865	114,864	3,220,404
14,000	308,086	489,785	143,078	145,100	3,003,300
16,000	376,777	666,405	115,162	137,862	2,995,689
18,000	354,913	745,991	115,162	137,862	2,635,757
20,000	295,785	607,906	114,031	100,472	2,397,265
25,000	731,191	1,599,609	327,219	313,986	5,415,311
30,000	548,889	1,520,081	239,859	224,655	4,370,870
50,000	987,616	3,988,310	452,522	485,697	7,848,011

100,000	423,114	3,658,417	225,127	298,960	4,628,545
200,000	109,518	2,230,735	53,385	79,380	1,807,215
500,000	27,658	1,802,754	10,809	17,504	796,516
over 500,000	4,931	2,057,432	1,436	2,470	403,511
Total	5,302,400	21,567,361	2,158,013	2,292,172	48,250,297

1978

AGI (upper limit	Net gain returns	Net gains	Net loss returns	Net losses	Interest income
2,000	42,797	568,493	2,290	660	355,010
4,000	69,555	55,764	15,360	5,629	309,820
6,000	117,858	190,456	31,370	43,261	1,992,867
8,000	243,143	324,680	79,393	131,415	3,270,242
10,000	301,145	540,546	63,197	89,178	3,510,643
12,000	327,668	516,841	85,458	91,477	3,320,273
14,000	336,249	602,970	93,668	126,524	3,351,948
16,000	307,052	720,611	107,508	139,910	2,854,787
18,000	319,753	677,379	91,049	139,044	2,962,526
20,000	319,072	755,310	109,127	155,927	2,786,977
25,000	769,508	1,784,490	232,789	269,278	6,060,983
30,000	769,508	1,828,629	207,373	268,388	4,776,677
50,000	1,182,631	4,656,972	469,851	654,941	9,905,611
100,000	545,947	4,374,428	230,640	404,401	5,700,502
200,000	142,820	2,791,903	58,643	118,028	2,295,754
500,000	35,919	2,063,026	12,823	29,375	1,072,839
over 500,000	6,001	1,937,055	1,720	4,298	527,339
Total	5,690,865	24,389,553	1,892,259	2,671,734	54,943,797

Interpolation factors for year 1974.	.38000	.18182	.00000
Interpolation factors for year 1975·	.73500	.38462	50000
Interpolation factors for year 1976	.48900	.50000	66667
Interpolation factors for year 1977	.82150	61112	.66667
Interpolation factors for year 1978:	.14850	72728	.75000

Interpolation results by group

Net Gain Returns

Group	1974	1975	1976	1977	1978
1	1,268,427	1,212,278	1,454,184	1,387,015	1,484,012
2	2,970,583	2,763,194	3,368,375	3,608,737	3,873,222
3	192,379	189,575	235,967	237,553	256,005
4	73,563	49,424	54,736	69,095	77,625

Net Gains

Group	1974	1975	1976	1977	1978
1	1,688,349	1,823,397	2,368,054	2,602,294	2,906,760
2	6,882,540	7,285,619	9,840,251	11,451,461	13,497,814
3	1,638,266	2,008,720	2,687,350	2,909,849	3,286,921
4	3,654,205	2,930,741	3,489,515	4,603,757	4,698,056

Net loss Returns

Group	1974	1975	1976	1977	1978
1	470,357	416,637	403,825	453,168	386,700
2	1,818,531	1,685,343	1,630,032	1,551,668	1,369,471
3	159,136	147,610	139,553	123,137	106,882
4	53,369	33,767	26,530	30,040	29,203

Net Losses

Group	1974	1975	1976	1977	1978
1	328,886	270,618	264,566	467,859	508,920
2	1,254,611	1,146,651	1,075,483	1,608,698	1,900,824
3	130,899	120,451	112,147	169,180	198,809
4	46,880	29,311	23,044	46,434	63,180

Interest Income

Group	1974	1975	1976	1977	1978
1	10,510,339	11,471,548	13,186,252	14,415,517	16,423,738
2	20,884,150	22,945,274	26,063,351	29,027,588	33,069,486
3	2,572,744	2,755,458	3,059,475	3,004,764	3,276,456
4	2,288,824	1,547,257	1,491,991	1,802,425	2,174,116

Source· Statistics of Income, Individual Income Tax Returns, Table 1.4 and calculations
See Appendix B, Programs B-8 and B-9

Table A-21 Alternate Model Interest Income Adjustment - 1974

Group	Reported interest	New interest	Interest adjustment
1	10,510,339	2,509,931	8,000,408
2	20,884,150	4,987,259	15,896,891
3	2,572,744	614,386	1,958,358
4	2,288,824	546,584	1,742,240

Source Chapter 5, Table 5-21 and calculations
See Appendix B, Program B-10

Table A-22. Reported Long Term Capital Gains Occurring after October, 1978 with 50% and 60% Exclusion Amounts (thousands)

AGI (upper limit)	Total	50% amounts	60% amounts	Difference
5,000	508,410	254,205	203,370	50,835
10,000	489,738	244,869	195,907	48,962
15,000	346,080	173,040	138,441	34,599
20,000	492,143	246,072	196,865	49,207
25,000	391,152	195,576	156,471	39,105
30,000	425,985	212,993	170,403	42,590
50,000	1,108,273	554,137	443,325	110,812
100,000	1,022,154	511,077	408,872	102,205
200,000	608,291	304,146	243,320	60,826
500,000	421,566	210,783	168,627	42,156
1,000,000	138,732	69,366	55,493	13,873
over 1,000,000	87,616	43,808	35,046	8,762
Total	6,040,143	3,020,072	2,416,141	603,932

Source: Statistics of Income, Individual Income Tax Returns, 1978, Table 1C and calculations

Table A-23. Net Capital Gain/Loss Corporate Stock and Other Securities Transactions by Group and by Length of Period Held

	Corporate stock amounts (thousands)			
	Group 1	Group 2	Group 3	Group 4
All period, total	237,412	1,954,589	1,221,297	3,373,975
Short term, total	48,994	408,153	430,921	1,406,023
under 1 month	11,513	215,151	174,208	571,250
under 2 months	22,213	40,562	173,832	579,619
under 3 months	18,140	102,459	118,052	593,973
under 4 months	13,600	75,207	161,770	507,661
under 5 months	23,151	62,279	138,438	497,832
under 6 months	21,259	71,380	110,073	546,345
period not determinable	20,211	65,179	99,368	364,564
Long term, total	224,497	1,852,726	1,159,694	3,296,977
under 7 months	22,918	144,304	182,025	676,926
under 8 months	33,669	101,277	149,721	555,830
under 9 months	27,981	90,833	134,048	552,518
under 10 months	11,391	96,531	150,549	508,764
under 11 months	16,064	81,252	97,847	501,509
under 12 months	18,358	34,080	102,556	487,166

under 2 years	87,940	368,719	418,876	1,408,550
under 3 years	28,756	359,696	308,741	1,026,993
under 4 years	64,309	447,430	281,373	787,229
under 5 years	38,570	286,797	214,719	775,693
under 10 years	92,627	658,328	419,784	1,332,628
under 15 years	32,184	352,676	223,266	668,846
under 20 years	18,515	138,705	124,358	410,821
20 or more years	21,983	192,182	124,723	528,342
period not determinable	28,019	513,255	335,142	1,209,554

Other securities amounts (thousands)

	Group 1	Group 2	Group 3	Group 4
All period, total	44,387	166,959	215,131	1,044,106
Short term, total	11,041	9,224	72,694	477,837
under 1 month	*1,640	-3,138	20,982	193,953
under 2 months	*1,595	-3,773	15,351	190,067
under 3 months	*1,951	-327	12,136	163,358
under 4 months	*5,622	3,251	24,220	168,563
under 5 months	*1,135	4,920	16,210	138,710
under 6 months	*1,474	1,254	5,086	155,719
period not determinable	1,849	3,506	14,729	96,716
Long term, total	34,806	166,901	175,922	870,060
under 7 months	*3,816	5,376	6,949	135,235
under 8 months	*1,602	*1,264	15,827	89,842
under 9 months	*2,153	*-766	3,669	86,728
under 10 months	*1,283	*6,960	9,752	63,842
under 11 months	2,633	-24	1,047	55,784
under 12 months	*936	*4,257	11,470	79,883
under 2 years	6,075	26,221	37,112	278,236
under 3 years	4,427	49,264	30,282	206,492
under 4 years	*3,060	14,240	33,265	125,185
under 5 years	*17,388	47,982	20,722	128,316
under 10 years	7,012	59,980	45,734	276,664
under 15 years	*764	12,626	22,779	132,222
under 20 years	*206	6,562	19,738	64,831
20 or more years	*217	*-492	15,750	32,652
period not determinable	*-202	20,780	20,829	120,552

Corporate stock number of returns

	Group 1	Group 2	Group 3	Group 4
All period, total	369,133	1,721,487	197,503	66,295
Short term, total	79,623	523,637	73,686	25,018
under 1 month	31,990	189,971	25,286	9,679
under 2 months	45,520	178,539	26,092	9,208
under 3 months	22,189	128,604	22,694	9,160
under 4 months	19,492	131,949	24,755	7,859
under 5 months	3,569	125,717	19,669	7,932
under 6 months	3,541	128,551	21,119	8,151
period not determinable	26,012	81,237	11,986	5,251
Long term, total	339,715	1,540,379	183,075	64,071

under 7 months	19,234	134,143	24,019	9,620
under 8 months	29,208	93,898	19,130	8,524
under 9 months	20,189	105,426	21,339	8,317
under 10 months	4,282	118,645	19,090	8,471
under 11 months	12,517	87,446	19,475	8,208
under 12 months	19,994	93,999	18,346	8,224
under 2 years	73,222	487,240	80,675	29,927
under 3 years	70,918	292,004	46,418	19,828
under 4 years	77,776	226,902	38,686	15,177
under 5 years	57,932	255,736	38,007	14,972
under 10 years	102,060	402,220	55,239	22,173
under 15 years	25,890	127,521	22,531	10,150
under 20 years	8,776	38,426	10,466	5,456
20 or more years	11,187	59,620	9,055	5,962
period not determinable	30,712	224,358	40,478	17,747

	Other securities number of returns			
	Group 1	Group 2	Group 3	Group 4
All period, total	22,057	123,637	28,980	16,078
Short period, total	8,229	27,155	7,699	4,474
under 1 month	*12	5,550	1,368	1,156
under 2 months	*8	6,550	1,683	1,151
under 3 months	*15	4,787	2,789	1,221
under 4 months	*84	3,395	1,884	1,133
under 5 months	*378	1,391	1,067	1,004
under 6 months	*12	6,080	909	847
period not determinable	7,751	8,448	2,355	887
Long term, total	13,841	101,998	24,242	14,046
under 7 months	*12	7,116	1,425	1,117
under 8 months	*5	*3,234	913	749
under 9 months	*8	*2,439	897	691
under 10 months	*3	*2,379	1,184	680
under 11 months	25	2,659	716	603
under 12 months	*936	*2,425	1,179	922
under 2 years	1,167	19,789	6,576	3,654
under 3 years	30	25,615	4,830	3,057
under 4 years	*950	14,264	4,272	2,501
under 5 years	*7,754	13,045	2,096	1,732
under 10 years	1,357	24,032	6,233	3,888
under 15 years	*9	8,883	2,270	2,352
under 20 years	*8	7,549	1,284	1,364
20 or more years	*187	*2,377	735	585
period not determinable	*1,874	10,256	2,743	1,954

Source. Statistics of Income - 1973, Sales of Capital Assets, Tables 8 and 10

*Estimate should be used with caution because of the small number of sample returns on which it is based

Table A-24. Long-term Capital Asset Group Information on Selling Price Gross Gain and Gross Loss

	IRS transaction data					
Group	Number	Amount	Number	Amount	Number	Amount
1	1,393,512	12,595,634	1,503,841	3,764,965	236,909	164,446
2	4,970,807	52,570,032	5,019,303	18,256,206	1,047,191	1,663,086
3	782,354	15,031,207	640,256	5,930,929	298,036	829,669
4	430,509	20,456,353	312,168	10,796,127	184,583	1,056,701

	Calculated per transaction amounts				
		Gain		Loss	
Group	Selling price	Gain	Selling price	Loss	Selling price
1	9,039	2,507	.277	694	.077
2	10,576	3,637	.344	1,588	.150
3	19,213	9,263	.482	2,784	.145
4	47,517	34,584	.728	5,725	.120

Source. Statistics of Income - 1973, Sales of Capital Assets, Table 6 and calculations

Table A-25. Allocated Period Return Amounts and Derived Weighted Average Percents for Capital Transactions by Groups

	Allocated corporate stock return amounts			
	Group 1	Group 2	Group 3	Group 4
All period, total	369,133	1,721,487	197,503	66,925
under 1 month	38,578	207,441	27,456	10,656
under 2 months	54,894	194,958	28,332	10,138
under 3 months	26,758	140,431	24,642	10,085
under 4 months	23,506	144,083	26,880	8,652
under 5 months	4,304	137,278	21,357	8,733
under 6 months	4,270	140,373	22,932	8,974
under 7 months	20,341	146,070	26,320	10,595
under 8 months	30,890	102,247	20,962	9,388
under 9 months	21,351	114,800	23,383	9,160
under 10 months	4,528	128,194	20,919	9,330
under 11 months	13,237	95,221	21,340	9,040
under 12 months	21,145	102,357	20,103	9,057
under 2 years	77,439	530,563	88,404	32,961
under 3 years	75,002	317,968	50,865	21,838

under 4 years	82,255	247,077	42,392	16,716
under 5 years	61,268	278,475	41,648	16,490
under 10 years	07,938	437,984	60,531	24,421
under 15 years	27,381	138,859	24,689	11,179
under 20 years	9,281	41,842	11,468	6,009
20 or more years	11,831	64,921	9,922	6,566

Allocated other securities return amounts

	Group 1	Group 2	Group 3	Group 4
All period, total	22,057	123,637	28,980	16,078
under 1 month	194	7,239	1,700	1,313
under 2 months	129	8,543	2,091	1,307
under 3 months	243	6,244	3,466	1,387
under 4 months	1,363	4,428	2,341	1,287
under 5 months	6,134	1,814	1,326	1,140
under 6 months	194	7,930	1,129	962
under 7 months	13	7,653	1,537	1,208
under 8 months	5	3,478	985	810
under 9 months	9	2,623	968	747
under 10 months	3	2,558	1,277	735
under 11 months	28	2,859	772	652
under 12 months	1,076	2,608	1,272	997
under 2 years	1,342	21,283	7,097	3,952
under 3 years	34	27,549	5,212	3,306
under 4 years	1,092	15,341	4,610	2,705
under 5 years	8,921	14,030	2,262	1,873
under 10 years	1,561	25,846	6,726	4,205
under 15 years	10	9,553	2,449	2,544
under 20 years	9	8,119	1,385	1,475
20 or more years	215	2,556	793	632

Weighted percents

Time held	Group 1	Group 2	Group 3	Group 4
under 1 month	.09911296	.11634990	.12873372	14419961
under 2 months	14065544	.11029123	.13432796	.13788658
under 3 months	06902273	.07949330	.12410645	.13821187
under 4 months	.06357269	.08048836	.12902072	.11974266
under 5 months	.02667269	.07538355	.10015321	.11894751
under 6 months	.01141133	.08037563	.10623755	.11970652
under 7 months	05203098	.08331310	.12299819	.14219968
under 8 months	.07897697	.05729967	.09690352	12286303
under 9 months	.05460262	.06363963	.10751800	19936713
under 10 months	.01158261	.07140550	.09800294	.12126068
under 11 months	.03390935	.05315632	.09763205	.11676686
under 12 months	.05680360	.05688778	.09437794	.12112815
under 2 years	.20138807	.29908342	.42166962	.44471887
under 3 years	.19181472	.18725950	.24759916	.30292881
under 4 years	.21306015	.14222242	.20752992	.23397949
under 5 years	.17942432	.15852864	.19387769	.22123297
under 10 years	.27991257	.25138148	.29696269	.34487910

under 15 years	.07001968	.08043470	.11982356	.16533137
under 20 years	.02374805	.02707731	.05675040	.09016542
20 or more years	.03079322	.03657044	.04731039	.08671976
Total	1.88852475	2.11064188	2.93153568	3.41222607

Source: Appendix A, Table A-23 and calculations
See Appendix B, Programs B-11 and B-12

Table A-26. Average (lagged) Consumer Price Indexes

Year	Index	Year	Index	Year	Index
1953	80.0	1962	90.3	1971	120.2
1954	80.6	1963	91.4	1972	124.2
1955	80.2	1964	92.7	1973	130.5
1956	80.9	1965	94.0	1974	143.6
1957	83.6	1966	96.4	1975	158.4
1958	86.1	1967	99.3	1976	168.4
1959	87 0	1968	103.0	1977	178.7
1960	88.3	1969	108.3	1978	191 4
1961	89.4	1970	114.7		

Source: Appendix A, Table A-19 and calculations

Table A-27. Purchase Date Year Assigned to Each of the Periods Listed in Table A-23 (t = current year)

Time held - months	Year assigned	Time held - years	Year assigned
0 to 1	t	1 to 2	t-2
1 to 2	t	2 to 3	t-3
2 to 3	t	3 to 4	t-4
3 to 4	t	4 to 5	t-5
5 to 6	t	5 to 10	t-10
6 to 7	t-1	10 to 15	t-15
7 to 8	t-1	15 to 20	t-20
8 to 10	t-1	20 or more	t-20
10 to 11	t-1		
11 to 12	t-1		

Source: author

Table A-28. Weighted Consumer Price Indexes by Year and by Group

Group	1973	1974	1975	1976	1977	1978
1	112.8	119.1	126.8	134.7	143.0	152.6
2	115.1	121.7	130.2	138.9	147.8	157.6
3	115.4	122.0	130.6	139.6	148.6	158 4
4	114.4	120.7	129.1	137.8	146.6	156.2

Source. Appendix A, Tables A-24 through A-26 and calculations
See Appendix B, Program B-13

Table A-29. Derivation of Capital Gain Adjustments by Group and Year

	Group 1		
	1974	1975	1976
Ratio adjusted net capital gain	1,688,349	1,958,031	2,559,479
Net long-term gain only	1,579,957	1,832,325	2,395,160
Gross gain	3,159,914	3,664,650	4,790,320
Selling price	11,407,632	13,229,783	17,293,574
Cost	8,247,718	9,565,133	12,503,254
Indexed cost	9,944,352	11,948,873	15,631,388
Adjusted long-term gain	1,463,280	1,280,910	1,662,186
Capital gain adjustment--0%	-116,677	-551,415	-732,974
60% exclusion on adjusted long-term gain	585,312	512,364	664,874
Additional capital gain adjustment--60%	-877,968	-768,546	-997,312
	-877,968	-768,546	-997,312

	1977	1978
Ratio adjusted net capital gain	2,436,681	2,847,935
Net long-term gain only	2,280,246	2,665,098
Gross gain	4,560,492	5,330,196
Selling price	16,463,870	19,242,585
Cost	11,903,378	13,912,389
Indexed cost	14,875,060	17,449,746
Adjusted long-term gain	1,588,810	1,792,839
Capital gain adjustment--0%	-691,436	-872,259
60% exclusion on adjusted long-term gain	635,524	717,132
Additional capital gain adjustment--60%	-953,286	-1,075,699

	Group 2		
	1974	1975	1976
Ratio adjusted net capital gain	6,822,540	7,823,568	10,635,703
Net long-term gain only	6,400,907	7,340,072	9,978,417
Gross gain	12,801,814	14,680,144	19,956,833
Selling price	37,214,576	42,674,837	58,014,049
Cost	24,412,762	27,994,693	38,057,216
Indexed cost	28,805,856	34,058,061	46,139,922
Adjusted long-term gain	8,408,720	8,616,776	11,874,127
Capital gain adjustment--0%	2,007,813	1,276,704	1,895,710
60% exclusion on adjusted long-term gain	3,363,488	3,446,710	4,749,651
Additional capital gain adjustment--60%	-5,045,232	-5,170,066	-7,124,476

	1977	1978
Ratio adjusted net capital gain	10,722,675	12,961,482
Net long-term gain only	10,060,014	12,160,462
Gross gain	20,120,028	24,320,924
Selling price	58,488,453	70,700,360
Cost	38,368,425	46,379,436
Indexed cost	46,389,970	56,326,295
Adjusted long-term gain	12,098,483	14,374,065
Capital gain adjustment--0%	2,038,469	2,213,603
60% exclusion on adjusted long-term gain	4,839,393	5,749,626
Additional capital gain adjustment--60%	-7,259,090	-8,624,439

	Group 3		
	1974	1975	1976
Ratio adjusted net capital gain	1,638,266	2,157,038	2,904,586
Net long-term gain only	1,519,983	2,001,300	2,694,875
Gross gain	3,039,966	4,002,600	5,389,750
Selling price	6,306,983	8,304,149	11,182,054
Cost	3,267,017	4,301,549	5,792,304
Indexed cost	3,845,440	5,217,193	6,987,278

Adjusted long-term gain	2,462,543	3,086,956	4,194,776
Capital gain adjustment--0%	941,560	1,085,656	1,499,901
60% exclusion on adjusted long-term gain	984,617	1,234,782	1,677,910
Additional capital gain adjustment--60%	-1,476,926	-1,852,174	-2,516,866

	1977	1978
Ratio adjusted net capital gain	2,724,662	3,151,951
Net long-term gain only	2,527,941	2,924,380
Gross gain	5,055,882	5,848,760
Selling price	10,489,382	12,134,357
Cost	5,433,500	6,285,597
Indexed cost	6,534,095	7,595,096
Adjusted long-term gain	3,955,287	4,539,261
Capital gain adjustment--0%	1,427,346	1,614,881
60% exclusion on adjusted long-term gain	1,582,115	1,815,704
Additional capital gain adjustment--60%	-2,373,172	-2,723,557

	Group 4		
	1974	1975	1976
Ratio adjusted net capital gain	3,654,205	3,147,138	3,771,596
Net long-term gain only	3,516,807	3,028,806	3,629,784
Gross gain	7,033,614	6,057,612	7,259,568
Selling price	9,661,558	8,320,896	9,971,934
Cost	2,627,944	2,263,284	2,712,366
Indexed cost	3,126,535	2,776,949	3,314,677
Adjusted long-term gain	6,535,023	5,543,947	6,657,257
Capital gain adjustment--0%	3,018,216	2,515,141	3,027,473
60% exclusion on adjusted long-term gain	2,614,009	2,217,579	2,662,903
Additional capital gain adjustment--60%	-3,921,014	-3,326,368	-3,994,354

	1977	1978
Ratio adjusted net capital gain	4,310,768	4,481,647
Net long-term gain only	4,148,683	4,313,137
Gross gain	8,297,366	8,626,274
Selling price	11,397,481	11,849,277

Cost	3,100,115	3,223,003
Indexed cost	3,778,926	3,949,314
Adjusted long-term gain	7,618,555	7,899,963
Capital gain adjustment--0%	3,469,872	3,586,826
60% exclusion on adjusted long-term gain	3,047,422	3,159,985
Additional capital gain adjustment--60%	-4,571,133	-4,739,978

Source: Chapter 5, Tables 5-25 to 5-27, Appendix A, Table A-24 and calculations
Gross gain = net long-term gain * two
Cost = selling price - gross gain
Adjusted long-term gain = selling price - indexed cost

Table A-30. 1977-1978 Group Capital Loss Amounts based on Actual Loss Returns and 1973-1976 Loss Average per Return

Year	Group 1	Group 2	Group 3	Group 4
1977	298,638	1,039,618	99,864	26,075
1978	254,835	917,546	86,681	25,348

Source: Chapter 5, Table 5-28, Appendix A, Table A-20 and calculations

Table A-31. Ratio Adjusted 1974-1978 Gross Capital Loss Amounts

Group	1974	1975	1976	1977	1978
1	328,866	290,600	285,953	279,632	239,026
2	1,254,611	1,231,316	1,162,421	973,455	860,626
3	130,899	129,345	121,213	93,509	81,304
4	46,880	31,475	24,907	24,416	23,776

Source: Appendix A, Tables A-20 and A-30 and calculations
Adjustment factors for 1975-1978 respectively: 1.0738371, 1 0808366, 0.9363587, 0.9379651

Table A-32. Derivation of Capital Loss Adjustments by Group and Year

	Group 1		
	1974	1975	1976
Ratio adjusted net capital loss	328,866	290,600	285,953
Net long-term loss only	307,753	271,943	267,595
Gross loss	615,506	543,886	535,190
Selling price	7,993,584	7,063,455	3,475,260
Cost	8,609,090	7,607,341	4,010,450
Indexed cost	10,380,062	9,503,177	5,013,807
Adjusted long-term loss	2,386,478	1,895,836	1,538,547
Capital loss adjustment--0%	-2,078,725	-1,623,893	-1,270,952
40% loss allowed	954,591	758,334	615,419
Additional capital loss adjustment--60%	1,431,887	1,137,502	923,128

	1977	1978
Ratio adjusted net capital loss	279,632	239,026
Net long-term loss only	261,680	223,681
Gross loss	523,360	447,362
Selling price	3,398,442	2,904,948
Cost	3,921,802	3,352,310
Indexed cost	4,900,881	4,204,667
Adjusted long-term loss	979,079	1,299,719
Capital loss adjustment--0%	-717,399	-1,076,038
40% loss allowed	391,632	519,888
Additional capital loss adjustment--60%	587,447	779,831

	Group 2		
	1974	1975	1976
Ratio adjusted net capital loss	1,254,611	1,231,316	1,162,421
Net long-term loss only	1,177,076	1,155,221	1,090,583
Gross loss	2,354,152	2,310,441	2,181,166
Selling price	15,694,347	15,402,940	14,541,107
Cost	18,048,499	17,713,381	16,722,273
Indexed cost	21,296,339	21,549,920	20,273,800
Adjusted long-term loss	5,601,992	6,146,980	5,732,693
Capital loss adjustment--0%	-4,424,916	-4,991,759	-4,642,110
40% loss allowed	2,240,767	2,458,792	2,293,077
Additional capital loss			

adjustment--60%	3,361,195	3,688,188	3,439,616

	1977	1978
Ratio adjusted net capital loss	973,455	860,626
Net long-term loss only	913,295	807,439
Gross loss	1,826,591	1,614,878
Selling price	12,177,273	10,765,853
Cost	14,003,864	12,380,731
Indexed cost	16,931,600	15,035,989
Adjusted long-term loss	4,754,327	4,270,136
Capital loss adjustment--0%	-3,841,032	-3,462,697
40% loss allowed	1,901,731	1,708,054
Additional capital loss adjustment--60%	2,852,596	2,562,082

Group 3

	1974	1975	1976
Ratio adjusted net capital loss	130,899	129,345	121,213
Net long-term loss only	121,448	120,006	112,461
Gross loss	242,896	240,012	224,922
Selling price	1,675,145	1,655,255	1,551,186
Cost	1,918,041	1,895,267	1,776,108
Indexed cost	2,257,629	2,298,701	2,142,526
Adjusted long-term loss	582,484	643,446	591,340
Capital loss adjustment--0%	-461,036	-523,440	-478,879
40% loss allowed	232,994	257,378	236,536
Additional capital loss adjustment--60%	349,490	386,068	354,804

	1977	1978
Ratio adjusted net capital loss	93,509	81,304
Net long-term loss only	86,758	75,434
Gross loss	173,516	150,868
Selling price	1,196,662	1,040,469
Cost	1,370,178	1,191,337
Indexed cost	1,647,717	1,439,532
Adjusted long-term loss	451,055	399,063
Capital loss adjustment--0%	-364,297	-323,629
40% loss allowed	180,422	159,625
Additional capital loss adjustment--60%	270,633	239,438

	Group 4		
	1974	1975	1976
Ratio adjusted net capital loss	46,880	31,475	24,907
Net long-term loss only	43,430	29,158	23,074
Gross loss	86,860	58,316	46,148
Selling price	723,833	485,967	384,567
Cost	810,693	544,283	430,715
Indexed cost	964,503	667,811	526,360
Adjusted long-term loss	240,670	181,844	141,793
Capital loss adjustment--0%	-197,240	-152,686	-118,719
40% loss allowed	96,278	72,738	56,717
Additional capital loss adjustment--60%	144,402	109,106	85,076

	1977	1978
Ratio adjusted net capital loss	24,416	23,776
Net long-term loss only	22,619	22,026
Gross loss	45,238	44,052
Selling price	376,983	367,100
Cost	422,221	411,152
Indexed cost	514,672	503,806
Adjusted long-term loss	137,689	136,706
Capital loss adjustment--0%	-115,070	-114,680
40% loss allowed	55,076	54,682
Additional capital loss adjustment--60%	82,613	82,024

Source. Chapter 5, Tables 5-26 and 5-27, Appendix A, Tables A-24 and A-31 and calculations
Gross loss = net long-term loss * two
Cost = selling price + gross gain
Adjusted long-term loss = indexed cost - selling price

Table A-33 Reported and Grouped Amounts (thousands) of Itemized Deductions, Total Interest Paid Deductions, and Mortgage Interest Deductions

	1973		
AGI(upper limit)	Itemized	Total interest paid	Mortgage interest
1,000	373	(*)	(1)
2,000	4,299	614	146
3,000	68,522	12,729	7,756
4,000	306,657	57,441	30,474
5,000	732,144	141,133	88,094

6,000	1,240,298	272,856	162,303
7,000	1,793,172	434,609	258,663
8,000	2,451,682	661,509	421,122
9,000	3,227,766	935,796	547,737
10,000	3,576,241	1,079,391	676,857
11,000	4,041,485	1,283,039	796,046
12,000	4,482,128	1,449,431	936,247
13,000	4,769,759	1,591,650	1,019,404
14,000	4,739,858	1,558,110	1,001,224
15,000	4,960,173	1,635,326	1,088,738
20,000	22,503,307	7,278,418	4,831,614
25,000	13,701,068	4,301,075	2,816,012
30,000	7,556,823	2,185,610	1,416,228
50,000	10,439,683	2,773,073	1,581,966
100,000	6,573,696	1,648,872	619,048
200,000	2,654,159	655,911	120,118
500,000	1,368,910	337,327	24,926
1,000,000	437,096	92,188	3,956
over 1,000,000	496,487	74,693	1,941
Total	102,125,786	30,460,908	18,450,620

Interpolated Results by Group

Group	Itemized	Total interest paid	Mortgage interest
1	13,401,154	3,596,185	2,193,152
2	77,194,284	24,055,732	15,487,479
3	6,573,696	1,648,872	619,048
4	4,956,652	1,160,119	150,941

1974

AGI(upper limit)	Itemized	Total interest paid
1,000	(1)	(1)
2,000	3,321	731
3,000	47,352	7,216
4,000	291,640	51,682
5,000	732,247	127,647
6,000	1,186,431	288,309
7,000	1,868,995	441,378
8,000	2,299,999	638,285
9,000	2,945,301	831,430
10,000	3,474,318	1,081,940

11,000	3,728,574	1,198,306
12,000	4,529,748	1,486,353
13,000	4,409,018	1,519,373
14,000	4,866,353	1,717,418
15,000	4,878,511	1,694,148
20,000	24,946,365	8,559,524
25,000	17,049,709	5,537,631
30,000	9,959,965	3,126,953
50,000	13,219,036	3,824,642
100,000	7,582,143	2,019,435
200,000	3,075,681	822,060
500,000	1,511,607	390,203
1,000,000	506,522	125,339
over 1,000,000	527,777	115,269
Total	113,640,613	35,605,272

Interpolated Results by Group

Group	Itemized	Total interest paid
1	14,266,462	3,923,974
2	87,549,006	28,576,166
3	6,203,558	1,652,261
4	5,621,587	1,452,871

1975

AGI(upper limit)	Itemized	Total interest paid	Mortgage interest
1,000	(1)	(1)	(1)
2,000	1,636	(1)	(1)
3,000	9,207	762	(1)
4,000	76,638	12,358	10,279
5,000	307,812	49,924	29,511
6,000	604,820	125,160	77,433
7,000	894,332	223,641	140,192
8,000	1,551,534	398,839	249,946
9,000	2,143,284	633,512	396,531
10,000	2,822,324	910,081	590,689
11,000	3,232,874	1,021,082	652,075
12,000	3,646,728	1,200,117	766,032
13,000	3,986,517	1,355,169	900,791
14,000	4,552,841	1,616,209	1,071,691
15,000	4,673,131	1,606,408	1,075,664
20,000	23,247,709	8,094,609	5,491,560
25,000	18,599,055	6,320,799	4,231,498
30,000	12,149,573	3,840,109	2,557,179

50,000	16,765,701	5,071,590	3,228,309
100,000	8,793,675	2,323,260	1,041,045
200,000	3,519,234	867,755	221,781
500,000	1,632,655	371,370	42,525
1,000,000	518,058	116,280	5,787
over 1,000,000	624,956	114,081	5,081
Total	114,354,294	36,273,115	22,785,599

Interpolated Results by Group

Group	Itemized	Total interest paid	Mortgage interest
1	14,324,806	4,257,445	2,709,690
2	88,323,133	29,116,496	19,160,097
3	7,171,069	1,863,565	751,528
4	4,535,286	1,035,609	164,284

1976

AGI(upper limit)	Itemized	Total interest paid	Mortgage interest
1,000	*2,510	*1,397	*813
2,000	2,567	*1,428	*654
3,000	9,028	1,681	*125
4,000	83,691	17,239	11,177
5,000	193,439	49,583	27,567
6,000	496,383	128,768	100,302
7,000	836,266	227,009	147,719
8,000	1,246,110	259,457	161,579
9,000	1,681,028	497,948	330,959
10,000	2,330,874	746,621	470,283
11,000	2,727,897	876,759	590,020
12,000	2,929,965	1,000,563	660,265
13,000	3,598,118	1,279,886	844,672
14,000	3,863,129	1,390,541	915,124
15,000	4,291,874	1,527,321	1,080,189
20,000	24,202,370	8,957,860	6,085,030
25,000	21,380,864	7,620,955	5,153,280
30,000	15,795,213	5,262,887	3,635,582
50,000	22,308,347	6,765,680	4,488,637
100,000	11,001,074	2,976,613	1,474,837
200,000	4,288,272	1,042,065	308,727
500,000	2,047,002	426,464	62,138
1,000,000	*1,353,965	*231,459	*11,419
over 1,000,000	(*)	(*)	(*)
Total	126,669,988	41,287,122	26,512,597

Interpolated Results by Group

Group	Itemized	Total interest paid	Mortgage interest
1	14,299,238	4,431,252	2,914,508
2	99,180,972	33,667,572	22,478,356
3	8,359,385	2,183,017	943,237
4	4,830,391	1,005,278	176,496

1977

AGI(upper limit)	Itemized	Total interest paid	Mortgage interest
2,000	11,036	1,369	370
4,000	70,836	6,445	1,263
6,000	292,185	66,387	47,182
8,000	917,145	269,310	186,539
10,000	2,246,603	689,024	450,839
12,000	3,783,531	1,300,872	877,157
14,000	5,300,394	1,936,357	1,287,467
16,000	6,541,566	2,562,304	1.774,008
18,000	8,250,116	3,143,189	2,162,716
20,000	9,362,403	3,637,375	2,521,222
25,000	24,153,411	9,173,522	6,375,385
30,000	18,443,529	6,822,691	4,657,494
50,000	30,095,104	10,080,358	6,726,259
100,000	13,222,823	3,908,531	2,093,296
200,000	5,184,257	1,349,956	454,824
500,000	2,505,630	562,454	99,370
over 500,000	*1,695,917	*291,259	18,286
Total	132,076,487	45,801,404	29,733,676

Interpolated Results by Group

Group	Itemized	Total interest paid	Mortgage interest
1	11,675,610	3,924,124	2,621,004
2	105,872,982	38,153,661	25,726,152
3	8,598,262	2,419,920	1,117,257
4	5,929,633	1,303,698	269,264

1978

AGI(upper limit)	Itemized	Total interest paid	Mortgage interest
2,000	17,752	*1,089	*292
4,000	81,391	17,875	7,151
6,000	330,542	72,643	36,463
8,000	1,037,233	298,094	214,141
10,000	2,330,603	741,974	501,497
12,000	3,413,954	1,205,957	784,378
14,000	4,772,325	1,752,103	1,209,909
16,000	6,294,435	2,556,622	1,736,438
18,000	8,257,265	3,378,256	2,339,994
20,000	9,874,563	4,004,650	2,771,517
25,000	27,281,003	11,110,298	7,666,878
30,000	22,927,504	8,979,674	6,205,662
50,000	41,179,092	14,993,187	9,978,198
100,000	17,085,995	5,614,008	3,128,773
200,000	6,579,345	1,920,932	704,008
500,000	3,165,416	813,006	154,859
1,000,000	995,797	211,328	20,521
over 1,000,000	1,021,770	184,259	6,975
Tota	156,646,479	57,855,277	37,467,654

Interpolated Results by Group

Group	Itemized	Total interest paid	Mortgage interest
1	12,918,524	4,469,393	3,011,692
2	127,305,934	48,725,985	32,716,320
3	9,594,202	2,971,243	969,423
4	6,827,819	1,688,656	770,219

Source Statistics of Income, Individual Income Tax Returns,
1973: Tables 2.3 and 2 7
1974. Table 2.3
1975 and 1977: Tables 2.1 and 2.7
1976 and 1978. Table 2.1
* = small sample, use with caution
(1) = number is combined with next entry

Table A-34. Mortgage Interest as a Percent of Total Interest

Group	1973	1974 (1)	1975	1976	1977	1978
1	.16365397	.1764073	.1891607	.2038226	.2244854	.2331297
2	20062987	.2087808	.2169318	2266398	.2429907	.2569898
3	.09417046	.0994852	.1048000	.1128357	.1299399	.1010426
4	.03045220	.0333379	.0362235	.0365387	.0454099	.1128060

Source: Appendix A, Table A-33 and calculations
(1) Average of 1973 and 1975

Table A-35. Ratio Adjusted Mortgage Interest Amounts (thousands)

Group	1974	1975	1976	1977	1978
1	2,516,708	2,909,766	3,150,107	2,454,200	2,824,862
2	18,278,552	20,574,823	24,295,430	24,088,906	30,686,766
3	617,162	807,019	1,019,485	1,046,153	909,285
4	187,412	176,414	190,763	252,128	722,439

Source· Appendix A, Table A-33 and calculations
Adjustment factors for 1975-1978 respectively· 1.0738371, 1.0808366, 0.9363587, 0 9379651

Table A-36. Reported and Ratio Adjusted Nonmortgage Interest

	Reported Nonmortgage Interest				
Group	1974	1975	1976	1977	1978
1	1,407,266	1,547,755	1,516,744	1,303,120	1,457,701
2	10,297,614	9,956,199	11,189,216	12,427,509	16,009,665
3	1,035,099	1,112,037	1,239,780	1,302,663	2,001,820
4	1,265,459	871,325	828,782	1,034,434	918,437

Group	Ratio Adjusted Amounts 1974	1975	1976	1977	1978
1	1,407,266	1,662,037	1,639,352	1,220,188	1,367,273
2	10,297,614	10,691,551	12,093,714	11,636,606	15,016,507
3	1,035,099	1,194,147	1,340,000	1,219,760	1,877,637
4	1,265,459	935,661	895,778	968,601	861,462

Source: Appendix A, Table A-33 and calculations
Adjustment factors for 1975-1978 respectively: 1.0738371, 1.0808366, 0.9363587, 0.9379651

Table A-37. Consumer Credit (billions of dollars)

	1973	1974	1975	1976	1977	1978
Installment	155.1	164.6	172.4	194.0	230.8	275.6
Automobile paper	53.8	54.3	57 2	67 7	82.9	102.5
Revolving	11 7	13 7	15 0	17.2	39.3	47.1
Mobile home paper	13.6	14.6	14.4	14.6	15.1	16.0
All other loans	76.0	82.0	85.7	94.5	93.5	110 1
Non-installment	48.5	49 0	50 9	55.0	58.6	64.3
Single payment loans	27.3	26.8	27 4	28 8	32 8	36.2
Charge accounts	11.2	11.3	11.5	12.7	11.0	11.7

Source: U.S Bureau of the Census, 1979, p.537

Table A-38 Consumer Installment Credit Amounts (millions) by Lender

	1973	1974	1975	1976	1977	1978
Commercial banks	75.9	80.1	82.9	93.7	112.4	136.2
Finance companies	35.4	36.1	36.0	38.9	44.9	54 3
Credit unions	19.6	21.9	25.7	31.2	37 6	45.9
Retailers	16.6	18.1	18.2	19.3	23.5	24.9
Other	7.6	8.4	9.5	10.9	12.4	14.3
Total	155.1	164.6	172 3	194.0	230.8	275 6

Source: U.S. Bureau of the Census, 1979, p.537

Table A-39. Rates on Installment Credit Charged by Commercial Banks and Finance Companies

	1973	1974	1975	1976	1977	1978
Commercial banks						
New automobiles	10 21	10 97	11 36	11.08	10 92	11.02
Mobile homes	10.84	11.41	11.85	11.76	11.84	12.09
Other consumer goods	12.60	13.02	13.11	13.02	12.97	13.19
Personal loans	12.84	13.27	13.44	13.30	13.39	13.61
Credit card plans	17 21	17 21	17.14	17.03	16.89	17.03
Finance companies						
New automobiles	12.08	12.61	13.12	13.17	13.14	13.14
Used automobiles	16 70	17 18	17.64	17.63	17.62	17 63
Mobile homes	12.78	13.29	13.63	13.44	13.58	13.43
Other consumer goods	18.87	19.09	19.78	19.51	19.21	19.04
Personal loans	20 61	20.74	20.97	21.04	20.54	20.52

Source: U.S. Bureau of the Census, 1979, p.538

Table A-40 Derivation of Weighted Nonmortgage Interest rates

	1973	1974	1975	1976	1977	1978
Automobile	3.0492	3.0987	3 2217	3 3571	3.4928	3.6984
Mobile home	7653	8198	7989	7184	6437	.5841
Other consumer goods	.8387	.9560	1.0163	1 0309	2 0032	2.0588
Personal loans	8.5205	8.7369	8.8068	8.5482	7.5235	7.4575
Credit card	9467	.9105	.8827	.8686	.6420	.5862
Weighted average	14.1204	14.5219	14.7264	14 5232	14 3052	14 3850

Source Appendix A, Tables A-37 through A-40 and calculations

Table A-41. Derivation of the Taxable Income of the Alternate (0% and 60%) Models

	Group 1		
	1974	1975	1976
Taxable income - ERTA	100,276,134	100,623,050	104,775,970
Adjustments:			
Interest income	-8,000,408	-12,318,573	-14,252,183
Capital gain (0%)	-116,677	-551,415	-732,974
Capital loss (0%)	-2,078,725	-1,623,893	-1,270,952
Mortgage interest	5,852,014	13,870,918	17,599,103
Nonmortgage interest	1,926,228	4,589,858	5,420,502
Taxable income - 0%	97,858,565	104,589,945	111,539,466
Adjustments:			
Capital gain (60%)	-877,968	-768,546	-997,312
Capital loss (60%)	1,431,887	1,137,502	923,128
Taxable income - 60%	98,412,485	104,958,901	111,465,282
# of taxable returns	32,919,909	34,187,591	35,471,122
Taxable income per return - 0%	2,973	3,059	3,145
Taxable income per return - 60%	2,989	3,070	3,142

	1977	1978
Taxable income - ERTA	112,018,220	117,455,000
Adjustments:		
Interest income	-13,498,095	-15,404,893
Capital gain (0%)	-691,436	-872,259
Capital loss (0%)	-717,399	-1,076,038
Mortgage interest	12,280,226	13,737,122
Nonmortgage interest	3,799,944	4,247,948
Taxable income - 0%	113,191,460	118,808,688
Adjustments:		
Capital gain (60%)	-953,286	-1,075,699
Capital loss (60%)	587,447	779,831
Taxable income - 60%	12,825,621	117,791,012
# of taxable returns	36,754,653	38,038,184
Taxable income per return - 0%	3,080	3,123
Taxable income per return - 60%	3,070	3,097

	Group 2		
	1974	1975	1976
Taxable income - ERTA	360,088,009	393,605,890	425,529,850
Adjustments:			
Interest income	-15,896,891	-24,639,485	-28,170,223
Capital gain (0%)	2,007,813	1,276,704	1,895,710
Capital loss (0%)	-4,424,916	-4,991,759	-4,642,110
Mortgage interest	13,949,694	32,694,881	41,835,267
Nonmortgage interest	4,626,137	9,842,279	12,324,793
Taxable income - 0%	360,349,846	407,788,510	448,773,287
Adjustments:			
Capital gain (60%)	-5,045,232	-5,170,066	-7,124,476
Capital loss (60%)	3,361,195	3,688,188	3,439,616
Taxable income - 60%	358,665,809	406,306,632	445,088,427
# of taxable returns	31,582,833	32,968,523	34,293,878
Taxable income per return - 0%	11,410	12,369	13,086
Taxable income per return - 60%	11,356	12,324	12,979

	1977	1978
Taxable income - ERTA	458,510,610	490,730,660
Adjustments:		
Interest income	-27,180,236	-31,018,023
Capital gain (0%)	2,038,469	2,213,603
Capital loss (0%)	-3,841,032	-3,462,697
Mortgage interest	28,385,775	34,782,029
Nonmortgage interest	8,534,223	10,874,336
Taxable income - 0%	466,447,809	504,120,281
Adjustments·		
Capital gain (60%)	-7,259,090	-8,624,439
Capital loss (60%)	2,852,596	2,562,082
Taxable income - 60%	462,041,315	498,057,920
# of taxable returns	35,619,233	36,944,588
Taxable income per return - 0%	13,095	13,645
Taxable income per return - 60%	12,972	13,481

	Group 3		
	1974	1975	1976
Taxable income - ERTA	11,157,557	12,306,975	13,021,295
Adjustments:			
Interest income	-1,958,358	-2,958,913	-3,306,792
Capital gain (0%)	941,560	1,085,656	1,499,901
Capital loss (0%)	-461,036	-523,440	-478,879
Mortgage interest	380,026	1,020,995	1,398,536
Nonmortgage interest	375,193	875,203	1,087,926
Taxable income - 0%	10,434,942	11,806,476	13,221,987
Adjustments.			
Capital gain (60%)	-1,476,926	-1,852,174	-2,516,866
Capital loss (60%)	349,490	386,068	354,804
Taxable income - 60%	9,307,506	10,340,370	11,059,925
# of taxable returns	241,718	253,481	258,311
Taxable income per return - 0%	43,170	46,577	51,186
Taxable income per return - 60%	38,506	40,793	42,816

	1977	1978
Taxable income - ERTA	13,727,638	14,431,735
Adjustments:		
Interest income	-2,813,537	-3,073,201
Capital gain (0%)	1,427,346	1,614,881
Capital loss (0%)	-364,297	-323,629
Mortgage interest	955,736	823,429
Nonmortgage interest	693,540	1,086,332
Taxable income - 0%	13,626,426	14,559,547
Adjustments.		
Capital gain (60%)	-2,373,172	-2,723,557
Capital loss (60%)	270,633	239,438
Taxable income - 60%	11,523,887	12,075,428
# of taxable returns	263,142	267,972
Taxable income per return - 0%	51,784	54,332
Taxable income per return - 60%	43,793	45,062

	Group 4		
	1974	1975	1976
Taxable income - ERTA	3,047,450	3,431,522	3,874,643
Adjustments:			
Interest income	-1,742,240	-1,661,502	-1,612,598
Capital gain (0%)	3,018,216	2,515,141	3,027,473
Capital loss (0%)	-197,240	-152,686	-118,719
Mortgage interest	115,175	222,685	261,041
Nonmortgage interest	457,790	684,205	725,467
Taxable income - 0%	4,699,151	5,039,365	6,157,307
Adjustments:			
Capital gain (60%)	-3,921,014	-3,326,368	-3,994,354
Capital loss (60%)	144,402	109,106	85,076
Taxable income - 60%	922,539	1,822,103	2,248,029
# of taxable returns	24,402	27,706	31,264
Taxable income per return - 0%	192,572	181,887	196,946
Taxable income per return - 60%	37,806	65,766	71,905

	1977	1978
Taxable income - ERTA	4,315,758	4,757,430
Adjustments		
Interest income	-1,687,716	-2,039,245
Capital gain (0%)	3,469,872	3,586,826
Capital loss (0%)	-115,070	-114,680
Mortgage interest	229,579	652,079
Nonmortgage interest	548,921	496,775
Taxable income - 0%	6,761,344	7,339,185
Adjustments:		
Capital gain (60%)	-4,571,133	-4,739,978
Capital loss (60%)	82,613	82,024
Taxable income - 60%	2,272,824	2,681,231
# of taxable returns	34,821	38,379
Taxable income per return - 0%	194,174	191,229
Taxable income per return - 60%	65,272	69,862

Source: Chapter 5, Tables 5-5, 5-6, 5-18, 5-21, 5-30, 5-31, and 5-32, Appendix A, Tables A-29 and A-32 and calculations

Table A-42. Derivation of Adjusted Gross Income Amounts (thousands) of the Alternate Models (0% and 60%)

	Group 1		
	1974	1975	1976
ERTA adjusted gross income	204,316,628	215,944,380	228,561,740
Adjustments:			
Interest income	-8,000,408	-12,318,573	-14,252,183
Capital gain (0%)	-116,677	-551,415	-732,974
Capital loss (0%)	-2,078,725	-1,623,893	-1,270,952
Mortgage interest in excess of deduction	0	2,878,870	4,732,532
Adjusted gross income (0%)	194,120,818	204,698,325	216,963,979
Adjustments:			
Capital gain (60%)	-877,968	-768,546	-997,312
Capital loss (60%)	1,431,887	1,137,502	923,128
Adjusted gross income (60%)	194,674,737	204,698,325	216,963,979

	1977	1978
ERTA adjusted gross income	241,179,090	253,796,450
Adjustments:		
Interest income	-13,498,095	-15,404,893
Capital gain (0%)	-691,436	-872,259
Capital loss (0%)	-717,399	1,076,038
Mortgage interest in excess of deduction	0	0
Adjusted gross income (0%)	226,272,160	236,443,260
Adjustments:		
Capital gain (60%)	-953,286	-1,075,699
Capital loss (60%)	587,447	779,831
Adjusted gross income (60%)	225,906,321	236,147,392

	Group 2		
	1974	1975	1976
ERTA adjusted gross income	545,940,670	592,584,990	638,368,590
Adjustments:			
Interest income	-15,896,891	-24,639,485	-28,170,223
Capital gain (0%)	2,007,813	1,276,704	1,895,710
Capital loss (0%)	-4,424,916	-4,991,759	-4,642,110
Mortgage interest in excess of deduction	0	6,785,731	11,249,819
Adjusted gross income (0%)	527,626,676	571,016,18	618,989,926
Adjustments:			
Capital gain (60%)	-5,045,232	-5,170,066	-7,124,476
Capital loss (60%)	3,361,195	3,688,188	3,439,616
Adjusted gross income (60%)	525,942,639	569,534,303	614,989,926

	1977	1978
ERTA adjusted gross income	684,152,180	729,935,780
Adjustments:		
Interest income	-27,180,236	31,018,023
Capital gain (0%)	2,038,469	2,213,603
Capital loss (0%)	-3,841,032	-3,462,697
Mortgage interest in excess of deduction	0	0
Adjusted gross income (0%)	655,169,381	697,668,663
Adjustments:		
Capital gain (60%)	-7,239,090	-8,624,439
Capital loss (60%)	2,852,596	2,562,082
Adjusted gross income (60%)	650,762,887	691,606,306

	Group 3		
	1974	1975	1976
ERTA adjusted gross income	15,047,087	16,440,340	17,248,931
Adjustments:			
Interest income	-1,958,358	-2,958,913	-3,306,792
Capital gain (0%)	941,560	1,085,656	1,499,901
Capital loss (0%)	-461,036	-532,440	-478,879
Mortgage interest in excess of deduction	0	211,905	376,077
Adjusted gross income (0%)	13,569,253	14,255,548	15,339,238
Adjustments:			
Capital gain (60%)	-1,476,926	-1,852,174	-2,516,866
Capital loss (60%)	349,490	386,068	354,804
Adjusted gross income (60%)	12,441,817	12,789,432	13,177,176

	1977	1978
ERTA adjusted gross income	18,057,522	18,866,113
Adjustments.		
Interest income	-2,813,537	-3,073,201
Capital gain (0%)	1,427,346	1,614,881
Capital loss (0%)	-180,422	-159,625
Mortgage interest in excess of deduction	0	0
Adjusted gross income (0%)	16,490,909	17,248,168
Adjustments:		
Capital gain (60%)	-2,373,172	-2,723,557
Capital loss (60%)	270,633	239,438
Adjusted gross income (60%)	14,388,370	14,764,049

	Group 4		
	1974	1975	1976
ERTA adjusted gross income	4,751,029	5,252,503	5,839,239
Adjustments:			
Interest income	-1,742,240	-1,661,502	-1,612,598
Capital gain (0%)	3,018,216	2,515,141	3,027,473
Capital loss (0%)	-197,240	-152,686	-118,719
Mortgage interest in excess of deduction	0	46,218	70,196
Adjusted gross income (0%)	5,829,765	5,999,674	7,205,591
Adjustments:			
Capital gain (60%)	-3,921,014	-3,326,368	-3,994,354
Capital loss (60%)	144,402	109,106	85,076
Adjusted gross income (60%)	2,053,153	2,782,412	3,296,313

	1977	1978
ERTA adjusted gross income	6,425,975	7,012,711
Adjustments:		
Interest income	-1,687,716	-2,039,245
Capital gain (0%)	3,469,872	3,586,826
Capital loss (0%)	-115,070	-114,680
Mortgage interest in excess of deduction	0	0
Adjusted gross income (0%)	8,093,061	8,445,612
Adjustments.		
Capital gain (60%)	-4,571,133	-4,739,978
Capital loss (60%)	82,613	82,024
Adjusted gross income (60%)	3,604,541	3,787,658

Source: Chapter 5, Tables 5-5, 5-6, 5-21, 5-31, and 5-33
Appendix A, Tables A-21, A-29, and A-32, and calculations

Table A-43. Credit Amount Totals (thousands) for 1974-1978 Calculated as Differences and Percents for the Alternate and ERTA Models by Group

Group	Alternate	ERTA	Difference	Group percent
1	8,449,399	6,873,259	1,576,140	73.75
2	2,856,264	2,303,722	522,542	25.85
3	35,900	28,472	7,428	0.35
4	5,558	4,451	1,107	0.05
Total	11,347,121	9,209,904	2,137,217	100.00

Source: Appendix C, Tables C-2 and C-3 and calculations

Table A-44. Net Gain Amounts (dollars) per Net Gain Number of Returns by Group and by Year

Group	1974	1975	1976	1977	1978
1	1,331	1,504	1,628	1,876	1,959
2	2,317	2,637	2,921	3,173	3,485
3	8,516	10,596	11,389	12,249	12,839
4	49,674	59,298	63,752	66,629	60,522

Source: Appendix A, Table A-21 and calculations

APPENDIX B

Program B-1

```
PROGRAM INTERPO (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER RET(10),AGI(10),ID(10),TI(10),ORET(4),OAGI(4),OID(4)
INTEGER OTI(4),YEAR,N,SUMRET(11),SUMAGI(11),SUMID(11),SUMTI(11)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA ON # OF RETURNS, AGI, ITEMIZED
* DEDUX, AND TAXABLE INCOME AND SUMS THEM SO THAT ONLY 4 GROUPS
* OF EACH DATA ITEM RESULT.  INTERPOLATION IS NECESSARY SO THAT
* THE GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (//)
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (I8,6X,I10,2X,I9,3X,I9)
14 FORMAT (4I15)
READ (5,3)
SUMRET(1)=0
SUMAGI(1)=0
SUMID(1)=0
SUMTI(1)=0
DO 15 N=1,10
READ(5,12) RET(N),AGI(N),ID(N),TI(N)
SUMRET(N+1)=SUMRET(N)+RET(N)
SUMAGI(N+1)=SUMAGI(N)+AGI(N)
SUMID(N+1)=SUMID(N)+ID(N)
SUMTI(N+1)=SUMTI(N)+TI(N)
WRITE (7,12) RET(N),AGI(N),ID(N),TI(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMRET(11),SUMAGI(11),SUMID(11),SUMTI(11)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
ORET(1)=RET(1)+RET(2)+B(1)*RET(3)
OAGI(1)=AGI(1)+AGI(2)+B(1)*AGI(3)
OID(1)=ID(1)+ID(2)+B(1)*ID(3)
OTI(1)=TI(1)+TI(2)+B(1)*TI(3)
ORET(2)=(1-B(1))*RET(3)+RET(4)+RET(5)+B(2)*RET(6)
OAGI(2)=(1-B(1))*AGI(3)+AGI(4)+AGI(5)+B(2)*AGI(6)
```

```
OID(2)=(1-B(1))*ID(3)+ID(4)+ID(5)+B(2)*ID(6)
OTI(2)=(1-B(1))*TI(3)+TI(4)+TI(5)+B(2)*TI(6)
ORET(3)=(1-B(2))*RET(6)+B(3)*RET(7)
OAGI(3)=(1-B(2))*AGI(6)+B(3)*AGI(7)
OID(3)=(1-B(2))*ID(6)+B(3)*ID(7)
OTI(3)=(1-B(2))*TI(6)+B(3)*TI(7)
ORET(4)=(1-B(3))*RET(7)+RET(8)+RET(9)+RET(10)
OAGI(4)=(1-B(3))*AGI(7)+AGI(8)+AGI(9)+AGI(10)
OID(4)=(1-B(3))*ID(7)+ID(8)+ID(9)+ID(10)
OTI(4)=(1-B(3))*TI(7)+TI(8)+TI(9)+TI(10)
DO 25 N=1,4
WRITE (7,14) ORET(N),OAGI(N),OID(N),OTI(N)
25 CONTINUE
END
```

Program B-2

```
PROGRAM SPEC72 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER RET(24),RID(24),ID(24),REC(24),ORET(4),ORID(4),OID(4)
INTEGER OAGI(4),ORSD(4),OSD(4),OEXP(4),OEC(4)
INTEGER SUMAGI(25),SUMID(25),SUMRSD(25),SUMSD(25),SUMEXP(25)
INTEGER SUMEC(25)
INTEGER AGI(24),RSD(24),SD(24),EXP(24),EC(24)
INTEGER OREC(4),YEAR,N,SUMRET(25),SUMRID(25),SUMREC(25)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA ON # OF RETURNS, AGI, OF SD RETURNS
* AND SD AMOUNTS, # OF ID RETURNS AND ID AMOUNTS, # OF EXEMPTIONS,
* # OF ELDERLY CREDIT RETURNS AND EC AMOUNTS
* AND SUMS THEM SO THAT ONLY 4 GROUPS OF
* EACH DATA ITEM RESULT.  INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  THE RESULTING
* FIGURES ARE THEN MULTIPLIED BY THE TREND AGI % SO THAT ONLY
* REGULAR TAX COMPUTATION RETURNS ARE APPROXIMATED.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (//)
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
5 FORMAT (I9)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
7 FORMAT (*# OF RETURNS AGI*,/)
8 FORMAT (*# OF ID RETURNS ID AMOUNT*,/)
9 FORMAT (*# OF SD RETURNS SD AMOUNT*,/)
10 FORMAT (*# OF EXEMPTIONS*,/)
```

```
11 FORMAT (*# OF EC RETURNS EC AMOUNT*,/)
12 FORMAT (I8,5X,I10)
13 FORMAT (I15)
14 FORMAT (2I15)
READ (5,3)
SUMRET(1)=0
SUMRID(1)=0
SUMID(1)=0
SUMAGI(1)=0
SUMRSD(1)=0
SUMSD(1)=0
SUMEXP(1)=0
SUMREC(1)=0
SUMEC(1)=0
WRITE (7,7)
DO 15 N=1,24
READ(5,12) RET(N),AGI(N)
SUMRET(N+1)=SUMRET(N)+RET(N)
SUMAGI(N+1)=SUMAGI(N)+AGI(N)
WRITE (7,12) RET(N),AGI(N)
15 CONTINUE
READ (5,3)
WRITE (7,8)
DO 16 N=1,24
READ(5,12) RID(N),ID(N)
SUMRID(N+1)=SUMRID(N)+RID(N)
SUMID(N+1)=SUMID(N)+ID(N)
WRITE (7,12) RID(N),ID(N)
16 CONTINUE
READ (5,3)
WRITE (7,9)
DO 17 N=1,24
READ(5,12) RSD(N),SD(N)
SUMRSD(N+1)=SUMRSD(N)+RSD(N)
SUMSD(N+1)=SUMSD(N)+SD(N)
WRITE (7,12) RSD(N),SD(N)
17 CONTINUE
READ (5,3)
WRITE (7,10)
DO 18 N=1,24
READ(5,5) EXP(N)
SUMEXP(N+1)=SUMEXP(N)+EXP(N)
WRITE (7,19) EXP(N)
18 CONTINUE
19 FORMAT (I15)
READ (5,3)
WRITE (7,11)
DO 20 N=1,24
READ(5,12) REC(N),EC(N)
SUMREC(N+1)=SUMREC(N)+REC(N)
SUMEC(N+1)=SUMEC(N)+EC(N)
WRITE (7,12) REC(N),EC(N)
20 CONTINUE
WRITE (7,21)
```

```
21 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,7)
WRITE (7,14) SUMRET(25),SUMAGI(25)
WRITE (7,8)
WRITE (7,14) SUMRID(25),SUMID(25)
WRITE (7,9)
WRITE (7,14) SUMRSD(25),SUMSD(25)
WRITE (7,10)
WRITE (7,13) SUMEXP(25)
WRITE (7,11)
WRITE (7,14) SUMREC(25),SUMEC(25)
WRITE (7,22)
22 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
ORET(1)=RET(1)+RET(2)+RET(3)+RET(4)+RET(5)+RET(6)+
2RET(7)+RET(8)+RET(9)+B(1)*RET(10)
ORET(2)=(1-B(1))*RET(12)+RET(12)+RET(13)+RET(14)+RET(15)+RET(11)+
2RET(16)+RET(17)+RET(18)+B(2)*RET(19)
ORET(3)=(1-B(2))*RET(19)+RET(20)
ORET(4)=RET(21)+RET(22)+RET(23)+RET(24)
OAGI(1)=AGI(1)+AGI(2)+AGI(3)+AGI(4)+AGI(5)+AGI(6)+
2AGI(7)+AGI(8)+AGI(9)+B(1)*AGI(10)
OAGI(2)=(1-B(1))*AGI(10)+AGI(12)+AGI(13)+AGI(14)+AGI(15)+AGI(11)+
2AGI(16)+AGI(17)+AGI(18)+B(2)*AGI(19)
OAGI(3)=(1-B(2))*AGI(19)+AGI(20)
OAGI(4)=AGI(21)+AGI(22)+AGI(23)+AGI(24)
ORID(1)=RID(1)+RID(2)+RID(3)+RID(4)+RID(5)+RID(6)+
2RID(7)+RID(8)+RID(9)+B(1)*RID(10)
ORID(2)=(1-B(1))*RID(10)+RID(12)+RID(13)+RID(14)+RID(15)+RID(11)+
2RID(16)+RID(17)+RID(18)+B(2)*RID(19)
ORID(3)=(1-B(2))*RID(19)+RID(20)
ORID(4)=RID(21)+RID(22)+RID(23)+RID(24)
OID(1)=ID(1)+ID(2)+ID(3)+ID(4)+ID(5)+ID(6)+
2ID(7)+ID(8)+ID(9)+B(1)*ID(10)
OID(2)=(1-B(1))*ID(10)+ID(12)+ID(13)+ID(14)+ID(15)+ID(11)+
2ID(16)+ID(17)+ID(18)+B(2)*ID(19)
OID(3)=(1-B(2))*ID(19)+ID(20)
OID(4)=ID(21)+ID(22)+ID(23)+ID(24)
ORSD(1)=RSD(1)+RSD(2)+RSD(3)+RSD(4)+RSD(5)+RSD(6)+
2RSD(7)+RSD(8)+RSD(9)+B(1)*RSD(10)
ORSD(2)=(1-B(1))*RSD(10)+RSD(12)+RSD(13)+RSD(14)+RSD(15)+RSD(11)+
2RSD(16)+RSD(17)+RSD(18)+B(2)*RSD(19)
ORSD(3)=(1-B(2))*RSD(19)+RSD(20)
ORSD(4)=RSD(21)+RSD(22)+RSD(23)+RSD(24)
OSD(1)=SD(1)+SD(2)+SD(3)+SD(4)+SD(5)+SD(6)+
2SD(7)+SD(8)+SD(9)+B(1)*SD(10)
OSD(2)=(1-B(1))*SD(10)+SD(12)+SD(13)+SD(14)+SD(15)+SD(11)+
2SD(16)+SD(17)+SD(18)+B(2)*SD(19)
OSD(3)=(1-B(2))*SD(19)+SD(20)
OSD(4)=SD(21)+SD(22)+SD(23)+SD(24)
OEXP(1)=EXP(1)+EXP(2)+EXP(3)+EXP(4)+EXP(5)+EXP(6)+
2EXP(7)+EXP(8)+EXP(9)+B(1)*EXP(10)
OEXP(2)=(1-B(1))*EXP(10)+EXP(12)+EXP(13)+EXP(14)+EXP(15)+EXP(11)+
2EXP(16)+EXP(17)+EXP(18)+B(2)*EXP(19)
```

```
OEXP(3)=(1-B(2))*EXP(19)+EXP(20)
OEXP(4)=EXP(21)+EXP(22)+EXP(23)+EXP(24)
OREC(1)=REC(1)+REC(2)+REC(3)+REC(4)+REC(5)+REC(6)+
2REC(7)+REC(8)+REC(9)+B(1)*REC(10)
OREC(2)=(1-B(1))*REC(10)+REC(12)+REC(13)+REC(14)+REC(15)+REC(11)+
2REC(16)+REC(17)+REC(18)+B(2)*REC(19)
OREC(3)=(1-B(2))*REC(19)+REC(20)
OREC(4)=REC(21)+REC(22)+REC(23)+REC(24)
OEC(1)=EC(1)+EC(2)+EC(3)+EC(4)+EC(5)+EC(6)+
2EC(7)+EC(8)+EC(9)+B(1)*EC(10)
OEC(2)=(1-B(1))*EC(10)+EC(12)+EC(13)+EC(14)+EC(15)+EC(11)+
2EC(16)+EC(17)+EC(18)+B(2)*EC(19)
OEC(3)=(1-B(2))*EC(19)+EC(20)
OEC(4)=EC(21)+EC(22)+EC(23)+EC(24)
WRITE (7,7)
DO 25 N=1,4
WRITE (7,14) ORET(N),OAGI(N)
25 CONTINUE
WRITE (7,8)
DO 26 N=1,4
WRITE (7,14) ORID(N),OID(N)
26 CONTINUE
WRITE (7,9)
DO 27 N=1,4
WRITE (7,14) ORSD(N),OSD(N)
27 CONTINUE
WRITE (7,10)
DO 28 N=1,4
WRITE (7,13) OEXP(N)
28 CONTINUE
WRITE (7,11)
DO 29 N=1,4
WRITE (7,14) OREC(N),OEC(N)
29 CONTINUE
35 FORMAT (*THESE ARE THE NEW MULTIPLIED RESULTS*,/)
WRITE (7,35)
SUMRET(25)=SUMRET(25)*.9717
SUMAGI(25)=SUMAGI(25)*.9162
SUMRID(25)=SUMRID(25)*.9560
SUMID(25)=SUMID(25)* 9190
SUMRSD(25)=SUMRSD(25)* 9828
SUMSD(25)=SUMSD(25)*.9776
SUMEXP(25)=SUMEXP(25)* 9637
SUMREC(25)=SUMREC(25)*.933333
SUMEC(25)=SUMEC(25)* 933333
WRITE (7,22)
WRITE (7,14) SUMRET(25),SUMAGI(25)
WRITE (7,14) SUMRID(25),SUMID(25)
WRITE (7,14) SUMRSD(25),SUMSD(25)
WRITE (7,13) SUMEXP(25)
WRITE (7,14) SUMREC(25),SUMEC(25)
ORET(1)=ORET(1)*.9980
OAGI(1)=OAGI(1)*.9999
ORSD(1)=ORSD(1)*.9980
```

```
OSD(1)=OSD(1)*.9987
ORID(1)=ORID(1)*.9978
OID(1)=OID(1)*.999999
OEXP(1)=OEXP(1)*.9980
OREC(1)=OREC(1)*.893902
OEC(1)=OEC(1)*.893902
ORET(2)=ORET(2)*.9565
OAGI(2)=OAGI(2)*.9354
ORID(2)=ORID(2)*.9580
OID(2)=OID(2)*.9525
ORSD(2)=ORSD(2)*.9536
OSD(2)=OSD(2)*.9507
OEXP(2)=OEXP(2)*.9554
OREC(2)=OREC(2)*.986689
OEC(2)=OEC(2)*.986689
ORET(3)=ORET(3)*.4713
OAGI(3)=OAGI(3)*.4455
ORID(3)=ORID(3)*.4908
OID(3)=OID(3)*.5679
ORSD(3)=ORSD(3)* 1231
OSD(3)=OSD(3)*.1137
OEXP(3)=OEXP(3)*.4661
OREC(3)=OREC(3)*.550169
OEC(3)=OEC(3)*.550169
ORET(4)=ORET(4)*.2463
OAGI(4)=OAGI(4)*.2770
ORID(4)=ORID(4)*.2467
OID(4)=OID(4)*.4692
ORSD(4)=ORSD(4)*.0607
OSD(4)=OSD(4)*.0590
OEXP(4)=OEXP(4)*.2333
OREC(4)=OREC(4)*.367584
OEC(4)=OEC(4)* 367584
WRITE (7,7)
DO 50 N=1,4
WRITE (7,14) ORET(N),OAGI(N)
50 CONTINUE
WRITE (7,8)
DO 51 N=1,4
WRITE (7,14) ORID(N),OID(N)
51 CONTINUE
WRITE (7,9)
DO 52 N=1,4
WRITE (7,14) ORSD(N),OSD(N)
52 CONTINUE
WRITE (7,10)
DO 53 N=1,4
WRITE (7,13) OEXP(N)
53 CONTINUE
WRITE (7,11)
DO 54 N=1,4
WRITE (7,14) OREC(N),OEC(N)
54 CONTINUE
END
```

Program B-3

```
PROGRAM SDINTER (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER SDR(10),SDA(10),EC(10),OSDR(4),OSDA(4),OEC(4)
INTEGER YEAR,N,SUMSDR(11),SUMSDA(11),SUMEC(11)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA ON # OF STANDARD DEDUX RETURNS,
* SD AMOUNTS AND EXEMPTIONS CLAIMED AND SUMS THEM SO THAT ONLY 4
GROUPS OF
* EACH DATA ITEM RESULT.  INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (//)
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*1NTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
10 FORMAT (*# OF SD RETS SD AMOUNT EXEMPTION CLAIMED*)
12 FORMAT (I8,6X,I8,3X,I9)
14 FORMAT (3I15)
READ (5,3)
SUMSDR(1)=0
SUMSDA(1)=0
SUMEC(1)=0
DO 15 N=1,10
READ(5,12) SDR(N),SDA(N),EC(N)
SUMSDR(N+1)=SUMSDR(N)+SDR(N)
SUMSDA(N+1)=SUMSDA(N)+SDA(N)
SUMEC(N+1)=SUMEC(N)+EC(N)
WRITE (7,12) SDR(N),SDA(N),EC(N)
15 CONTINUE
WRITE (7,18)
WRITE (7,10)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMSDR(11),SUMSDA(11),SUMEC(11)
WRITE (7,20)
WRITE (7,10)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
OSDR(1)=SDR(1)+SDR(2)+B(1)*SDR(3)
OSDA(1)=SDA(1)+SDA(2)+B(1)*SDA(3)
OEC(1)=EC(1)+EC(2)+B(1)*EC(3)
```

```
OSDR(2)=(1-B(1))*SDR(3)+SDR(4)+SDR(5)+B(2)*SDR(6)
OSDA(2)=(1-B(1))*SDA(3)+SDA(4)+SDA(5)+B(2)*SDA(6)
OEC(2)=(1-B(1))*EC(3)+EC(4)+EC(5)+B(2)*EC(6)
OSDR(3)=(1-B(2))*SDR(6)+B(3)*SDR(7)
OSDA(3)=(1-B(2))*SDA(6)+B(3)*SDA(7)
OEC(3)=(1-B(2))*EC(6)+B(3)*EC(7)
OSDR(4)=(1-B(3))*SDR(7)+SDR(8)+SDR(9)+SDR(10)
OSDA(4)=(1-B(3))*SDA(7)+SDA(8)+SDA(9)+SDA(10)
OEC(4)=(1-B(3))*EC(7)+EC(8)+EC(9)+EC(10)
DO 25 N=1,4
WRITE (7,14) OSDR(N),OSDA(N),OEC(N)
25 CONTINUE
END
```

Program B-4

```
PROGRAM CHILD (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER RET(24),MID(24),ID(24),CCE(24),ORET(4),OMID(4),OID(4)
INTEGER OCCE(4),YEAR,N,SUMRET(25),SUMMID(25),SUMID(25),SUMCCE(25)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA ON # OF RETURNS, ITEMIZED DEDUX,
* MISC. DEDUX, AND CHILD CARE EXP AND SUMS THEM SO THAT ONLY 4
* GROUPS OF EACH DATA ITEM RESULT.  INTERPOLATION IS NECESSARY SO
* THAT THE GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (//)
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
WRITE (7,10)
10 FORMAT (*# OF RETURNS ITEM DEDUX MISC DEDUX CHILD EXPENSES*)
12 FORMAT (I8,6X,I10,2X,I9,3X,I9)
14 FORMAT (4I15)
READ (5,3)
SUMRET(1)=0
SUMMID(1)=0
SUMID(1)=0
SUMCCE(1)=0
DO 15 N=1,24
READ(5,12) RET(N),ID(N),MID(N),CCE(N)
SUMRET(N+1)=SUMRET(N)+RET(N)
SUMMID(N+1)=SUMMID(N)+MID(N)
```

```
SUMID(N+1)=SUMID(N)+ID(N)
SUMCCE(N+1)=SUMCCE(N)+CCE(N)
WRITE (7,12) RET(N),ID(N),MID(N),CCE(N)
15 CONTINUE
WRITE (7,18)
WRITE (7,10)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMRET(25),SUMID(25),SUMMID(25),SUMCCE(25)
WRITE (7,20)
WRITE (7,10)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
ORET(1)=RET(1)+RET(2)+RET(3)+RET(4)+RET(5)+RET(6)+
2RET(7)+RET(8)+RET(9)+RET(10)+B(1)*RET(11)
OID(1)=ID(1)+ID(2)+ID(3)+ID(4)+ID(5)+ID(6)+
2ID(7)+ID(8)+ID(9)+ID(10)+B(1)*ID(11)
OMID(1)=MID(1)+MID(2)+MID(3)+MID(4)+MID(5)+MID(6)+
2MID(7)+MID(8)+MID(9)+MID(10)+B(1)*MID(11)
OCCE(1)=CCE(1)+CCE(2)+CCE(3)+CCE(4)+CCE(5)+CCE(6)+
2CCE(7)+CCE(8)+CCE(9)+CCE(10)+B(1)*CCE(11)
ORET(2)=(1-B(1))*RET(11)+RET(12)+RET(13)+RET(14)+RET(15)+
2RET(16)+RET(17)+RET(18)+RET(19)+B(2)*RET(20)
OID(2)=(1-B(1))*ID(11)+ID(12)+ID(13)+ID(14)+ID(15)+
2ID(16)+ID(17)+ID(18)+ID(19)+B(2)*ID(20)
OMID(2)=(1-B(1))*MID(11)+MID(12)+MID(13)+MID(14)+MID(15)+
2MID(16)+MID(17)+MID(18)+MID(19)+B(2)*MID(20)
OCCE(2)=(1-B(1))*CCE(11)+CCE(12)+CCE(13)+CCE(14)+CCE(15)+
2CCE(16)+CCE(17)+CCE(18)+CCE(19)+B(2)*CCE(20)
ORET(3)=(1-B(2))*RET(20)+B(3)*RET(21)
OID(3)=(1-B(2))*ID(20)+B(3)*ID(21)
OMID(3)=(1-B(2))*MID(20)+B(3)*MID(21)
OCCE(3)=(1-B(2))*CCE(20)+B(3)*CCE(21)
ORET(4)=(1-B(3))*RET(21)+RET(22)+RET(23)+RET(24)
OID(4)=(1-B(3))*ID(21)+ID(22)+ID(23)+ID(24)
OMID(4)=(1-B(3))*MID(21)+MID(22)+MID(23)+MID(24)
OCCE(4)=(1-B(3))*CCE(21)+CCE(22)+CCE(23)+CCE(24)
DO 25 N=1,4
WRITE (7,14) ORET(N),OID(N),OMID(N),OCCE(N)
25 CONTINUE
END
```

Program B-5

```
PROGRAM ELDERLY (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER ELD(10),OELD(4)
INTEGER YEAR,N,SUMELD(11)
REAL B(3)
* THIS PROGRAM SUMS AND INTERPOLATES CREDIT FOR ELDERLY DATA.

READ (5,1) YEAR
```

```
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (15(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (I6)
14 FORMAT (I15)
READ (5,3)
SUMELD(1)=0
DO 15 N=1,10
READ(5,12) ELD(N)
SUMELD(N+1)=SUMELD(N)+ELD(N)
WRITE (7,12) ELD(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMELD(11)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
OELD(1)=ELD(1)+ELD(2)+B(1)*ELD(3)
OELD(2)=(1-B(1))*ELD(3)+ELD(4)+ELD(5)+B(2)*ELD(6)
OELD(3)=(1-B(2))*ELD(6)+B(3)*ELD(7)
OELD(4)=(1-B(3))*ELD(7)+ELD(8)+ELD(9)+ELD(10)
DO 25 N=1,4
WRITE (7,14) OELD(N)
25 CONTINUE
END
```

Program B-6

```
PROGRAM ELDCHI (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER ELD(18),CCE(18),OELD(4)
INTEGER OCCE(4),YEAR,N,SUMELD(19),SUMCCE(19)
REAL B(3)
* THIS PROGRAM SUMS AND INTERPOLATES CREDITS FOR ELDERLY AND CHILD
* CARE, 1975-1978.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (15(/))
DO 4 N=1,3
READ (5,2) B(N)
```

```
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
WRITE (7,10)
10 FORMAT (*ELDERLY CREDIT CREDIT FOR CHILD EXPENSES*)
12 FORMAT (I6,7X,I7)
14 FORMAT (2I15)
READ (5,3)
SUMELD(1)=0
SUMCCE(1)=0
DO 15 N=1,18
READ(5,12) ELD(N),CCE(N)
SUMELD(N+1)=SUMELD(N)+ELD(N)
SUMCCE(N+1)=SUMCCE(N)+CCE(N)
WRITE (7,12) ELD(N),CCE(N)
15 CONTINUE
WRITE (7,18)
WRITE (7,10)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMELD(19),SUMCCE(19)
WRITE (7,20)
WRITE (7,10)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
OELD(1)=ELD(1)+ELD(2)+ELD(3)+ELD(4)+ELD(5)+ELD(6)+ELD(7)+
2B(1)*ELD(8)
OCCE(1)=CCE(1)+CCE(2)+CCE(3)+CCE(4)+CCE(5)+CCE(6)+CCE(7)+
2B(1)*CCE(8)
OELD(2)=(1-B(1))*ELD(8)+ELD(9)+ELD(10)+ELD(11)+
2ELD(12)+ELD(13)+B(2)*ELD(14)
OCCE(2)=(1-B(1))*CCE(8)+CCE(9)+CCE(10)+CCE(11)+
2CCE(12)+CCE(13)+B(2)*CCE(14)
OELD(3)=(1-B(2))*ELD(14)+B(3)*ELD(15)
OCCE(3)=(1-B(2))*CCE(14)+B(3)*CCE(15)
OELD(4)=(1-B(3))*ELD(15)+ELD(16)+ELD(17)+ELD(18)
OCCE(4)=(1-B(3))*CCE(15)+CCE(16)+CCE(17)+CCE(18)
DO 25 N=1,4
WRITE (7,14) OELD(N),OCCE(N)
25 CONTINUE
END
```

Program B-7

```
PROGRAM INDEX (TAPE3,TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER BRACK(32),N,T,R,NBRACK(32),EXEMP(6),CFES(6),CFEC(6)
REAL COLADJ(6)
* BRACK=1973 BRACKETS
* NBRACK=1973 BRACKETS ADJUSTED FOR SUBSEQUENT YEARS
* EXEMP=ADJUSTED EXEMPTION AMOUNTS
```

```
* CFES=ADJUSTED CREDIT FOR ELDERLY-SINGLE
* CFEC=ADJUSTED CREDIT FOR ELDERLY-COUPLE
2 FORMAT (I2)
3 FORMAT (F5.3)
4 FORMAT (I1)
5 FORMAT (I6)
6 FORMAT (3I6)
DO 10 R=1,6
READ (3,3) COLADJ(R)
10 CONTINUE
DO 18 I=1,3
READ (5,2) N
DO 12 T=1,N
READ (5,5) BRACK(T)
12 CONTINUE
DO 16 R=1,6
DO 14 T=1,N
NBRACK(T)=BRACK(T)*COLADJ(R)
WRITE (7,5) NBRACK(T)
14 CONTINUE
16 CONTINUE
18 CONTINUE
DO 20 R=1,6
EXEMP(R)=750*COLADJ(R)
CFES(R)=1524*COLADJ(R)
CFEC(R)=2286*COLADJ(R)
WRITE (7,6) EXEMP(R),CFES(R),CFEC(R)
20 CONTINUE
END
```

Program B-8

```
PROGRAM CAP34 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER RETG(25),NG(25),RETL(25),NL(25),ORETG(4),ONG(4),ORETL(4)
INTEGER ONL(4),YEAR,N,SUMRETG(26),SUMNG(26),SUMRETL(26),SUMNL(26)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA ON # OF RETURNS, NET GAINS, # OF
RETURNS,
* AND NET LOSSES AND SUMS THEM SO THAT ONLY 4 GROUPS OF
* EACH DATA ITEM RESULT.  INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 73
AND 4
* 74 CAP DATA.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (4(/))
DO 4 N=1,3
```

```
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (I7,2X,I8,2X,I7,2X,I7)
14 FORMAT (4I15)
READ (5,3)
SUMRETG(1)=0
SUMNG(1)=0
SUMRETL(1)=0
SUMNL(1)=0
DO 15 N=1,25
READ(5,12) RETG(N),NG(N),RETL(N),NL(N)
SUMRETG(N+1)=SUMRETG(N)+RETG(N)
SUMNG(N+1)=SUMNG(N)+NG(N)
SUMRETL(N+1)=SUMRETL(N)+RETL(N)
SUMNL(N+1)=SUMNL(N)+NL(N)
WRITE (7,12) RETG(N),NG(N),RETL(N),NL(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMRETG(26),SUMNG(26),SUMRETL(26),SUMNL(26)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
ORETG(1)=RETG(1)+RETG(2)+RETG(3)+RETG(4)+RETG(5)+RETG(6)+
2RETG(7)+RETG(8)+RETG(9)+RETG(10)+RETG(11)+B(1)*RETG(12)
ONG(1)=NG(1)+NG(2)+NG(3)+NG(4)+NG(5)+NG(6)+
2NG(7)+NG(8)+NG(9)+NG(10)+NG(11)+B(1)*NG(12)
ORETL(1)=RETL(1)+RETL(2)+RETL(3)+RETL(4)+RETL(5)+RETL(6)+
2RETL(7)+RETL(8)+RETL(9)+RETL(10)+RETL(11)+B(1)*RETL(12)
ONL(1)=NL(1)+NL(2)+NL(3)+NL(4)+NL(5)+NL(6)+
2NL(7)+NL(8)+NL(9)+NL(10)+NL(11)+B(1)*NL(12)
ORETG(2)=(1-B(1))*RETG(12)+RETG(13)+RETG(14)+RETG(15)+RETG(16)+
2RETG(17)+RETG(18)+RETG(19)+RETG(20)+B(2)*RETG(21)
ORETL(2)=(1-B(1))*RETL(12)+RETL(13)+RETL(14)+RETL(15)+RETL(16)+
2RETL(17)+RETL(18)+RETL(19)+RETL(20)+B(2)*RETL(21)
ONG(2)=(1-B(1))*NG(12)+NG(13)+NG(14)+NG(15)+NG(16)+
2NG(17)+NG(18)+NG(19)+NG(20)+B(2)*NG(21)
ONL(2)=(1-B(1))*NL(12)+NL(13)+NL(14)+NL(15)+NL(16)+
2NL(17)+NL(18)+NL(19)+NL(20)+B(2)*NL(21)
ORETG(3)=(1-B(2))*RETG(21)+B(3)*RETG(22)
ORETL(3)=(1-B(2))*RETL(21)+B(3)*RETL(22)
ONL(3)=(1-B(2))*NL(21)+B(3)*NL(22)
ONG(3)=(1-B(2))*NG(21)+B(3)*NG(22)
ORETG(4)=(1-B(3))*RETG(22)+RETG(23)+RETG(24)+RETG(25)
ORETL(4)=(1-B(3))*RETL(22)+RETL(23)+RETL(24)+RETL(25)
ONL(4)=(1-B(3))*NL(22)+NL(23)+NL(24)+NL(25)
ONG(4)=(1-B(3))*NG(22)+NG(23)+NG(24)+NG(25)
DO 25 N=1,4
WRITE (7,14) ORETG(N),ONG(N),ORETL(N),ONL(N)
25 CONTINUE
END
```

```
PROGRAM CAP75 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER RETG(25),NG(25),RETL(25),NL(25),ORETG(4),ONG(4),ORETL(4)
INTEGER ONL(4),YEAR,N,SUMRETG(26),SUMNG(26),SUMRETL(26),SUMNL(26)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA ON # OF RETURNS, NET GAINS, # OF
RETURNS,
* AND NET LOSSES AND SUMS THEM SO THAT ONLY 4 GROUPS OF
* EACH DATA ITEM RESULT.  INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 75
* CAP DATA.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (4(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (I7,2X,I8,2X,I7,2X,I7)
14 FORMAT (4I15)
READ (5,3)
SUMRETG(1)=0
SUMNG(1)=0
SUMRETL(1)=0
SUMNL(1)=0
DO 15 N=1,25
READ(5,12) RETG(N),NG(N),RETL(N),NL(N)
SUMRETG(N+1)=SUMRETG(N)+RETG(N)
SUMNG(N+1)=SUMNG(N)+NG(N)
SUMRETL(N+1)=SUMRETL(N)+RETL(N)
SUMNL(N+1)=SUMNL(N)+NL(N)
WRITE (7,12) RETG(N),NG(N),RETL(N),NL(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMRETG(26),SUMNG(26),SUMRETL(26),SUMNL(26)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
ORETG(1)=RETG(1)+RETG(2)+RETG(3)+RETG(4)+RETG(5)+RETG(6)+
2RETG(7)+RETG(8)+RETG(9)+RETG(10)+RETG(11)+RETG(12)+B(1)*RETG(13)
ONG(1)=NG(1)+NG(2)+NG(3)+NG(4)+NG(5)+NG(6)+
2NG(7)+NG(8)+NG(9)+NG(10)+NG(11)+NG(12)+B(1)*NG(13)
ORETL(1)=RETL(1)+RETL(2)+RETL(3)+RETL(4)+RETL(5)+RETL(6)+
2RETL(7)+RETL(8)+RETL(9)+RETL(10)+RETL(11)+RETL(12)+B(1)*RETL(13)
```

```
ONL(1)=NL(1)+NL(2)+NL(3)+NL(4)+NL(5)+NL(6)+
2NL(7)+NL(8)+NL(9)+NL(10)+NL(11)+NL(12)+B(1)*NL(13)
ORETG(2)=(1-B(1))*RETG(13)+RETG(14)+RETG(15)+RETG(16)+
2RETG(17)+RETG(18)+RETG(19)+RETG(20)+B(2)*RETG(21)
ORETL(2)=(1-B(1))*RETL(13)+RETL(14)+RETL(15)+RETL(16)+
2RETL(17)+RETL(18)+RETL(19)+RETL(20)+B(2)*RETL(21)
ONG(2)=(1-B(1))*NG(13)+NG(14)+NG(15)+NG(16)+
2NG(17)+NG(18)+NG(19)+NG(20)+B(2)*NG(21)
ONL(2)=(1-B(1))*NL(13)+NL(14)+NL(15)+NL(16)+
2NL(17)+NL(18)+NL(19)+NL(20)+B(2)*NL(21)
ORETG(3)=(1-B(2))*RETG(21)+B(3)*RETG(22)
ORETL(3)=(1-B(2))*RETL(21)+B(3)*RETL(22)
ONL(3)=(1-B(2))*NL(21)+B(3)*NL(22)
ONG(3)=(1-B(2))*NG(21)+B(3)*NG(22)
ORETG(4)=(1-B(3))*RETG(22)+RETG(23)+RETG(24)+RETG(25)
ORETL(4)=(1-B(3))*RETL(22)+RETL(23)+RETL(24)+RETL(25)
ONL(4)=(1-B(3))*NL(22)+NL(23)+NL(24)+NL(25)
ONG(4)=(1-B(3))*NG(22)+NG(23)+NG(24)+NG(25)
DO 25 N=1,4
WRITE (7,14) ORETG(N),ONG(N),ORETL(N),ONL(N)
25 CONTINUE
END
```

```
PROGRAM CAP76 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER RETG(25),NG(25),RETL(25),NL(25),ORETG(4),ONG(4),ORETL(4)
INTEGER ONL(4),YEAR,N,SUMRETG(26),SUMNG(26),SUMRETL(26),SUMNL(26)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA ON # OF RETURNS, NET GAINS, # OF
RETURNS,
* AND NET LOSSES AND SUMS THEM SO THAT ONLY 4 GROUPS OF
* EACH DATA ITEM RESULT.  INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 76
* CAP DATA.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (4(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (I7,2X,I8,2X,I7,2X,I7)
14 FORMAT (4I15)
READ (5,3)
SUMRETG(1)=0
SUMNG(1)=0
```

```
SUMRETL(1)=0
SUMNL(1)=0
DO 15 N=1,25
READ(5,12) RETG(N),NG(N),RETL(N),NL(N)
SUMRETG(N+1)=SUMRETG(N)+RETG(N)
SUMNG(N+1)=SUMNG(N)+NG(N)
SUMRETL(N+1)=SUMRETL(N)+RETL(N)
SUMNL(N+1)=SUMNL(N)+NL(N)
WRITE (7,12) RETG(N),NG(N),RETL(N),NL(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMRETG(26),SUMNG(26),SUMRETL(26),SUMNL(26)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
ORETG(1)=RETG(1)+RETG(2)+RETG(3)+RETG(4)+RETG(5)+RETG(6)+
2RETG(7)+RETG(8)+RETG(9)+RETG(10)+RETG(11)+RETG(12)+RETG(13)+
2B(1)*RETG(14)
ONG(1)=NG(1)+NG(2)+NG(3)+NG(4)+NG(5)+NG(6)+
2NG(7)+NG(8)+NG(9)+NG(10)+NG(11)+NG(12)+NG(13)+B(1)*NG(14)
ORETL(1)=RETL(1)+RETL(2)+RETL(3)+RETL(4)+RETL(5)+RETL(6)+
2RETL(7)+RETL(8)+RETL(9)+RETL(10)+RETL(11)+RETL(12)+RETL(13)+
2B(1)*RETL(14)
ONL(1)=NL(1)+NL(2)+NL(3)+NL(4)+NL(5)+NL(6)+
2NL(7)+NL(8)+NL(9)+NL(10)+NL(11)+NL(12)+NL(13)+B(1)*NL(14)
ORETG(2)=(1-B(1))*RETG(14)+RETG(15)+RETG(16)+
2RETG(17)+RETG(18)+RETG(19)+RETG(20)+B(2)*RETG(21)
ORETL(2)=(1-B(1))*RETL(14)+RETL(15)+RETL(16)+
2RETL(17)+RETL(18)+RETL(19)+RETL(20)+B(2)*RETL(21)
ONG(2)=(1-B(1))*NG(14)+NG(15)+NG(16)+
2NG(17)+NG(18)+NG(19)+NG(20)+B(2)*NG(21)
ONL(2)=(1-B(1))*NL(14)+NL(15)+NL(16)+
2NL(17)+NL(18)+NL(19)+NL(20)+B(2)*NL(21)
ORETG(3)=(1-B(2))*RETG(21)+B(3)*RETG(22)
ORETL(3)=(1-B(2))*RETL(21)+B(3)*RETL(22)
ONL(3)=(1-B(2))*NL(21)+B(3)*NL(22)
ONG(3)=(1-B(2))*NG(21)+B(3)*NG(22)
ORETG(4)=(1-B(3))*RETG(22)+RETG(23)+RETG(24)+RETG(25)
ORETL(4)=(1-B(3))*RETL(22)+RETL(23)+RETL(24)+RETL(25)
ONL(4)=(1-B(3))*NL(22)+NL(23)+NL(24)+NL(25)
ONG(4)=(1-B(3))*NG(22)+NG(23)+NG(24)+NG(25)
DO 25 N=1,4
WRITE (7,14) ORETG(N),ONG(N),ORETL(N),ONL(N)
25 CONTINUE
END



PROGRAM CAP77 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER RETG(18),NG(18),RETL(18),NL(18),ORETG(4),ONG(4),ORETL(4)
INTEGER ONL(4),YEAR,N,SUMRETG(19),SUMNG(19),SUMRETL(19),SUMNL(19)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA ON # OF RETURNS, NET GAINS, # OF
```

```
RETURNS,
* AND NET LOSSES AND SUMS THEM SO THAT ONLY 4 GROUPS OF
* EACH DATA ITEM RESULT.  INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 77
* CAP DATA.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (4(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (I7,2X,I8,2X,I7,2X,I7)
14 FORMAT (4I15)
READ (5,3)
SUMRETG(1)=0
SUMNG(1)=0
SUMRETL(1)=0
SUMNL(1)=0
DO 15 N=1,18
READ(5,12) RETG(N),NG(N),RETL(N),NL(N)
SUMRETG(N+1)=SUMRETG(N)+RETG(N)
SUMNG(N+1)=SUMNG(N)+NG(N)
SUMRETL(N+1)=SUMRETL(N)+RETL(N)
SUMNL(N+1)=SUMNL(N)+NL(N)
WRITE (7,12) RETG(N),NG(N),RETL(N),NL(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMRETG(19),SUMNG(19),SUMRETL(19),SUMNL(19)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
ORETG(1)=RETG(1)+RETG(2)+RETG(3)+RETG(4)+RETG(5)+RETG(6)+
2B(1)*RETG(7)
ONG(1)=NG(1)+NG(2)+NG(3)+NG(4)+NG(5)+NG(6)+
2B(1)*NG(7)
ORETL(1)=RETL(1)+RETL(2)+RETL(3)+RETL(4)+RETL(5)+RETL(6)+
2B(1)*RETL(7)
ONL(1)=NL(1)+NL(2)+NL(3)+NL(4)+NL(5)+NL(6)+
2B(1)*NL(7)
ORETG(2)=(1-B(1))*RETG(7)+RETG(8)+RETG(9)+RETG(10)+RETG(11)+
2RETG(12)+RETG(13)+B(2)*RETG(14)
ORETL(2)=(1-B(1))*RETL(7)+RETL(8)+RETL(9)+RETL(10)+RETL(11)+
2RETL(12)+RETL(13)+B(2)*RETL(14)
ONG(2)=(1-B(1))*NG(7)+NG(8)+NG(9)+NG(10)+NG(11)+
2NG(12)+NG(13)+B(2)*NG(14)
ONL(2)=(1-B(1))*NL(7)+NL(8)+NL(9)+NL(10)+NL(11)+
2NL(12)+NL(13)+B(2)*NL(14)
ORETG(3)=(1-B(2))*RETG(14)+B(3)*RETG(15)
```

```
ORETL(3)=(1-B(2))*RETL(14)+B(3)*RETL(15)
ONL(3)=(1-B(2))*NL(14)+B(3)*NL(15)
ONG(3)=(1-B(2))*NG(14)+B(3)*NG(15)
ORETG(4)=(1-B(3))*RETG(15)+RETG(16)+RETG(17)+RETG(18)
ORETL(4)=(1-B(3))*RETL(15)+RETL(16)+RETL(17)+RETL(18)
ONL(4)=(1-B(3))*NL(15)+NL(16)+NL(17)+NL(18)
ONG(4)=(1-B(3))*NG(15)+NG(16)+NG(17)+NG(18)
DO 25 N=1,4
WRITE (7,14) ORETG(N),ONG(N),ORETL(N),ONL(N)
25 CONTINUE
END
```

```
PROGRAM CAP78 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER RETG(17),NG(17),RETL(17),NL(17),ORETG(4),ONG(4),ORETL(4)
INTEGER ONL(4),YEAR,N,SUMRETG(18),SUMNG(18),SUMRETL(18),SUMNL(18)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA ON # OF RETURNS, NET GAINS, # OF
RETURNS,
* AND NET LOSSES AND SUMS THEM SO THAT ONLY 4 GROUPS OF
* EACH DATA ITEM RESULT.  INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 78
* CAP DATA.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (4(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6 5)),/)
12 FORMAT (I7,2X,I8,2X,I7,2X,I7)
14 FORMAT (4I15)
READ (5,3)
SUMRETG(1)=0
SUMNG(1)=0
SUMRETL(1)=0
SUMNL(1)=0
DO 15 N=1,17
READ(5,12) RETG(N),NG(N),RETL(N),NL(N)
SUMRETG(N+1)=SUMRETG(N)+RETG(N)
SUMNG(N+1)=SUMNG(N)+NG(N)
SUMRETL(N+1)=SUMRETL(N)+RETL(N)
SUMNL(N+1)=SUMNL(N)+NL(N)
WRITE (7,12) RETG(N),NG(N),RETL(N),NL(N)
15 CONTINUE
WRITE (7,18)
```

```
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMRETG(18),SUMNG(18),SUMRETL(18),SUMNL(18)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
ORETG(1)=RETG(1)+RETG(2)+RETG(3)+RETG(4)+RETG(5)+RETG(6)+
2RETG(7)+B(1)*RETG(8)
ONG(1)=NG(1)+NG(2)+NG(3)+NG(4)+NG(5)+NG(6)+
2NG(7)+B(1)*NG(8)
ORETL(1)=RETL(1)+RETL(2)+RETL(3)+RETL(4)+RETL(5)+RETL(6)+
2RETL(7)+B(1)*RETL(8)
ONL(1)=NL(1)+NL(2)+NL(3)+NL(4)+NL(5)+NL(6)+
2NL(7)+B(1)*NL(8)
ORETG(2)=(1-B(1))*RETG(8)+RETG(9)+RETG(10)+RETG(11)+
2RETG(12)+RETG(13)+B(2)*RETG(14)
ORETL(2)=(1-B(1))*RETL(8)+RETL(9)+RETL(10)+RETL(11)+
2RETL(12)+RETL(13)+B(2)*RETL(14)
ONG(2)=(1-B(1))*NG(8)+NG(9)+NG(10)+NG(11)+
2NG(12)+NG(13)+B(2)*NG(14)
ONL(2)=(1-B(1))*NL(8)+NL(9)+NL(10)+NL(11)+
2NL(12)+NL(13)+B(2)*NL(14)
ORETG(3)=(1-B(2))*RETG(14)+B(3)*RETG(15)
ORETL(3)=(1-B(2))*RETL(14)+B(3)*RETL(15)
ONL(3)=(1-B(2))*NL(14)+B(3)*NL(15)
ONG(3)=(1-B(2))*NG(14)+B(3)*NG(15)
ORETG(4)=(1-B(3))*RETG(15)+RETG(16)+RETG(17)
ORETL(4)=(1-B(3))*RETL(15)+RETL(16)+RETL(17)
ONL(4)=(1-B(3))*NL(15)+NL(16)+NL(17)
ONG(4)=(1-B(3))*NG(15)+NG(16)+NG(17)
DO 25 N=1,4
WRITE (7,14) ORETG(N),ONG(N),ORETL(N),ONL(N)
25 CONTINUE
END
```

Program B-9

```
PROGRAM INT74 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER INT(25),OINT(4)
INTEGER YEAR,N,SUMINT(26)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA (SOI-TABLE 1.4) ON THE AMOUNT OF
INTEREST
* INCOME, SUMS THEM SO THAT ONLY 4 GROUPS OF DATA ITEMS RESULT.
* INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 74
* INTEREST INCOME DATA.

READ (5,1) YEAR
```

```
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (4(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (37X,I8)
14 FORMAT (I15)
READ (5,3)
SUMINT(1)=0
DO 15 N=1,25
READ(5,12) INT(N)
SUMINT(N+1)=SUMINT(N)+INT(N)
WRITE (7,12) INT(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMINT(26)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
OINT(1)=INT(1)+INT(2)+INT(3)+INT(4)+INT(5)+INT(6)+
2INT(7)+INT(8)+INT(9)+INT(10)+INT(11)+B(1)*INT(12)
OINT(2)=(1-B(1))*INT(12)+INT(13)+INT(14)+INT(15)+INT(16)+
2INT(17)+INT(18)+INT(19)+INT(20)+B(2)*INT(21)
OINT(3)=(1-B(2))*INT(21)+B(3)*INT(22)
OINT(4)=(1-B(3))*INT(22)+INT(23)+INT(24)+INT(25)
DO 25 N=1,4
WRITE (7,14) OINT(N)
25 CONTINUE
END
PROGRAM INT75 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER INT(25),OINT(4)
INTEGER YEAR,N,SUMINT(26)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA (SOI-TABLE 1.4) ON THE AMOUNT OF
INTEREST
* INCOME, SUMS THEM SO THAT ONLY 4 GROUPS OF DATA ITEMS RESULT.
* INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 75
* INTEREST INCOME DATA.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (4(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
```

```
2(3(2X,F6.5)),/)
12 FORMAT (37X,I8)
14 FORMAT (I15)
READ (5,3)
SUMINT(1)=0
DO 15 N=1,25
READ(5,12) INT(N)
SUMINT(N+1)=SUMINT(N)+INT(N)
WRITE (7,12) INT(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMINT(26)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
OINT(1)=INT(1)+INT(2)+INT(3)+INT(4)+INT(5)+INT(6)+
2INT(7)+INT(8)+INT(9)+INT(10)+INT(11)+INT(12)+B(1)*INT(13)
OINT(2)=(1-B(1))*INT(13)+INT(14)+INT(15)+INT(16)+
2INT(17)+INT(18)+INT(19)+INT(20)+B(2)*INT(21)
OINT(3)=(1-B(2))*INT(21)+B(3)*INT(22)
OINT(4)=(1-B(3))*INT(22)+INT(23)+INT(24)+INT(25)
DO 25 N=1,4
WRITE (7,14) OINT(N)
25 CONTINUE
END
```

```
PROGRAM INT76 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER INT(25),OINT(4)
INTEGER YEAR,N,SUMINT(26)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA (SOI-TABLE 1.4) ON THE AMOUNT OF
INTEREST
* INCOME, SUMS THEM SO THAT ONLY 4 GROUPS OF DATA ITEMS RESULT.
* INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 76
* INTEREST INCOME DATA.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (4(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (37X,I8)
```

```
14 FORMAT (I15)
READ (5,3)
SUMINT(1)=0
DO 15 N=1,25
READ(5,12) INT(N)
SUMINT(N+1)=SUMINT(N)+INT(N)
WRITE (7,12) INT(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMINT(26)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
OINT(1)=INT(1)+INT(2)+INT(3)+INT(4)+INT(5)+INT(6)+
2INT(7)+INT(8)+INT(9)+INT(10)+INT(11)+INT(12)+INT(13)+
2B(1)*INT(14)
OINT(2)=(1-B(1))*INT(14)+INT(15)+INT(16)+
2INT(17)+INT(18)+INT(19)+INT(20)+B(2)*INT(21)
OINT(3)=(1-B(2))*INT(21)+B(3)*INT(22)
OINT(4)=(1-B(3))*INT(22)+INT(23)+INT(24)+INT(25)
DO 25 N=1,4
WRITE (7,14) OINT(N)
25 CONTINUE
END
```

```
PROGRAM INT77 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER INT(18),OINT(4)
INTEGER YEAR,N,SUMINT(19)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA (SOI-TABLE 1.4) ON THE AMOUNT OF
INTEREST
* INCOME, SUMS THEM SO THAT ONLY 4 GROUPS OF DATA ITEMS RESULT.
* INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 77
* INTEREST INCOME DATA.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6.5)
3 FORMAT (4(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (58X,I8)
14 FORMAT (I15)
```

```
READ (5,3)
SUMINT(1)=0
DO 15 N=1,18
READ (5,12) INT(N)
SUMINT(N+1)=SUMINT(N)+INT(N)
WRITE (7,12) INT(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMINT(19)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
OINT(1)=INT(1)+INT(2)+INT(3)+INT(4)+INT(5)+INT(6)+
2B(1)*INT(7)
OINT(2)=(1-B(1))*INT(7)+INT(8)+INT(9)+INT(10)+INT(11)+
2INT(12)+INT(13)+B(2)*INT(14)
OINT(3)=(1-B(2))*INT(14)+B(3)*INT(15)
OINT(4)=(1-B(3))*INT(15)+INT(16)+INT(17)+INT(18)
DO 25 N=1,4
WRITE (7,14) OINT(N)
25 CONTINUE
END
```

```
PROGRAM INT78 (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER INT(17),OINT(4)
INTEGER YEAR,N,SUMINT(18)
REAL B(3)
* THIS PROGRAM TAKES IRS DATA (SOI-TABLE 1.4) ON THE AMOUNT OF
INTEREST
* INCOME, SUMS THEM SO THAT ONLY 4 GROUPS OF DATA ITEMS RESULT.
* INTERPOLATION IS NECESSARY SO THAT THE
* GROUPS REPRESENT THE SAME PERCENTAGES AS IN 1973.  DEALS WITH 78
* INTEREST INCOME DATA.

READ (5,1) YEAR
1 FORMAT (I4)
2 FORMAT (F6 5)
3 FORMAT (4(/))
DO 4 N=1,3
READ (5,2) B(N)
4 CONTINUE
WRITE (7,6) YEAR,B(1),B(2),B(3)
6 FORMAT (*INTERPOLATION FACTORS  FOR YEAR *,I4,
2(3(2X,F6.5)),/)
12 FORMAT (58X,I8)
14 FORMAT (I15)
READ (5,3)
SUMINT(1)=0
```

```
DO 15 N=1,17
READ (5,12) INT(N)
SUMINT(N+1)=SUMINT(N)+INT(N)
WRITE (7,12) INT(N)
15 CONTINUE
WRITE (7,18)
18 FORMAT (/,*TOTALS OF RAW DATA*,/)
WRITE (7,14) SUMINT(18)
WRITE (7,20)
20 FORMAT (/,*INTERPOLATED AND SUMMED RAW DATA YIELDING 4 GROUPS*,
2/)
OINT(1)=INT(1)+INT(2)+INT(3)+INT(4)+INT(5)+INT(6)+
2INT(7)+B(1)*INT(8)
OINT(2)=(1-B(1))*INT(8)+INT(9)+INT(10)+INT(11)+
2INT(12)+INT(13)+B(2)*INT(14)
OINT(3)=(1-B(2))*INT(14)+B(3)*INT(15)
OINT(4)=(1-B(3))*INT(15)+INT(16)+INT(17)
DO 25 N=1,4
WRITE (7,14) OINT(N)
25 CONTINUE
END
```

Program B-10

```
PROGRAM INTADJ (TAPE5,OUTPUT,TAPE7=OUTPUT)
* THIS PROGRAM TAKES GROUP INTEREST INCOME DATA FOR 1974 DERIVED BY
* PROGRAM INT74 AND ADJUSTS IT FOR INFLATAION.  NEW INTEREST INCOME
* = REPORTED INTEREST INCOME/ WTED INTEREST RATE * (WTED INT RATE
* - INFLATION RATE).  INTEREST ADJUSTMENT = REPORTED INTEREST
* - INCOME NEW INTEREST INCOME.  ONLY IN 1974 WILL SOME INTEREST
* INCOME BE REPORTED SINCE IT WAS THE ONLY YEAR IN WHICH THE
* INTEREST RATE EXCEEDED THE INFLATION RATE.
INTEGER RINT(4),NINT(4),INADJ(4),YEAR
REAL INTRATE,INFRATE
1 FORMAT (I4)
2 FORMAT (I8)
3 FORMAT (*REPORTED INTEREST INCOME BY GROUPS FOR YEAR*, I5,/)
4 FORMAT (F4.3,1X,F4.3)
5 FORMAT (*INTEREST RATE = *,F6.3,*INFLATION RATE =*,F6 3,/)
6 FORMAT (*REPORTED INTER NEW INT INTEREST ADJUST*)
7 FORMAT (I12,2X,I12,2X,I12)
READ (5,1) YEAR
WRITE (7,3) YEAR
DO 10 N=1,4
READ (5,2) RINT(N)
10 CONTINUE
READ (5,4) INTRATE,INFRATE
WRITE (7,5) INTRATE,INFRATE
```

```
WRITE (7,6)
DO 20 N=1,4
NINT(N)=RINT(N)/INTRATE*(INTRATE-INFRATE)
INADJ(N)=RINT(N)-NINT(N)
WRITE (7,7) RINT(N),NINT(N),INADJ(N)
20 CONTINUE
END
```

Program B-11

```
PROGRAM ALLOC (TAPE3,OUTPUT,TAPE7=OUTPUT)
INTEGER SMONTH(6),STS,STND,LTS,LTND,LMONTH(14)
REAL FAC
* THIS PROGRAM ALLOCATED THE RETURNS WHERE THE PERIOD
* WAS NOT DETERMINABLE TO THE LISTED PERIODS.  THE ALLOCATION
* IS WEIGHTED   DATA IS FROM TABLES 8 AND 10.  SMONTH=SHORT TERM
MONTHS,
* STS=SHORT TERM RETURN SUM, STND=ST NOT DETERMINABLE, LT=LONG
* TERM.
1 FORMAT (I7,1X,I7)
2 FORMAT (I6)
3 FORMAT (*ST TOTAL & ST NOT DETERM*,I7,5X,I7,/)
4 FORMAT (*UNDER MONTHS*,I2,5X,I6,/)
5 FORMAT (*FACTOR =  *,F9.8,/)
6 FORMAT (*LT TOTAL & LT NOT DETERM*,I7,5X,I7,/)
READ (3,1) STS,STND
WRITE (7,3) STS,STND
DO 10 N=1,6
READ (3,2) SMONTH(N)
WRITE (7,4) N,SMONTH(N)
10 CONTINUE
XSTS=STS
XSTND=STND
FAC=XSTND/XSTS
WRITE (7,5) FAC
DO 20 N=1,6
SMONTH(N)=FAC*SMONTH(N)+SMONTH(N)
WRITE (7,4) N,SMONTH(N)
20 CONTINUE
READ (3,1) LTS,LTND
WRITE (7,6) LTS,LTND
XLTS=LTS
XLTND=LTND
FAC=XLTND/XLTS
WRITE (7,5) FAC
DO 30 N=1,14
READ (3,2) LMONTH(N)
WRITE (7,4) N,LMONTH(N)
```

```
30 CONTINUE
DO 40 N=1,14
LMONTH(N)=FAC*LMONTH(N)+LMONTH(N)
WRITE (7,4) N,LMONTH(N)
40 CONTINUE
END
```

Program B-12

```
PROGRAM TIME (TAPE3,TAPE5,OUTPUT,TAPE 7=OUTPUT)
INTEGER CSM(20),OSM(20),CSAPT,OSAPT,SUM
REAL CSMPER(20),OSMPER(20),WTPER(20)
1 FORMAT (I7)
2 FORMAT (*ALL PERIODS TOTAL = *,I7,/)
3 FORMAT (*RETURN AMOUNTS*)
4 FORMAT (I6)
5 FORMAT (I9,*+*,I9,*=*,I9,*THE SUM OF CS & OS RETS*,/)
6 FORMAT (*CSPERCENTS OSPERCENTS WTED PERCENTS*,/)
7 FORMAT (F9.8,2(3X,F9.8))
* THIS PROGRAM TAKES THE # OF RETS PER PERIOD LISTED IN
* TABLE 8 AND EXPRESSES THEM AS A PERCENT OF THE TOTAL
* FOR ALL PERIODS.  IT DOES THIS FOR CORP STOCK RETURNS,
* OTHER SECURITIES RETURNS AND THEN DERIVES A WEIGHTED
* AVE PERCENT FOR EACH PERIOD.
READ (3,1) CSAPT
WRITE (7,2) CSAPT
WRITE (7,3)
DO 10 N=1,20
READ (3,4) CSM(N)
WRITE (7,4) CSM(N)
10 CONTINUE
READ (5,1) OSAPT
WRITE (7,2) OSAPT
WRITE (7,3)
DO 20 N=1,20
READ (5,4) OSM(N)
WRITE (7,4) OSM(N)
20 CONTINUE
XCSAPT=CSAPT
XOSAPT=OSAPT
SUM=CSAPT+OSAPT
WRITE (7,5) CSAPT,OSAPT,SUM
WRITE (7,6)
XSUM=SUM
DO 30 N=1,20
CSMPER(N)=CSM(N)/XCSAPT
OSMPER(N)=OSM(N)/XOSAPT
WTPER(N)=CSMPER(N)*CSAPT/XSUM+OSMPER(N)*OSAPT/XSUM
```

```
WRITE (7,7) CSMPER(N),OSMPER(N),WTPER(N)
30 CONTINUE
END
Program B-13


PROGRAM WTCPI (TAPE5,OUTPUT,TAPE7=OUTPUT)
INTEGER GRP,YEAR(26),N,M,P
REAL PER(20),CPI(26),TOTAL(21),PART(20),WCPI(21)
1 FORMAT (I1)
2 FORMAT (*THIS IS GROUP*,1X,I1,*'S WTED PERCENTS*,/)
3 FORMAT (F9.8)
4 FORMAT (*TOTAL =*,F11.8,/)
5 FORMAT (*YEAR AVE.  CPI*)
6 FORMAT (I4,1X,F5.1)
7 FORMAT (*WTED CPI FOR *,2X,I4,1X,*IS*,2X,F5.1,/)
* THIS PROGRAM FINDS A WTED CPI TO USE IN INDEXING CAPITAL
TRANSACTIONS.
* THE WEIGHTED PERCENTS DERIVED FOR 1973 FOR THE VARIOUS HOLDING
PERIODS
* ARE DIVIDED BY THE TOTAL OF THE WEIGHTED PERCENTS AND THEN
MULTIPLIED
* BY THE CORRESPONDING AVE.  CPI.
READ (5,1) GRP
WRITE (7,2) GRP
DO 10 N=1,20
READ (5,3) PER(N)
WRITE (7,3) PER(N)
10 CONTINUE
TOTAL(1)=0
DO 20 N=1,20
TOTAL(N+1)=TOTAL(N)+PER(N)
20 CONTINUE
WRITE (7,4) TOTAL(21)
WRITE (7,5)
DO 25 N=1953,1978
READ (5,6) YEAR(N),CPI(N)
WRITE (7,6) YEAR(N),CPI(N)
25 CONTINUE
DO 30 N=1,20
PART(N)=PER(N)/TOTAL(21)
30 CONTINUE
M=1973
WCPI(1)=0
45 IF (M .LE. 1978) 50,90
50 DO 55 N=1,6
WCPI(N+1)=WCPI(N)+PART(N)*CPI(M)
55 CONTINUE
DO 60 N=7,12
WCPI(N+1)=WCPI(N)+PART(N)*CPI(M-1)
60 CONTINUE
P=2
DO 65 N=13,16
WCPI(N+1)=WCPI(N)+PART(N)*CPI(M-P)
```

```
P=P+1
65 CONTINUE
P=10
DO 70 N=17,19
WCPI(N+1)=WCPI(N)+PART(N)*CPI(M-P)
P=P+5
70 CONTINUE
N=20
WCPI(N+1)=WCPI(N)+PART(N)*CPI(M-20)
WRITE (7,7) M,WCPI(21)
M=M+1
GO TO 45
90 END
```

APPENDIX C

Table C-1. Derivation of Tax after Credits Liability as a Percent of Adjusted Gross Income -1973 Tax Law Model

	1973			
	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	31,588,830	30,438,483	257,684	20,085
Adjusted gross income	188,730,465	502,739,257	15,992,482	3,908,506
AGI per return	5,975	16,517	62,062	194,598
Taxable income	93,729,433	332,047,810	11,801,027	2,434,226
Tax before adjustment	14,059,415	61,428,845	3,847,135	1,170,863
Child care deduction	329,314	913,920	273	56
Taxable income	95,058,747	332,961,730	11,801,300	2,434,282
Tax before credits	14,108,812	61,597,920	3,847,224	1,170,890
Elderly credit	83,085	51,549	738	121
Child care credit	93,513	363,044	4,440	591
Earned income credit	1,743,767	NA	NA	NA
Tax after credits	12,188,447	61,183,327	3,842,046	1,170,178
TAC per return	386	2,010	14,910	58,261
TAC per AGI	.0646	.1217	.2402	.2994

	1974			
	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	32,919,909	31,582,833	241,718	24,402
Adjusted gross income	204,316,628	545,940,670	15,047,087	4,751,029
AGI per return	6,206	17,286	62,251	194,698
Taxable income	104,724,995	365,421,059	11,195,457	3,050,856
Tax before adjustment	15,813,475	68,333,738	3,683,305	1,482,716
Child care deduction	318,580	993,301	208	22
Taxable income	105,043,580	366,414,360	1,195,665	3,050,878
Tax before credits	15,861,581	68,519,486	3,683,37	1,482,727
Elderly credit	80,908	37,931	64	140
Child care credit	101,687	394,775	4,82	642
Earned income credit	1,557,697	NA	N	NA
Tax after credits	14,121,289	68,086,780	3,677,90	1,481,947
TAC per return	429	2,156	15,21	60,730
TAC per AGI	.0691	.1247	.244	.3119

1975

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	34,187,591	32,968,523	253,481	27,706
Adjusted gross income	215,944,380	592,584,990	16,440,340	5,252,503
AGI per return	6,316	17,974	64,858	189,580
Taxable income	109,260,550	401,582,260	12,347,794	3,435,461
Tax before adjustment	16,498,343	75,899,047	4,161,207	1,666,199
Child care deduction	307,309	1,089,427	142	0
Taxable income	109,567,860	402,671,690	12,347,936	3,435,461
Tax before credits	16,544,747	76,104,949	4,161,254	1,666,199
Elderly credit	68,086	56,952	915	273
Child care credit	110,888	430,499	5,266	701
Earned income credit	1,371,626	NA	NA	NA
Tax after credits	14,994,147	75,617,498	4,155,073	1,665,225
TAC per return	439	2,294	16,392	60,103
TAC per AGI	.0695	.1276	.2527	.3170

1976

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	35,471,122	34,293,878	258,311	31,264
Adjusted gross income	228,561,740	638,368,590	17,248,931	5,839,239
AGI per return	6,444	18,615	66,776	186,772
Taxable income	118,365,900	436,755,180	13,064,670	3,879,152
Tax before credits	17,991,617	83,856,995	4,481,182	1,881,389
Elderly credit	83,712	52,813	785	225
Child care deduction	96,607	375,054	4,587	610
Earned income credit	1,224,275	NA	NA	NA
Tax after credits	16,587,023	83,429,128	4,475,810	1,880,554
TAC per return	468	2,433	17,327	60,151
TAC per AGI	.0726	.1307	.2595	.3221

1977

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	36,754,653	35,619,233	263,142	34,821
Adjusted gross income	241,179,090	684,152,180	18,057,522	6,425,975
AGI per return	6,562	19,207	68,623	184,543
Taxable income	129,391,520	472,281,260	13,773,926	4,320,948
Tax before credits	19,796,903	91,622,564	4,807,100	2,095,660
Elderly credit	86,741	54,854	800	251
Child care credit	95,404	370,386	4,530	603
Earned income credit	922,046	NA	NA	NA
Tax after credits	18,692,712	91,197,324	4,801,770	2,094,806
TAC per return	509	2,560	18,248	60,159
TAC per AGI	.0776	.1333	.2659	.3260

1978

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	38,038,184	36,944,588	267,972	38,379
Adjusted gross income	253,796,450	729,935,780	18,866,113	7,012,711
AGI per return	6,672	19,758	70,403	182,723
Taxable income	139,082,950	507,329,810	14,481,587	4,763,402
Tax before credits	21,418,774	99,436,643	5,126,482	2,310,250
Elderly credit	89,770	56,895	815	276
Child care credit	120,096	466,244	5,703	759
Earned income credit	852,134	NA	NA	NA
Tax after credits	20,356,774	98,913,504	5,119,964	2,309,215
TAC per return	535	2,677	19,106	60,168
TAC per AGI	.0802	.1355	.2714	.3293

Source: Chapter 5, Tables 5-5, 5-6, 5-9, 5-11, 5-12, and 5-14, Appendix A, Tables A-11 and A-12, and calculations

Child care credit = tax before credits - tax before adjustment + estimated revenue loss

1973 child care credit = 80,724,846 - 80,507,258 + 244,000 = 461,588

1974 child care credit = 89,547,168 - 89,313,235 + 268,000 = 501,933

1975 child care credit = 98,477,149 - 98,224,795 + 295,000 = 547,353

TAC = tax after credits

AGI = adjusted gross income

NA = not applicable

Table C-2. Derivation of Tax after Credits Liability as a Percent of Adjusted Gross Income -ERTA Model

	1974			
	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	32,919,909	31,582,833	241,718	24,402
Adjusted gross income	204,316,628	545,940,670	15,047,087	4,751,029
AGI per return	6,206	17,286	62,251	194,698
Taxable income	100,276,134	360,088,009	11,157,557	3,047,450
Tax before adjustment	14,540,040	64,455,754	3,414,212	1,401,827
Child care deduction	318,580	993,301	208	22
Taxable income	100,594,710	361,081,310	11,157,765	3,047,472
Tax before credits	14,586,233	64,633,555	3,414,276	1,401,837
Elderly credit	80,908	37,931	642	140
Child care credit	99,688	387,016	4,734	630
Earned income credit	1,577,697	NA	NA	NA
Tax after credits	12,827,940	64,208,607	3,408,900	1,401,067
TAC per return	390	2,033	14,103	57,416
TAC per AGI	.0628	.1176	.2266	.2949

	1975			
	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	34,187,591	32,968,523	253,481	27,706
Adjusted gross income	215,944,380	592,584,990	16,440,340	5,252,503
AGI per return	6,316	17,974	64,858	189,580
Taxable income	100,623,050	393,605,890	12,306,975	3,431,522
Tax before adjustment	13,382,866	64,944,972	3,347,497	1,393,198
Child care deduction	307,309	1,089,427	142	0
Taxable income	100,930,360	394,695,320	12,307,117	3,431,522
Tax before credits	13,423,738	65,124,727	3,347,536	1,393,198
Elderly credit	68,086	56,952	915	273
Child care credit	104,469	405,576	4,961	660
Earned income credit	1,371,626	NA	NA	NA
Tax after credits	11,879,557	64,622,199	3,341,660	1,392,301
TAC per return	347	1,961	13,183	50,253
TAC per AGI	.0549	.1091	.2033	2651

1976

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	35,471,122	34,293,878	258,311	31,264
Adjusted gross income	228,561,740	638,368,590	17,248,931	5,839,239
AGI per return	6,444	18,615	66,776	186,772
Taxable income	104,775,970	425,529,850	13,021,295	3,874,643
Tax before credits	12,573,116	63,829,478	3,190,217	1,406,495
Elderly credit	83,712	52,813	785	225
Child care deduction	96,607	375,054	4,587	610
Earned income credit	1,224,275	NA	NA	NA
Tax after credits	11,168,522	63,401,611	3,184,845	1,405,660
TAC per return	315	1,849	12,329	44,961
TAC per AGI	.0489	.0993	.1846	.2407

1977

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	36,754,653	35,619,233	263,142	34,821
Adjusted gross income	241,179,090	684,152,180	18,057,522	6,425,975
AGI per return	6,562	19,207	68,623	184,543
Taxable income	112,018,220	458,510,610	13,727,638	4,315,758
Tax before credits	12,658,059	65,108,507	3,116,174	1,419,884
Elderly credit	86,741	54,854	800	251
Child care credit	95,404	370,386	4,530	603
Earned income credit	922,046	NA	NA	NA
Tax after credits	11,553,868	64,683,267	3,110,844	1,419,030
TAC per return	314	1,816	11,822	40,752
TAC per AGI	.0479	.0945	.1723	.2208

	1978			
	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	38,038,184	36,944,588	267,972	38,379
Adjusted gross income	253,796,450	729,935,780	18,866,113	7,012,711
AGI per return	6,672	19,758	70,403	182,723
Taxable income	117,455,000	490,730,660	14,431,735	4,757,430
Tax before credits	12,332,775	65,267,178	3,016,233	1,517,620
Elderly credit	89,770	56,895	815	276
Child care credit	120,096	466,244	5,703	759
Earned income credit	852,134	NA	NA	NA
Tax after credits	11,270,775	64,744,039	3,009,715	1,516,585
TAC per return	296	1,752	11,231	39,516
TAC per AGI	.0444	.0887	.1595	.2163

Source: Chapter 5, Tables 5-5, 5-6, 5-10, 5-11, 5-12, 5-14, 5-18 and 5-19, Appendix A, Table A-16 and calculations
Child care credit = tax before credits - tax before adjustment + estimated revenue loss
1974 child care credit = 84,035,901 - 83,811,834 + 268,000 = 492,067
1975 child care credit = 83,289,199 - 83,068,533 + 295,000 = 515,666
TAC = tax after credits
AGI = adjusted gross income
NA = not applicable

Table C-3. Derivation of Tax after Credits Liability as a Percent of Adjusted Gross Income -Alternate 0% Model

	1974			
	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	32,919,909	31,582,833	241,718	24,402
Adjusted gross income	194,120,818	527,626,676	13,569,253	5,829,765
AGI per return	5,897	16,706	56,137	238,905
Taxable income	97,858,565	360,349,846	10,434,942	4,699,151
Tax before adjustment	14,189,491	64,502,623	3,120,048	2,429,461
Child care deduction	318,580	993,301	208	22
Taxable income	98,177,145	361,343,147	10,435,150	4,699,173
Tax before credits	14,235,686	64,680,423	3,120,110	2,429,472
Elderly credit	85,034	39,865	675	147
Child care credit	104,772	406,754	4,975	662
Earned income credit	1,658,160	NA	NA	NA
Tax after credits	12,387,720	64,233,804	3,114,460	2,428,663
TAC per return	376	2,034	12,885	99,527
TAC per AGI	.0638	.1218	.2295	.4166

1975

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	34,187,591	32,968,523	253,481	27,706
Adjusted gross income	204,329,369	571,016,181	14,255,548	5,999,674
AGI per return	5,977	17,320	56,239	216,548
Taxable income	104,589,945	407,788,510	11,806,476	5,039,365
Tax before adjustment	14,015,053	68,100,681	3,116,910	2,318,108
Child care deduction	307,309	1,089,899	142	0
Taxable income	104,897,254	408,878,409	11,806,618	5,039,365
Tax before credits	14,056,231	68,282,694	3,116,947	2,318,108
Elderly credit	78,707	65,837	1,058	274
Child care credit	120,766	468,846	5,735	763
Earned income credit	1,585,601	NA	NA	NA
Tax after credits	12,271,157	67,748,011	3,110,154	2,317,071
TAC per return	359	2,055	12,270	83,631
TAC per AGI	.0601	.1186	.2182	.3862

1976

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	35,471,122	34,293,878	258,311	31,264
Adjusted gross income	217,038,163	618,674,786	15,339,238	7,205,591
AGI per return	6,119	18,040	59,383	230,476
Taxable income	111,539,466	448,773,287	13,221,987	6,157,307
Tax before credits	13,607,815	69,111,086	3,160,055	2,579,912
Elderly credit	106,733	67,337	1,001	287
Child care credit	123,174	478,194	5,848	778
Earned income credit	1,560,951	NA	NA	NA
Tax after credits	11,816,957	68,565,555	3,153,196	2,578,847
TAC per return	333	1,999	12,207	82,487
TAC per AGI	0544	1108	.2056	.3579

1977

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	36,754,653	35,619,233	263,142	34,821
Adjusted gross income	226,272,160	655,169,381	16,490,909	8,093,061
AGI per return	6,156	18,394	62,669	232,419
Taxable income	113,191,460	466,447,809	13,626,426	6,761,344
Tax before credits	12,790,634	66,702,036	3,065,946	2,549,027
Elderly credit	117,621	74,382	1,085	340
Child care credit	129,368	502,243	6,143	818
Earned income credit	1,250,294	NA	NA	NA
Tax after credits	11,293,351	66,125,411	3,058,718	2,547,869
TAC per return	307	1,856	11,624	73,170
TAC per AGI	.0499	.1009	.1855	.3148

1978

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	38,038,184	36,944,588	267,972	38,379
Adjusted gross income	236,443,260	697,668,663	17,248,168	8,445,612
AGI per return	6,216	18,842	64,366	220,058
Taxable income	118,808,688	504,120,281	14,559,547	7,339,185
Tax before credits	12,474,912	68,560,358	3,217,660	2,664,124
Elderly credit	129,179	81,872	1,173	397
Child care credit	172,818	670,925	8,207	1,092
Earned income credit	1,226,221	NA	NA	NA
Tax after credits	10,946,694	67,807,561	3,208,280	2,662,635
TAC per return	288	1,835	11,972	69,377
TAC per AGI	.0463	.0974	.1860	3153

Source Chapter 5, Tables 5-5, 5-6, 5-10, 5-20, 5-36, and 5-37 and calculations
TAC = tax after credits
AGI = adjusted gross income
NA = not applicable

Table C-4 Derivation of Tax after Credits Liability as a Percent of Adjusted Gross Income -Alternate 60% Model

	1974			
	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	32,919,909	31,582,833	241,718	24,402
Adjusted gross income	194,674,737	525,942,639	12,441,817	2,053,153
AGI per return	5,914	17,508	51,472	84,139
Taxable income	98,412,485	358,665,809	9,307,506	922,539
Tax before adjustment	14,269,810	64,201,179	2,568,872	253,698
Child care deduction	318,580	993,301	208	22
Taxable income	98,731,067	359,659,110	9,307,714	922,551
Tax before credits	14,316,004	64,378,980	2,568,929	253,704
Elderly credit	85,034	39,865	675	147
Child care credit	104,772	406,754	4,975	662
Earned income credit	1,658,160	NA	NA	NA
Tax after credits	12,468,038	63,932,361	2,563,279	252,895
TAC per return	379	2,024	10,604	10,364
TAC per AGI	0640	.1156	.2060	.1232

	1975			
	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	34,187,591	32,968,523	253,481	27,706
Adjusted gross income	204,687,325	569,534,303	12,789,432	2,782,412
AGI per return	5,988	17,275	50,455	100,426
Taxable income	104,958,901	406,306,632	10,340,370	1,822,103
Tax before adjustment	14,064,492	67,853,207	2,595,433	583,073
Child care deduction	307,309	1,089,899	142	0
Taxable income	105,266,210	407,396,531	10,340,512	1,822,103
Tax before credits	14,105,672	68,035,220	2,595,469	583,073
Elderly credit	78,707	65,837	1,058	274
Child care credit	120,766	468,846	5,735	763
Earned income credit	1,585,601	NA	NA	NA
Tax after credits	12,320,598	67,500,537	2,588,676	582,036
TAC per return	360	2,047	10,213	21,008
TAC per AGI	.0602	.1185	.2024	.2092

1976

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	35,471,122	34,293,878	258,311	31,264
Adjusted gross income	216,963,9798	614,989,926	13,177,176	3,296,313
AGI per return	6,682	17,933	51,013	105,435
Taxable income	111,465,282	445,088,427	11,059,925	2,248,029
Tax before credits	13,598,764	68,098,529	2,455,303	656,424
Elderly credit	106,733	67,337	1,001	287
Child care credit	123,174	478,194	5,848	778
Earned income credit	1,560,951	NA	NA	NA
Tax after credits	11,807,906	67,552,988	2,448,454	655,359
TAC per return	333	1,970	9,479	20,962
TAC per AGI	.0498	.1098	.1858	.1988

1977

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	36,754,653	35,619,233	263,142	34,821
Adjusted gross income	225,906,321	650,762,887	14,388,370	3,604,541
AGI per return	6,146	18,270	54,679	103,516
Taxable income	112,285,621	462,041,315	11,523,887	2,272,825
Tax before credits	12,974,946	66,071,908	2,327,825	586,389
Elderly credit	117,621	74,382	1,085	340
Child care credit	129,368	502,243	6,143	818
Earned income credit	1,250,294	NA	NA	NA
Tax after credits	11,477,663	65,495,283	2,320,597	585,231
TAC per return	312	1,839	8,819	16,807
TAC per AGI	.0508	.1006	.1613	.1624

1978

	Group 1	Group 2	Group 3	Group 4
# of Taxable Returns	38,038,184	36,944,588	267,972	38,379
Adjusted gross income	236,147,392	691,606,306	14,764,049	3,787,658
AGI per return	6,208	18,720	55,095	98,691
Taxable income	117,791,012	498,057,920	12,075,428	2,681,231
Tax before credits	12,368,056	67,237,819	2,354,708	664,945
Elderly credit	129,179	81,872	1,173	397
Child care credit	172,818	670,925	8,207	1,092
Earned income credit	1,226,221	NA	NA	NA
Tax after credits	10,839,838	66,485,022	2,345,328	663,456
TAC per return	285	1,800	8,752	17,287
TAC per AGI	.0459	.0961	.1589	.1752

Source: Chapter 5, Tables 5-5, 5-6, 5-10, 5-20, 5-36, and 5-37 and calculations
TAC = tax after credits
AGI = adjusted gross income
NA = not applicable

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