THE TAX EXPENDITURE BUDGET BEFORE AND AFTER THE TAX REFORM ACT OF 1986

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Abstract

The Tax Reform Act of 1986 broadened the income tax base and drastically reduced tax rates. While these changes were designed to be revenue neutral, they led to significant reductions in government subsidies provided through tax expenditures.

The findings in this paper indicate that the 1986 Act reduced tax expenditures by $190 billion or about 40 percent of what they would have been in the absence of tax reform. They also suggest that about 40 percent of this reduction can be attributed to base broadening and the remaining 60 percent to lower tax rates.

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I. Introduction

One of the goals of the Tax Reform Act of 1986 (the "1986 Act") was to reduce the role of the Federal tax system in the U.S. economy. The lack of a comprehensive income tax base resulted in higher marginal tax rates which discouraged saving, investment, and work effort, and encouraged unproductive investment in tax shelters. Tax preferred activities were favored relative to other activities. The 1986 Act enhanced the neutrality of the tax system and reduced distortions. One measure of the effect of the 1986 Act on the reduction in economic distortions caused by the Federal tax system is the change in the Federal tax expenditure budget.

The tax expenditure budget lists "provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of liability." Although the specific provisions included in the tax expenditure budget and their measurement are subject to considerable controversy, they provide some indication of Federal economic assistance to particular activities that could be achieved through the tax Code or alternatively through a direct expenditure program. The 1986 Act had a dramatic effect on the Federal government's influence on these activities.

Income tax base broadening and repeal of numerous tax expenditures permitted significant reductions in marginal tax rates of both individuals and corporations. Repeal and scale-backs of tax expenditures directly reduced the number and amount of tax expenditures. But more importantly, the significant reductions in marginal tax rates decreased the value of the remaining tax expenditures. Because most tax expenditures are directly related to the taxpayers' marginal tax rate, lower tax rates reduce the value of the tax expenditures. For example, the reduction in the top marginal tax rate from 50 percent to 28 percent lowered the value of the mortgage interest deduction by 44 percent for high-income taxpayers.

Under current law, the simple summation of tax expenditures for calendar year 1988 totals \$315 billion. Under pre-tax reform law, total tax expenditures in 1988 would have been \$510 billion. The 1986 Act reduced aggregate tax expenditures by \$190 billion, or by approximately 40 percent of what they would have been in 1988. The reduction in marginal tax rates accounted for $115 billion, or almost 60 percent of this decline as shown in summary Table 1. Almost half of the rate reduction effect occurred among provisions otherwise unchanged by tax reform, such as the mortgage interest deduction and the exclusion of social security benefits.

This paper is divided into four sections. Section II describes the tax expenditure budget and how the 1986 Act changed it. We identify provisions that were repealed, scaled back, reduced in value by lower marginal tax rates, and expanded by the 1986 Act. In Section III, we present estimates of the tax expenditure budget before and after tax reform. In addition, we present estimates of the differential effects of rate reduction and base broadening, as well as some examples of the distributional effects of several tax expenditures. In the final section, we discuss some of the issues involved in measuring tax expenditures that were raised in quantifying the effects of the 1986 Act.

II. Background on the Tax Expenditure Budget and the Tax Reform Act of 1986

A. The Tax Expenditure Budget

The U.S. Department of the Treasury published the first tax expenditure budget in 1967. The budget included special exclusions, exemptions, deductions from gross income, special credits, preferential rates of tax, and provisions providing deferral of income tax liability. The tax expenditure budget is now published annually as Special Analysis G in the U.S. Budget, as mandated by the Congressional Budget Act of 1974. Descriptions of the tax expenditure baselines, measurement issues, and specific tax expenditures are included in Special Analysis G.

The Treasury's tax expenditure budget includes 120 provisions with an outlay equivalent value summing individually to over $450 billion in Fiscal Year (FY) 1988. As described in Section IV, the total value of tax expenditures does not necessarily equal the sum of the value of individual tax expenditures due to interaction among the provisions. We provide some estimates of the extent of interactions between different provisions. The total value of tax expenditures may be misleading in its absolute value, and thus we present it only for purposes of giving the reader the general order of magnitude.

B. Different Effects of the 1986 Act on Tax Expenditures

The 1986 Act had a number of different effects on the tax expenditure budget. Table 2 groups the tax expenditure budget into six categories of tax reform effects: provisions repealed, provisions scaled back, provisions with rate effect only, expanded provisions, new provisions, and provisions unchanged by the Act.

Tax reform broadened the tax base by repealing 14 provisions and scaling back the eligible activity of 16 other provisions. The largest provisions repealed were the investment tax credit, the capital gains exclusion, and the deduction for two earner married couples. The largest provisions scaled back in their scope were the Individual Retirement Accounts, the deductibility of non-business State and local taxes (due to repeal of the sales tax deduction), and the deductibility of interest on consumer credit (which was phased down to 40 percent in 1988 and repealed by 1990).

The largest number of tax expenditures were only affected by the reduction in individual and corporate marginal tax rates. Even if the level of eligible activity of tax expenditures remained unchanged, the value of many tax expenditures was reduced by the lower marginal tax rates. For example, a taxpayer subject to the pre-tax reform top 50 percent marginal tax rate and the post-tax reform top 28 percent marginal tax rate had a 44 percent reduction in the value of certain tax expenditures, such as deductions and tax exemptions. If that taxpayer's mortgage interest deduction was $20,000, the after-tax cost of the interest expenses rose from $10,000 to $14,400 ($20,000 times one minus the marginal tax rate). The value of tax expenditures increased for certain taxpayers whose marginal tax rates increased, i.e., taxpayers subject to the lowest positive marginal tax rate of 11 percent before tax reform who might be subject to a 15 percent marginal rate after tax reform.

Although the 1986 Act did not directly restrict a number of "sacred" provisions, the reduction in marginal tax rates reduced their value considerably. For instance, the largest changes in tax expenditures subject to only the tax rate effect were the exclusion of pension contributions and earnings on employer plans, the exclusion of employer contributions for medical insurance premiums and medical care, and the exclusion of mortgage interest on owner-occupied homes.

The 1986 Act took many steps forward in broadening the tax base. and a few steps backward. The Act expanded the scope of 11 tax expenditures and created 9 additional tax expenditures. Provisions. such as the research and experimentation credit and the targeted jobs tax credit. were scheduled to expire and were extended for two additional years. The 1986 Act did not create any entirely new tax provisions: most of the new tax expenditures are exceptions from new general rules. or substitutes for other tax expenditures. For instance. the additional deductions for the blind and the elderly replaced special exemptions for the same individuals. The low-income housing tax credit replaced special accelerated cost recovery deductions. 5-year amortization of rehabilitation expenses. special deductions for construction period interest and taxes. and tax-exempt bond financing for low-income rental housing.

In some cases. the new and expanded tax expenditures already were in the tax code but became tax expenditures due to other changes. For instance. the capital gains exclusion at death and on the first $125.000 of home sales increased in value due to the repeal of the 60 percent exclusion of long-term capital gains. The exception for $25.000 of rental losses from the passive loss limitation rules and the expensing of multiperiod timber growing costs became tax expenditures because the 1986 Act created new general rules limiting passive losses [1] and requiring the capitalization of multiperiod expenses.

The distinction made here between provisions that were scaled back. expanded. and affected only by rate reductions is somewhat arbitrary. The 1986 Act in many cases made minor changes in the eligible activity that changed the tax base. but the rate reduction effect was considerably larger than the tax base change. In those cases. the provision is listed under the rate reduction only effect. For instance. the deductibility of charitable contributions was tightened slightly. while the rate reduction effect was several times larger.

In addition. the distinction between provisions repealed. scaled back. and affected by rate reduction only uses the existing grouping of tax expenditures used in Special Analysis G. A somewhat different picture would occur if several tax expenditures were more disaggregated or the fully phased in law were applied. For instance. the repeal of state and local sales taxes is grouped with nonbusiness state and local taxes other than on owner-occupied homes. Thus. State sales. personal property. and income tax deductions are included together in the provisions scaled back. Alternatively. the sales tax deduction could be grouped with the provisions repealed, and the personal property and income tax deductions could be grouped with the provisions affected by rate reduction only. In addition, the gradual repeal of the deductibility of interest on consumer credit is grouped with the provisions scaled back, because in 1988 40 percent of the deduction was still allowed. If the comparison were made after the full phase-in of the 1986 Act, the provisions repealed would show a larger effect.

Table 2 also shows the difference in the value of tax expenditures before and after tax reform broken down by separate rate reduction and base broadening effects. In Section III, we describe the stacking rules used to disaggregate the effect of tax reform into the separate effects from rate reduction and base broadening.

III. Effects of the Tax Reform Act of 1986 on the Tax Expenditure Budget

The tax expenditure budget in the Fiscal Year 1989 Budget reflects the tax law changes of the 1986 Tax Act, but does not separately identify the important changes due to tax reform. For example, the tax expenditure budget shows a decline in the value of the net exclusion of pension contributions and earnings from employer plans in FY1987 of $64.1 billion to $58.7 billion in FY1989. Similarly, the tax expenditure for the exclusion of contributions and earnings from Individual Retirement Accounts falls from $19.3 billion in FY1987 to $12.0 billion in FY1989. In both cases, the declines are a result of the 1986 Act, but the Act's effect can not be separately identified in the published numbers for two reasons. First, the level of activity for most tax expenditures is generally higher in FY1989 than in FY1987. Second, the use of fiscal years encompassing different taxable years, i.e., FY1987 includes parts of taxable years 1986 and 1987 with their different tax rates, confounds the measurement.

The Office of Tax Analysis staff prepared additional estimates of the tax expenditure budget that separately identify the effects of the 1986 Act in January 1988. Outlay equivalent estimates[2] were made of all provisions using 1986 (pre-tax reform) and 1988 (post-tax reform) law assuming the same level of activity (at 1988 levels). In addition, the staff estimated the value of tax expenditures assuming 1988 law but with 1986 tax rates. Using these estimates, one measure of the separate effects of base broadening and rate reduction for each provision is presented. Finally, several examples of the distributional effects of the tax expenditure changes are shown.

A. General Issues

We use the same baseline and methodology for estimating tax expenditures as used in the FY1989 Budget Special Analysis G. The individual and corporate minimum taxes are included as part of the tax expenditure baseline. For purposes of separating the tax rate effects, the tax rate structure encompasses the tax rate schedule, personal exemptions, the standard deduction, and the minimum tax.

It is important to note that tax expenditure estimates assume no behavior effects unlike revenue estimates of specific tax legislation. Thus, the tax expenditure estimates hold constant the level of activity at 1988 levels. For instance, complete repeal of the consumer interest deduction would shift more borrowing against owner-occupied homes in the form of larger first or second mortgages or home-equity loans. The tax expenditure estimates take the amount of consumer and mortgage debt in 1988 as fixed, and estimates the tax expenditure for consumer interest assuming that it is no longer deductible and no additional deductible borrowing occurs. The revenue estimates of the 1986 Act had a smaller revenue effect than the tax expenditure estimate due to the expected financial rearrangements.

Some caution is necessary in the measurement of the change in tax expenditures when the level of activity is held constant. The 1986 Act, for example, increased marginal tax rates on long-term capital gains. Pre-tax reform tax expenditures in this paper are estimated using 1988 levels of realizations. The level of realizations of long-term capital gains, however, is lower in 1988 as a result of the higher marginal tax rates. If the tax expenditure for the capital gains exclusion were measured at 1986 levels, the tax expenditure would be larger due to a higher level of realizations. Capital gains also raises the general issue of the appropriate baseline from which to measure tax expenditures, which is discussed more fully in Section IV, since one of the justifications for the exclusion was a proxy for the lack of inflation indexing of nominal capital gains.

All estimates are stated in terms of outlay equivalent subsidies. The difference between outlay equivalents and revenue losses, and the reason for presenting outlay equivalents in evaluating the effects of tax reform, are discussed in section IV.

B. Estimates of the Effects of the 1986 Act

The Office of Tax Analysis staff estimated all tax expenditures under pre-tax reform law ("1986 Law") and current law ("1988 Law") for calendar year 1988. Using these estimates we provide a summary of the effects of the 1986 Act in Table 1.

Table 1 shows the total effect on tax expenditures of tax reform by the type of changes made. Approximately one-fourth of the $190 billion net reduction in the value of tax expenditures due to tax reform occurred on provisions that were unchanged except for the reduction in marginal tax rates. Provisions with predominant rate effects were reduced in value by $58 billion by tax reform. About 40 percent of the net reduction in the value of tax expenditures. approximately $81 billion. resulted from the repeal of various tax expenditures. Another 40 percent. $79 billion. occurred from the combination of rate reduction and base broadening on provisions scaled back by the 1986 Act. Expanded and new provisions increased total tax expenditures by $25 billion.

The entire tax expenditure budget showing the separate rate reduction and base broadening is listed in Table 2 by type of tax change. In addition. the Apprendix lists each provision according to its respective budget function to facilitate the comparison with the published tax expenditure budget in Special Analysis G in the U.S. Budget as well as direct outlay programs.

C. Effects of Rate Reduction and Base Broadening

In order to separately identify the effects of rate reduction and base broadening on the tax expenditure budget. the Office of Tax Analysis staff prepared additional estimates of all tax expenditures. The staff estimated the value of tax expenditures assuming the 1988 tax base. but with the 1986 tax rate structure. The difference between the tax expenditure estimates under prior law rules and the 1988 law/1986 rate estimates is one measure of the separate effect of the 1986 Act's base broadening provisions. The difference between the 1988 law/1986 rate estimates and the current law estimates is one measure of the separate effect of the marginal rate reductions.

These estimates stack the base broadening provisions before the marginal rate reductions. which tends to allocate more of the tax reform effect to base broadening and less to tax rate reduction. The interaction between the rate reduction and tax base changes is explained more fully in the next subsection. Alternative measures of the separate effects were computed for several important provisions, and do not alter the relative importance of the effects of rate reduction and tax base changes.

Table 1 shows the simple summation of the effects of rate reduction and base broadening by type of tax reform change. Base broadening reduced the tax expenditure budget by approximately $77 billion, or about 40 percent of the total reduction. Tax rate reduction reduced the value of all tax expenditures by approximately $115 billion in 1988, or 60 percent of the total reduction of $190 billion in tax expenditures due to the 1986 Act.

Table 1 also shows the breakdown by the type of tax reform change. Repeal of various tax expenditures, particularly the investment tax credit, the capital gains exclusion, and the two-earner deduction, accounted for $81 billion of base broadening effect.[3] The scaleback of tax expenditures contributed an additional $45 billion reduction. Expanded and new tax expenditures increased the amount of tax expenditures by $49 billion (before the rate reduction effect), so that the net base broadening effect was approximately $77 billion.

Rate reduction reduced the value of the remaining tax expenditures by approximately $115 billion. Most of the rate reduction effect occurred among provisions that were otherwise unchanged by the 1986 Act. Fifty-eight billion dollars of rate reduction occurred among provisions affected only by rate reduction.[4] Rate reduction reduced the value of provisions scaled back by $34 billion, compared to $45 billion from scaling back these same provisions. Rate reduction reduced the value of expanded provisions by $23 billion. The rate reduction reduced the value of both the new eligible activity as well as the existing eligible activity. Because of the stacking order used here, rate reduction is also shown for the new provisions. The lower tax rates reduced the value of the new provisions by about 9 percent of their value had the 1986 tax rates been in effect.

D. Interaction Between Rate and Base Broadening Effects

The effect of the 1986 Act on the level of tax expenditures can be divided among tax rate changes and tax base changes in two alternative ways. The tax base changes can be "stacked" first, and then the tax rate changes applied to the new, larger tax base. Or, the tax rate changes can be stacked first against only the old tax base. and then the tax base changes can be added against the new. lower marginal tax rates. The estimates in Tables 1 and 2. as well as the Appendix. stack the tax base changes before the rate changes.

The effects of the new law on the value of tax expenditure (TE) can be calculated as:

$$dTE = TE_n - TE_o = dR.B_o + R_o.dB + dR.dB \quad .... (1)$$

where R is the tax rate. B is the value of the exempt. excluded. or deferred tax expenditure activity. and the subscripts o and n refer to pre-tax reform (old) law and post-tax reform (new) law. respectively.

The total effect is the sum of the rate effect. the base effect. and an interaction effect. The rate effect is $(R_n-R_o).B_o$. or $dR.B_o$. the change in the average marginal tax rate holding the pre-tax reform tax base constant. Similarly. the base broadening effect is $R_o.(B_n-B_o)$. or $R_o.dB$. the change in the value of the eligible tax expenditure activity holding the pre-tax reform tax rate constant. The interaction effect is the product of the two simultaneous changes. $(R_n-R_o).(B_n-B_o)$. or $dR.dB$.

If both the tax base and rates change and the tax base is stacked first. then the total effect becomes:

$$dTE = R_o.dB + B_n.dR \quad .... (2)$$

where the base change has the larger effect (includes the interaction term) and the rates change a smaller effect. On the other hand. if tax rate changes are stacked first. then the total effect becomes:

$$dTE = dR.B_o + R_n.dB \quad .... (3)$$

where the tax rate change has the larger effect (includes the interaction term) and the base change a smaller effect.

The difference between the two approaches is the interaction term of the tax rate and tax base changes. shown in equation 1. If the tax base change is stacked first against the pre-tax reform rates. the tax base change is larger due to the higher pre-tax reform rates (in equation 2) than when stacked second against the lower new rates (in equation 3).

When the tax rate change is stacked second against the smaller amount of allowable tax expenditure deductions (in equation 2). the rate effect is smaller than if it had been stacked first (in equation 3).

Due to the amount of work involved in the hundreds of calculations. only one method was used to calculate the change for all tax expenditures. In this paper. rate and base broadening effects were estimated with the tax base stacked first (equation 2). which tends to allocate more of the tax reform effect to base broadening. Thus. the separate effects of the tax rate and tax base changes on the value of tax expenditures in Tables 1. 2. and the Appendix are measured stacking the tax base changes first.

Thus far we have focused on changes in the tax base reflecting changes in a single provision. A further stacking order issue arises when more than one base broadening provision is included. For example. by expanding taxable income and pushing taxpayers into higher marginal tax brackets. base broadening provisions will affect the value of tax expenditures with only rate effects. Equations 1-3 assume that the tax expenditures are evaluated before all other changes in the law (stacked first against prior law).

Alternatively. the tax expenditures could be evaluated after all other changes in the law (stacked last against prior law or stacked first against current law). as shown in equation 4:

$$dTE = R_o.dB + B_n.dR + B_n.dR_{oc} \qquad \ldots (4)$$

where dR_{oc} is the change in marginal tax rates brought about by other base broadeners. and. generally. $dR<0$. $dB<0$. and $dR_{oc}>0$.

The estimates presented in Tables 1 and 2. as well as the Appendix. were derived using equation (2). not equation (4). Changes in the tax base are stacked first against prior law one provision at a time. All of the interaction term. $B_n dR_{oc}$. is attributed to the rate effect. This interaction from other base broadening effects will generally be a positive number. Thus. the estimates presented in this paper will generally understate the rate reduction effect.

E. Distributional Effects

Lower marginal tax rates and a broader tax base reduced tax expenditures and changed the distribution of the remaining tax expenditures. With the significant reduction in the top marginal tax rate, many expected that tax expenditures would be disproportionately reduced for higher-income taxpayers. To illustrate the distributional effects of the 1986 Act on tax expenditures, we present two examples: contributions to individual retirement plans and the mortgage interest deduction. It should be noted that the distributional effect of the 1986 Act on tax expenditures differs from the final incidence of the 1986 Act, primarily because no behavioral effects are included in the tax expenditure analysis.

Tables 3 and 4 show the change in tax expenditures due to the 1986 Act for contributions to individual retirement plans and the mortgage interest deduction, respectively. The tables also show the separate effects of rate reduction and base broadening with two alternative stacking orders: with base broadening stacked first, and with rate reduction stacked first. These tables differ from the base broadening effects shown in Tables 1 and 2, because the base broadening effect includes all of the base broadeners as described in equation 4, not just the single provision. In other words, the single provision is stacked after all other base broadeners, not before them. This stacking order does not change the general results, but requires some explanations presented below.

1. Retirement Plans

Under prior law, a working taxpayer could deduct up to $2,000 (plus $250 for a non-working spouse) of contributions to individual retirement accounts (IRAs) from taxable income. The 1986 Act scaled back this deduction reported by taxpayers covered under employer-provided retirement plans. The deduction is phased-out for taxpayers with adjusted gross income (AGI) between $40,000 and $50,000 for joint filers and $25,000 and $35,000 for single taxpayers.[5] The deduction of contributions to IRAs by the remaining taxpayers is retained under the Act.

As shown in Table 3, the scaleback of deductible retirement contributions and the rate reduction disproportionately reduce the tax expenditures of high income families. Depending on the stacking order, the scaleback in eligibility accounts for 94 percent ofthe total reduction if stacked first, and 75 percent of the scale back if stacked after the tax rate reduction. The scaleback in eligibility was intended to eliminate the deduction for high income taxpayers.

The effect of the rate reduction also disproportionately reduced the remaining tax expenditures of high income taxpayers. The rate reduction effect, stacked after the base broadening provisions, reduced the value of tax expenditures by 16 percent for taxpayers with economic income below $30,000, while reducing the tax expenditures by 36 percent for the highest income taxpayers. A similar distributional effect occurs when the rate reduction was stacked before the base broadeners.

2. Mortgage Interest Deduction

The 1986 Act retained the full deductibility of owner-occupied home mortgage interest expenses. The deduction's tax expenditures, however, were reduced by lower marginal tax rates and the expansion of the standard deduction.

Although not directly affected by the 1986 Act, the value of mortgage interest deductions fell by 27 percent in 1988 as a result of the Act. Tax expenditures for mortgage interest fell from $34.2 billion under prior law to $25.0 billion after tax reform. This reduction occurred principally due to the lower marginal tax rates. Although the effect on tax expenditures of lower marginal tax rates is well recognized, higher standard deductions and tax thresholds also reduce the value of tax expenditures for many low income families, as exemplified by the mortgage interest deduction.

Table 4 shows that the value of the tax expenditures declined across all income classes. The effects of the 1986 Act, however, are U-shaped. The tax expenditure of the lowest income taxpayers (those few who itemize deductions) fell by 36 percent, for families with incomes of $50,000 to $100,000 the reduction was only 23 percent, and increased to 42 percent for the highest income families. This U-shaped pattern is due to the large reduction in marginal tax rates at high incomes and the increased standard deduction at low incomes. The higher standard deduction reduces the amount of excess itemized mortgage interest deductions, which determine the amount of the tax expenditure.

Table 4 shows two different types of base broadening effects. Base broadening can push taxpayers into higher marginal tax rates, thereby increasing the value of tax expenditure especially when valued under the old rate structure. Base broadening among itemized deductions can also reduce the amount of excess itemized deductions (deductions in excess of the standard deduction), which reduces the value of the tax expenditures. When all base broadeners are stacked before the rate reduction (and the higher standard deduction), the higher marginal rate effect outweighs the standard deduction effect for mortgage interest. Column 4 of Table 4 shows that the base broadening provisions, if enacted alone, would have pushed all of the income groups, except the $10,000-$20,000 group, into higher marginal tax brackets under prior law to more than offset the standard deduction effect.

The mortgage interest tax expenditure would have been $2.5 billion higher, without the rate reduction. When the rate reduction is stacked last after all base broadeners, as in equation 4, the rate reduction totals $11.8 billion. The entire effect of the 1986 on mortgage interest deductions ($9.9 billion) is attributed to rate reduction in Table 2 and the Appendix since the interaction of the other base broadeners is not taken into account, as in equation 2.

Column 7 shows that when base broadeners are added after rate reduction, the base broadening effect is negative for low and middle income families and positive for high income families. The repeal of state and local sales tax deductions and the scaleback of consumer interest deductions make mortgage interest deductions less likely to be excess itemized deductions (deductions above the standard deduction). Thus, the other base broadeners reduce the value of mortgage interest deductions by reducing excess itemized deductions. For high income taxpayers, the effect of being pushed into higher marginal tax rates exceeds the effect of the reduced excess itemized deductions.

IV. Issues in Measuring Tax Expenditures after Tax Reform

The tax expenditure budget does not have a clearly defined conceptual basis and the empirical implementation of the budget is not always consistent internally or with other aspects of the budget. The 1986 Act changes raised a host of issues underlying the tax expenditure budget. We note several of these issues below.

A. Definition of the Tax Expenditure Baseline

Several of the provisions in the 1986 Act raised issues of the conceptual baseline for the tax expenditure budget. Examples of these include (1) uniform capitalization rules. (2) the minimum tax. and (3) the treatment of passive losses. among others.

1. Uniform Capitalization Rules

Under pre-tax reform law. businesses were not required to capitalize interest expenses associated with most production activity occurring over several taxable years. The 1986 Act required multiperiod production interest expenses are required to be capitalized and deducted over the life of the contract. The 1986 Act. however. exempted timber producers from this requirement and allowed them to continue to expense such costs.

OTA and OMB treat the exception of timber producers from the uniform capitalization rules as a new tax expenditure. Although the tax treatment of timber was unchanged by the 1986 Act. the general rule for capitalizing interest was tightened. Thus. the exemption for timber became a special provision rather than part of a general tax provision.

2. Alternative Minimum Tax

The 1986 Act toughened the minimum tax system for both individuals and corporations. The minimum tax could be treated three different ways in the tax expenditure budget baseline. First. the minimum tax could be included as part of the tax expenditure baseline. and part of the tax rate structure. This is the way the minimum tax was treated in the OTA/OMB budget. with the value of tax expenditures reduced by the effect of the minimum tax. Since the minimum tax is an integral part of the Federal income tax system. with its alternative minimum tax credit carryover mechanism simply smoothing the timing of income tax payments. it is considered part of the tax rate structure.

Second. the minimum tax could be excluded from the tax expenditure baseline. and viewed as a penalty tax imposed as part of the income tax structure. Tax preferences scaled back by the minimum tax might be viewed as negative tax expenditures. The net effect of the positive tax expenditure from the regular income tax and the negative tax expenditure from the minimum tax would give the same estimate as when the minimum tax is included as part of the baseline.

Finally, the minimum tax could be defined as a separate tax system with its own tax expenditure budget. Deviations from the minimum tax baseline could be identified in a separate tax expenditure budget. For instance, the exception of public purpose tax-exempt bonds from the minimum tax base would be such a tax expenditure.

The alternative minimum tax also raises a number of measurement issues as well. The corporate book income provision indirectly scales back many tax expenditures. It is difficult to attribute the additional tax liability from the book income provision to specific tax expenditures. Also the alternative minimum tax credit carryover affects the present value of many tax expenditures.

3. Passive Loss Limitation

Passive loss limitation rules enacted in 1986 prevent taxpayers from offsetting losses from "passive" activities against income from "active" activities. This raises the question of whether the passive loss limitation is a new general tax rule that should be included as part of the baseline. Some could argue that it was intended as a new general rule and should be part of the baseline. Others could argue that it is a targeted provision limited to a particular type of economic activity and should not be part of the baseline. If the passive loss limitation is not part of the baseline, then it is the equivalent to an exception to the general tax rules that penalizes targeted activities, or the equivalent of a negative tax expenditure.

The passive loss limitation itself has a special exception for oil and gas activity. If the passive loss limitation is part of the baseline, then the oil and gas exception would be a tax expenditure. If it is not part of the baseline, then the oil and gas exception would not be a tax expenditure.

Special Analysis G treats the passive loss limitation as part of the baseline. However, it does not include the oil and gas exception in the FY1989 budget because the Code does not provide sufficient guidelines for measuring the exception's tax expenditure value. The Code does not specify whether taxpayers in oil and gas activity would be treated like partnerships and other businesses with "passive" and "active" activities, or treated like taxpayers with rental property where all activities are designated as "passive". One possible approach, albeit arbitrary, would be to apply the general passive loss limitation rules and designate royalty interests as passive and working interests as active. Depending on the way these ventures are financed and interests are "fractioned", however, the working interest may consist of active as well as passive activities.

B. Outlay Equivalents Versus Revenue Losses

Two measures of the cost of tax expenditures are employed in Special Analysis G. These are the revenue loss or forgone revenue approach and the outlay equivalent approach. The revenue loss estimates equal the amount by which taxes are reduced by the tax expenditure provision. The outlay equivalent estimates, on the other hand, equal the budget cost of a comparable, substitute direct expenditure program valued in pre-tax dollars. As described below, outlay equivalent estimates are the best measure of the change in the value of tax expenditures resulting from tax reform.

Outlay equivalent and revenue loss estimates differ for two types of tax expenditures: (1) provisions equivalent to tax-free grants, and (2) provisions with revenue losses partially offset through the loss of other tax benefits.

An example of a provision equivalent to a tax-free grant is the research and experimentation (R&E) tax credit. The R&E credit provides a 20 percent tax credit to companies that increase their R&E spending. If companies making R&E expenditures were provided a direct grant, the grant would be included in their taxable income and would be subject to tax. The R&E tax credit, however, is not included in the taxable income of the company, and thus is the equivalent of a tax-free grant. Each $1 of R&E tax credit provides the equivalent of $1.33 of equivalent taxable outlay for a taxpayer in the 25 percent marginal tax rate. The revenue loss estimate only includes the $1 of the tax credit, while the outlay equivalent includes the additional "tax saving" resulting from the exemption.

An example of a provision with a partially offsetting loss of tax benefit is the targeted jobs tax credit (TJTC). The TJTC is equivalent to a taxable grant, because companies must include the amount of the tax credit earned in their taxable income by reducing the amount of wage deductions by the amount of the credit. The TJTC revenue loss estimate assumes that the companies' taxable income increases due to the lower wage deductions. which partially offset the amount of credits received. Direct outlays which are taxable. however. are not assumed to increase total taxable income in the economy. Thus. if an equivalent targeted jobs program paid out $100 million. then the budget outlay would show $100 million. even though the equivalent tax credit program would show a revenue loss of $75 million for taxpayers subject to a 25 percent marginal tax rate.

In measuring the effects of tax reform on tax expenditures. the use of revenue loss estimates can lead to the peculiar result of lower tax rates increasing tax expenditures. For instance. assume that the TJTC program was unchanged by tax reform with credits equal to approximately $100 million annually. Before tax reform. with corporations subject to a marginal tax rate of 46 percent. the revenue loss estimate would be $54 million ($100 million times one minus the marginal tax rate). After tax reform. with a lower 34 percent rate. the revenue loss estimate for an unchanged program would be $66 million. or 20 percent higher. In contrast. the outlay equivalent estimate would remain unchanged at $100 million without the misleading rate reduction effect. This anomaly is avoided by comparing outlay equivalent estimates before and after tax reform.

C. Interaction Among Tax Expenditure Provisions

The value of tax expenditure provisions are interrelated due to the non-linear and progressive tax rate structure of the current law system. If one provision is repealed or modified. the value of other items in the budget may change as a result of taxpayers pushed into higher marginal tax rate brackets. becoming subject to the minimum tax. or switching to the standard deduction.

The interaction among tax expenditures may cause significant measurement problems. Each tax expenditure is estimated assuming its repeal while holding all other provisions in the tax system constant. While facilitating the estimation of individual tax expenditures. the inherent deficiency of this procedure is that it generally leads to overstating the value of deductions and. to a lesser extent. understating the value of exclusions.

To demonstrate the strong interaction among provisions. we estimated the marginal effects of repealing five deductions and five exclusions from income and present the results in Table 5. The deductions include home mortgage interest. state and local income taxes.

state and local real estate taxes. charitable contributions. and the deduction for medical expenses. Exclusions include employer contributions to pension plans. employer contributions to medical and health insurance plans. contributions to Individual Retirement Accounts. social security benefits. and tax exempt interest.

Under pre-tax reform law. the simple summation of the marginal effects of the exclusions is estimated at $93 billion. When estimated together for the total combined effect. their value rises to $95 billion an increase of $2 billion or about 2 percent of the total. The combined effect is greater than the sum of the individual provisions because the combination of multiple base broadeners pushes some taxpayers into higher marginal tax brackets.

The simple summation of the marginal effects of the five deductions is estimated at $89 billion under prior law. When estimated together. after accounting for possible interaction effects. their value falls to $81 billion. a reduction of $8 billion or 9 percent of the total.

The repeal of multiple deductions has two different effects. The repeal of several deductions increases taxpayers' taxable income and pushes them into higher marginal tax brackets. similar to that of repealing multiple exemptions. This causes the sum of individual provisions to be lower than the combined effect. The combination of deductions also lowers many taxpayers' deductions below the standard deduction. This will cause the sum of individual provisions to be larger than the combined effect. When people shift to the standard deduction. further cutbacks on itemized deductions have no revenue effect. For these five provisions. the standard deduction effect outweighs the higher marginal tax rate effect.

The interaction among itemized deductions under current law is greater than that under pre-tax reform law. Under current law. the sum of the individual effects of deductions in Table 6 is $61 billion while the combined effect is $48 billion. The interaction among itemized deductions increased from 9 percent to 22 percent of the sum of the individual effects after tax reform due to the higher standard deduction more than offsetting the effect of lower tax rates. In contrast. the interaction effects among exclusions are relatively stable. Interaction effects among the five exclusions before and after tax reform account for about $3 billion. or 2.5 percent of the total.

D. Timing Issues

The tax expenditure budget generally uses the net cash flow estimates of tax expenditures. Dollars are counted as spent in the year the receipts are forgone, even when there are additional commitments to future tax expenditures or offsetting tax receipt changes in later years. This can lead to potentially misleading statistics and apparent anomalies in tax expenditure estimates.

Use of net cash flow receipts understates the effects of tax provisions with large future year tax consequences. For instance, the new low income housing tax credit is spread over a ten year period. Although the FY1989 Budget tax expenditure estimate for 1988 was $425 million, the total cost of the program for the investment done in 1988 will be several multiples of the first year cost. Changes in other multi-year tax commitments, such as tighter limitations on tax-exempt bond financing, will reduce tax expenditures for 20-30 years in the future on the smaller level of tax-exempt bonds issued in 1988. Thus, comparisons of the tax expenditure value and the effect of tax reform on provisions involving multi-year commitments with provisions having only a single year effect, such as the child-care credit, are misleading.

Many tax expenditures arise from the acceleration in the timing of expense deductions or the deferral of taxable income. The exemption of timber production from the uniform capitalization rules, for instance, enables companies to accelerate deductions. Companies can deduct their timber production costs immediately (expensing) rather than capitalizing the costs and effectively deducting the cost when the trees are harvested. This acceleration has a favorable effect on the present value of deductions for taxpayers. The deferral of taxable income is equivalent to an interest free loan from the government in the amount of the deferred income.

Due to growth in production levels, the amount of accelerated deductions in the initial years from recent investments usually exceeds income recognized in later years from prior investments. As long as the activity level is growing, the amount of tax deferred income keeps growing. If a tax deferral activity reaches a period of declining investment, however, the repayment of prior interest-free loans can be greater than the amount of new borrowing (deferred income). If the level of activity diminishes, then repayments will exceed deferrals. This actually occurred in FY87-89 with oil and gas exploration and development costs. The tax expenditure estimates for oil and gas exploration and development costs are negative because the steep decline in activity resulted in a larger amount of old loans being repaid (deferred income becoming subject to tax) than new loans being created (new income being deferred).

Because the tax expenditure budget is on a net cash flow basis, it shows the tax expenditure for oil and gas exploration as a negative due to the repayment of old "loans." This is misleading in two respects. First, the smaller level of new oil and gas exploration still benefits from tax deferral with an associated positive tax expenditure. Second, due to the lower tax rates after tax reform, the value of the tax deferral on the old loans increased. The tax deferral under prior law was the equivalent of borrowing 46 cents for each dollar of deduction, but after tax reform the repayments will only be 34 cents for each dollar of deferred income. Thus, the tax expenditure budget does not include the forgone revenue of companies paying back previously deferred income at lower marginal tax rates.

V. Conclusion

The dramatic reduction in tax rates and the broadening of the tax base under tax reform significantly reduced the value of federal resource allocation programs run through the tax code. The repeal and scale back of numerous tax expenditure provisions facilitated the transition into a lower tax rate environment. Lower tax rates, in turn, reduced the value of tax expenditure provisions otherwise untouched by the 1986 Act.

Overall, the 1986 Act reduced the amount of government subsidies provided through the tax system by $190 billion, or 40 percent of what they would have been in 1988 in the absence of tax reform. The reduction in marginal tax rates accounted for 60 percent of this reduction.

The Tax Reform Act of 1986, and more specifically the accounting changes it brought about, have added an additional layer of ambiguity and complexity to the tax expenditure estimation process. Further work in the identification and measurement of tax expenditures is needed to make the tax expenditure budget more useful for budget and economic analyses.

FOOTNOTES

[1] As noted in section III. some would argue that the passive loss limitation rules should not be part of the tax expenditure baseline. since they are targeted to only passive activities. In that case. the passive loss limitation rules might be considered a negative tax expenditure. and the rental exemption no longer a tax expenditure.

[2] The difference between outlay equivalent and revenue loss estimates is described in Section III.

[3] A small amount of rate reduction effect is shown for the transition relief of some investment tax credits.

[4] The small amount of base broadening effect is shown for several provisions which had minor base broadening relative to the rate reduction effect.

[5] The exclusion of current investment earnings on IRAs continues and existing IRAs are grandfathered. In addition. non-deductible IRAs with tax-deferred investment income were permitted. The current exclusion and deferral of investment earnings are not included in Table 4.

Table 1. EFFECT OF TAX REFORM ON OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES BY TYPE OF EFFECT
($ millions 1988 levels)

Types of Tax Reform Change	Tax Reform Base Effect	Tax Reform Rate Effect	Total Effect
Provisions Repealed	-80,690	-470[1]	-81,160
Provisions Scaled Back	-45,045	-34,355	-79,400
Provisions with Rate Effects Only[2]	-595[3]	-57,245	-57,840
Expanded Provisions	44,310	-23,000	21,310
New Provisions	5,020	-970	4,050
Total	-77,000	-116,040	-193,040

[1] Includes rate effect on a small amount of transition activity of repealed provisions.

[2] Includes provisions with predominant rate effects not included elsewhere.

[3] Includes provisions with very small amount of base broadening effect.

Table 2. OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES UNDER CURRENT LAW AND PRE-TAX REFORM LAW BY TYPE OF TAX REFORM CHANGE
($ millions at 1988 levels)

	Tax Expenditures		Effect of Tax Reform		
Provisions Repealed	Pre-Tax Reform Law	Current Law	Total	Base Broadening	Rate Reduction
Investment credit other than ESOPs, rehabiliation of structures, energy, property, and reforestation expenditures	39,030	2,500	-36,530	-36,060	- 470
Capital gains (other than agriculture, timber, iron ore, and coal)	27,730	--	-27,730	-27,730	0
Deduction for two earner married couples	8,495	--	- 8,495	- 8,495	0
Additional exemption for the elderly	4,025	--	- 4,025	- 4,025	0
Exclusion of untaxed unemployment insurance benefits	960	--	- 960	- 960	0
Capital gains treatment of certain agriculture income	935	--	- 935	- 935	0
Dividend exclusion	745	--	- 745	- 745	0
Capital gains treatment of certain timber income	665	--	- 665	- 665	0
Deductions for special percentage of taxable income for life insurance companies	610	--	- 610	- 610	0
Credit for political contributions	270	--	- 270	- 270	0
Capital gains treatment of royalties on coal	135	--	- 135	- 135	0
Additional exemption for the blind	35	--	- 35	- 35	0
Capital gains treatment of iron ore	25	--	- 25	- 25	0
Deduction for certain adoption expenses	*	--	*	*	0
Subtotal	83,660	2,500	-81,160	-80,690	- 470

Table 2. OUTLAY EQUIVALENT ESTIMATES (continued)

Provisions Scaled Back	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broadening	Effect of Tax Reform: Rate Reduction
Net exclusion of pension contributions and earnings:					
Employer plans	86,060	54,725	-31,335	- 8,305	-23,030
Deductibility of nonbusiness State and local taxes other than owner occupied homes	36,300	21,565	-14,735	-10,120	- 4,615
Net exclusion of pension contributions and earnings:					
Individual Retirement Accounts	26,015	11,395	- 14,620	- 9,855	- 4,765
Deductibility of interest on consumer credit	11,360	3,875	- 7,485	- 6,815	- 670
Accelerated depreciation of buildings other rental housing	3,380	350	- 3,030	- 2,920	- 110
Deductibility of medical expenses	4,395	2,040	- 2,355	- 1,925	- 430
Investment credit for ESOPs	2,185	245	- 1,940	- 1,915	- 25
Accelerated depreciation of rental housing	1,580	310	- 1,270	- 1,170	- 100
Deferral of income from controlled foreign corporations	845	150	- 695	- 425	- 270
Expensing of research and development expenditures	1,355	920	- 435	- 180	- 255
Excess bad debt reserves of financial institutions	475	90	- 385	- 335	- 50
Exclusion of employee meals and lodging	1,125	765	- 360	- 320	- 40
Investment credit for rehabilitation of structures (other than historic)	445	165	- 280	- 280	0
Tax incentives for preservation of historic structures	420	170	- 250	- 250	0
Exclusion of scholarship and fellowship income	875	655	- 220	- 225	5
Exclusion of parsonage allowances	165	160	- 5	- 5	0
Subtotal	176,980	97,580	-79,400	-45,045	-34,355

Table 2. OUTLAY EQUIVALENT ESTIMATES (continued)

Provisions with Rate Effect Only 1/	Tax Expenditures		Effect of Tax Reform		
	Pre-Tax Reform Law	Current Law	Total	Base Broadening	Rate Reduction
Exclusion of employer contributions for medical insurance premiums and medical care	40,990	31,005	- 9,985	240	-10,225
Deductibility of mortgage interest on owner occupied-homes	34,295	25,015	- 9,280	0	- 9,280
Deductibility of State and local property taxes on owner-occupied homes	17,050	11,095	- 5,955	0	- 5,955
Exclusion of social security benefits:					
OASI benefits for retired workers	18,145	13,005	- 5,140	0	- 5,140
Reduced rates on the first $100,000 of corporate income	8,060	4,720	- 3,340	0	- 3,340
Exclusion of interest on public purpose S&L debt	13,310	9,975	- 3,335	- 265	- 3,070
Deductibility of charitable contributions, other than education health	12,605	9,920	- 2,685	0	- 2,685
Net exclusion of pension contributions and earnings:					
Keogh Plans	4,040	1,475	- 2,565	0	- 2,565
Exclusion of interest on life insurance savings	9,230	7,000	- 2,230	0	- 2,230
Tax credit for corporations receiving income from doing business in U.S. possessions	4,570	2,455	- 2,115	- 245	- 1,870
Deferral of income for foreign sales corporations (FSC)	2,445	780	- 1,665	0	- 1,665
Exclusion of social security benefits:					
Benefits for dependents and survivors	3,855	2,770	- 1,085	0	- 1,085
Exclusion of income earned abroad by U.S. citizens	2,705	1,710	- 995	- 45	- 950
Exclusion of interest on State and local debt for private non-profit health facilities	3,060	2,270	- 790	- 60	- 730
Exclusion of interest on small-issue IDBs	3,400	2,650	- 750	- 70	- 680
Excess of percentage over cost depletion:					
Oil and gas	1,390	660	- 730	0	- 730
Exclusion of workers' compensation benefits	3,210	2,570	- 640	0	- 640
Exclusion of interest on owner-occupied mortgage subsidy bonds	2,455	1,905	- 550	- 50	- 500

Table 2. OUTLAY EQUIVALENT ESTIMATES (continued)

Provisions with Rate Effect Only 1/	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broadening	Effect of Tax Reform: Rate Reduction
Exclusion of benefits and allowances to Armed Forces	2,710	2,170	- 540	0	- 540
Credit for child care expenses	5,765	5,265	- 500	0	- 500
Deductibility of charitable contributions (education)	2,060	1,570	- 490	0	- 490
Exclusion of social security benefits:					
Disability insurance benefits	1,465	1,050	- 415	0	- 415
Exclusion of interest on IDBs for pollution control and sewage and waste disposal facilities	2,285	1,870	- 415	- 45	- 370
Exclusion of other employee benefits:					
Premiums for group term life insurance	2,365	1,955	- 410	0	- 410
Deductibility of charitable contributions (health)	1,785	1,380	- 405	0	- 405
Exclusion of veterans disability compensation	1,780	1,420	- 360	0	- 360
Exclusion of public assistance benefits	690	345	- 345	0	- 345
Excess of percentage over cost depletion, nonfuel minerals	630	305	- 325	0	- 325
Exclusion of interest on State and local debt for rental housing	1,670	1,395	- 275	- 35	- 240
Excess of percentage over cost depletion:					
Other fuels	415	185	- 230	0	- 230
Deferral of interest on savings bonds	1,080	890	- 190	0	- 190
Safe harbor leasing	850	660	- 190	0	- 190
Exclusion of interest on IDBs for airports, docks, etc.	835	675	- 160	- 15	- 145
Exclusion of veterans pensions	195	75	- 120	0	- 120
Exemption of credit union income	285	175	- 110	0	- 110
Exclusion of interest on State and local debt for private nonprofit educational facilities	340	250	- 90	- 5	- 85
Exclusion of interest on State and local student loan bonds	455	375	- 80	- 10	- 70

Table 2. OUTLAY EQUIVALENT ESTIMATES (continued)

Provisions with Rate Effect Only 1/	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broadening	Effect of Tax Reform: Rate Reduction
Exclusion of interest on State and local debt for veterans housing	320	240	- 80	- 5	- 75
Exclusion of railroad retirement system benefits	430	360	- 70	0	- 70
Amortization of start-up costs	300	240	- 60	20	- 80
Deductibility of casualty losses	320	265	- 55	0	- 55
Exclusion of interest on IDBs for certain energy facilities	215	175	- 40	- 5	- 35
Exclusion of other employee benefits:					
Premiums on accident and disability insurance	155	120	- 35	0	- 35
Exclusion of special benefits for disabled coal miners	140	110	- 30	0	- 30
Investment credit and seven-year amortization for reforestation expenditures	240	210	- 30	0	- 30
Deferral of tax on shipping companies	115	85	- 30	0	- 30
Exclusion of military disability pensions	130	100	- 30	0	- 30
Exclusion of interest on mass commuting vehicle IDBs	85	60	- 25	0	- 25
Expensing of certain capital outlays	500	480	- 20	0	- 20
Exclusion of GI bill benefits	80	65	- 15	0	- 15
Special rules for mining reclamation reserves	55	45	- 10	0	- 10
Expensing of exploration and development costs, nonfuel minerals	40	35	- 5	0	- 5
Exclusion of employer provided child care	85	80	- 5	0	- 5
Income of trusts to finance supplementary unemployment benefits	30	25	- 5	0	- 5
Expensing of exploration and development costs:					
Other fuels	40	35	- 5	0	- 5
Oil and gas	- 960	- 435	525	0	525
Exception from source rules for sales of inventory	1,650	3,320	1,670	0	1,670
Subtotal	21,6445	15,8605	-57,840	- 816	-57,024

Table 2. OUTLAY EQUIVALENT ESTIMATES (continued)

Expanded Provisions	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broadening	Effect of Tax Reform: Rate Reduction
Parental personal exemption for students age 19 and older	915	430	-485	610	-1,095
Tax credit for orphan drug research	--	*	*	*	0
Five year amortization for housing rehabilitation	45	45	0	10	-10
Alternative, conservation, and new technology credits:					
Supply incentives	-70	5	75	65	10
Targeted jobs credit	35	305	270	270	0
Credit for increasing research activities	195	1,310	1,115	1,270	-155
Earned income credit	560	1,850	1,290	1,205	85
Exclusion of capital gains on home sales for persons age 55 and older	2,040	3,860	1,820	3,170	-1,350
Deferral of capital gains on home sales	2,560	4,605	2,045	5,115	-3,070
Carryover basis of capital gains at death	10,105	16,025	5,920	15,155	-9,235
Accelerated depreciation of machinery and equipment	15,600	24,860	9,260	17,440	-8,180
Subtotal	31,985	53,295	21,310	44,310	-23,000

New Provisions	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broadening	Effect of Tax Reform: Rate Reduction
Additional deduction for the elderly	--	1,275	1,275	1,660	- 385
Exception from passive loss rules for $25,000 of rental losses	--	1,205	1,205	1,505	- 300
Special ITC carryback rules for steel	--	565	565	565	0
Credit for low-income housing	--	425	425	610	- 185
Expensing of multiperiod timber growing costs	--	265	265	360	- 95
Special ITC carryback rules for farming	--	235	235	235	0
Exception from interest allocation rules for certain non-financial-institution operations	--	65	65	70	- 5
Additional deduction for the blind	--	15	15	15	0
Treatment of loans for solvent farmers	--	*	*	*	0
Subtotal	--	4,050	4,050	5,020	- 970

Provisions Unchanged	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broadening	Effect of Tax Reform: Rate Reduction
Alternative, conservation, and new technology credits:					
Conservation incentives	-*	-*	0	0	0
Alternative fuel production credit	15	15	0	0	0
Alcohol fuel credit	10	10	0	0	0
Energy credit for intercity bus	-*	-*	0	0	0
Tax credit for the elderly and disabled	240	240	0	0	0
Subtotal	265	265	0	0	0

* Under $2.5 million. All estimates are rounded to the nearest $5 million.
1/ Includes provisions with predominant rate effects not included elsewhere.

Table 3. **CHANGE IN THE DISTRIBUTION OF INDIVIDUAL RETIREMENT PLANS 1/ TAX EXPENDITURES DUE TO THE 1986 ACT WITH DIFFERENT STACKING ORDERS 2/ BY ECONOMIC INCOME**

(In millions of 1988 dollars unless otherwise noted)

1983 Economic Income	Prior Law	Difference Between Prior Law and Current Law: Value	Percent	Base Effect Stacked First: Base Effect2/	Base Effect Stacked First: Rate Effect	Rate Effect Stacked First: Rate Effect2/	Rate Effect Stacked First: Base Effect
Less than $10,000	$ 2	$ 0	0.0%	$ 0	$ 0	$ 0	$ 0
$10,000 to $20,000	153	-48	-31.4	-26	-22	-11	-37
$20,000 to $30,000	478	-238	-49.8	-194	-44	-40	-198
$30,000 to $50,000	1,996	-1,285	-64.4	-1,015	-270	-396	-889
$50,000 to $100,000	6,165	-5,482	-88.9	-5,262	-220	-1,213	-4,269
$100,000 to $200,000	2,335	-2,195	-94.0	-2,144	-51	-587	-1,608
$200,000 and over	700	-663	-94.7	-642	-21	-277	-386
Total	11,829	-9,911	-83.8%	-9,283	-628	-2,524	-7,387

1/ Includes deductible contributions to IRAs and does not include the investment income tax expenditure element.

2/ Base effect includes all base broadeners, similar to equation 4.

Table 4. **CHANGE IN THE DISTRIBUTION OF MORTGAGE INTEREST DEDUCTION TAX EXPENDITURES DUE TO THE 1986 ACT WITH DIFFERENT STACKING ORDERS 1/ BY ECONOMIC INCOME**

(In millions of 1988 dollars unless otherwise noted)

1983 Economic Income	Prior Law	Difference Between Prior Law and Current Law: Value	Percent	Base Effect Stacked First: Base Effect2/	Base Effect Stacked First: Rate Effect	Rate Effect Stacked First: Rate Effect2/	Rate Effect Stacked First: Base Effect
Less than $10,000	$ 25	$ -8	-32.0%	$ 2	$ -10	$ 0	$ 1
$10,000 to $20,000	272	-113	-41.5	-4	-109	-92	-21
$20,000 to $30,000	1,161	-409	-35.2	47	-456	-310	-99
$30,000 to $50,000	7,176	-2,661	-37.1	215	-2,876	-1,962	-699
$50,000 to $100.000	17,018	-3,924	-23.1	1,467	-5,391	-3,847	-77
$100,000 to $200,000	6,336	-1,342	-21.2	576	-1,918	-1,679	337
$200,000 and over	2,305	-823	-35.7	171	-994	-962	139
Total	34,294	-9,280	-27.1	2,474	-11,754	-8,861	-419

1/ Base effect includes all base broadeners, similar to equation 4.

Table 5. SELECTED TAX EXPENDITURES RESULTING FROM ITEMIZED DEDUCTIONS AND EXCLUSIONS ($ millions at 1988 Levels)

	Pre-Tax Reform Law	1988 Law
Selected Itemized Deductions		
Home Mortgage Interest Expense	34,293	25,014
State and Local Income Taxes	27,350	17,151
State and Local Real Estate Taxes	12,106	8,544
Charitable Contributions	11,965	8,055
Medical Expenses	4,395	2,040
Sub-Total Deductions (before interaction)	88,742	60,804
Interaction	-7,358	-13,248
Sub-Total Deductions (after interaction)	81,384	47,556
Selected Exclusions		
Employer Contributions to Pension Plans	41,113	37,471
Employer Contribution to Medical and Health Insurance	28,595	25,440
Contributions to Individual Retirement Accounts	11,828	1,917
Social Security Benefits	20,689	17,593
Tax Exempt Bond Interest	15,183	10,584
Sub-Total Exclusions (before interaction)	117,408	93,005
Interaction	+2,935	+1,954
Sub-Total Exclusions (after interaction)	120,343	94,959
Selected Deductions and Exclusions (before interaction)	206,150	153,809
Interaction	-4,123	-10,619
Selected Deductions and Exclusions (after interaction)	202,027	143,190

Appendix - EFFECTS OF TAX REFORM ON OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES BY FUNCTION
($ millions at 1988 levels)

DESCRIPTION	Tax Expenditures		Effect of Tax Reform		
	Pre-Tax Reform Law	Current Law	Total	Base Broadening	Rate Reduction
NATIONAL DEFENSE					
Exclusion of benefits and allowances to Armed Forces	2,710	2,170	- 540	0	- 540
INTERNATIONAL AFFAIRS					
Exclusion of income earned abroad by U.S. citizens	2,705	1,710	- 995	45	- 950
Deferral of income for foreign sales corporations (FSC)	2,445	780	- 1,665	-1,665	0
Deferral of income from controlled foreign corporations	845	150	- 695	- 270	- 425
Exception from source rules for sales of inventory property	1,650	3,320	1,670	0	1,670
Exception from interest allocation rules for certain non-financial institutions operations	--	65	65	70	-5
Total	7,645	6,025	- 1,620	- 499	- 1,220
GENERAL SCIENCE, SPACE, AND TECHNOLOGY					
Expensing of research and development expenditures	1,355	920	- 435	- 180	- 255
Credit for increasing research activities	195	1,310	1,115	1,270	- 155
Total	1,550	2,230	680	1,090	- 410

Appendix - EFFECTS OF TAX REFORM (Continued)

	Tax Expenditures		Effect of Tax Reform		
DESCRIPTION	Pre-Tax Reform Law	Current Law	Total	Base Broadening	Rate Reduction
ENERGY					
Expensing of exploration and development costs:					
Oil and gas	-960	-435	525	0	525
Other fuels	40	35	-5	0	-5
Excess of percentage over cost depletion:					
Oil and gas	1,390	660	-730	0	-730
Other fuels	415	185	-230	0	-230
Capital gains treatment of royalties on coal	135	--	-135	-135	0
Exclusion of interest on IDBs for certain energy facilities	215	175	-40	-5	-35
Residential energy credits:					
Supply incentives	--	--	0	0	0
Conservation incentives	--	--	0	0	0
Alternative, conservation, and new technology credits:					
Supply incentives	-70	5	75	65	10
Conservation incentives	-*	-*	0	0	0
Alternative fuel production credit	15	15	0	0	0
Alcohol fuel credit	10	10	0	0	0
Energy credit for intercity buses	-*	-*	0	0	0
Special rules for mining reclamation reserves	55	45	-10	0	-10
Total	1,435	905	-530	-70	-460

Appendix - EFFECTS OF TAX REFORM (continued)

DESCRIPTION	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law		Effect of Tax Reform: Total		Effect of Tax Reform: Base Broadening		Effect of Tax Reform: Rate Reduction
NATURAL RESOURCES AND ENVIRONMENT								
Expensing of exploration and development costs, nonfuel mineral	40	35	-	5		0	-	5
Excess of percentage over cost depletion, nonfuel, mineral	630	305	-	325		0	-	325
Exclusion of interest on IDBs for pollution control and sewage and waste disposal facilities	2,285	1,870	-	415	-	45	-	370
Tax incentives for preservation of historic structures	420	170	-	250	-	250		0
Capital gains treatment of iron ore	25	--	-	25	-	25		0
Capital gains treatment of certain timber income	665	--	-	665	-	665		0
Expensing of multiperiod timber growing costs	--	265		265		360		0
Investment credit and seven-year amortization for reforestation expenditures	240	210	-	30		0	-	30
Total	4,305	2,855	-	1,450	-	625	-	825
AGRICULTURE								
Expensing of certain capital outlays	500	480	-	20		0	-	20
Treatment of loans for solvent farmers	--	*		0		0		0
Capital gains treatment of certain income	935	--	-	935	-	935		0
Special ITC carryback rules for farming	--	235		235		235		0
Total	1,435	715	-	720	-	20	-	700

Appendix - EFFECTS OF TAX REFORM

DESCRIPTION	Tax Expenditures		Effect of Tax Reform		
	Pre-Tax Reform Law	Current Law	Total	Base Broadening	Rate Reduction
COMMERCE AND HOUSING CREDIT					
Dividend exclusion	745	--	- 745	- 745	0
Exclusion of interest on small-issue IDBs	3,400	2,650	- 750	- 70	- 680
Exemption of credit union income	285	175	- 110	0	- 110
Excess bad debt reserves of financial institutions	475	90	- 385	- 335	- 50
Exclusion of interest on life insurance savings	9,230	7,000	- 2,230	0	- 2,230
Deductibility of interest on consumer credit	11,360	3,875	- 7,485	- 6,815	- 670
Deductibility of State and local property taxes on owner occupied homes	17,050	11,095	- 5,955	0	- 5,955
Deductibility of mortgage interest on owner occupied home	34,295	25,015	- 9,280	0	- 9,280
Exclusion of interest on owner-occupied mortgage subsidy bonds	2,455	1,905	- 550	- 50	- 500
Exclusion of interest on State and local debt for rental housing	1,670	1,395	- 275	- 35	- 240
Capital gains (other than agriculture, timber, iron ore, and coal)	27,730	--	-27,730	-27,730	0
Deferral of capital gains on home sales	2,560	4,605	2,045	- 3,070	5,115

Appendix - EFFECTS OF TAX REFORM (continued)

DESCRIPTION	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broadening	Effect of Tax Reform: Rate Reduction
COMMERCE AND HOUSING CREDIT					
Exclusion of capital gains on home sales for persons age 55 and older	2,040	3,860	1,820	3,170	1,350
Carryover basis of capital gains at death	10,105	16,025	5,920	15,155	9,235
Investment credit other than ESOPs, rehabilitation of structures, energy property, and reforestation expenditures	39,030	2,500	-36,530	-36,060	- 480
Special ITC carryback rules for steel	--	565	565	565	0
Accelerated depreciation of rental housing	1,580	310	- 1,270	- 1,170	- 100
Accelerated depreciation of buildings other than rental housing	3,380	350	- 3,030	- 2,920	- 110
Accelerated depreciation of machinery and equipment	15,600	24,860	9,260	17,440	- 8,180
Safe harbor leasing	850	660	- 190	- 190	0
Amortization of start-up costs	300	240	- 60	20	- 80
Reduced rates on the first $100,000 of corporate income	8,060	4,720	- 3,340	0	- 3,340
Deductions for special percentage of taxable income for life insurance companies	610	--	- 610	- 610	0
Exception from passive loss rules for $25,000 of rental losses	--	1,205	1,205	1,505	- 100
Total	192,810	113,240	-79,710	-46,140	-33,570

Appendix - EFFECTS OF TAX REFORM (continued)

DESCRIPTION	Tax Expenditures		Effect of Tax Reform		
	Pre-Tax Reform Law	Current Law	Total	Base Broaden-ing	Rate Reduc-tion
TRANSPORTATION					
Deferral of tax on shipping companies	115	85	-30	0	-30
Exclusion of interest on mass commuting vehicle IDBs	85	60	-25	0	-25
Total	200	145	-55	0	-55
COMMUNITY AND REGIONAL DEVELOPMENT					
Five year amortization for housing rehabilitation	45	45	0	10	-10
Credit for low-income housing	--	425	425	610	-185
Investment credit for rehabilitation of structures (and other historic)	445	165	-280	-280	0
Exclusion of interest on IDBs for airports, docks, etc.	835	675	-160	-15	-145
Total	1,325	1,310	-15	325	-340

Appendix - EFFECTS OF TAX REFORM (continued)

DESCRIPTION	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broadening	Effect of Tax Reform: Rate Reduction
EDUCATION, TRAINING, EMPLOYMENT AND SOCIAL SERVICES					
Exclusion of scholarship and fellowship income	875	655	- 220	- 225	5
Exclusion of interest on State and local student loan bonds	455	375	- 80	- 10	- 70
Exclusion of interest on State and local debt for private nonprofit educational facilities	340	250	- 90	- 5	- 85
Parental personal exemption for students age 19 and older	915	430	- 485	610	- 1,095
Deductibility of charitable contributions (education)	2,060	1,570	- 490	0	- 490
Sub-Total education	4,645	3,280	- 1,365	370	- 1,735
Exclusion of employer provided child care	85	80	- 5	0	- 5
Exclusion of employee meals and lodging (other than military)	1,125	,765	- 360	- 320	- 40
Exclusion of contributions to prepaid legal services plans	--	--	0	0	0
Investment credit for ESOPs	2,185	245	- 1,940	- 1,915	- 25
Credit for child and dependent care expenses	5,765	5,265	- 500	0	- 500
Targeted jobs credit	35	305	270	270	0
Deduction for two earner married couples	8,495	--	- 8,495	- 8,495	0
Sub-Total training and employment	17,690	6,660	-11,030	-10,460	- 570
Deductibility of charitable contributions, other than education and health	12,605	9,920	- 2,685	0	- 2,685
Deduction for certain adoption expenses	*	--	0	0	0
Exclusion of parsonage allowances	165	160	- 5	- 5	0
Sub-Total social services	12,770	10,080	- 2,690	- 5	- 2,685
Sub-Total	35,105	20,020	-15,085	-10,095	- 4,990

Appendix - EFFECTS OF TAX REFORM

DESCRIPTION	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broadening	Effect of Tax Reform: Rate Reduction
HEALTH					
Exclusion of employer contributions for medical insurance premiums and medical care	40,990	31,005	- 9,985	240	-10,225
Deductibility of medical expenses	4,395	2,040	- 2,355	- 1,925	- 430
Exclusion of interest on State and local debt for private nonprofit health facilities	3,060	2,270	- 790	- 60	- 730
Deductibility of charitable contributions (health)	1,785	1,380	- 405	0	- 405
Tax credit for orphan drug research	--	*	0	0	0
Sub-Total	50,230	36,695	-13,535	- 1,745	-11,790

Appendix - EFFECTS OF TAX REFORM (continued)

DESCRIPTION	Tax Expenditures		Effect of Tax Reform		
	Pre-Tax Reform Law	Current Law	Total	Base Broadening	Rate Reduction
INCOME SECURITY					
Exclusion of railroad retirement system benefits	430	360	- 70	0	- 70
Exclusion of workers' compensation benefits	3,210	2,570	- 640	0	- 640
Exclusion of public assistance benefits	690	345	- 345	0	- 345
Exclusion of special benefits for disabled coal miners	140	110	- 30	0	- 30
Exclusion of untaxed unemployment insurance benefits	960	--	- 960	- 960	0
Exclusion of military disability pensions	130	100	- 30	0	- 30
Net exclusion of pension contributions and earnings:					
Employer plans	86,060	54,725	-31,335	- 8,305	- 23,030
Individual Retirement Accounts	26,015	11,395	-14,620	- 9,855	- 4,765
Keogh Plans	4,040	1,475	- 2,565	0	- 2,565
Exclusion of other employee benefits:					
Premiums for group term life insurance	2,365	1,955	- 410	0	- 410
Premiums on accident and disability insurance	155	120	- 35	0	- 35
Income of trusts to finance supplementary unemployment benefits	30	30	0	0	0
Additional exemption for the blind	35	--	- 35	- 35	0
Additional deduction for the blind	--	15	15	15	0
Additional exemption for the elderly	4,025	--	- 4,025	- 4,025	0
Additional deduction for the elderly	--	1,275	1,275	1,660	- 395
Tax credit for the elderly and disabled	240	240	0	0	0
Deductibility of casualty losses	320	265	- 55	0	- 55
Earned income credit	560	1,850	1,290	1,205	85
Total	129,405	76,830	-52,575	-20,300	- 32,275

Appendix - EFFECTS OF TAX REFORM (continued)

DESCRIPTION	Tax Expenditures		Effect of Tax Reform		
	Pre-Tax Reform Law	Current Law	Total	Base Broadening	Rate Reduction
SOCIAL SECURITY					
Exclusion of social security benefits:					
Disability insurance benefits	1,465	1,050	- 415	0	- 415
OASI benefits for retired workers	18,145	13,005	- 5,140	0	- 5,140
Benefits for dependents and survivors	3,855	2,770	- 1,085	0	- 1,085
Total	23,465	16,825	- 6,640	0	- 6,640
VETERANS BENEFITS AND SERVICES					
Exclusion of veterans disability compensation	1,780	1,420	- 360	0	- 360
Exclusion of veterans pensions	195	75	- 120	0	- 120
Exclusion of GI bill benefits	80	65	- 15	0	- 15
Exclusion of interest on State and local debt for veterans housing	320	240	- 80	- 5	- 75
Total	2,375	1,800	- 575	- 5	- 570

Appendix - EFFECTS OF TAX REFORM (continued)

DESCRIPTION	Tax Expenditures: Pre-Tax Reform Law	Tax Expenditures: Current Law	Effect of Tax Reform: Total	Effect of Tax Reform: Base Broaden-ing	Effect of Tax Reform: Rate Reduc-tion
GENERAL GOVERNMENT					
Credit for political contributions	270	--	- 270	- 270	0
GENERAL PURPOSE FISCAL ASSISTANCE					
Exclusion of interest on public purpose state and local debt	13,309	9,975	- 3,335	- 265	- 3,070
Deductibility of nonbusiness State and local taxes other than owner-occupied homes	36,300	21,565	-14,735	-10,120	- 4,615
Tax credit for corporations receiving income from doing business in U.S. possessions	4,570	2,455	- 2,115	- 245	- 1,870
Sub-Total	54,180	33,995	-20,185	-10,630	- 9,555
INTEREST					
Deferral of interest on savings bonds	1,080	890	- 190	0	- 190
TOTAL	509,335	316,295	-193,040	-77,000	-116,040

* $2.5 million or less. All estimates have been rounded to the nearest $5 million.