RECONSIDERING TAX EXPENDITURE ESTIMATION

Rosanne Altshuler and Robert Dietz

We examine the measurement of tax expenditures, as well as review issues concerning the classification of tax expenditures generally. We use calculations from the Tax Policy Center’s microsimulation tax model to illustrate some of the problems with the current methodology for estimating tax expenditures. Unlike most previous work on the topic, we focus on how features of the current tax system including the alternative minimum tax and sunset rules complicate and compromise the value of information provided by the tax expenditure budget. We also present alternative measures of tax expenditures to improve the quality of information regarding the federal tax system.

Keywords: tax expenditures, income tax, revenue estimation, housing economics

JEL Codes: H20, H24, R38

I. INTRODUCTION

To most tax policy analysts, the term “tax expenditure” means a special provision of the tax system that reduces tax liability for a certain subset of taxpayers. Moreover, for many in the tax policy community, the term suggests tax breaks for limited constituencies that result in a narrow tax base and higher marginal tax rates. Some observers are more blunt: tax expenditures are tax loopholes that need to be closed. We leave it to other authors to examine the legitimacy of tax expenditure provisions from tax policy or economic efficiency perspectives. Instead, the present analysis examines the measurement of tax expenditures and details some of the complications and challenges associated with interpreting and applying its results.

The technical definition of tax expenditure is found in the Congressional Budget and Impoundment Act of 1974 (“Budget Act”), which established the modern Congressional budget-making process. The Budget Act requires annual publication of a list of tax expenditures in order to improve the transparency of the federal government budget and
account for proxy spending programs governed by the nation’s tax code. The Budget Act (Section 3(3) of Public Law 93-344) formally defines a tax expenditure as:

Revenue losses attributable to provisions of Federal income 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 tax liability.

As is well known, this definition is open to considerable interpretation. The legislative history for the Budget Act indicates that tax expenditures are to be determined in reference to “normal income tax law.” While not codified, legislative history can provide guidance for implementing the law. However, determining what is “normal” is an open question and almost certainly a normative exercise.

By the time the Budget Act was enacted both the congressional Joint Committee on Taxation (JCT) and the U.S. Department of the Treasury Office of Tax Analysis (OTA) had been producing tax expenditure analyses for years. The term “tax expenditure” is attributed to Assistant Secretary of the Treasury (Tax Policy) Stanley Surrey. In 1967, Surrey instructed his staff to compile a list of preferences and concessions in the income tax that were similar to expenditure programs. While Surrey’s stated motivation was to improve the budget process, he was also interested in drawing attention to subsidies in the tax code in hopes of building momentum for base-broadening tax reform.

Surrey’s efforts resulted in the first tax expenditure budget report in 1968 issued by the U.S. Department of the Treasury (hereafter, Treasury). Classifying certain provisions of the Internal Revenue Code as deviations from a comprehensive, progressive income tax, the Treasury reported tax expenditures for the individual and corporate income tax systems, a process that has continued to the present.1 While the first tax expenditure lists from Treasury were not included in the official budget, the Budget Act mandated that tax expenditures be reported as part of the Administration budget. The Budget Act required no distributional or other economic analysis beyond an estimate of the magnitude of the cost in terms of lost revenue of all listed tax expenditures.

Reflecting reconsiderations in the concept and presentation of tax expenditures, the Treasury tax expenditure analysis has evolved over time. Starting with the Fiscal Year (FY) 1983 Budget, Treasury introduced an additional tax baseline to classify and esti-

1 Until 2003, Treasury also included a list of tax expenditures under the estate and gift tax against a transfer-tax baseline. Tax expenditures for other taxes, such as excise taxes, are not reported. As always, there are limited exceptions. For example, both JCT and Treasury have reported the reduction in excise tax receipts that result from the alcohol fuel and biodiesel credits. One of the reasons given for the elimination of the tax expenditure estimates under the estate and gift tax may be viewed as being political. The FY 2003 budget states that “Tax expenditure estimates under the unified transfer (i.e., estate and gift) tax have been eliminated from the presentation because there is no generally accepted normal baseline for transfer taxes and this tax has been repealed under the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA)” (U.S. Office of Management and Budget (OMB), 2002, p. 95). EGTRRA, however, expires at the end of 2010.
mate tax expenditures. The new baseline, called the “reference” tax baseline, is closer to present law than the normal tax baseline and results in a more narrow definition of tax expenditures. Beginning with the FY 1984 Budget and until recently, Treasury presented outlay equivalent estimates for tax expenditures in addition to the traditional revenue-based estimates. The goal of this approach is to provide estimates that more closely correspond to estimates of direct outlay programs. Starting with the FY 1995 Budget, Treasury has reported present-value calculations of tax expenditures that involve either the deferral of tax payments into future periods or other long-term effects.

During the presidency of George W. Bush, the administration expressed concern with the tax base used to calculate tax expenditures. The FY 2002 Budget states that “because of the breadth of this arbitrary tax base, the Administration believes that the concept of ‘tax expenditure’ is uncertain” (OMB, 2002, p. 61). Similarly, the FY 2003 Budget describes a Treasury effort to reconsider and revise the tax expenditure presentation and notes that “(D)ue, in part, to the degree of arbitrariness in the tax expenditure baseline, the Administration believes the meaningfulness of tax expenditure estimates is uncertain” (OMB, 2003, p. 95). To address these concerns, the Administration began estimating tax expenditure estimates against a comprehensive income tax baseline and a consumption tax baseline in its FY 2004 Budget. (The presentations using the comprehensive income and consumption tax baselines were discontinued, however, beginning with the FY 2010 Budget.) The FY 2004 Budget introduced other innovations, including changes in the accelerated depreciation baseline, a discussion of negative tax expenditures (discontinued with the FY 2010 Budget), and an estimate of the (negative) tax expenditure for the double-taxation of corporate income against a comprehensive income tax (discontinued with the 2010 Budget). A tax expenditure for net imputed rent for owner-occupied housing has been included in the OMB presentation since the FY 2006 Budget.

The JCT began to estimate tax expenditures in 1972. In contrast to the Treasury analysis, the JCT presentation had remained relatively constant, usefully allowing analysts to make intertemporal comparisons. However, JCT temporarily implemented a new reporting system for tax expenditures in 2008 (JCT, 2008a). The most significant change involved a revision of the classification of tax expenditures. Under the new approach, JCT identified tax expenditures as falling into one of two classes: “Tax Subsidies,” defined as tax law provisions that are deliberately inconsistent with an identifiable general rule of present law rather than a hypothetical “normal” tax, and “Tax-Induced Structural Distortions,” defined as structural elements that materially affect economic decisions in a manner that imposes substantial economic efficiency costs (JCT, 2008b). Just one year later, in 2009, the staff of the JCT reverted back to their prior reporting methodology.

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2 The OMB explains in its FY 2008 Budget that outlay equivalents are no longer included “because they were often the same as the normal tax expenditure estimates, and the criteria for applying the concepts as to when they should differ were often judgmental and hard to apply with consistency across time and across tax expenditure items” (OMB, 2008, p. 286).
The evolution of the Treasury reports and the temporary change in the JCT tax expenditure report reflect, at least in part, the concerns of analysts writing on the subject from within and outside of government agencies. Legal scholars and economists have wrestled with the tax expenditure concept since Surrey developed the idea.\(^3\) A growing literature debates the usefulness of tax expenditure analysis for expenditure control, social and economic policy, and tax reform.\(^4\) And recommendations to improve tax expenditure reporting by providing more detail have been put forward by the Century Foundation Working Group on Tax Expenditures (Century Foundation, 2002).\(^5\)

In this paper, we discuss problems with the current methodology for estimating tax expenditures.\(^6\) Unlike most previous work on the topic, we focus on features of the current tax system that were not in place when Surrey introduced the expenditure concept, such as the alternative minimum tax (AMT) and sunset rules, and how these features complicate and compromise the value of information provided by tax expenditure reporting. We begin in the next section with a discussion of the issues that arise in defining the “normal” income tax structure. We review how this definition has been implemented by the JCT and Treasury and illustrate some of the consequences of the choice of the normal tax structure using estimates from the Urban-Brookings Tax Policy Center (TPC) microsimulation tax model. The third section reviews the basics of tax expenditure estimation and explores how “scoring” conventions affect the information provided by estimates. In both the second and third sections, we consider the additional information provided from hypothetical tax expenditures calculated using the TPC model. The final section concludes.

II. WHAT’S NORMAL?

A tax expenditure estimate shows the change in Federal income tax revenues due to the hypothetical elimination of a provision of the Internal Revenue Code. To qualify as a tax expenditure, the provision must be classified as a divergence from the defined normal income tax system. As noted above, the Budget Act does not define the reference normal tax. Hence, building a list of tax expenditures requires analysts to first define what constitutes the normal income tax. Baseline tax revenues for the estimation exercise can then be generated in reference to this “normal” tax.\(^7\)

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\(^4\) See, for example, Toder (2002), Burman (2003), Toder (2005), and Kleinbard (2010).

\(^5\) Among other proposals, the Century Foundation recommended: (1) combined tax expenditure estimates for groups of tax expenditures to account for interaction effects, (2) historical reporting of tax expenditures using comparable methods, and (3) distributional tax expenditure reporting for major provisions.

\(^6\) In a companion paper, Altshuler and Dietz (2008), we offer recommendations for reform of tax expenditure reporting.

\(^7\) The revenue baseline is generated using projections of Federal receipts either from the Congressional Budget Office, for the JCT estimates, or the Office of the Management and Budget, for the Treasury estimates.
A. Defining the Normal Income Tax

Defining the baseline tax structure is inherently a subjective exercise since it assumes some parts of existing law are “normal,” while others are intentional policy deviations. At a basic level, defining the normal income tax requires analysts to specify the tax base, the rate structure, and the tax unit. The staffs of the JCT and OTA define the normal structure of the income tax as one personal exemption for each taxpayer, one exemption for each dependent, the standard deduction, the prevailing rate structure for the individual income tax, a separate corporate income tax with one marginal tax rate, and deductions for expenses related to earning income. Consistent with the tax code, tax brackets differ based on marital status. Thus, the tax unit is the individual taxpaying unit for the individual tax and the corporation for the corporate tax.

The staff of the JCT defends the inclusion of the personal exemption and the standard deduction by asserting that these provisions implicitly define a “zero bracket”; the OTA cites tax administration as a possible reason to include these provisions in the normal tax base (JCT, 2010; OMB, 2010). Using basic tax policy principles, neither reason is entirely compelling. One could argue that all provisions that make up the tax liability threshold, or the income level at which a family begins to pay positive tax, should be part of the normal tax. Under this scenario, the child credit and earned income tax credit (EITC), for example, would not be tax expenditures because they constitute part of the zero bracket. Alternatively, one could treat the personal exemption and standard deduction as tax expenditures, which they would be, for example, if the normal income tax was structured in the same way as the current AMT.

More fundamentally, these distinctions between what is a tax expenditure and what is part of the normal income tax reveal differences that may be meaningful within a tax law context but not within an economic context. As in the case of the EITC, a credit is almost by definition a tax expenditure. However, one could imagine a set of deductions and credits that generates the equivalent tax liabilities for lower-income taxpayers as the prevailing set of marginal tax rates. Under existing practice, the set of deductions and credits is a tax expenditure (for income support) and the set of tax rates is part of the normal tax system. This discussion serves to illustrate the inherently subjective nature of tax expenditure estimation and classification.

Present practice is not even entirely consistent with respect to rates of tax. While the progressive tax structure in the individual tax is considered normal, the graduated corporate rates that are part of the corporate income tax are treated as a tax expenditure.8 Furthermore, the reduced rates of tax on long-term capital gains and qualified

8 The staff of the JCT includes the lower rates as a tax expenditure, arguing that they provide a tax benefit for small businesses. An anonymous referee argued that the justification for this distinction between the tax expenditure reporting treatment of the graduated rates for individual taxpayers (part of the normal structure) and corporate taxpayers (tax expenditures) is because the reduced corporate tax rates do not provide tax relief according to an income test of the ultimate owners of these corporations.
dividends enacted with the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) are classified as tax expenditures by the staff of the JCT but were not classified as expenditures by the staff of the OTA between 2005 and 2009 (OMB, 2010).9 Instead the Administration considered the reduced rates to be part of the normal tax system. These “missing” tax expenditures were not small — taken together, the special rates on long-term capital gains and qualified dividends represent the third largest tax expenditure in the OMB list for FY 2011 (OMB, 2010).10

B. The Normal Income Tax versus a Comprehensive Income Tax

The Administration budget presentation includes a discussion of how the normal tax structure differs from a comprehensive income tax which defines income as the sum of consumption plus any changes in net wealth over a given time period (Carroll, Joulfaian, and Mackie, 2011). We briefly highlight the main differences between the normal tax used for tax expenditure estimation and a comprehensive income tax in this section.

As mentioned above, the normal tax structure used by JCT and OTA includes a separate corporate income tax. Under a comprehensive income tax, the two systems would be structured so that all income would be subject to taxation only once. Although the normal structure does include a foreign tax credit and dividends received deduction to prevent double taxation at the corporate level, the present concept does not include any provision to mitigate the double taxation of income that results from having both corporate and individual tax systems. As mentioned in the introduction, the staff of the OTA has in the past included an appendix to the tax expenditure section of the Budget that reports the “double tax on corporate profit” as a negative tax expenditure.11 The estimate is negative since the “provision” raises rather than loses revenue relative to the baseline tax system.12

Another major departure from a comprehensive income tax base involves the timing of taxes. While a comprehensive income tax would tax all income as it is earned, the

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9 The 2005 Budget document explains that, “In a gradual transition to a more economically neutral tax system under which all income is taxed no more than once, the lower tax rates on dividends and capital gains on corporate equity under current law have not been considered tax preferences since 2005” (OMB, 2007, p. 299). As a result, the OTA tax expenditure estimates for the lower rates on capital, step-up in basis for capital gains transferred at death, and inside build-up on tax-preferred assets were limited to capital gains from sources other than corporate equity.

10 The largest single tax expenditure in 2011 is the exclusion of employer contributions for medical insurance premiums and medical care ($177 billion), followed by the mortgage interest deduction ($105 billion) and the special treatment of 401(k) plans ($67 billion). The expenditure for the lower rate on capital gains is $44 billion. The special treatment of qualified dividends is estimated to cost $27 billion.


12 An anonymous referee noted that this treatment could be reversed; that the lack of double taxation on pass-through entities and sole proprietorships could be treated as a positive tax expenditure by treating the combined corporate-individual income tax rates as the normal, baseline tax rate.
normal structure taxes capital gains only upon realization. Thus, deferral of tax on capital gains is not considered a tax expenditure under the normal tax structure.\footnote{It is interesting to note that some provisions in the tax code that allow deferral of taxation are identified as such. For example, the deferral of gain on like-kind exchanges and interest on savings bonds are tax expenditures. An anonymous referee pointed out that in some business-related cases, the tax code does require (and sometimes taxpayers want) mark-to-market taxation of assets.}

A comprehensive income tax would levy tax on real as opposed to nominal gains in capital asset or debt values. But present law fails to provide any indexing of the bases of capital assets or debt. Both the JCT and OTA follow present law in their normal tax definition.

A comprehensive income base would include accrued and imputed income such as imputed rent from housing and imputed services from consumer durable goods. Until 2006, the revenue loss from the exclusion of imputed rent was not reported in either the JCT or OTA tax expenditure exercises. Starting with the FY 2006 Budget, the Treasury began estimating the tax expenditure for the exclusion of implicit rental income of homeowners net of depreciation, interest, and taxes. The current presentation, however, creates an inconsistency. The OTA estimate for net imputed rent appears in the regular listing of tax expenditures. But if imputed rent is treated as a tax expenditure, then the mortgage interest deduction and deduction for taxes on owner-occupied homes should not be reported as separate tax expenditures because they are permissible deductions. OTA lists all these provisions as tax expenditures, which can result in double counting if the individual tax expenditures are summed. To avoid such inadvertent double-counting, tax expenditure reports might be modified to include either, but not both, of these measures.\footnote{More fundamentally, the OTA does not report similar, although smaller, imputed-rent tax expenditures for other durable goods, such as vehicles.}

The individual AMT and passive loss rules create their own complexities with respect to tax expenditure classification. A comprehensive income tax would (presumably) not include an AMT and would allow for the full deduction of losses generated from passive activities. The annual JCT tax expenditure pamphlet explains that the AMT and the passive activity loss rules are not part of the normal income tax. Instead, they are viewed as provisions that reduce the magnitudes of the tax expenditures to which they apply. Exceptions to the AMT and the passive loss rules are therefore not classified as tax expenditures by the staff of the JCT because the effects of the exceptions are already incorporated in the estimates of related tax expenditures. In contrast, the OTA lists the AMT and passive loss rules as part of the normal tax system.

Like the individual AMT, the corporate AMT is part of the normal tax structure for the OTA but not for the JCT. Both agencies consider the prevailing rules providing for carrybacks and carryforwards of business net operating losses as a part of the normal tax structure. Under a comprehensive income tax, however, losses would be fully and immediately deductible.
Another difficult issue for any tax system involves the tax treatment of the recovery of capital costs. Analysts must specify the “normal” treatment of depreciation for tax purposes. A comprehensive income tax would provide inflation adjusted allowances for economic depreciation. The OTA follows this treatment and uses estimates of real, inflation adjusted, economic depreciation in its normal tax baseline. In contrast, the JCT treats capital cost recovery allowances that are more generous than those provided under section 168(g), which allows straight-line depreciation over a period that is longer than under the current law accelerated system, as tax expenditures.\textsuperscript{15}

C. Differences in Normal Tax Baseline across Institutions

As should be clear, the definition of the normal tax for purposes of calculating tax expenditures is not obvious. The normal tax is not analogous to a comprehensive income tax or the current tax system and changes over time. Further, JCT and OTA employ slightly different definitions. In addition, as mentioned in the introduction, the staff of the OTA currently uses two baselines: a normal tax baseline and a reference tax baseline, with the latter being closer to existing tax law.

Table 1 shows the differences between the JCT and OTA definitions of “normal tax” as well as the difference between the OTA “normal” and “reference” tax baselines. As the table demonstrates, the JCT methodology uses a somewhat broader definition of the normal income tax base. Accordingly, the JCT list of tax expenditures includes some provisions that are not contained in the Treasury list.\textsuperscript{16} The most striking differences, in terms of the magnitudes of the estimates, are the omissions from the OTA tax expenditure list of the exclusion of the value of Medicare Part A (hospital insurance), Part B (supplementary medical insurance), and Part D (prescription drug insurance) in excess of premiums.

D. The Normal Tax Structure and Tax Expenditure Estimates

Tax policy proposals that change the normal tax structure by definition change the magnitude of tax expenditure estimates. A decrease in marginal tax rates or an increase in the standard deduction, for example, will decrease the tax expenditure for the mortgage interest deduction and any other itemized deduction. As a result, both the size and distribution of individual tax expenditures can be affected by changes to that specific tax

\textsuperscript{15} Prior to 2004, OTA used the JCT methodology.

\textsuperscript{16} Nonetheless, there are tax expenditures reported by OTA that are not reported by the JCT. In the past, the JCT pamphlet has included a list of tax expenditures that are scored by the JCT but not by Treasury (and vice-versa). An interesting difference between the two is that Treasury counts a credit against excise taxes that has no effect on income tax liabilities, the alternative fuel and fuel mixture tax credit, as a tax expenditure. JCT provides an estimate for an income tax credit provided for the carrying of excise taxes paid on distilled spirits in wholesale inventories.
expenditure’s rules, as well as changes to other tax rules that affect the size or ability to claim the tax expenditure. These include changes to the income tax rates, the standard deduction, and the AMT.

1. Consequences of the Standard Deduction

Including the standard deduction in the normal tax structure has an important impact on the tax expenditures for itemized deductions. As explained further in the next section, the procedure for estimating tax expenditures essentially consists of running taxpayers through a tax calculator under the baseline normal tax structure with and without the tax provision and comparing tax revenues. A taxpayer that would not itemize in the absence of a particular itemized deduction is assumed to claim the standard deduction (this is sometimes called “tax form behavior”). As a result, the standard deduction reduces the estimate of some tax expenditures arising from itemized deductions. Some examples of the effect of the standard deduction on the tax expenditure estimates are shown in Table 2.

The hypothetical taxpayer in Table 2 itemizes and claims a total of $13,100 of itemized deductions for state and local income taxes, real estate taxes, home mortgage interest, and charitable contributions. The standard deduction is assumed to be $10,000 and the taxpayer is assumed to face a marginal tax rate of 20 percent regardless if s/he itemizes. We ignore complications related to the AMT for now. The first column shows the base case; the next four columns show the tax expenditure estimates for each of the itemized deductions.

Note first that although the deductions this taxpayer claims for state and local income taxes and for real estate taxes are different, the tax expenditure estimates are identical. This is shown in columns (2) and (3). Both the itemized deduction for state and local income taxes and for real estate taxes are large enough that if either were removed, the taxpayer would claim the standard deduction. The increase in taxable income is simply the difference between the taxpayer’s itemized deductions ($13,000) and the standard deduction ($10,000). Thus, the revenue gain from eliminating either deduction is 20 percent of $3,100 or $620.

Now consider what happens if the mortgage interest deduction is disallowed. In this case the tax expenditure estimate is based on the full amount of this taxpayer’s mortgage interest payments and the standard deduction has no effect on the estimate (column 4). Our example also shows how tax expenditure estimates vary with the magnitude of the standard deduction. For example, increasing the standard deduction by $2,000 makes all of this taxpayer’s itemized deductions “marginal” in the sense that the taxpayer takes the standard deduction in the absence of any one of their itemized deductions. As a result, the tax expenditure is the same for all four deductions.

The last row of Table 2 shows clearly that the tax expenditure estimate of an itemized deduction does not reflect how revenues would change if the deduction were avail-
### Table 1
A Comparison of Baselines

<table>
<thead>
<tr>
<th>Individual tax</th>
<th>JCT Normal Tax</th>
<th>Treasury Normal Tax</th>
<th>Treasury Reference Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>• One personal exemption for each taxpayer and dependent</td>
<td>JCT normal tax with the following exceptions</td>
<td>Treasury normal tax with the following exception</td>
<td></td>
</tr>
<tr>
<td>• Standard deduction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Includes all cash transfer payments from the Government</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Deductions for investment and employee business expenses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Prevailing tax rate schedule and tax brackets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Capital gains taxed upon realization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• All employee compensation subject to tax currently</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Employee stock options taxed at regular rate when options exercised (with corresponding deduction for employees). Income is difference between purchase price of stock and the market price on the day the option exercised.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• All other income and transfers subject to tax</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Social security income excluded only for the portion of retirement benefits that represent a return of payroll taxes paid during working years; Medicare benefits excluded only for the portion of HI tax contributions; public assistance benefits (food stamps, Medicaid, public housing) subject to tax; gifts excluded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Imputed income from owner-occupied homes excluded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(but not classified as tax expenditure due to administrative necessity)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Income tax levied on nominal not real gains in asset values (no indexing)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Foreign tax credit</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Business income taxation

- Treatment of capital costs
  - Cost recovery allowances more favorable than straight-line recovery
- No indexing
- Accounting standards
  - Accrual method of accounting, standard of “economic performance” used to determine whether liabilities are deductible, and general concept of matching income and expenses. Tax provisions that do not satisfy all three are viewed as tax expenditures.
- Prevailing carryback and carryforward periods for net operating losses
- Top statutory rate on corporate income (no graduated rates)
- Special tax rules for pass-through entities and nonprofit corporations exempting them from corporate income tax
- Controlled foreign corporations (CFCs) not considered separate entities from controlling U.S. shareholders
- Foreign tax credit

<table>
<thead>
<tr>
<th>JCT normal tax with the following exceptions</th>
<th>Treasury normal tax with the following exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Includes corporate AMT</td>
<td>• Includes prevailing graduated corporate rates</td>
</tr>
<tr>
<td>• Includes cash method of accounting for certain businesses</td>
<td>• Includes accelerated depreciation</td>
</tr>
<tr>
<td>• Uses economic depreciation in baseline</td>
<td>• CFCs are considered separate entities (except for tax haven activities)</td>
</tr>
</tbody>
</table>

Notes: See JCT (2010) and OMB (2010) for further details.
## Table 2

Tax Expenditure Estimates for a Hypothetical Taxpayer ($)

<table>
<thead>
<tr>
<th></th>
<th>Base Case (1)</th>
<th>Eliminate State and Local Deduction (2)</th>
<th>Eliminate Real Estate Deduction (3)</th>
<th>Eliminate Home Mortgage Interest Deduction (4)</th>
<th>Eliminate Charitable Contributions Deduction (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Itemized deductions:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State and local income taxes</td>
<td>6,500</td>
<td>0</td>
<td>6,500</td>
<td>6,500</td>
<td>6,500</td>
</tr>
<tr>
<td>Real estate taxes</td>
<td>3,500</td>
<td>3,500</td>
<td>0</td>
<td>3,500</td>
<td>3,500</td>
</tr>
<tr>
<td>Home mortgage interest deduction</td>
<td>1,100</td>
<td>1,100</td>
<td>1,100</td>
<td>0</td>
<td>1,100</td>
</tr>
<tr>
<td>Charitable contributions</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sum of itemized deductions</strong></td>
<td>13,100</td>
<td>6,600</td>
<td>9,600</td>
<td>12,000</td>
<td>11,100</td>
</tr>
<tr>
<td><strong>Standard deduction</strong></td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td><strong>Taxpayer itemizes?</strong></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Itemized deductions claimed by taxpayer</strong></td>
<td>13,100</td>
<td>10,000</td>
<td>10,000</td>
<td>12,000</td>
<td>11,100</td>
</tr>
<tr>
<td><strong>Tax expenditure estimate for eliminated itemized deduction(s)</strong></td>
<td>620</td>
<td>620</td>
<td>220</td>
<td>220</td>
<td>400</td>
</tr>
<tr>
<td>Tax expenditure if standard deduction raised to $12,000</td>
<td>220</td>
<td>220</td>
<td>220</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Tax expenditure if itemized deduction were an above the line deduction or an adjustment</td>
<td>1,300</td>
<td>700</td>
<td>220</td>
<td>400</td>
<td></td>
</tr>
</tbody>
</table>

Note: Assumes a flat marginal tax rate of 20 percent.
able to all taxpayers and not just itemizers. Of course, this is not the exercise that tax expenditure estimates were meant to address, but is one that can be of interest to policy analysts.

Our example ignored the phase-out of itemized deductions under current law, which is part of the normal tax baseline (and has been since the so-called Pease provision was put in place in 1990). The phase-out reduces expenditure estimates of itemized deductions for taxpayers over certain income thresholds under the regular tax but not under the AMT leading to complicated interactions between the standard deduction, itemized deductions, and the AMT. Barthold, Koerner, and Navratil (1998) show how these phase-outs, phase-ins, and other income tests with respect to certain tax provisions can create conditions under which a taxpayer’s effective tax rate can exceed their statutory marginal tax rate, with additional complications for revenue and tax expenditure estimation.

2. Consequences of the AMT

The AMT reduces the value of some tax preferences by “recapturing” them. The property tax deduction, for example, is not allowed under the AMT. The AMT also affects the value of certain tax preferences by changing effective marginal tax rates. For example, mortgage interest paid, with the exception of home equity loan interest not used for home improvement, may be deducted under both the regular income tax and the AMT. Moving from income-tax-paying status to AMT-paying status implies changing the applicable marginal tax rate under which mortgage interest paid is deductible and thus the value of the tax expenditure.

Since 2001, Congress has repeatedly adjusted the AMT exemption on a temporary basis to prevent too many taxpayers from being subject to the AMT. Prior to 2001, the AMT exemption amounts were held constant at 1993 levels. Without an inflation adjustment, or “AMT patch” as it is commonly called, the AMT exemption amounts would revert back to 1993 levels. Currently, Congress has not extended the AMT patch beyond 2009. If the AMT is not patched, it will affect nearly a third of all taxpayers in 2010 (from just 5 percent in 2009) and generate more than 10 percent of total individual income tax revenue (Lim and Rohaly, 2009). To demonstrate the consequences of the AMT for the tax expenditure budget, we use the TPC microsimulation tax model to calculate how a set of tax expenditure estimates vary across different policy scenarios.

The TPC tax model uses two data sources: the 2004 public-use file (PUF) produced by the Statistics of Income (SOI) Division of the Internal Revenue Service and the 2005 Current Population Survey (CPS). The PUF contains 150,047 income tax records with detailed information from federal individual income tax returns filed during 2004. It provides key data on the level and sources of income and deductions, income tax liability, marginal tax rates, and use of particular credits, but it excludes most information about pensions and IRAs as well as demographic information such as age. TPC uses a constrained statistical match with the March 2005 CPS of the U.S. Census Bureau.
to map non-tax information onto the PUF. The data is “aged” based on forecasts and projections of growth in various types of income from the Congressional Budget Office (CBO), the growth in the number of returns from the IRS, and the demographic composition of the population from the Census Bureau.

We estimate tax expenditures for selected tax items for the years 2006–2020 under three policy scenarios: (1) current law, (2) current law with no AMT, and (3) current policy. By “current law” we mean the law in place in the year of the estimate; for example, the 2010 tax expenditure for the mortgage interest deduction uses the rules of the Internal Revenue Code in place for 2010. Most of the major tax cuts enacted in the Economic Growth Tax Relief Reconciliation Act of 2001 (EGTRRA) and the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) are scheduled to expire on January 1, 2011, a date some observers have called “tax policy doomsday.” The “current law” scenario assumes that these tax cuts do expire as scheduled and that the AMT exemption reverts to its prior rule structure after 2009 (1993 exemption amounts that are not indexed for inflation and exclusion of nonrefundable credits against AMT liability). Our “current law with no AMT” scenario assumes that the AMT is repealed. Our “current policy” baseline, assumes permanent extension of the 2001 and 2003 tax cuts and an indexed patch to the AMT that maintains its exemptions at the real levels in effect for tax year 2009.

For years prior to 2010, our current law and current policy scenarios are, by definition the same. In 2010, our current law baseline assumes no AMT patch while our current policy baseline assumes the usual extension to the AMT patch. From 2010 onward, current policy and current law have different tax schedules and different adjustments to the AMT exemption threshold.

Figure 1 shows the tax expenditure for the mortgage interest deduction, the state and local income/sales tax deduction, and the property tax deductions available to itemizers from 2006 to 2020 under our three policy scenarios. We choose these tax items because they are commonly claimed by itemizers and illustrate certain complications regarding tax expenditure estimation that did not exist when reporting began due to the AMT and the expiration of major tax changes.

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17 The statistical match provides important information not reported on tax returns, including measures of earnings for head and spouse separately, their ages, the ages of their children, and transfer payments. The statistical match also generates a sample of individuals who do not file income tax returns (“nonfilers”). By combining the dataset of filers with the dataset of estimated nonfilers from the CPS, the TPC model is able to carry out distributional analysis on the entire population rather than just the subset that files individual income tax returns.

18 In particular, provisions set to expire include the marginal income tax rate cuts, including the creation of the 10 percent bracket and the reduction of the maximum rate from 39.6 percent to 35 percent.

19 As of tax year 2004, individual taxpayers can elect to claim an itemized deduction for either their state and local income taxes or their state and local sales taxes (by accumulating receipts or selecting a calculated value from the IRS for their area).
Figure 1 clearly shows the impact of the AMT and changes in effective marginal income tax rates. As noted above, the AMT reduces the tax expenditure of certain tax items by disallowing a deduction again AMT liability. This is seen clearly in Figure 1 for the state and local income/sales tax deductions and property tax deductions, neither of which is allowed under the AMT. The tax expenditure estimates are consistently higher under the current law with no AMT scenario than they are under the current law scenario. The absence of an AMT patch in 2010 under current law explains the dramatic decline in the current law tax expenditures for the state and local income/sales tax deduction and property tax deduction in 2010 relative to current policy.

The effect of the AMT on the mortgage interest deduction is much different. Because most mortgage interest expenses may be deducted under the AMT, the TPC model estimates for the “current law” and “current law with no AMT” scenarios are almost the same until 2010 and considerably more similar after 2010 than for the other two deductions reported in Figure 1.

The rank ordering of tax expenditure estimates across the three policy scenarios differs among these deductions. For the period after 2010, the tax expenditure for the mortgage interest deduction is largest under current law, followed by current law with no AMT, and then current policy. Because current law specifies higher effective tax rates (both in terms of marginal income rates and increased application of the AMT)
in the post-2010 period and most mortgage interest may be deducted under the AMT, current law produces the highest tax expenditure estimate.\textsuperscript{20} Indeed, under current law, there is no extension of the AMT patch. This implies that more taxpayers end up having AMT liability. And because there is no standard deduction under the AMT, all taxpayers with deductible mortgage interest benefit from taking the deduction, increasing the revenue cost of this tax expenditure. In addition, under the AMT there is no phase-out for itemized deductions, which again increases the tax expenditure estimate for this period.

Current policy produces the smallest tax expenditure estimates for the mortgage interest deduction because it applies the lower effective marginal tax rates from EGTRRA. On the other hand, tax expenditures for state and local incomes/sales tax deductibility and real estate tax deductibility are the largest under the no AMT scenario. This is because these tax items are not deductible from AMT taxable income and thus are recaptured under AMT.

The effects of changing effective income tax rates across the policy scenarios can also be seen among the three tax items in Figure 1. The most obvious example occurs in 2011 under the current law baseline in which the tax expenditures for the income/sales and property tax deductions increase from their 2010 levels and exceed their current policy levels. This effect is caused by the sunset of the 2001 and 2003 income tax cuts, thereby increasing the values of these tax expenditures.\textsuperscript{21}

The application of the AMT to a much larger set of taxpayers under the current law scenario causes the current policy tax expenditure to eventually exceed the current law expenditure estimate for the two deductions not allowed under the AMT. With no AMT, the current law expenditure is always higher since the value of these deductions is higher when marginal tax rates are higher. However, with no AMT patch under current law, eventually more taxpayers end up on the AMT and the expenditure falls below the current policy estimate even though marginal tax rates are lower. For the property tax deduction this occurs in 2015.

For the income/sales tax deduction, the current policy expenditure does not exceed the current law expenditure until 2020. The reason this occurs later for this deduction is that the deductibility of state and local income/sales taxes under the individual income tax is a leading cause of taxpayers being subject to the AMT (Burman et al., 2008). Thus even with the patch in the current policy baseline, as taxpayers earn additional income, as built into the forecast model, more of this deduction is recaptured thereby keeping the tax expenditure lower than it otherwise would be. Eventually the effect of the patch dominates and the 2020 expenditure under current policy exceeds the expenditure under current law.

\textsuperscript{20} Using the NBER’s tax simulation program TAXSIM, Feenberg and Poterba (2004) calculate that the weighted average marginal tax rate for the mortgage interest deduction is about 2 percentage points greater under the AMT than without the AMT in 2007.

\textsuperscript{21} The drop in the values of the 2009 mortgage interest deduction is due to the housing crisis and the resulting decline of interest paid.
The current policy tax expenditure for the mortgage interest deduction, on the other hand, is always lower than the tax expenditures under the current law and no AMT scenarios because effective income tax rates are always lower for this deduction under current policy. Likewise, the current law scenario always produces the largest tax expenditure for the mortgage interest deduction because without an AMT patch and expiration of the 2001 and 2003 tax cuts, the effective marginal income tax rate under which most mortgage interest is deducted is the highest.

These examples make it clear that the AMT can have wide ranging and unpredictable impacts on tax expenditure estimates. Much has been written concerning the uncertainty created by the AMT (e.g., Ackerman and Altshuler, 2006). This uncertainty spills over to tax expenditure estimates that are presented only for current tax law baselines and not alternative scenarios that may be more realistic in terms of future policy, such as an extension of the AMT patch.

3. Hypothetical Tax Expenditures

We have noted that what is considered “normal” is subject to judgment. In this section, for illustrative purposes, we consider some hypothetical tax expenditures that would arise under different definitions of the normal tax. These “new” expenditure estimates provide information regarding the cost of the structure of the prevailing tax system.

Suppose first that the standard deduction and personal exemptions were classified as tax expenditures (listed as income support policies, for example). Using the TPC model, we find that the personal exemption estimate is $134 billion in 2009 and represents 16.5 percent of baseline revenues. Clearly, this deviation from a pure income tax with no deductions or exclusions is large relative to other policy divergences in the tax code.

To estimate the hypothetical tax expenditure for the standard deduction, we set the deduction amount equal to zero for all taxpayers. The TPC model includes imputations of itemized deductions for non-itemizers. With the standard deduction equal to zero, all taxpayers correspondingly become itemizing taxpayers, but for previous non-itemizers their tax liability in general increases because the standard deduction was greater than the sum of their otherwise itemized deductions. The difference between these amounts is the tax expenditure. Under this approach, the TPC model indicates that the hypothetical tax expenditure for the standard deduction is $40 billion for 2010, a value that clearly rivals other major existing tax expenditures.

Similarly, the progressive rate structure is a set of preferred tax rates, and special rates are considered a tax expenditure under the Budget Act. Therefore, an argument can be made that this system is itself a tax expenditure. In fact, as noted earlier, one could construct a set of deductions/credits under a pure flat tax that generates the same tax liabilities as the progressive rates create under present law: the set of deductions/credits would be tax expenditures, while the set of progressive rates would not. Nonetheless, most tax analysts would agree that the ability-to-pay principle, and thus the progressive system of tax rates, is an important element of the existing income tax. However,
if one were to report a tax expenditure for this component, it would be similar to the following exercise.

Assume that for the purposes of this hypothetical tax expenditure, the maximum statutory marginal income tax rate in a given year (35 percent for our purposes) is the “normal” rate. All other rates under present law are therefore preferential rates, assigned on the basis of income type (e.g., wages or capital gains) or other criteria (e.g., adjusted gross income of the taxpayer). These preferred rates are tax expenditures.

We estimate tax expenditures for each of the rates using 2007 SOI data. Figure 2 shows our expenditure estimates for the 2007 individual tax brackets. The tax expenditure for the 10 percent bracket (the estimate for taxing income in this class at 10 percent rather than 35 percent) is equal to $275.4 billion, a number that substantially exceeds the cost of each tax expenditure listed in the OMB presentation in 2007. The other estimates are $555.8 billion for the 15 percent rate, $85.9 billion for the 25 percent rate, $20.8 billion for the 28 percent rate, and $5.2 billion for the 33 percent rate. In total, the hypothetical tax expenditure for “income support for the progressive system of rates” is $966 billion per year, an estimate that exceeds the sum of all official tax expenditures for 2007.

Combined with the estimates for the standard deduction and the personal exemptions, these calculations provide information regarding the amounts that are dedicated in tax expenditure terms to the progressive system of rates and reveal the size of this important policy element relative to other existing tax expenditures. As with other tax expenditures, the distributional aspects of this hypothetical tax expenditure are noteworthy. About half (51 percent) of the benefits of the progressive system of rates accrue to taxpayers with incomes of less than $100,000, and 74 percent accrue to taxpayers with incomes of less than $200,000.

4. Comparing Estimates Over Time

Many researchers have studied how tax expenditures have changed over time. But, as noted above, the baseline “normal” tax changes when tax policy alters any provision of the prevailing tax structure. Hence, Congress implicitly changes policy towards

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22 One could imagine other methods of calculating these tax expenditures. Instead of using the maximum statutory rate as the baseline rate, one could use the average marginal rate or the average effective tax rate. However, doing so would require reporting negative tax expenditures for income taxed at above average rates, which presents its own conceptual issues that are discussed in more detail below. Alternatively, one could use the lowest rate as the base, and calculate negative tax expenditures, or use the revenue neutral rate. Also note that 2007 SOI data are the most recent data available for this exercise.

23 For comparison, OMB reports that the top tax expenditure in 2007 was $147 for the exclusion of employer contributions for medical insurance premiums and medical care. The second largest expenditure was the mortgage interest deduction which was estimated to cost $80 billion in 2007.

24 As we argue later, due to interaction effects, tax expenditures should not be summed. For illustrative purposes we summed all expenditures listed in the OMB presentation in 2007 and came up with $872 billion.

tax-favored activities when it changes tax rates, the standard deduction, the AMT, or any other part of the normal tax structure. To demonstrate how policy changes affect tax expenditure estimates, we use the TPC model to calculate a set of tax expenditures under present law in place in each year and under pre-2001 law (we call this “constant” law since it holds constant the provisions in place prior to EGTRRA). We start in 2004 since this is the first year for the most recent version of the Tax Policy Center’s microsimulation model. We end in 2011 when the two baselines (pre-EGTRRA law and current law) converge.

Figure 3 shows the effect of tax policy changes enacted from 2004 onward on the growth of the tax expenditure estimates for the mortgage interest deduction and the property tax deduction. Our calculations indicate that the mortgage interest preference is projected to increase by 66 percent between 2004 and 2011 under current law. The growth in the expenditure would have been much smaller — 41 percent — under constant law. The effect of tax law changes on the growth of the property tax deduction is even more striking. Under current law, the property tax deduction grows by 34 percent over the period. Under constant law, however, the growth rate is just 9 percent. This exercise illustrates clearly how tax policy changes can affect the pattern of growth of tax expenditures. On the other hand, the rather sharp declines in both the current and constant law tax expenditures for the mortgage interest deduction between 2008 to 2009 are unrelated to tax policy changes and instead are due to macroeconomic factors: the decline of mortgage interest paid as a result of the housing crisis.
5. Sunsets

Tax expenditure analysis treats sunsets or expiration of tax laws as permanent features. This approach is consistent with treating tax expenditures as reporting the effects of present law, rather than analyzing policy proposals. However, by only showing tax expenditure estimates under current law, the government scoring agencies implicitly make assumptions regarding policy outcomes and it is important that consumers of tax expenditure reports are aware of this convention. As we have discussed, tax expenditure reports assume that the AMT will not be patched, an outcome that could be considered unlikely given recent history (the AMT has been patched every year since 2001). Tax expenditure reports also assume that the Research and Experimentation (R&E) credit, enacted as a temporary provision in 1981, will expire despite the fact that it has been extended thirteen times. As another example, consider the child credit. The tax expenditure reports assume that the AMT will not be patched, an outcome that could be considered unlikely given recent history (the AMT has been patched every year since 2001).

26 Some tax expenditures that are not preferences can be affected by the AMT. For example, special rates on qualifying dividends and long-term capital gains were enacted under JGTRRA. When a taxpayer realizes long-term capital gains or receives qualifying dividends, s/he increases AMT taxable income, which decreases the AMT exemption through the exemption phase-out. The phase-out raises the effective rate on this income. As a result, tax expenditure estimates for the special rates on dividends and capital gains depend on whether the AMT is patched. See Leiserson (2007) for detailed examples of the interaction between the AMT and the special rates on long-term capital gains and qualifying dividends.
diture for this credit falls from $26 billion in 2009 to $10 billion in 2015 in the most recent Treasury tax expenditure report (OMB, 2010). The reason is not a dramatic fall in fertility over this period. Expansions of the credit made in 2001 (EGTRRA), 2003 (JGTRRA), 2004 (the Working Families Tax Relief Act of 2004), 2008 (Emergency Economic Stabilization Act), and 2009 (American Recovery and Reinvestment Tax Act), all expire at the end of 2010.

As a result of sunsets, the AMT, and other complications of current law, reading a tax expenditure table across time requires fairly sophisticated knowledge of U.S. tax policy and is a bit like reading tea leaves. Further, it is hard to think of the pattern of tax benefits for tax expenditures as being equivalent to an expenditure program outlay given how they fluctuate with tax rules.27

6. Negative Tax Expenditures

Another issue related to baseline definition is the reporting of “negative tax expenditures.” Negative tax expenditures arise when an income source or economic activity is subject to a higher tax burden under the baseline than under actual tax law. Until recently, as a matter of general practice, JCT and OTA have not reported negative tax expenditures. For some observers, the justification for this prior practice was that a negative tax expenditure is simply a tax and thus no special accounting is necessary to separate such rules from the underlying baseline. Indeed, the Budget Act does not refer to negative tax expenditures because it only references “revenue losses” with respect to the definition of tax expenditures. Nevertheless, the JCT and OTA tax expenditure publications now report some, but not all, negative tax expenditures.

There are multiple examples of negative tax expenditures, with the largest distinction between those that arise due to timing considerations and those that do not. The standard negative tax expenditure is a provision that imposes a larger statutory tax burden on a specific income source than under the “normal” version of tax law, thus generating a negative tax expenditure over the budget window (five years or longer). Examples include, if they were reported, restrictions regarding the application of net operating loss carrybacks and carryforwards, the passive loss rules, and restrictions on deducting certain capital losses. The 2010 JCT reports some negative tax expenditures, the largest being a negative $156 billion tax expenditure estimate for the 2009–2013 period for the income phase-out of the personal exemption under the regular income tax.

Other negative tax expenditures arise due to timing issues, particularly with respect to the expiration of a positive tax expenditure that accelerates a claim of a tax loss. Such provisions will only contain negative numbers for specific years. For example, the JCT reporting of the tax expenditure for Section 179 small business expensing (which accelerates certain depreciation deductions from future tax years) is reported as a positive tax

27 Nonetheless, expenditure programs have their own quirks with respect to reporting, including the annual appropriation process and some baseline issues.
expenditure for the 2009–2013 period ($1 billion) but contains negative estimates for individual years. Specifically, the years 2012 and 2013 have negative estimates because this is the period for which the provision has expired and the accelerated depreciation is not claimed under the baseline, giving rise to higher tax liabilities for these years. Whether due to timing issues or a heavier tax burden, a certain respect for symmetry among tax provisions requires that more thought and analysis be given to negative tax expenditure reporting.

E. Alternative Baselines

As this section has made clear, different “normal” tax structures will generate different tax expenditure estimates. The staff of the OTA has studied how the expenditure budget would change under a comprehensive income or consumption tax base using the current rate structure (OMB, 2008; Carroll, Joulfaian, and Mackie, 2011). It is also interesting to consider the impact of the current progressive rate structure on expenditure estimates. One way to explore this issue is to use a flat tax structure to estimate tax expenditures. We ran some experiments with the TPC model replacing the normal marginal tax rates (and special rates on dividends and capital gains) with a flat rate of 16 percent, the rate that most closely corresponds to a revenue neutral rate according to the TPC model for 2006.28

Again, for expository purposes, we focus on the tax expenditures for the mortgage interest and property tax deductions. In addition to current law and pre-EGTRRA law estimates, Figure 3 includes a series showing estimates for our flat rate experiment. The growth of the mortgage interest deduction over the period, shown in Figure 3, is similar under current law and current law with the flat rate because of its relative lack of interaction with the AMT. The tax expenditure grows by 66 percent from 2004 to 2011 under current law and by 70 percent under current law with a flat rate. However, the property tax deduction declines 24 percent under our flat rate baseline from 2009 to 2011 while increasing by 34 percent under current law. As we have seen throughout, the AMT is the cause. The reduced tax liability under a 16 percent flat rate would force many taxpayers into the AMT. These exercises demonstrate once again that tax expenditures are dependent not only on the rules regarding the individual provision under examination, but also on the more general income tax structure under which they operate.

F. Summary

It is clear from the preceding discussion that tax expenditure reporting involves numerous definitional and interactive complications that distinguish it from outlay or government expenditure accounting for which tax expenditures are intended to be

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28 The selection of 2006 is arbitrary and our results do not fundamentally depend on this year. A higher flat rate would decrease any AMT interaction, and a lower rate would increase it.
comparable. Debates regarding the appropriate “normal” income tax structure, sunsets, interactions with the AMT and standard deduction, as well as more fundamental issues regarding the correct income definition suggest that tax expenditure reporting must be examined within the context of certain standing and generally accepted assumptions regarding tax policy. Nonetheless, as the following section illustrates, even the more mechanical estimation process, done under a given set of such assumptions, is complicated by common misunderstandings regarding the methodology used to generate estimates of tax expenditures.

III. SCORING TAX EXPENDITURES

The economists of the JCT and the OTA employ certain standing assumptions when they calculate tax expenditure estimates. First and most importantly, unlike official revenue estimates, tax expenditure estimates do not incorporate any change in taxpayers’ economic behavior. Revenue estimates include forecasts of behavior that will change, including consumption, investment and other economic actions. These modeled micro-dynamic responses allow taxpayers to respond to changes in after-tax prices and other tax-related incentives. However, as is well known, revenue estimation does not allow macroeconomic feedback or changes in national income in response to changes in tax policy.

In contrast, tax expenditure estimates include neither the micro-dynamic response nor macroeconomic feedback. As discussed in the previous section, a tax expenditure is simply the change to the existing baseline or forecast of a particular line item of tax revenue. This tax expenditure methodology is thus intended to include the induced or ex post effects of the tax expenditure provision. This analysis is presented as the state-of-the-world as it currently exists, rather than incorporating expected behavior effects from a future change in policy. Consequently, it is important to note, as some analysts fail to do, that a tax expenditure estimate is not a revenue estimate. In part this confusion exists because revenue estimates are not reported side-by-side with tax expenditure estimates.

For example, the tax expenditure for the mortgage interest deduction is calculated by summing for all itemizing taxpayers the amount of mortgage interest paid times the applicable marginal income tax rate applied against itemized deduction amounts. As noted earlier, there is an interaction with the standard deduction due to the itemization decision. However, the tax expenditure estimate does not allow the taxpayer to modify the own-rent decision regarding housing, nor does it allow the taxpayer to change debt and investment allocation decisions. It is reasonable to assume that if Congress were to eliminate the mortgage interest deduction, many taxpayers would reduce their holdings of low-yield assets to reduce mortgage debt holdings due to the change in after-tax mortgage interest rates.29 While a revenue estimate would reflect these actions, the tax

29 Poterba and Sinai (2011) examine this tax expenditure in detail.
expenditure estimate does not. For most cases, the tax expenditure estimate tends to be larger than the corresponding revenue estimate because of this assumption.

As another example, the tax expenditure estimate for the lifetime learning credit for student expenses does not allow taxpayers to change education decisions in order for the taxpayer to qualify for other tax incentives. There are numerous education incentives in the Internal Revenue Code, some with overlapping qualifying criteria. The interaction of these incentives is discussed more below.

To examine the difference between a revenue estimate and a tax expenditure estimate, consider the following partial equilibrium example for an economic action, $Q$, with price, $P$.

Suppose that the marginal cost curve (MC) includes a broad-based tax, $t$. The marginal cost and marginal benefit cost curve yield the after-tax partial equilibrium. Further suppose that there exists a separate tax provision that provides a tax expenditure targeted directly to this market. The tax expenditure takes the form of a per-unit subsidy in the amount of $p_2$ minus $p_1$, thereby shifting the applicable marginal cost curve to $MC'$. The tax expenditure increases the amount of the activity undertaken from $q^*$ to $q$. Under the prevailing tax rules, the tax expenditure induced quantity, $q$, is the baseline quantity for tax expenditure analysis purposes.

The tax expenditure estimate of the incentive is equal to $(p_2–p_1)q$. However, the revenue estimate of repealing this tax expenditure is equal to $(p_2–p_1)q – t(q–q^*)$. The revenue estimate is lower because it includes a revenue loss associated with the microdynamic response: a reduction in the amount of the activity undertaken by the taxpayer.

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30 We assume here that the tax expenditure does not take the form of an itemized deduction to abstract from any interaction with the standard deduction.
from $q$ to $q^*$. It is difficult to provide an example of a set of official estimates illustrating the difference between revenue and tax expenditure estimates, typically because tax expenditure estimates are calculated for large provisions or bundles of small, related provisions of the tax code. Revenue estimates typically are issued for smaller, more detailed policy changes associated with these provisions. For example, in 2005 the JCT published a revenue estimate for repealing the deduction for home equity loan interest paid (JCT, 2005). With respect to this provision, only the total tax expenditure for the mortgage interest deduction is publicly available. In contrast, the repeal would have affected only a portion of the mortgage interest deduction, so a direct comparison between the tax expenditure and the revenue estimate cannot be made. Despite these data limitations, it is certainly the case that the 2005 revenue estimate included a number of behavioral responses to the proposed policy change and was therefore lower than its hypothetical tax expenditure.

An example that can be used to illustrate this point is the tax exclusion for employer-paid life insurance. In 2007, the JCT reported that the tax expenditures for this provision in years 2009, 2010, and 2011 are approximately equal to $2.7 billion (JCT, 2007). However, in the 2007 CBO Budget Options report, the JCT reported that the revenue estimate for this provision is only equal to $2.1 billion in 2009, $2.2 billion in 2010, and $2.3 billion in 2011 (CBO, 2007). The smaller revenue estimate is consistent with what theory would predict. The tax incentive for employer-provided life insurance increases its use, and repealing that tax expenditure would not result in a full capture of the benefit because of shifting of taxpayer behavior. Therefore the revenue estimate should be lower than the tax expenditure.

As noted earlier, there is one notable exception to the general rule that tax expenditure estimates do not incorporate taxpayer behavior: tax form behavior. While tax expenditures hold constant taxpayers’ economic activities (e.g., own or rent a home), the estimation methodologies allow taxpayers to “amend” prospectively their tax forms to minimize their future tax liability. In this sense, tax expenditure estimates automatically include a realistic accounting of most tax form interactions and decisions, including whether to itemize or not. This tax form behavior creates the possibility of changing the relative sizes of various tax expenditures, as our earlier example from Table 2 illustrates. In general, tax expenditures of large provisions generate relatively higher estimates than tax expenditures of relatively smaller provisions because of the itemization decision. Given that tax expenditures are often compared to one another, this biasing of tax expenditures in terms of size may be problematic for tax policy analysts. On the other hand, the recapture produced by the standard deduction is clearly an important component of the tax expenditure and thus this estimate may in fact be more realistic.

However, there are tax incentives that have overlapping qualifying criteria for which only one tax incentive may be claimed as a matter of law. How should such provisions

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31 For example, suppose $Q$ represents the aggregate amount of mortgage debt owed by households, as described earlier.
be estimated for tax expenditure analysis? Because the qualifying criteria are similar, the taxpayer may be eligible for other tax expenditures with no change in economic behavior, if the one claimed under current law were to be eliminated. However, this type of tax form behavior is not likely to be automatically captured by the individual tax models used to score tax expenditures, and thus can lead to differing estimates.

As an example of the differences in scoring conventions for this situation, consider the 2008 JCT and OTA tax expenditure estimates for the tax credits for post-secondary education (HOPE credit and the lifetime learning credit). The credits have differing but similar qualifying criteria, such that if one credit were repealed, then some taxpayers could claim the other credit. The differences in the 2008 JCT and OTA estimates for these provisions demonstrate that they indeed used different conventions for this estimate. The fiscal year 2008 estimate from JCT for both credits is $4.4 billion. The OTA estimate is broken out for each credit, with $3.4 billion for the HOPE credit and $2.2 billion for the lifetime learning credit. It is clear that the JCT economists allowed taxpayers to substitute between the two credits, when the taxpayers are otherwise qualified and one credit is hypothetically repealed for tax expenditure estimation purposes. This produces some recapture, through increased use of another tax incentive, and a smaller tax expenditure estimate. In contrast, the OTA estimates examined the credits in isolation and did not include such tax form behavior. Nonetheless, for both estimates, it is important to note that this tax form behavior does not equate to a change in economic behavior. There is no increase or decrease in the underlying qualifying activity of higher education expenditures by the taxpayer. The JCT approach in this regard was justified as being similar to tax form behavior used to determine whether a taxpayer, for tax expenditure purposes, itemizes their deductions. Starting in 2008, JCT has listed the two credits separately.

There are many other overlapping provisions in the tax code. For example, the major savings incentives, traditional and Roth IRAs and 401(k)-style accounts, reward saving, a similar underlying economic behavior. The report of the President’s Advisory Panel on Federal Tax Reform (2005) notes that there are at least a dozen tax-preferred savings options in the current code.

The interaction of tax expenditures raises a well-known issue that is routinely ignored with respect to the reporting of bundles of tax expenditures. Tax expenditures cannot be summed. Because of the previously identified issues concerning itemization and other tax form behavior, summing of tax expenditure estimates often results in double counting and biased estimates. For example, Hungerford (2006) performed a simulation in which twelve selected tax expenditures were eliminated in isolation and then simultaneously. Hungerford finds that the sum of the individual tax expenditure estimates

32 The 2009 JCT tax expenditure report actually breaks out the two credits, thus mirroring the OTA presentation and eliminating the effect described here.
33 There may be other interactions in this example with the tuition and fees deduction that may be claimed on the front of the 1040 individual tax form.
was 17.5 percent higher than the tax expenditure calculation for simultaneous repeal of the twelve provisions. The Government Accountability Office asked OTA to conduct a similar exercise with five major itemized deductions (U.S. Government Accountability Office, 2005). The analysts at OTA found a 25 percent difference between the simultaneous estimate and the sum of the individual tax expenditures. Despite this, researchers have produced reviews of tax expenditures that rely on summing tax expenditures to present an aggregate picture of the role tax expenditures play in the federal government’s budget.

Using the TPC model we calculated the tax expenditure for two bundles of tax expenditures for 2010. The TPC model reports a tax expenditure for the mortgage interest deduction of $90.0 billion and $12.8 billion for property taxes for owner-occupied homes. Summing these two tax expenditures yields $102.8 billion. However, the tax expenditure estimated simultaneously for these two provisions generates an estimate of $98.1 billion, a decline of 4.6 percent. As a second and somewhat different example, the 2010 tax expenditure for the state and local income/sales tax deduction is $27.3 billion. Summing with the tax expenditure for the property tax deduction yields $40.1 billion for 2008. The simultaneous estimate of these tax expenditures produces $43.8 billion, representing an increase of 9.3 percent. This unusual case, where the simultaneous repeal of two tax expenditures yields a larger estimate than the sum of their individual tax expenditures, is due to the AMT. In the absence of the AMT, the 2010 tax expenditure for the state and local income tax deduction is $64.8 billion and the tax expenditure for the property tax deduction is $34.4 billion. The simultaneous estimate of these tax expenditures is $96.2 billion, representing a decrease of 3.1 percent from the sum of the two tax expenditures ($99.2 billion).

Putting aside the complexities caused by the AMT, these examples suggest that the interaction effects among tax expenditures, particularly for large tax provisions, can be significant. Given these estimates, there would be certain transparency benefits if JCT and OTA were to report bundles of policy-related or issue-related tax expenditures. For example, an estimate could be reported for all housing-related tax expenditure or other similarly-related bundles of tax incentives, thereby yielding more accurate estimates of common bundles of tax expenditures.

Alternatively, as estimated by Burman, Geissler, and Toder (2008), bundles of tax expenditures could be grouped by their tax-form character (exclusions, itemized deductions, refundable credits, special rates, etc.). For 2007 estimates, Burman, Geissler, and Toder (2008) find that the tax expenditure for the sum of income exclusions (life insurance contributions, retirement benefits, and other exclusions) is 6 percent higher than

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34 The five itemized deductions were for charitable contributions, home mortgage interest expenses, state and local income taxes, state and local property taxes, and medical expenses.

35 See, for example, Neubig and Jouffaitian (1988), Toder (1998), Steuerle (2004), and GAO (2005).

36 This occurs because the two deductions are leading causes of AMT liability. Stacking them together for a tax expenditure estimate actually results in more revenue loss because a larger number of taxpayers are no longer subject to the AMT.
the sum of the individual tax expenditures. They attribute this effect to the progressive
columner of the income tax rates. When tax exclusions are consider simultaneously (or
“stacked” in tax model jargon), the effective marginal income tax rate of the taxpayer
increases due to greater amounts of taxable income or AMT-paying status. For a bundle
of itemized deductions (mortgage interest, state and local taxes, charitable contributions,
medical expenses, and casualty losses), they find the opposite effect. The tax expenditure
of the set is 15 percent smaller than the sum of the individual tax expenditures because
of the recapture effect produced by the standard deduction.

While it is tempting to use tax expenditure reports as a starting point for thinking
about different tax reforms, it is important to understand the drawbacks created by the
scoring conventions we have discussed. A tax expenditure estimate cannot be used to
gauge the impact of removing a tax preference from the code since it does not account
for behavior. And tax expenditures cannot be summed to determine the revenue conse-
quences of eliminating sets of preferences due to interaction effects. In the absence of
accounting for behavioral effects, estimates of groups of tax expenditures may be useful
for tax policy analysis. One important problem with this innovation, however, and a
reason we are not likely to see this type of reporting as part of official tax expenditure
reports, is that any such grouping may be viewed as being part of a policy agenda.

IV. CONCLUSION

Despite the challenges associated with tax expenditure classification and estimation,
the annual reporting of tax expenditure estimates is an important source of information
for economists and tax law observers. We have reviewed the evolution of the tax expend-
diture reporting process and identified examples of inconsistencies between different
normal tax baselines. Using the TPC model, we have demonstrated the complications
produced by the AMT, the standard deduction, the grouping of tax expenditures, expir-
ing provisions, and interactive effects in the estimation process. We have also presented
alternative measures of tax expenditures. A fuller understanding and appreciation of
the complications associated with tax expenditure classification, estimation, and report-
ing will enable tax analysts and observers to more efficiently use these tools to better
understand the present-law tax system, as well as possible future reforms.

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REFERENCES


Joint Committee on Taxation, 2005. “Options to Improve Tax Compliance and Reform Tax Expenditures.” JCS-02-05. Joint Committee on Taxation, Washington, DC.

Joint Committee on Taxation, 2008a. “A Reconsideration of Tax Expenditure Analysis.” JCS-37-08. Joint Committee on Taxation, Washington, DC.


