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Reconsidering Tax Expenditure Estimation: Challenges and Reforms

by

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1. Introduction

To most tax policy analysts and academics, the term “tax expenditure” means special provisions of the tax system that result in reduced tax liability for certain subsets 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. Others are blunter: tax expenditures are loopholes that need to be closed. We leave it to other authors to examine the legitimacy from tax policy or economic efficiency perspectives of tax expenditure provisions. The present analysis instead examines the measurement of tax expenditures and offers recommendations aimed at improving their value to analysts and policymakers.

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.¹ 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 run through the nation’s tax code. The Budget Act 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.

¹ [Pub.L.](#) 93-344.

Interestingly, by the time the Budget Act was enacted both the Congressional Joint Committee on Taxation (JCT) and the Department of the Treasury Office of Tax Analysis (OTA) had been producing tax expenditure analysis for years. The term “tax expenditure” is attributed to Assistant Secretary of the Treasury (Tax Policy) Stanley Surrey.² 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.³

Surrey’s efforts resulted in Treasury’s first tax expenditure budget report in 1968. Classifying certain provisions of the Internal Revenue Code as deviations from a comprehensive, progressive income tax, the Department of the Treasury reported tax expenditures for the individual and corporate income taxes, which has continued until the present.⁴ While the first tax expenditure lists from Treasury were not included in the official budget, the Budget Act of 1974 mandated that tax expenditures be reported as part of the Administration budget. The Budget Act required no distributional or other (for example, cost-benefit) economic analysis beyond an estimate of the magnitude of the cost in terms of lost revenue of each listed expenditure.

In 1972, the JCT began to estimate tax expenditures. While the JCT presentation typically does not change from year to year, usefully allowing analysts to make intertemporal

² As Shaviro (2003) notes, the tax expenditure concept seems to have been invented twice, or at the very least, earlier elsewhere. As early as 1954, writers in Germany had noticed the equivalence between special tax deductions, credits, and other allowances and government subsidies. As a result, in 1959, the German government began reporting on subsidies in the federal budget, including those supplied through the tax system. Budgetary reports on tax subsidies that were classified as indirect spending were being made regularly by 1967.

³ It is fair to point out that Surrey was a strong supporter of a progressive income tax system (Andrews 1984). Consequently, Surrey clearly considered that some preferential rates of tax, based on the ability-to-pay principle, were justified for purposes other than raising revenue for the government.

⁴ Until 2003, Treasury also included a list of tax expenditures against a transfer-tax baseline (estate and gift taxes). Tax expenditures for other taxes, such as excise taxes, are not reported. As always, there are limited exceptions. For example, both JCT and Treasury report the reduction in excise tax receipts that result from the alcohol fuel and biodiesel credits.

comparisons, the Treasury analysis has evolved over time. To a large extent, the changes in presentation reflect reconsideration of both the concept and presentation of tax expenditures.

It is interesting to briefly review some of the changes in the Treasury tax expenditure presentation. Starting with the FY 1983 Budget, Treasury introduced an additional tax baseline to classify and estimate tax expenditures. The new baseline, called the “reference” tax baseline, is closer to current law than the normal tax baseline and results in a more narrow definition of tax expenditures. Starting with the FY 1984 Budget and until recently, Treasury presented outlay equivalent estimates for tax expenditures in addition to the traditional revenue-based estimate. The goal of this approach is to provide estimates that more closely correspond to estimates of direct outlay programs.⁵ This presentation was recently discontinued. The Administration 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 OTA introduced present-value analysis of tax expenditures in the FY 1995 Budget. In every subsequent year, OTA has reported present-value calculations of expenditures that involve either the deferral of tax payments into future periods or other long-term effects.

Recently, the Administration has expressed concern with the arbitrary tax base used to calculate tax expenditures. The FY 2002 Budget states that “(B)ecause of the breadth of this arbitrary tax base, the Administration believes that the concept of ‘tax expenditure’ is uncertain (OMB 2002, p. 61).” The FY 2003 Budget describes a Treasury Department effort to reconsider

⁵ While the linkage of tax expenditures to direct spending programs has conceptual merit, there are numerous analytical complications that hinder reporting comparable numbers for these two classes of government fiscal policy. Although government accounting is not perfect, auditors and policymakers know with reasonable confidence what resources the federal government dedicates to various spending programs. The same cannot be said of all tax expenditures because of various information asymmetries. The government has access to its spending records. It does not necessarily have access to tax expenditure data. To take just one example, income exclusions that involve no information reporting (e.g. enterprise zone capital gain provisions) cannot be estimated with IRS data. Thus, such tax expenditure estimates rely on the educated guesses of government economists rather than the tabulation of reports by accountants.

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 showing tax expenditure estimates against a comprehensive income tax baseline and a consumption tax baseline in its FY 2004 Budget. In addition, the FY 2004 Budget introduced a number of innovations including changes in the accelerated depreciation baseline, the inclusion of or noting of negative tax expenditures, an estimate of the tax expenditure for net imputed rent for owner-occupied housing, and an estimate of the (negative) tax expenditure for the double-taxation of corporate income against a comprehensive income tax.

The evolution of the Treasury tax expenditure presentation reflects, at least in part, the concerns of analysts writing on the subject from within and outside of government agencies (both in the United States and abroad).⁶ Legal scholars and economists have wrestled with the tax expenditure concept since Surrey developed the idea.⁷ A growing literature debates the usefulness of tax expenditure analysis for expenditure control, social and economic policy, and tax reform.⁸ And recommendations to improve tax expenditure reporting by providing more detail have recently been put forward by the Century Foundation Working Group on Tax Expenditures (Century Foundation Press 2002).⁹

In this paper, we address the methodology of tax expenditure estimation. We have two goals: to illustrate some of the problems with the current methodology and to formulate easily implementable recommendations for reform. Unlike most previous work on the topic, we focus on how features of the current tax system that were not in place when Surrey introduced the

⁶ The literature on tax expenditures is too extensive to list here. For review of tax expenditure practices in other countries see Polackova et. al. (2004).

⁷ See Bittker (1969), Andrews (1972), Surrey (1973), Fiekowsky (1980), Surrey and McDaniel (1985), Thuronyi (1988) and Shaviro (2003), for example.

⁸ See, for example, Toder (2002), Burman (2003), and Toder (2005).

⁹ 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. These recommendations mirror some of our own conclusions and suggested reforms, as listed in Section 4 below.

expenditure concept, such as the alternative minimum tax (AMT) and sunset rules, complicate and compromise the value of information provided by the tax expenditure budget. We begin in section 2 with a discussion of the issues that arise in defining the “normal” income tax. We review how the definition has been implemented in practice by the JCT and Treasury and illustrate some of the consequences of the choice of the normal tax structure using estimates from NBER’s TAXSIM model. Section 3 reviews the basics of tax expenditure estimation, explores how “scoring” conventions impact the information provided by estimates, and considers the distributional analysis of tax expenditures. In both sections 2 and 3, we consider the additional information provided from some straightforward hypothetical tax expenditures calculated using TAXSIM. Based on our discussion and analysis in sections 2 and 3, we present recommendations for reform in section 4. Section 5 concludes.

2. What’s Normal?

From an analytical or “scoring” perspective, a tax expenditure estimate shows the change in Federal income tax revenues due to the hypothetical elimination of a provision (or provisions) of the Internal Revenue Code. To qualify as a tax expenditure, the provision must be classified as a divergence from the 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.¹⁰

2.1 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

¹⁰ 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 Department estimates.

level, defining the normal income tax requires analysts to specify the tax base, the rate structure, and the tax unit. As the paper by Carroll, Joulfaian and Mackie (2008) in this volume makes clear, a provision that is a tax expenditure under one tax base (a comprehensive income tax, for example) may not be classified as an expenditure under an alternative base (a consumption tax, for example).

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 (see JCT 2007 and OMB 2008). Neither reason is entirely compelling, however.¹¹ 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.¹² 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 as the current alternative minimum tax (AMT).

More fundamentally, these uneven 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

¹¹ Including the standard deduction for tax administration reasons is appropriate. It is not clear why this argument would apply to the personal exemption.

¹² One could make the same argument for the inclusion of the additional standard deduction for the blind and the elderly and the tax credit for the elderly and disabled.

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 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 rates is part of the normal tax system. This discussion serves to illustrate the 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.¹³ Furthermore, the preferred rates of tax on long-term capital gains and 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 not by the staff of the OTA. As of 2007, these special rates represent the largest single tax expenditure in the JCT tax expenditure list (JCT 2007).¹⁴

2.2 *The normal income tax versus a comprehensive income tax*

The Administration budget presentation includes a detailed discussion of how the normal tax structure differs from a comprehensive income tax (see also Carroll, Joulfaian, and Mackie 2008). We briefly highlight the main differences 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 presumably be integrated so that all income would be subject to taxation once at the recipient's personal tax rate. Although the normal

¹³ The staff of the JCT includes the lower rates as a tax expenditure arguing that they provide a tax benefit for small businesses.

¹⁴ OTA has included the reduced rates on dividends and capital gains as part of the normal tax since 2005. The 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, page 299)." As a result, the OTA tax expenditure estimates for the lower rates on capital, step-up in bases, and inside build-up on tax-preferred assets are limited to capital gains from sources other than corporate equity

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 includes an appendix to the tax expenditure section of the Budget that reports the “double tax on corporate profit” as a negative tax expenditure.¹⁵ The estimate is negative since the “provision” raises rather than loses revenue relative to the baseline tax system.

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 normal structure taxes capital gains only upon realization. Thus, deferral of tax on capital gains is not considered a tax expenditure. 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.¹⁶

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 current 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 present treatment creates an inconsistency, however. The OTA estimate for net imputed rent appears in the regular listing of tax expenditures. But if imputed rent is

¹⁵ The conceptual questions of “negative tax expenditures” are discussed in more detail below. The estimate includes the corporate tax paid on inter-corporate dividends and on corporate capital gains from sales of stock shares. The estimate appears in appendix table 3 of the Budget.

¹⁶ Concerns of administration and liquidity argue in favor of this inconsistency..

treated as a tax expenditure, then the mortgage interest deduction and deduction for taxes on owner-occupied homes should not be treated as tax expenditures. OTA lists all these provisions as tax expenditures, which results in double counting. Moreover, the OTA does not report similar, although smaller, imputed-rent tax expenditures for other durable goods, such as cars.

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 magnitude 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. 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 scorekeeping agencies consider the prevailing rules providing for carryback and carryforwards of business net operating losses as a part of the normal tax structure. Under a comprehensive income tax, losses should 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.¹⁷

2.3 Differences in normal tax baseline across institutions

As should be clear, the definition of the normal tax 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 baselines. 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. The reference tax includes graduated corporate rates, accelerated depreciation, and expensing provisions. While government cash transfer payments as well as fellowships and scholarships are included in the normal tax baseline, these transfers are not part of the reference tax baseline.¹⁸ Finally there is a difference between the normal and reference tax definitions regarding the treatment of income from controlled foreign corporations (CFCs) of U.S. taxpayers. CFCs are not regarded as entities separate from their controlling U.S. shareholders under the normal tax base. Under current law, U.S. parent corporations pay taxes on the foreign earnings of CFCs only when those earnings are repatriated. The deferral of U.S. taxes on income earned abroad by these entities is treated as a tax expenditure under the normal tax base. Deferral is not treated as a tax expenditure under the reference law baseline.

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

¹⁷ Prior to 2004, OTA used the JCT methodology.

¹⁸ Both tax baselines exclude the value of gifts between individuals that are not considered exchanges for goods or services.

contained in the Treasury list.¹⁹ The most striking differences, in terms of the magnitudes of the estimates, are the omissions from the OTA tax expenditure list of reduced rates on dividends and capital gains, cash accounting, and 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.

2.4 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. As a result, both the size and distribution of tax expenditures to owner-occupied housing, or any other policy area, can be affected by intentional as well as unintentional policy changes.

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

¹⁹ Nonetheless, there are tax expenditures reported by OTA that are not reported by the JCT. Until 2007, the JCT pamphlet has included a list of tax expenditures that are scored by the JCT but not by Treasury (and vice-versa). In fact, the pamphlet typically included a section that explains differences between the two lists. An interesting difference in particulars but not to the general rule 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.

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 in 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. The final column shows the hypothetical tax expenditure estimate for eliminating all four 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 (see 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 itemized deduction were an “above the line” deduction or a statutory adjustment. 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. The final column of Table 2 shows that due to the carve back from the standard deduction, the tax expenditure for this taxpayer of removing *all* itemized deductions is the same as abolishing the state and local tax deduction or the real estate tax deductions.²⁰

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 1986). 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 et al (1998) examine in detail possible complications that result due to phase-outs, phase-ins, and other income tests with respect to certain tax provisions. Their results show how these rules can create conditions for which a taxpayer’s effective tax rate can exceed the taxpayer’s statutory marginal tax rate, with additional complications for revenue and tax expenditure estimation.

Consequences of the AMT

The AMT reduces the value of tax preferences by “recapturing” them. The AMT also affects the value of certain tax preferences by changing effective marginal tax rates.²¹ To demonstrate the importance of the AMT, we use TAXSIM to calculate how a set of tax expenditures estimates vary across different AMT policy scenarios. TAXSIM is the individual

²⁰ Of course this assumes that our taxpayer does not change income tax brackets.

²¹ For example, mortgage interest paid, with the exception of home equity loan interest not used for home improvement, may be deducted under the regular income tax and the AMT. Moving from the income tax paying-status to AMT-paying status implies changing the applicable marginal tax rate and thus the value of the tax expenditure.

income tax simulation model operated by the NBER.²² Like the models used by JCT, OTA, and some think tanks (the Tax Policy Center, notably), TAXSIM is essentially a large Turbo-Tax calculator aggregating tax form results over thousands of simulated, statistically-weighted taxpayers. The underlying data for TAXSIM is the IRS Statistics of Income (SOI) public-use file. JCT and OTA have access to the confidential IRS data, which is both larger in terms of sample size and more detailed with respect to tax variables reported.

We calculate tax expenditures for the years 2000-2011 under three AMT scenarios: (i) current law, (ii) current law with no AMT, and (iii) current law in the absence of a patch for the AMT. By “current law” we mean the law in place in the year of the estimate so that the 2004 tax expenditure for the child credit, for example, uses the Internal Revenue Code in place (and thus the normal tax structure) for 2004. The “patch” refers to the recent annual adjustment to the AMT exemption amounts that are adjusted for inflation to prevent a large increase in the number of taxpayers who would otherwise pay AMT. By “no AMT patch” we mean that the patch applied in 2001 is no longer indexed. The TAXSIM estimates are reported in our appendix table.

Figure 1 shows the tax expenditure for the mortgage interest deduction, the state and local tax deduction, and the property tax deductions available to itemizers from 2000 to 2007 under our three AMT scenarios. We focus on the period up to 2007 because from 2008 onward the “current law” and “current law with no AMT patch scenarios” are the same. The decline in the tax expenditure estimates for all three deductions between 2001 and 2003 is a result of the decrease in rates enacted with the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA).

The tax expenditure for the property tax and state and local tax deductions would have remained at around the 2003 level if the AMT exemption levels had not been “patched” (inflation indexed), and the AMT had been allowed to expand. This is because both of these itemized deductions are preferences under the AMT. Figure 1 shows that the AMT has had a substantial

²² We thank Dan Feenberg for his exceptional efforts in employing TAXSIM for this project.

effect on these tax expenditures. With no AMT, both tax expenditures would have increased substantially between 2003 and 2007: from \$43.4 billion to \$60 billion for the state and local tax deduction and from \$23.8 billion to \$32.7 billion for the property tax deduction.

The effect of the AMT on the mortgage interest deduction is much different. First note that because most mortgage interest expenses may be deducted under the AMT, the TAXSIM estimates for the “current law” and “current law with no AMT” scenario are almost the same. Whether the AMT is patched, however, has a substantial impact on the expenditure estimate. It turns out that the tax expenditure for the mortgage interest deduction is higher when the AMT is not patched than under current law with the patch (see also Burman et al.). With no patch, more taxpayers end up on the AMT. Because there is no standard deduction under the AMT, there is no carve-back to decrease the tax expenditure of the provision. In addition, under the AMT there is no phase-out for itemized deductions, which again increases the expenditure estimate. And finally, the rate at which mortgage interest (and other itemized deductions) are deducted under the AMT and under the regular tax differ. Using TAXSIM, Feenberg and Poterba (2004) calculate that weighted average marginal tax rate for the mortgage interest deduction is about two percentage points greater under the AMT than without the AMT in 2007, for example.

The AMT affects a wide range of tax expenditures. Figure 2 shows the impact of the AMT on the itemized deductions examined above for 2007 as well as on three additional tax provisions: the special rates for dividends and capital gains, the child tax credit and the Lifetime and Hope education credits. We chose these provisions for illustrative purposes (see the appendix table for estimates of other tax expenditures and how they vary with the AMT scenarios).

The statutory preferential rates on dividends and capital gains apply under the AMT, but due to an interaction with the AMT exemption amount the benefits of the rates can be reduced (see Leiserson 2007 for a detailed example). When a taxpayer realizes capital gains, s/he

increases AMT taxable income which in turn decreases the AMT exemption through the exemption phase-out. The phase-out raises the effective rate on capital gains and dividends.

According to our TAXSIM calculations, the 2007 tax expenditure for the special rates on dividends and capital gains is \$88.9 billion. With no AMT to carve back the provision, the tax expenditure increases to \$92 billion; a not inconsiderable difference. With no patch of the AMT exemption amounts, the tax expenditure is slightly higher than the current law estimate and lies between these two estimates at \$89.1 billion because of the reduced ability of the AMT to recapture the benefits of the special rates.

The treatment of tax credits under the AMT has changed recently. For taxable years beginning before 2007, nonrefundable individual credits were allowed against both the regular tax and AMT. Starting in 2007, these credits are effectively disallowed --- they may only be claimed to the extent that the individual's regular income tax liability exceeds the individual's minimum tax liability (see JCT 2007 for details). The adoption credit, child credit, and saver's credit, however, are exceptions to this rule and may be claimed against both the regular tax (reduced by other nonrefundable personal credits) and the AMT.

Figure 2 shows clearly that the AMT has an important and uneven impact on tax expenditures. Much has been written concerning the uncertainty created by the AMT. This uncertainty spills over to tax expenditure estimates which are presented only for "normal" (i.e. present) tax law and not alternative scenarios that may be more realistic such as an extension of the AMT patch.

2.5 *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.²³ 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 TAXSIM model, we find that the personal exemption estimate is \$1.29 trillion in 2007 and represents 12.8 percent of baseline revenues. The hypothetical tax expenditure estimate increases to \$1.36 trillion in the absence of the AMT and falls to \$0.83 trillion under the “no AMT patch” scenario due to AMT recapture effects. Clearly, this deviation from a pure income tax with no deductions or exclusions is large relative to other policy divergences in the tax code and varies substantially under the different baselines we consider.

The standard deduction is more difficult to estimate using TAXSIM since it requires imputations for itemized deductions for taxpayers that do not itemize under present law. If we assume that in the absence of the standard deduction there exists a floor on the itemized deductions equal to the current standard deduction, the hypothetical tax expenditure for the standard deduction is \$75 billion for 2007, a value that clearly rivals other major existing tax expenditures.

Similarly, the progressive 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; 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 rates, is an important element of the existing income

²³ For a look at what might happen under a consumption tax baseline, see the Carroll et. al. companion paper.

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 (adjusted gross income of the taxpayer). These preferred rates are tax expenditures.

We estimate tax expenditures for each of the rates using 2005 SOI data.²⁴ Figure 3 shows our expenditure estimates for the 2005 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 \$244.7 billion, a number that substantially exceeds most existing tax expenditures. The estimate for the 15 percent rate is \$344 billion, for the 25 percent rate is \$72.1 billion, and for the 28 percent rate is \$17 billion. In total, the hypothetical tax expenditure for “income support for the progressive system of rates” is \$827.4 billion per year, an estimate that rivals the personal exemption “tax expenditure” and exceeds almost all official tax expenditures. The distribution by adjusted gross income (AGI) of this estimate is shown in Appendix Figure 1.

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 relative size of this important policy element to other, existing tax expenditures. As with other tax expenditures, the distributional aspects of this hypothetical tax expenditure are revealing. As the appendix figure

²⁴ 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.

shows for the rates, the benefit for the progressive system of rates falls on roughly on the middle class.

2.6 Comparing estimates over time

Many researchers have studied how tax expenditures have changed over time (US GAO 2005, Neubig and Joulfaian 1988, Toder 1998, and Steuerle 2004). But, as noted above, the baseline “normal” tax changes when tax policy changes alter any provisions of the prevailing tax structure. Hence, Congress implicitly changes policy towards 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 TAXSIM to calculate a set of tax expenditures under current law in place in each year and under pre-2001 law. In our discussion, we focus on the mortgage interest, state and local income tax, and property tax deductions.

Figure 4 shows the effect of tax policy changes enacted from 2001 onward on the growth of the tax expenditure estimate for the mortgage interest deduction. Our calculations indicate that the tax preference to housing provided through the mortgage interest deduction increased by 14 percent between 2000 and 2007. In the absence of the 2001 and 2003 tax policy changes, the tax expenditure estimate would have increased by 26 percent. Note that between 2008 and 2010, the tax expenditure estimates are quite similar. This is due to the AMT which is not patched under current law for those years, and, as we have seen, actually increases the tax expenditure for this itemized deduction.

The evolution of the tax expenditure for state and local taxes under constant (pre-2001) law and current law is shown in Figure 5 and is striking. Between 2000 and 2007, this expenditure decreased by about 1 percent under current law but would have increased by 36 percent under constant law. The noticeable decrease from 2007 to 2008 is due to the expiration of the sales tax deduction. The difference in the benefits for the property tax deduction under

actual law and the constant law baseline, shown in Figure 6, is also dramatic. The tax expenditure increases by 24 percent between 2000 and 2007. Under constant law this expenditure would have grown by 72 percent over the same time period.

2.7 *Sunsets, budget windows and timing issues*

Many major and minor elements of the tax code are scheduled to sunset in the near future. In fact, most of the major 2001 and 2003 tax cuts are scheduled to expire on January 1, 2011, a date some observers have called “tax policy doomsday.” The scheduled sunsets lead to some interesting patterns of tax expenditure estimates as we have already seen in Figures 4, 5, and 6. Reading a tax expenditure table across time requires fairly sophisticated knowledge of U.S. tax policy. Consider the tax expenditure estimate for the state and local income tax deduction under current law. The estimates for 2000-2011 assume that the sales tax deduction expires in 2008, the AMT is not patched for 2008-2011, and the 2001 and 2003 tax cuts expire as scheduled. It is hard to think of this pattern of tax benefits as being equivalent to expenditure program outlays given how they fluctuate with other rules.

Sunsets can also give rise to negative tax expenditures. For example, the 2007 JCT tax expenditure publication reports negative tax expenditure estimates for the tax code section 198 brownfield expensing provision for individual taxpayers (i.e. pass-through entities and small businesses) for fiscal years 2009 through 2011. This is due to the fact that the provision expires under present law at the end of 2008. Expensing accelerates qualified brownfield remediation cost deductions. The acceleration generates a positive tax expenditure in the year of expensing with a corresponding set of negative tax expenditures due to the loss of deductions in future years. An expensing provision with no sunset would not typically reveal these negative tax expenditures because the expensing behavior in each fiscal year would exceed the loss of the otherwise permitted expense deductions. Negative tax expenditures that arise in this manner

appear for other provisions, including section 179 small business expensing, GO-Zone bonus depreciation, and Indian reservation accelerated depreciation.

Another class of examples of negative values appearing on tax expenditure tables are expiring business tax credits, such as the credit for fuel cell and microturbine power plant installation in OTA's 2008 tax expenditure listing. Here, the provision provides a credit to the qualifying taxpayer, but the credit also requires a corresponding reduction in basis of the asset. This consequently reduces future depreciation deductions and raises gains taxation, if applicable, in future years. Beyond the sunset of the credit, this gives rise to larger tax receipts than in the baseline, and therefore a negative tax expenditure.

Nonetheless, as a general rule negative tax expenditures are not reported as a matter of convention. In the examples noted above, these negative estimates arise only within a few or even single years.²⁵ Over the full reporting period for the tax expenditure, in general no negative tax expenditures are estimated and reported in tax expenditure budgets produced by either the JCT or OTA.²⁶

This raises a fundamental question: what is a negative tax expenditure? For many observers, a negative tax expenditure represents a disproportional statutory tax burden on a particular kind of income or economic activity. As an outlay equivalent, it may be thought of as a fee or transfer payment from the taxpayer to the Treasury. However, for others, a negative tax expenditure is simply a tax and thus no special accounting is necessary. Indeed, the Budget Act does not refer to negative tax expenditures. Nonetheless, a certain respect for symmetry in tax expenditure requires that more thought and analysis be given to negative tax expenditure reporting.

²⁵ However, this raises the question of whether a negative tax expenditure should continue to be reported for an expired provision that has only a negative tax expenditure for the budget window.

²⁶ One exception illustrates the previous explanation of temporary provisions giving rise to negative tax expenditures. The 2007 OTA report provides a negative tax expenditure over the reporting period (2008-2012) for the deferral of gain allocable to disposition of electrical transmission property due to FERC-mandated restructuring.

OTA lists several examples of tax rules that may be considered negative tax expenditures under a comprehensive income tax. These include the passive loss rules, the restrictions on carrybacks and carryforwards for net operating losses, and restrictions on the deductibility of capital losses. For example, owners of a personal residence are not permitted to deduct a loss from the sale of the property. The gain exclusion for principal residences is reported as a positive tax expenditure, but the corresponding restriction on loss deductions is not. There are other theoretical negative tax expenditures that are worth considering. For example, the double taxation of corporate income may be considered a tax expenditure. And, in fact, beginning in 2004, the OTA has begun reporting the double taxation of corporate profits as a negative tax expenditure in an appendix to the tax expenditure presentation in the budget. As another example, the taxation of gains due to inflation might be considered a negative tax expenditure.

2.8 *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 (see OMB 2008 and Carroll, Joulfaian and Mackie 2008). 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 calculate tax expenditures. We ran some experiments with TAXSIM replacing the normal marginal tax rates (and special rates on dividends and capital gains) with a flat rate of 19 percent, the rate that most closely corresponds to a revenue neutral rate according to TAXSIM for 2008.

Again, for expository purposes, we focus on the tax expenditures for the mortgage interest, state and local income tax, and property tax deductions.²⁷ In addition to current law and pre-EGTRRA law estimates, Figures 4, 5, and 6 include series showing estimates for our flat rate

²⁷ Note that the appendix table shows the result of this experiment for a larger set of expenditures.

experiment. The growth of the mortgage interest deduction over the period, shown in Figure 4, is similar under current law and current law with the flat rate because of its relative lack of interaction with the AMT. The estimates plotted in Figures 5 and 6 reveal the more significant interactions between the AMT and the state and local income tax and real property tax deductions. The flat rate experiment shows a relatively smooth pattern over the time period while the current law experiment illustrates the significant carve-back of these deductions by the AMT. Also interesting is the fact that the flat rate estimate exceeds the 2010 and 2011 estimates for pre-EGTRRA law, due to the relatively lower marginal rates faced by taxpayers deducting property taxes.

2.9 *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 comparable. Debates regarding the appropriate “normal” income tax structure, timing issues, 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 differences between, among others, tax expenditure and revenue estimates.

3. **Scoring Tax Expenditures**

3.1 *Estimating Considerations*

When the economists of the JCT and the OTA annually calculate tax expenditure estimates, they employ certain standing assumptions. 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.

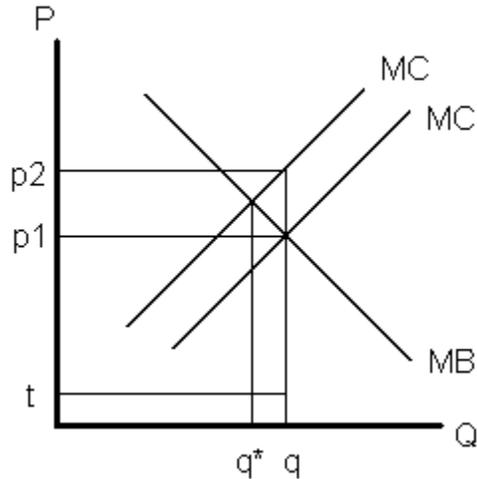
In contrast, tax expenditure estimates include neither the micro-dynamic response nor macroeconomic feedback. As discussed in the previous section, a tax expenditure is simply the change to the existing baseline or forecast of a particular line item of tax revenue. Therefore, it is important to note, as some analysts fail to do, that a tax expenditure estimate is not a revenue estimate.

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. While a revenue estimate would reflect these actions, the tax 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 Hope 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 $p2$ minus $p1$, 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 $(p2-p1)q$.²⁸ However, the revenue estimate of repealing this tax expenditure is equal to $(p2-p1)q - t(q-q^*)$. 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 from q to q^* .

²⁸ 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.

It is difficult to provide an example of a set of official estimates illustrating the difference between a 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. The JCT reports that the tax expenditure for this provision in years 2009, 2010 and 2011 is approximately equal to \$2.7 billion. 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. 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. In this sense, tax expenditure estimates automatically include a realistic accounting of most tax form interactions, 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 illustrated. 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 revenue estimate 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 be estimated for tax expenditure analysis? Because the qualifying criteria are similar, the taxpayer may qualify for another tax expenditure 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 an Individual Tax Model (ITM), and thus can lead to differing estimates.

As an example of the differences in scoring conventions for this situation, consider the JCT and OTA tax expenditure estimates for the tax credits for post-secondary education (HOPE credit and the lifetime learning credit).²⁹ 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 JCT and OTA estimates for these provisions demonstrate that they indeed use 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 lifetime learning credit. Noting that the JCT estimate is smaller, it is clear that the JCT economists are allowing 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

²⁹ Another interesting example of overlapping provisions involves the treatment of export income. Prior to the Jobs Act, U.S. multinational corporations received favorable treatment of income from sales abroad through the export source rules and the foreign sales corporation provisions.

incentive, and a smaller tax expenditure estimate. In contrast, the OTA estimates examine the credits in isolation and do not include such tax form behavior. Nonetheless, for both estimates, it is important to note that this tax form behavior does not equate to change in economic behavior. There is no increase or decrease in the underlying qualifying activity of higher education expenditures by the taxpayer.³⁰

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 a similar underlying economic behavior: saving. The report of the President's 2005 Advisory Panel for Federal Tax Reform notes that there are at least a dozen tax-preferred options in the current code. Should the tax expenditure estimates for such provisions include interactions effects? Or should they be reported in isolation in order to more closely adhere to the appropriations equivalent concept? We take this issue up again in the next section.

The interaction of tax expenditures raises a 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 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. General Accountability Office 2005).³¹ The analysts at OTA found a 25 percent difference between the simultaneous estimate and the sum of the individual tax expenditures. Despite this, researchers

³⁰ 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.

³¹ The five itemized deductions include charitable contributions, home mortgage interest expenses, state and local income taxes, state and local property taxes, and medical expenses.

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.³²

Using TAXSIM, we calculated the tax expenditure for two bundles of tax expenditures. For 2007, TAXSIM reports a tax expenditure for the mortgage interest deduction of \$82.4 billion and \$25.8 billion for property taxes for owner-occupied homes. Summing these two tax expenditures yields \$108.8 billion. However, the tax expenditure estimated simultaneously for these two provisions generates an estimate of \$99.1 billion, a decline of 8.4 percent. As a second and somewhat different example, the 2007 tax expenditure for the state and local income tax deduction is \$47.4 billion. Summing with the tax expenditure for the property tax deduction yields \$73.2 billion for 2008. The simultaneous estimate of these tax expenditures produces \$74.8 billion, representing an increase of 2.1 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. As noted earlier, the AMT can also produce interaction effects, particularly given the combined effect of lower tax rates and unindexed AMT exemption amounts, which is forecasted to increase the number of AMT-payers for future tax years. In the absence of the AMT, the 2007 tax expenditure for the state and local income tax deduction is \$60 billion and the tax expenditure for the property tax deduction is \$32.7 billion. The simultaneous estimate of these tax expenditures is \$95.5 billion, representing a decrease of 3.7 percent from the sum of the two tax expenditures (\$92.8 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 benefits for JCT and OTA reporting of bundles of policy-related or issue-related tax expenditures. For example, an estimate could be

³² See, for example, Neubig and Joulfaian (1988), Toder 1998, Steuerle (2004), and GAO (2005), and most recently Weiner (2008).

reported for all housing-related tax expenditure or other similarly-related bundles of tax incentives.

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 et. al. find that the tax expenditure for the sum of income exclusions (life insurance contributions, retirement benefits, and other exclusions) is six percent higher than the sum of the individual tax expenditures. They attribute this effect to the progressive character of the income tax rates, for which when tax exclusions are considered simultaneously (or “stacked” in the ITM 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.

We consider an experiment that bundles the top tax expenditures. The idea is to use a variant of tax expenditure estimation (a bundled estimate) to gauge the revenue gains from base broadening. We are able to estimate thirteen major expenditures with TAXSIM including the mortgage interest deduction (\$82.4 billion), the deduction for unreimbursed medical and dental expenses (\$8.3 billion), the deduction for state and local income taxes (\$47.4 billion), the deduction for property taxes on owner-occupied homes (\$25.8 billion), the deduction for charitable contributions (\$42.7 billion), the earned income tax credit (\$41.4 billion), the refundable child tax credit (\$46.2 billion), the lifetime earning and Hope credits (\$6.6 billion), the child and dependent care credit (\$2.6 billion), the tax-exemption on municipal bonds (\$17.6 billion), the preferred tax rates on capital gains and dividends (\$88.9 billion), the tax preferences for IRAs and Keogh plans (\$4.0 billion), and the exclusion for certain pensions and annuities

(\$17.6 billion).³³ Summing these tax expenditure yields \$431.4 billion. Simultaneously estimating the repeal of these provisions produces a 2007 estimate of \$387.7 billion, a difference of 10.1 percent.

It is worth noting the size of this estimate. In 2007, TAXSIM forecasts a total of \$1.02 trillion in individual income tax receipts. Hence, these 13 items represent about 38 percent of this total. As these are tax expenditure estimates, without actual revenue estimates it cannot be calculated the extent to which income tax rates could be reduced if these provisions were eliminated. Nonetheless, these expenditures represent a considerable amount of tax base narrowing. And without the AMT to carve back the benefits of many of these expenditures, the TAXSIM forecast for the 13 items increases to \$453.4 billion or 46 percent of tax revenues. It is also interesting to compare how the size of the revenue loss due to this group of expenditures has evolved over time. Under our current law scenario, the share of revenues accounted for by the top 13 individual tax expenditures has increased from about 33 percent in 2000 to 38 percent in 2007. Using our constant law scenario, or pre-EGTRRA rules, the percentage increases by only one percentage point to 34 percent in 2007. With no AMT, the percentage goes from about 35 percent in 2000 to 41 percent in 2007.

3.2 Tax Expenditures Distributional Considerations

As with any appropriation item of the federal budget, the distributional aspects of tax expenditures are important, particularly for tax provisions attempting to achieve a policy objective beyond raising revenue for the government. The best source of information regarding the distribution of government tax expenditure estimates is the JCT tax expenditure publication. In each edition, the JCT presents the distribution of major tax expenditures: mortgage interest deduction, student loan interest, education credits, child tax credit, untaxed social security and

³³ Pensions and annuities not included in AGI includes only has social security benefits due to data limitations on the SOI Public Use File.

railroad retirement benefits, child care credit, earned income credit, charitable contribution deduction, state and local tax deduction (income, sales and personal property), medical expense deduction and the owner-occupied home property tax deduction. In addition to being relatively large, these provisions have the benefit that the data requirements necessary to confidently estimate the distributional aspects of the tax expenditures are available in the confidential SOI data. For other large tax expenditures, the data and off-ITM model estimations provide less reliable methods of determining distributions.

As with other forms of distributional analysis, it is important to select the appropriate income classifier. While adjusted gross income (AGI) is appropriate for many forms of tax analysis, a more comprehensive income definition is a better fit for distributional analysis given that its intent is to determine where the statutory incidence of benefit lies. Consequently, JCT uses an expanded income classifier which is equal to AGI plus the following items: tax-exempt interest, employer contributions for health and life insurance, employer share of payroll taxes, workers' compensation, nontaxable Social Security benefits, the insurance value of Medicare benefits, alternative minimum tax preference items, and excluded income of U.S. citizens living abroad.

Beyond the income classifier concept itself, it is also important to note that the JCT distributional methodology uses the unit of analysis provided by the SOI data: the tax unit. With the possibility of multiple tax returns being filed by households or families, as these concepts are defined in Census data for example, there is some difficulty in using this analysis to make comparisons to other kinds of distributional analysis. This is particularly true for married taxpayers filing separate returns. Furthermore, there can be a difference between the statutory incidence of a tax expenditure and the economic incidence of the tax provision. For example, the mortgage interest deduction is claimed on an individual tax form, but the underlying deduction represents expense allocable to investment for a household.

Congressional Budget Office reports are another source of distributional information for tax expenditures. The most recent example is a February 2008 report on the deductibility of state and local taxes (CBO 2008). Outside of the government, the Tax Policy Center (TPC) uses their ITM to distribute a variety of individual tax expenditures including, among others, the child tax credit, earned income tax credit, tax benefits for health insurance, and special rates for capital gains and dividends. While the TPC methodology follows the JCT approach, there are some differences. The TPC use a measure of cash income that differs somewhat from the JCT expanded income detailed above.³⁴ Another difference from JCT is that the TPC examines the impact of tax expenditures on after-tax income, as well as the share of the tax benefit received and the size of the tax benefit.

We use the SOI Public Use File for 2004 and TAXSIM to illustrate simple distributional analysis of some grouped expenditures and a major expenditure that is not distributed by JCT, the special rates on dividends and capital gains. As before, we consider three scenarios: current law, current law with no AMT and current law with no AMT patch. We use a modified version of cash income that can be calculated using information from TAXSIM as an income classifier.³⁵ To simplify the presentation, we show results only for 2004 and by income decile (instead of also by income class).³⁶ One goal of this work is to demonstrate how incremental changes in presentation can increase available information regarding tax expenditure. To this end, we follow the JCT approach and calculate the distribution of benefits and not the effect of the expenditure(s)

³⁴ Cash income is AGI minus taxable state and local tax refunds, plus total deductions from AGI, non-taxable pension income, tax-exempt interest, non-taxable social security benefits, cash transfers, worker's compensation, employer's contribution to tax deferred retirement savings plans, employer's share of payroll taxes and corporate tax liability. The inclusion of the employer share of payroll taxes and corporate taxes puts income on a pretax basis.

³⁵ Cash income is AGI minus state and local tax refunds, plus tax-exempt interest, non-taxable Social Security benefits, deductions for IRA contributions, student loan interest, alimony paid, tuition & fees, Health Savings Accounts, one-half of the self-employment tax, self-employed health insurance, self-employed SEP, SIMPLE and qualified plans, and penalties on the early withdrawal of saving, minus other income. The Public Use File does not report other income. To calculate other income, we took the difference between reported AGI and the signed sum of the reported components of AGI. The difference includes moving expenses, foreign earned income, and net operating losses from previous years as well as errors due to censoring and rounding. Returns of dependents are excluded from the analysis.

³⁶ See the notes to Table 7 for decile breakpoints.

on after-tax income. We begin by showing the distribution of tax liability in Table 7. As is well-known, tax liability is concentrated in the top decile. Somewhat surprisingly, the distribution of tax liability changes little under the two alternative AMT scenarios.

Table 8 shows the distribution of the tax expenditure for the state and local tax deduction. The results are not surprising given what is known about the distribution of this expenditure from the JCT distribution tables, for example. The benefits are highly concentrated at the top of the distribution (as is tax liability and the taxpayers that itemize their returns). Our analysis both complements the JCT analysis by showing information by income deciles (with detail on the top decile) and adds to the analysis by considering how the distribution changes under alternate AMT scenarios. Without the AMT, the benefit of this itemized deduction is skewed even more to the top of the distribution. Without an AMT patch, on the other hand, the benefits are somewhat less skewed across the income deciles. However, the benefits do become more concentrated within the top one percent of returns.

Table 9 shows the distribution of the special rates on dividends and capital gains. Given the concentration of this income in the top decile, this distribution of benefits is not surprising. Nevertheless, it is striking that 99 percent of the benefit goes to taxpayers in the top five percent of the distribution. Moreover, the distribution of this tax expenditure is less progressive than the others reported in this paper.

Table 10 shows the distribution of our hypothetical tax expenditure that bundles the top thirteen tax expenditures in TAXSIM. Taxpayers across all deciles benefit from this group of tax expenditures, with the earned income tax credit and child credit most important in the bottom deciles. Table 11 shows how the distribution of the top expenditures is affected by these two credits by removing them from the analysis. While only about one half of the top thirteen expenditures in TAXSIM go to the top ten percent of tax units, once we eliminate the EITC and child credit, almost 70 percent of the top expenditures are claimed by this group. The average

expenditure in each of the bottom five deciles falls significantly and the total benefit received by the bottom half falls from 20.5 percent to 4.5 percent.

Burman et al. find that eliminating most major tax expenditures simultaneously would make the tax system less progressive as tax expenditures constitute a larger percentage of lower-income taxpayer's AGI than higher-income taxpayers. The analysis in our paper generally confirms these results, as can be seen by comparing the distribution of liability in Table 7 to, for example, the distributions reported in Tables 10 and 11. Burman et al. also conduct distributional analysis for individual tax expenditures as well as groups of expenditures. Their results indicate that once again the bundling of the provisions affects the final results. For example, they find uniform reductions in the after-tax estimates of tax expenditures for income quintiles when estimated simultaneously for their itemized deduction set, which is consistent with the previously detailed effects of the standard deduction.

In theory, the distributional consequences of tax expenditures are not limited to income concepts. For example, unlike almost all revenue estimates, JCT and OTA report tax expenditures estimates by taxpayer type: corporate or individual. While this additional information is useful, it can also be misleading. Many business sectors are dominated by pass-through entities that report tax liability on individual income tax forms. This conflates individual income tax data with business tax data and can thus be misused in certain contexts. Furthermore, like other tax variables, there may be uneven allocation of tax expenditure benefits across geographic space. Unfortunately, OTA and JCT do not report spatial analyses of tax provisions and proposals.³⁷

³⁷ For a recent example of a spatial accounting of housing-related tax expenditures, see Dietz (2006). For recent information regarding the deductibility of state and local taxes, see CBO (2008).

4. Tax Expenditure Reporting Recommendations

Given our review of official tax expenditure reporting and the academic literature, as well as our experience estimating current and hypothetical tax expenditures using TAXSIM, we would like to propose tentative answers to questions raised previously in this article; answers that may serve as reforms to the tax expenditure reporting process by JCT and OTA. We should first note a conclusion all analysts draw when working with tax microdata: it is not as easy as it looks, and it is easier to criticize and propose than it is to implement. Nonetheless, we believe the following recommendations would improve the quality and usefulness of tax expenditure reporting.

Should tax expenditure reports include behavior found in revenue estimates?

No. We believe that tax expenditures should be reported with no projected change in economic behavior to capture how the tax system induces behavior. The original intent regarding tax expenditure reporting was to present an estimate of government resources dedicated to a particular tax policy provision. This intent assumes that behavior will be modified by the tax policy and this induced behavior should be reflected in the revenue estimate, as diagrammed in the previous section of this paper.

Should revenue estimates accompany tax expenditure estimates?

Yes, at least for major tax expenditures. Too many observers use tax expenditure estimates incorrectly as revenue estimates. While it would increase the workload of the government economists who estimate tax expenditures, dual reporting would provide useful additional information, as well as indicate tax expenditures inducing considerable economic activity. For example, as discussed in Section 3, the tax expenditure for the mortgage interest deduction is clearly not equivalent to the revenue estimate of repealing the mortgage interest deduction. The revenue estimate would be considerably smaller as taxpayers modify their behavior in response to the policy change.

Should tax expenditure assume present-law sunsets?

Yes, but tax expenditures should be reported for permanently extended variants in an appendix for major tax expenditures. We demonstrated in Section 2.7 of this paper the significant effects sunsets of tax policies can have on tax expenditures. As we noted, in addition to the direct effect of expiring provisions, the expiration of the EGTRRA and JGTTTRA yield changes for all other tax expenditures. For such major sunsets, additional reporting should be provided in an appendix.

Should negative tax expenditures be reported?

Yes. Tax expenditures are reported because they are deviations from a comprehensive income tax. Using the same principles, overly-burdensome aspects of tax laws should correspondingly be reported. If economists are comfortable discussing negative income tax rates, there is no reason not to report negative tax expenditures. For example, we noted in Section 2.7 that the Department of the Treasury lists restrictions regarding the claims of net operating loss deductions as a negative tax expenditure. Given the ability of such restrictions to generate effective tax rates that are higher than statutory tax rates, perhaps to an uneven distribution of revenue and costs across tax years, such aspects of the tax code should be reported due to the burden these rules create for certain taxpayers. Moreover, the accurate estimation or classifying of some positive tax expenditures requires a corresponding reporting of certain negative tax expenditures.³⁸

³⁸ An example would be the entity-level taxation of business income and properly estimating the tax expenditure associated with the double taxation of corporate income.

How should the AMT be treated for tax expenditure estimation?

An appendix dealing with the AMT should be created, where estimates for tax expenditures with no AMT and under patch-projections can be reported. In our paper, we have repeatedly demonstrated that dramatic effect that the AMT can have on particular tax expenditure estimates. For example in Section 2.4.2, we demonstrated that the tax expenditure estimate for the state and local income tax deduction for 2007 (\$26 billion) increases to \$33 billion under a hypothetical repeal of the AMT, and falls to \$16 billion with no AMT-patch. Given such dramatic changes in the estimates, changes that are not substantively related to changes in the rules regarding the income tax deduction or even forecasts of local government tax policies, we believe that an AMT appendix should be for estimates of major tax expenditures illustrating interactions with the AMT. Further, there are other major interactive features of the tax code that limit the scale of other tax benefits, such as the Pease rules and the personal exemption phaseout rules. Each rule increases tax liability for certain high-income taxpayers, and we demonstrated in Section 2.5 of this paper the large size of the personal exemption as a “tax expenditure.” An estimate of how such limiting rules affect major tax expenditures should be reported for illustrative purposes.

Should additional tax expenditures be reported about “normal” aspects of the income tax?

Yes. As noted in Section 2, many aspects of what is normal were put into practice without proper consideration of the economics of these rules. Moreover, simply because a part of the income tax has overwhelming public and expert support, such as the progressive system of rates, does not mean it should not be quantified for analysis purposes. Reporting tax expenditures for such basic elements of the tax system as the progressive system of rates, the standard deduction and the personal exemption would place useful information in the public domain, particularly when rate changes are considered. The estimates provided in Section 2.5 of this paper indicate the prominent role that such features play in the tax code.

Should distributional analysis be included in tax expenditure reports?

The JCT inclusion of distributional analysis for major tax expenditures provides important information to its audience. We believe that this presentation should continue and should be part of the Administration Budget presentation. That said, the process of deciding how to best present distributional tables and what provisions to distribute is fraught with controversy. There is no one “correct” way to present a distributional table. Whether expanded, cash, or economic income should be used to classify taxpayers, what unit of analysis to use, what to present by deciles or income classes, what information to present, which time periods, are some of many issues. Distributions that show groups of expenditures, like those in Burman et. al., are useful to the policy debate and could easily be put forward by JCT and OTA. We encourage both agencies (as well as CBO) to study options for the presentation of distributions of tax expenditure analysis as part of the annual tax expenditure reports.³⁹

Should tax expenditures be reported by provisions or conceptually-linked categories?

We believe that it would be useful to report group tax expenditures for such conceptually-linked areas as housing and health. As we demonstrated in Section 3, the sums of individual tax expenditures can be very different from the tax expenditure for a bundle of tax provisions. Given the tendency of analysts to incorrectly sum individual tax expenditures to provide estimates of tax expenditures for such areas as housing and health, we believe group estimates would be an important addition. We further believe it would not be particularly useful to group tax expenditures by tax function (such as all credits or all deductions) given the lack of linkages between such groupings.

³⁹ See Joint Committee on Taxation (1993) for an extensive discussion of the methodological issues involved in producing distributional analysis. See Cronin (1999) for a discussion of the OTA distribution methodology.

Should tax expenditures be grouped by purpose?

We note caution should be used if tax expenditures are reported by such purposes as “policy” or “subsidy.” If such classifications are to be made, the scorekeeping agency must report the arguments for and against such policies, as is now done in many JCT documents. For example, if a particular tax expenditure is intended to promote a positive externality, it should be noted as such. Too often the tax expenditure list is considered a “hit list” of possible future revenue raisers, as if the reporting of a particular provision as a tax expenditure is a de facto condemnation of such a provision as a loophole in need of closing.

Should tax expenditures be grouped with fundamental tax reform considerations in mind?

Yes. Given that the major candidates for fundamental tax reform are broadly known, we believe it would be useful to report tax expenditure estimates in a possible “tax reform” appendix that are grouped by fundamental tax reform proposals. For example, the set of itemized deductions could be estimated simultaneously as a means of demonstrating the scale of such reforms as a flat tax. Other such groups could include savings/investment incentives, education incentives and certain international tax policy considerations (such as a territorial system).

How should tax expenditures with overlapping qualifying criteria be estimated?

We believe, like issues surrounding the standard deduction, that tax expenditures should include “tax form behavior” or substitution among tax provisions that have overlapping qualifying criteria, such as various investment and savings incentives. For example, we demonstrated such a possibility in Section 3 among various education credits, including the effect of adopting various assumptions has on the respective tax expenditures. As no economic behavior has changed in these situations, tax expenditures should reflect such substitutions on the tax form.

5. Conclusion

Despite the challenges associated with tax expenditure classification and estimation, the annual reporting of tax expenditure estimates is an important form of policy analysis for economists and tax law observers. In this paper, we have reviewed the evolution of the tax expenditure reporting process and identified examples of inconsistencies between present and theoretically ideal practice. Using NBER's TAXSIM and the JCT and OTA tax expenditure estimates, we have demonstrated the complications produced by the AMT, the standard deduction, the grouping of tax expenditures, expiring provisions, and the general ability of tax expenditures to produce interactive effects in the estimation process.

Mindful of these issues, to improve the reporting and use of tax expenditure estimates, we suggested incremental and implementable reforms. These include corresponding revenue estimates for major tax expenditures, negative tax expenditure reporting, and establishing an appendix for tax expenditure estimates of permanent versions of expiring provisions and AMT interaction effects, among others. These proposed changes to existing tax expenditure estimation process will increase the value of tax expenditure reporting for academics, policymakers, and others in the tax analysis community.

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**Table 1
A Comparison of Baselines**

JCT Normal Tax	Treasury Normal Tax	Treasury Reference Tax
<p>Individual tax</p> <ul style="list-style-type: none"> • One personal exemption for each taxpayer and dependent • Standard deduction • All cash transfer payments from the Government included in gross income • Deductions for investment and employee business expenses • Prevailing tax rate schedule • Prevailing tax brackets • Capital gains taxed upon realization • All employee compensation subject to tax currently <ul style="list-style-type: none"> ○ 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 • All other income and transfers subject to tax <ul style="list-style-type: none"> ○ 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 • Imputed income from owner-occupied homes excluded (but not classified as tax expenditure due to administrative necessity) • Income tax levied on nominal not real gains in asset values (no indexing) • Foreign tax credit 	<p>JCT normal tax with the following exceptions</p> <ul style="list-style-type: none"> • Includes prevailing rates on capital gains on corporate equity and dividends (since 2005 Budget) • Includes AMT and passive loss rules as part of the baseline • Includes net imputed rental income 	<p>Treasury normal tax with the following exception</p> <ul style="list-style-type: none"> • Gross income does not include transfer payments
<p>Business income taxation</p> <ul style="list-style-type: none"> • Treatment of capital costs <ul style="list-style-type: none"> ○ Cost recovery allowances more favorable than straight-line recovery ○ No indexing 	<p>JCT normal tax with the following exceptions</p> <ul style="list-style-type: none"> • Includes corporate 	<p>Treasury normal tax with the following exceptions</p> <ul style="list-style-type: none"> • Includes prevailing

<ul style="list-style-type: none"> • Accounting standards <ul style="list-style-type: none"> ○ Accrual method of accounting, standard of “economic performance”⁴⁰, and general concept of matching income and expenses <ul style="list-style-type: none"> • 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 not considered separate entities from controlling U.S. shareholders • Foreign tax credit 	<p>AMT</p> <ul style="list-style-type: none"> • Includes cash method of accounting for certain businesses • Uses economic depreciation in baseline (since 2004 Budget) 	<p>graduated corporate rates</p> <ul style="list-style-type: none"> • Includes accelerated depreciation • CFCs are considered separate entities (except for tax haven activities)
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Sources: JCT (2007) and OMB (2008).

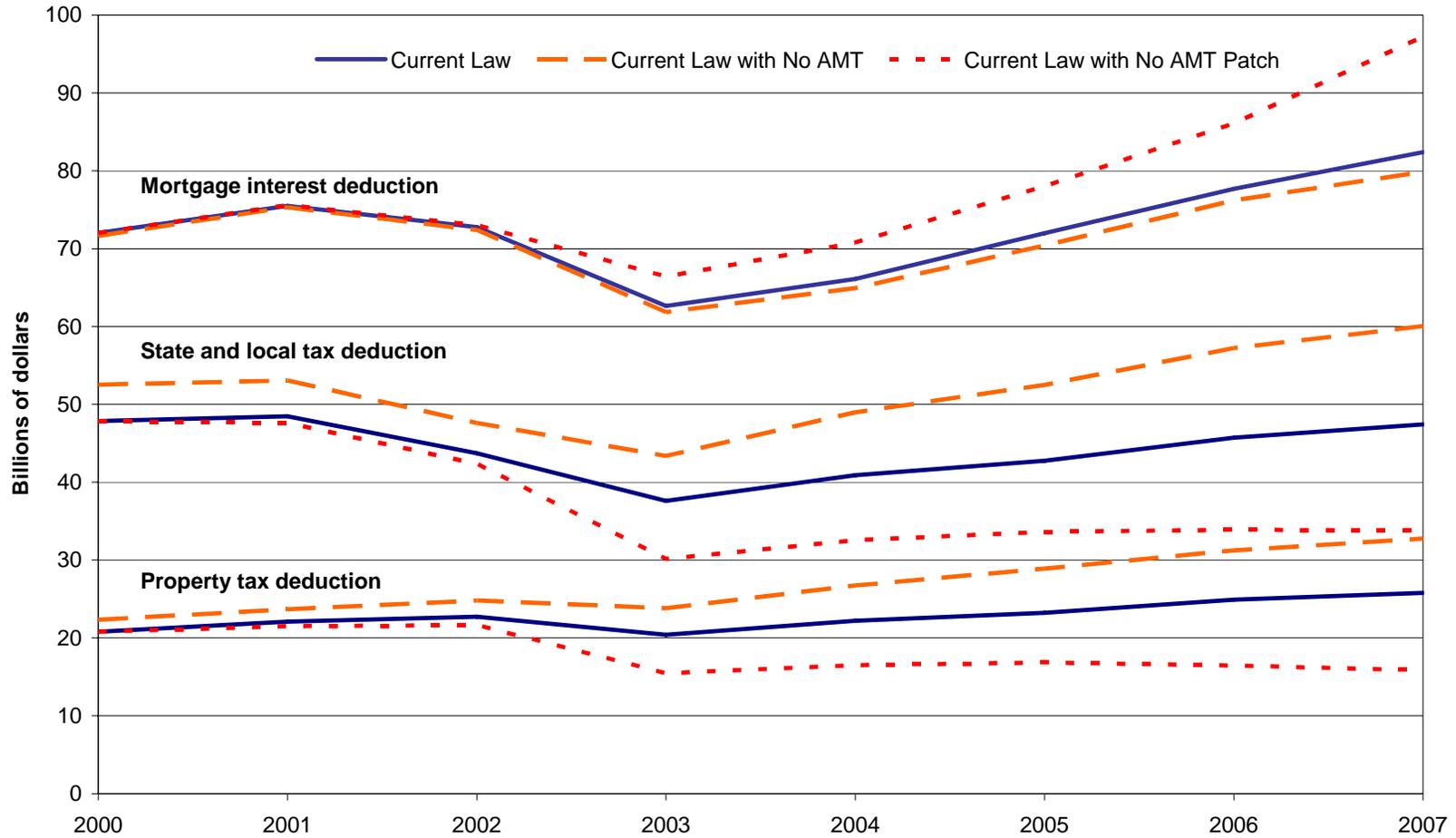
⁴⁰ Used in the Internal Revenue Code to determine whether liabilities are deductible.

**Table 2
Tax Expenditure Estimates for a Hypothetical Taxpayer**

	Base case (1)	Eliminate state and local deduction (2)	Eliminate real estate deduction (3)	Eliminate home mortgage interest deduction (4)	Eliminate charitable contributions deduction (5)	Eliminate all itemized deductions (6)
Itemized deductions:						
State and local income taxes	\$6,500	\$0	\$6,500	\$6,500	\$6,500	\$0
Real estate taxes	3,500	3,500	0	3,500	3,500	0
Home mortgage interest deduction	1,100	1,100	1,100	0	1,100	0
Charitable contributions	2,000	2,000	2,000	2,000	0	0
Sum of itemized deductions	13,100	6,600	9,600	12,000	11,100	0
Standard deduction	10,000	10,000	10,000	10,000	10,000	10,000
Taxpayer itemizes?	Yes	No	No	Yes	Yes	No
Itemized deductions claimed by taxpayer	13,100	10,000	10,000	12,000	11,100	10,000
Tax expenditure estimate for eliminated itemized deduction(s)		620	620	220	400	620
Tax expenditure if standard deduction raised to \$12,000		220	220	220	220	220
Tax expenditure if itemized deduction were an above the line deduction or an adjustment		1,300	700	220	400	2,620

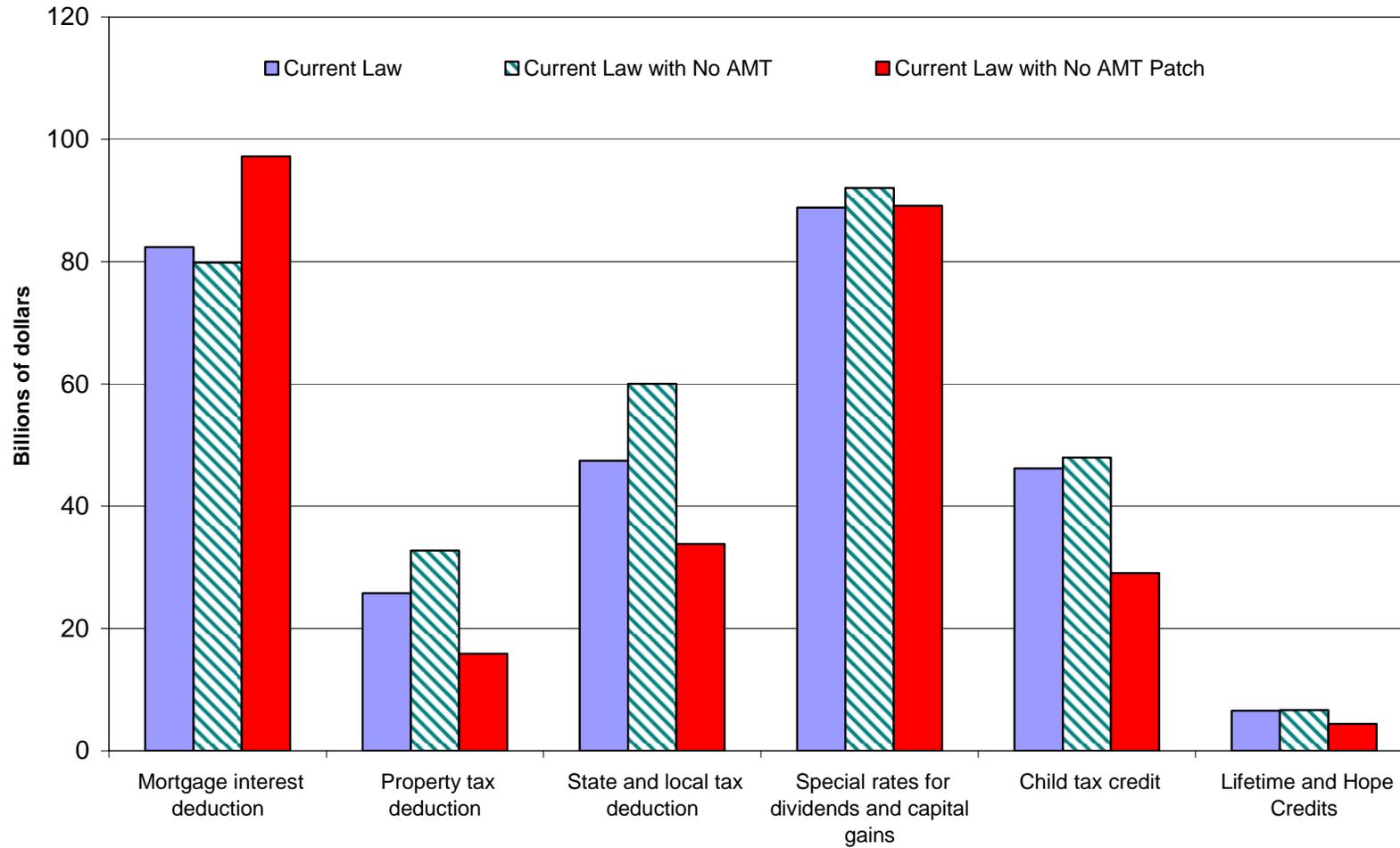
Note: Assumes a flat marginal tax rate of 20 percent.

Figure 1
Effect of AMT on Select Tax Expenditure Estimates, 2000-2007



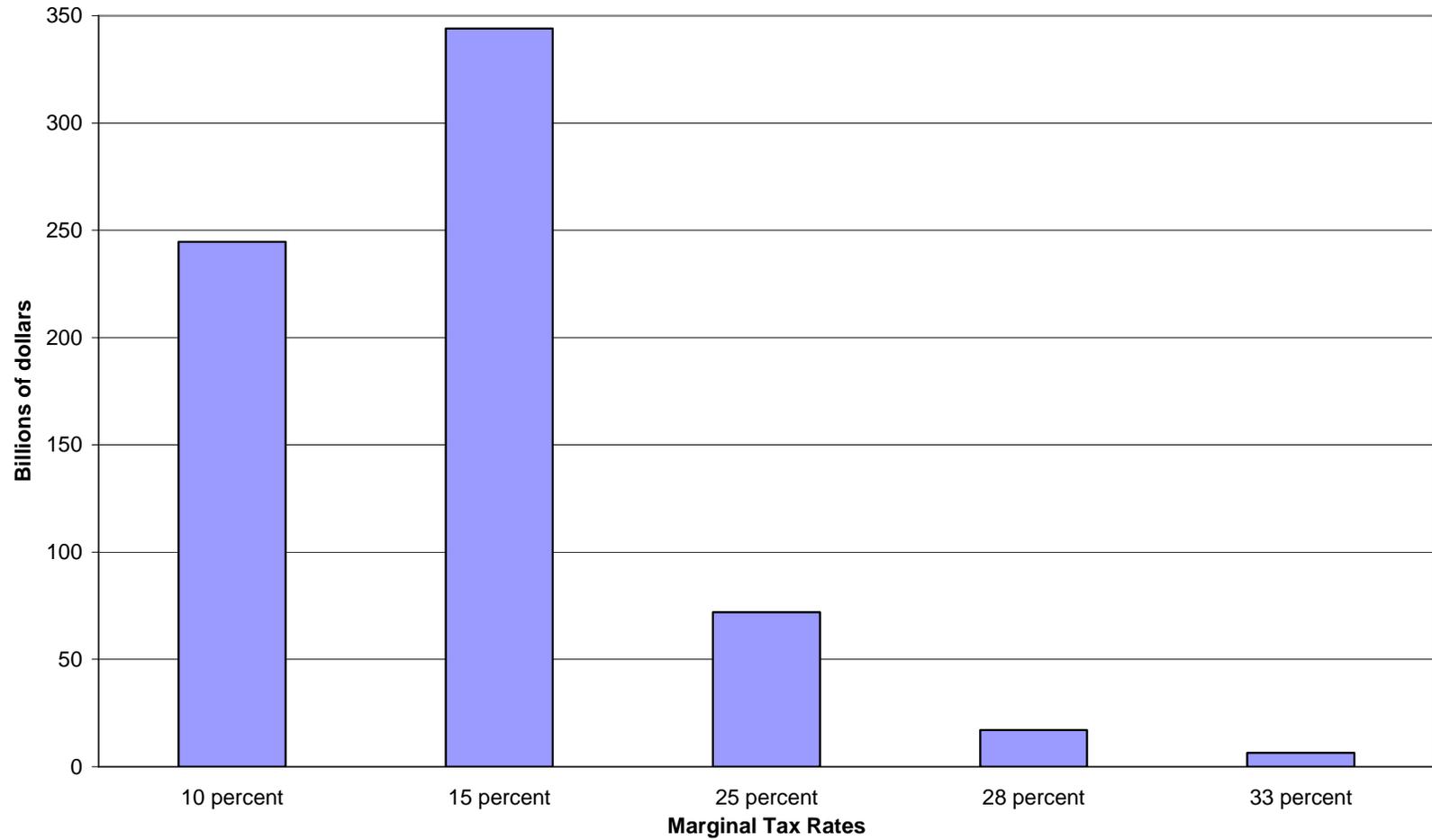
Notes: Authors' calculations using NBER TAXSIM. See text for further details.

Figure 2
Effect of AMT on Selected Tax Expenditure Estimates, 2007



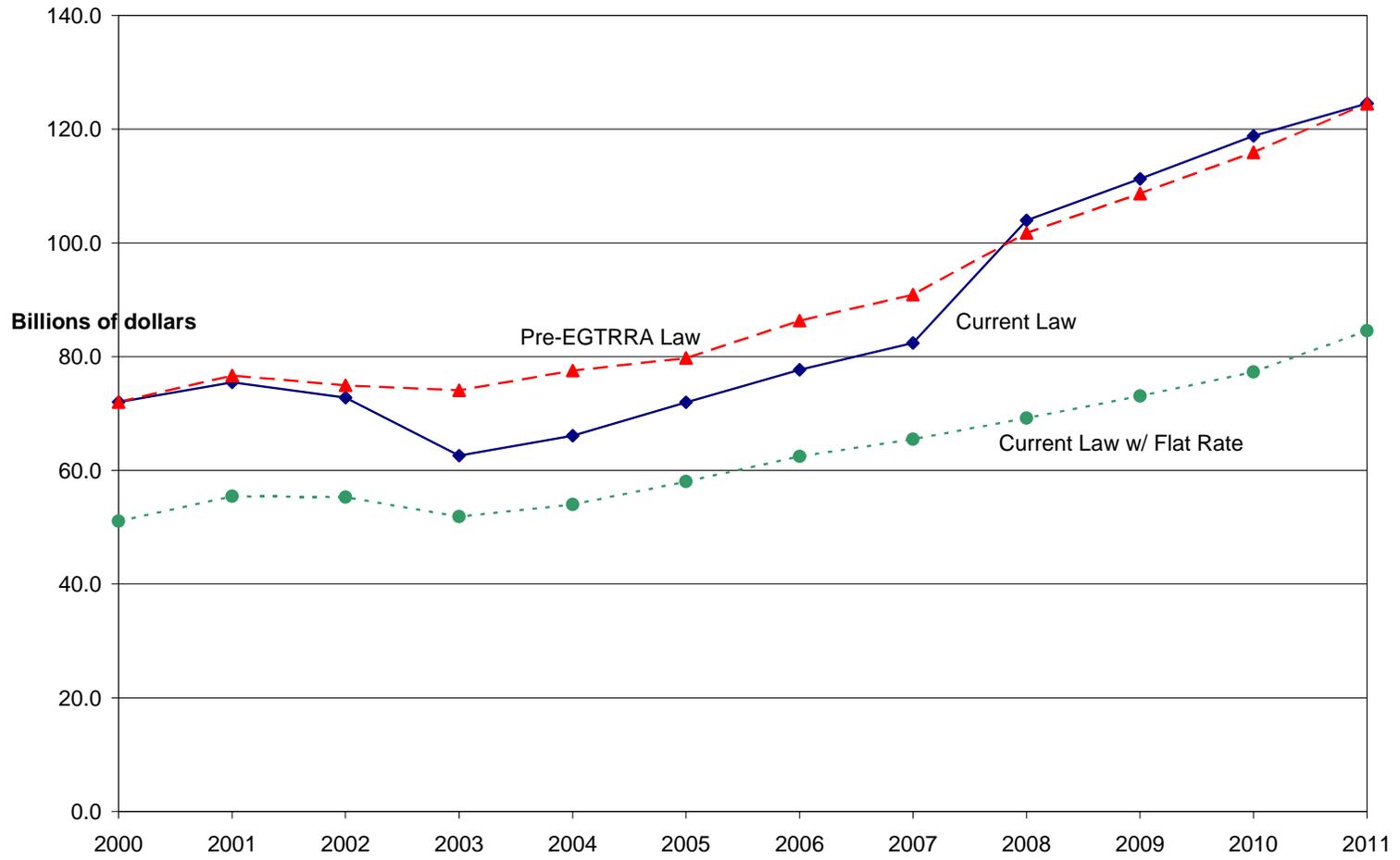
Notes: Authors' calculations using NBER TAXSIM. See text for further details.

Figure 3
Tax Expenditure Estimate for Graduated Individual Marginal Tax Rates, 2005



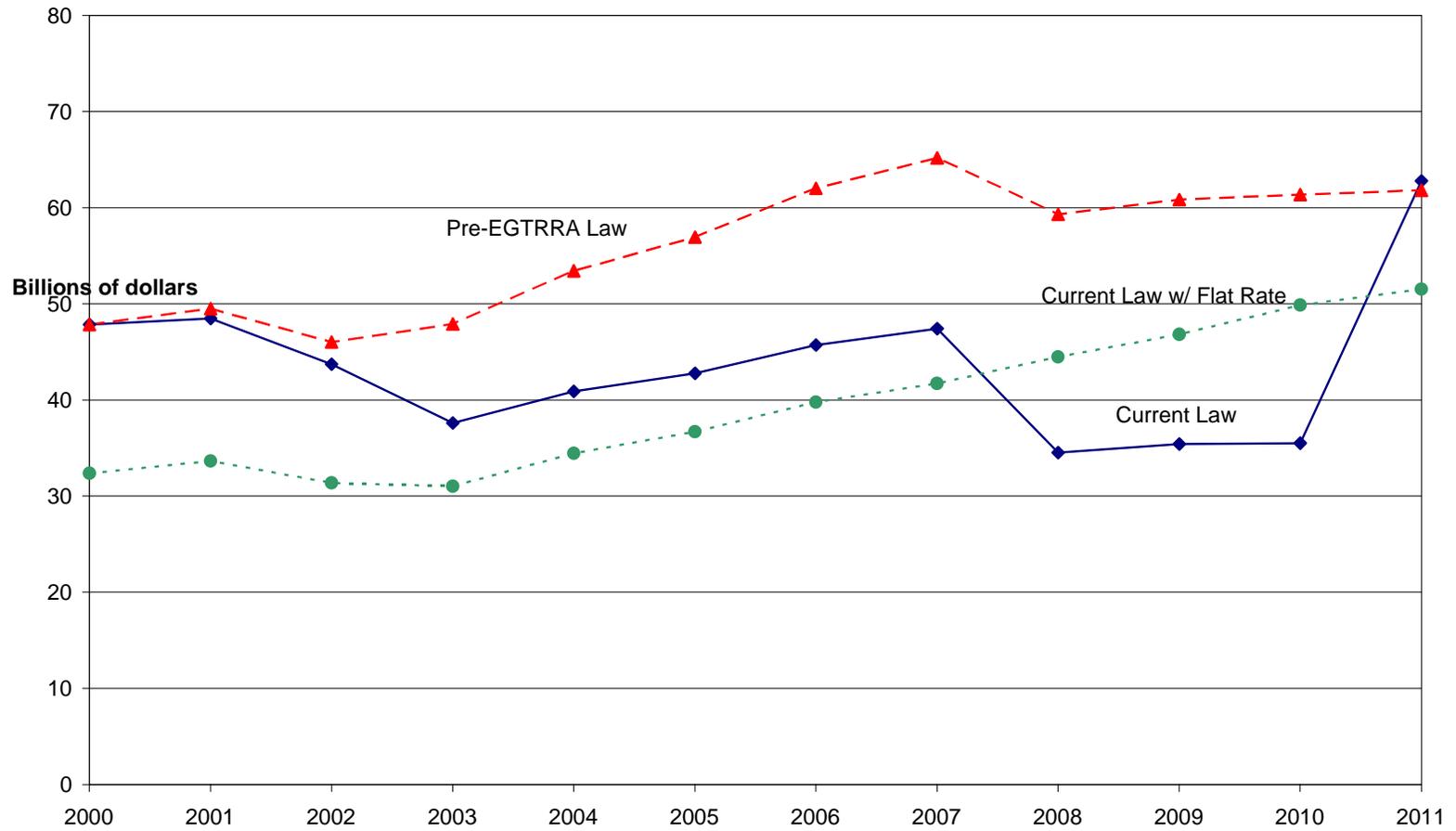
Notes: Authors' calculation from SOI data. See text for details.

Figure 4
Tax Expenditure Estimate for Mortgage Interest Deduction, 2000-2011



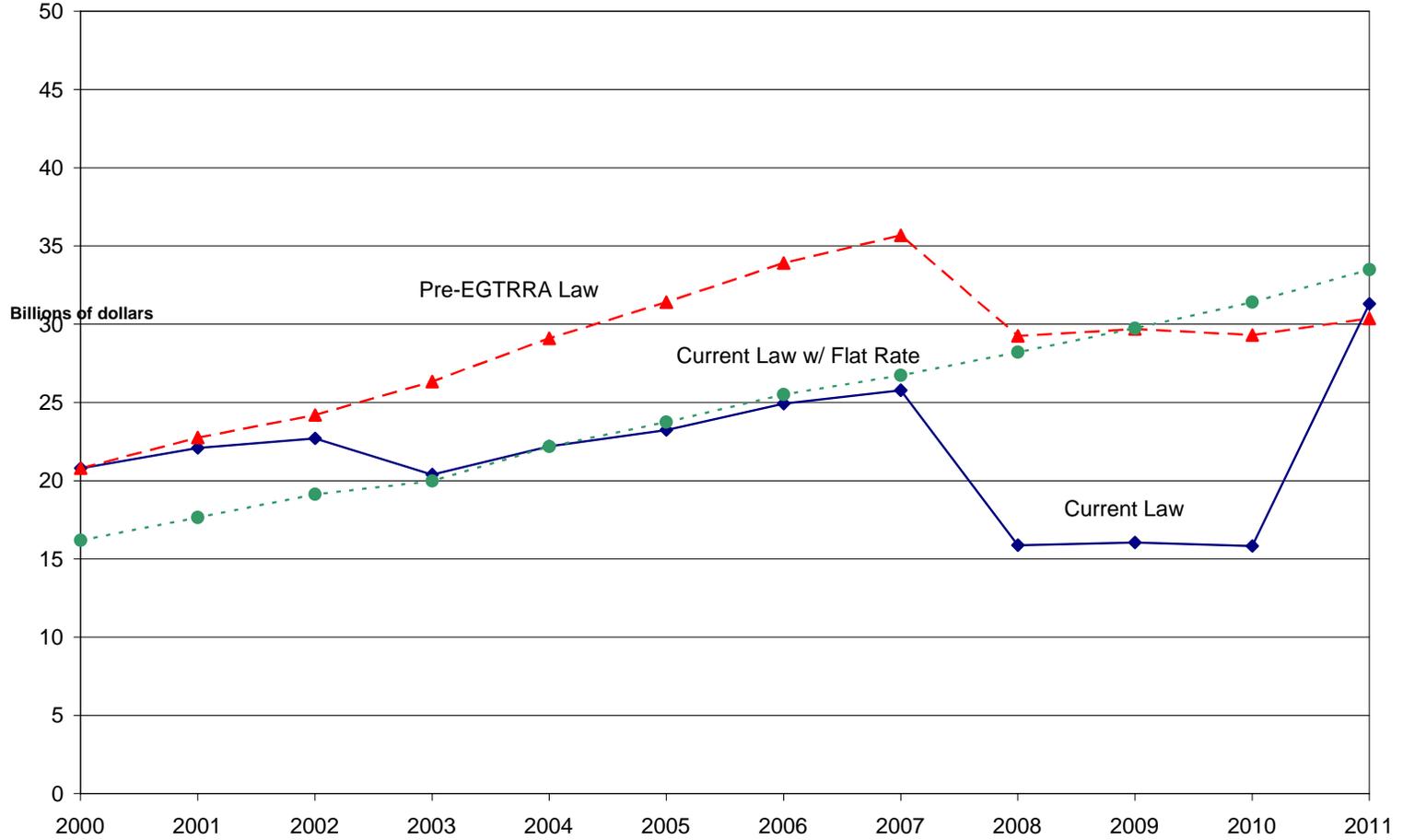
Notes: Authors' calculations using NBER TAXSIM. See text for further details.

Figure 5
Tax Expenditure Estimate for State and Local Income
Tax Deduction, 2000-2011



Notes: Authors' calculations using NBER TAXSIM. See text for further details.

Figure 6
Tax Expenditure Estimate for Property Tax Deduction, 2000-2011



Notes: Authors' calculations using NBER TAXSIM. See text for further details.

Table 7

Table 7
Distribution of Individual Income Tax Revenues under three AMT Scenarios
(in millions of dollars)

Income decile	Tax liability under 2004 law					
	Assuming 2004 AMT	Percentage of liability	Assuming no AMT	Percentage of liability	Assuming no AMT patch	Percentage of liability
Bottom	0	-0.8	-54	-0.8	1	-0.8
2nd	-6,286	-1.6	-6,294	-1.6	-6,282	-1.5
3rd	-12,671	-1.0	-12,684	-1.0	-12,671	-1.0
4th	-8,114	0.0	-8,127	0.0	-8,114	0.0
5th	-28	1.8	-33	1.8	-26	1.8
6th	14,445	3.3	14,405	3.4	14,460	3.3
7th	26,985	5.4	26,965	5.5	27,058	5.3
8th	43,264	8.0	43,211	8.2	43,440	7.9
9th	64,898	13.0	64,750	13.2	65,444	13.1
Top	104,805	71.8	104,409	71.4	108,416	72.0
Detail on top decile						
Top 5%	484,370	60.0	471,885	59.5	494,337	59.8
Top 1%	311,965	38.7	305,602	38.5	312,482	37.8
Total	806,894	100.0	792,973	100.0	826,335	100.0

Notes: Calculations from NBER TAXSIM using 2004 Statistics of Income Public Use File. The income concept used to place tax returns into income classes is adjusted gross income (AGI) minus state and local tax refunds, plus tax-exempt interest, non-taxable Social Security benefits, deductions for IRA contributions, student loan interest, alimony paid, tuition & fees, Health Savings Accounts, one-half of the self-employment tax, self-employed health insurance, self-employed SEP, SIMPLE and qualified plans, and penalties on the early withdrawal of saving, minus other income. The Public Use File does not report other income. To calculate other income, we took the difference between reported AGI and the signed sum of the reported components of AGI. The difference includes moving expenses, foreign earned income, and net operating losses from previous years as well as errors due to censoring and rounding. Returns of dependents are excluded from the analysis. Returns with negative income are excluded from lowest income group but included in totals. Decile breakpoints are, respectively, \$8,425, \$14,618, \$20,370, \$27,310, \$35,280, \$44,876, \$57,070, \$73,865, and \$104,687 (\$145,801 for top 5% and \$360,419 for top 1%).

Table 8
Distribution of the Tax Expenditure for the State and Local Tax Deduction under three AMT Scenarios, 2004
 Money amounts in millions of dollars, returns in thousands

Income decile	Under 2004 law			Under 2004 law with no AMT			Under 2004 law with no AMT patch		
	Percentage of all returns claiming deduction	Average deduction	Percentage of total deduction claimed	Percentage of all returns claiming deduction	Average deduction	Percentage of total deduction claimed	Percentage of all returns claiming deduction	Average deduction	Percentage of total deduction claimed
Bottom	0.0	19	0.0	0.0	19	0.0	0.0	19	0.0
2nd	0.3	56	0.0	0.3	56	0.0	0.4	56	0.0
3rd	1.0	86	0.1	1.0	86	0.1	1.1	86	0.1
4th	2.6	125	0.2	2.5	125	0.2	2.9	125	0.3
5th	5.7	172	0.8	5.6	172	0.6	6.4	172	0.9
6th	9.4	269	1.9	9.2	269	1.6	10.4	269	2.4
7th	12.7	395	3.8	12.5	395	3.2	14.0	391	4.7
8th	17.2	490	6.4	16.9	492	5.4	18.8	488	7.9
9th	23.7	803	14.5	23.4	813	12.4	23.8	794	16.2
Top	27.4	3,450	72.2	28.5	4,117	76.4	22.2	3,546	67.5
Detail on top decile									
Top 5%	13.7	5,526	57.9	14.8	6,604	63.8	10.8	6,177	57.2
Top 1%	2.8	18,429	38.7	3.0	20,166	39.8	3.0	18,757	47.7
Total	100.0	1,309	100.0	100.0	1,535	100.0	100.0	1,167	100.0

See notes to table 7.

Table 9
Distribution of Hypothetical Tax Expenditure for Special Rates on Dividends and Capital Gains under three AMT Scenarios
 Money amounts in millions of dollars, returns in thousands

Income decile	Under 2004 law			Under 2004 law with no AMT			Under 2004 law with no AMT patch		
	Percentage of all returns claiming deduction	Average deduction	Percentage of total deduction claimed	Percentage of all returns claiming deduction	Average deduction	Percentage of total deduction claimed	Percentage of all returns claiming deduction	Average deduction	Percentage of total deduction claimed
Bottom	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0
2nd	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0
3rd	0.0	46	0.0	0.0	46	0.0	0.0	46	0.0
4th	0.0	244	0.0	0.0	244	0.0	0.0	244	0.0
5th	0.1	56	0.0	0.1	56	0.0	0.1	56	0.0
6th	0.7	596	0.0	0.7	603	0.0	0.7	603	0.0
7th	1.3	685	0.0	1.4	685	0.0	1.3	686	0.0
8th	3.8	868	0.1	3.7	845	0.1	4.0	981	0.1
9th	10.8	1,221	0.4	10.8	1,183	0.4	10.8	1,369	0.5
Top	83.2	39,777	99.5	83.3	41,160	99.5	83.0	39,777	99.4
Detail on top decile									
Top 5%	72.1	45,549	98.7	72.3	47,121	98.9	71.9	45,508	98.5
Top 1%	27.2	109,377	89.5	27.3	113,418	90.0	27.1	109,346	89.3
Total	100.0	33,273	100.0	100.0	34,452	100.0	100.0	33,225	100.0

See notes to table 7.

Table 10
Distribution of Hypothetical Tax Expenditure Combining the Top 13 TAXSIM Tax Expenditures under three AMT Scenarios
 Money amounts in millions of dollars, returns in thousands

Income decile	Under 2004 law			Under 2004 law with no AMT			Under 2004 law with no AMT patch		
	Percentage of all returns claiming	Average	Percentage of total claimed	Percentage of all returns claiming	Average	Percentage of total claimed	Percentage of all returns claiming	Average	Percentage of total claimed
Bottom	6.8	1,087	2.0	6.8	1,087	1.9	6.8	1,087	2.0
2nd	7.9	2,185	4.7	7.9	2,184	4.6	7.9	2,185	4.7
3rd	7.3	2,442	4.8	7.3	2,442	4.7	7.3	2,442	4.8
4th	8.5	2,119	4.9	8.5	2,119	4.8	8.5	2,119	4.9
5th	9.0	1,696	4.1	9.0	1,696	4.0	9.0	1,696	4.1
6th	10.3	1,720	4.8	10.3	1,720	4.6	10.3	1,722	4.8
7th	11.2	1,994	6.0	11.2	1,994	5.9	11.2	1,997	6.0
8th	12.2	2,218	7.3	12.2	2,218	7.1	12.2	2,240	7.4
9th	12.9	2,942	10.3	12.9	2,948	10.0	12.9	3,155	11.0
Top	13.8	13,762	51.1	13.8	14,484	52.4	13.8	13,609	50.4
Detail on top decile									
Top 5%	7.0	23,079	43.4	7.0	24,472	44.8	7.0	22,824	42.8
Top 1%	1.4	81,163	30.7	1.4	85,142	31.3	1.4	80,804	30.5
Total	100.0	3,705	100.0	100.0	3,805	100.0	100.0	3,715	100.0

See notes to table 7.

Table 11
Distribution of Hypothetical Tax Expenditure Combining 11 TAXSIM Tax Expenditures under three AMT Scenarios
 Money amounts in millions of dollars, returns in thousands

Income decile	Under 2004 law			Under 2004 law with no AMT			Under 2004 law with no AMT patch		
	Percentage of all returns claiming	Average	Percentage of total claimed	Percentage of all returns claiming	Average	Percentage of total claimed	Percentage of all returns claiming	Average	Percentage of total claimed
Bottom	0.1	84	0.0	0.1	88	0.0	0.1	84	0.0
2nd	2.2	272	0.2	2.2	272	0.2	2.2	272	0.2
3rd	4.0	552	0.6	4.0	552	0.6	4.0	552	0.6
4th	6.4	762	1.3	6.4	762	1.2	6.4	762	1.3
5th	8.9	1,026	2.4	8.9	1,025	2.3	8.9	1,026	2.4
6th	11.8	1,275	3.9	11.8	1,275	3.8	11.8	1,279	3.9
7th	13.8	1,557	5.6	13.8	1,557	5.4	13.8	1,562	5.6
8th	15.6	1,656	6.7	15.6	1,655	6.5	15.6	1,682	6.8
9th	17.6	2,322	10.6	17.6	2,329	10.2	17.6	2,548	11.6
Top	19.5	13,624	68.9	19.5	14,355	70.0	19.5	13,478	67.8
Detail on top decile									
Top 5%	10.0	23,072	59.5	10.0	24,468	60.9	10.0	22,818	58.7
Top 1%	2.0	81,175	42.2	2.0	85,176	42.6	2.0	80,817	41.9
Total	100.0	3,860	100.0	100.0	4,003	100.0	100.0	3,876	100.0

See notes to table 7.

APPENDIX TABLE
Estimates of Selected Tax Expenditures, 2000-2011
(Billions of dollars)

1. Individual income tax revenues

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	959.9	944.7	959.9	959.9	865.1
2001	829.4	821.3	830.9	873.1	812.1
2002	764.5	756.9	766.8	817.0	780.0
2003	705.6	695.6	721.1	846.9	799.0
2004	810.0	795.9	829.4	967.7	891.4
2005	896.6	879.4	921.2	1059.1	975.1
2006	964.8	950.3	1001.1	1139.5	1048.7
2007	1017.3	994.4	1086.3	1199.3	1092.9
2008	1151.6	1044.7	1151.6	1279.6	1139.6
2009	1227.0	1104.6	1227.0	1354.8	1196.1
2010	1318.9	1172.5	1318.9	1447.1	1268.4
2011	1520.1	1469.0	1520.1	1513.5	1303.9

2. Tax expenditure for mortgage interest deduction

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	72.0	71.7	72.0	72.0	51.1
2001	75.5	75.3	75.6	76.7	55.4
2002	72.8	72.4	73.0	75.0	55.3
2003	62.6	61.9	66.4	74.1	51.9
2004	66.1	64.9	70.8	77.5	54.0
2005	72.0	70.4	78.0	79.7	58.0
2006	77.7	76.2	86.1	86.3	62.5
2007	82.4	79.9	97.2	90.9	65.5
2008	104.0	85.2	104.0	101.8	69.2
2009	111.3	90.3	111.3	108.7	73.1
2010	118.8	95.8	118.8	115.9	77.3
2011	124.5	117.9	124.5	124.5	84.5

3. Tax expenditure for medical expenses deduction

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	5.1	5.1	5.1	5.1	5.0
2001	5.3	5.4	5.3	5.6	5.7
2002	5.7	5.8	5.7	6.1	6.2
2003	5.6	5.6	5.5	6.7	6.4
2004	6.7	6.8	6.6	8.0	7.6
2005	7.3	7.4	7.2	8.3	8.1
2006	7.9	8.0	7.7	9.0	8.7
2007	8.3	8.4	8.3	9.5	9.2
2008	8.9	9.0	8.9	9.9	9.7
2009	9.6	9.6	9.6	10.5	10.3
2010	10.2	10.1	10.2	11.1	10.8
2011	12.2	12.7	12.2	12.0	11.9

4. Tax expenditure for property tax deduction

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	20.8	22.4	20.8	20.8	16.2
2001	22.1	23.7	21.5	22.8	17.7
2002	22.7	24.8	21.7	24.2	19.1
2003	20.4	23.8	15.5	26.3	20.0
2004	22.2	26.8	16.5	29.1	22.2
2005	23.2	28.9	16.8	31.4	23.8
2006	24.9	31.2	16.5	33.9	25.5
2007	25.8	32.7	15.9	35.7	26.7
2008	15.9	34.9	15.9	29.3	28.2
2009	16.1	36.9	16.1	29.7	29.8
2010	15.8	39.1	15.8	29.3	31.4
2011	31.3	47.1	31.3	30.4	33.5

5. Tax expenditure for state and local income tax deduction

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	47.9	52.5	47.9	47.9	32.4
2001	48.5	53.1	47.6	49.5	33.7
2002	43.7	47.6	42.4	46.0	31.4
2003	37.6	43.4	30.2	47.9	31.0
2004	40.9	49.0	32.5	53.4	34.4
2005	42.8	52.5	33.6	56.9	36.7
2006	45.7	57.2	33.9	62.0	39.8
2007	47.4	60.0	33.8	65.2	41.7
2008	34.6	64.5	34.6	59.3	44.5
2009	35.4	68.1	35.4	60.9	46.8
2010	35.5	72.8	35.5	61.4	49.9
2011	62.8	84.3	62.8	61.8	51.5

6. Tax expenditure for charitable contributions deductions

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	34.6	34.6	34.6	34.6	23.1
2001	33.2	33.2	33.2	33.7	23.0
2002	32.5	32.4	32.5	33.4	23.3
2003	30.5	30.3	31.5	35.2	23.7
2004	34.8	34.5	36.1	40.0	26.5
2005	37.7	37.2	39.3	42.2	28.4
2006	40.5	40.1	42.7	45.5	30.5
2007	42.7	42.1	46.8	47.8	32.0
2008	49.7	44.7	49.7	51.7	33.8
2009	52.8	47.2	52.8	54.7	35.5
2010	56.1	50.1	56.1	58.0	37.6
2011	60.6	59.5	60.6	60.7	39.5

7. Tax expenditure for municipal bond interest deduction

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	18.0	18.3	18.0	18.0	10.6
2001	18.0	18.1	17.9	18.1	10.8
2002	16.9	17.0	16.8	17.3	10.5
2003	15.0	15.1	15.0	16.8	10.2
2004	14.8	15.0	14.9	16.7	10.0
2005	15.9	16.1	16.0	17.9	10.6
2006	16.8	17.0	16.9	18.9	11.2
2007	17.6	17.8	17.8	19.8	11.7
2008	18.6	18.6	18.6	20.6	12.2
2009	19.6	19.5	19.6	21.6	12.8
2010	20.5	20.4	20.5	22.6	13.3
2011	24.1	24.6	24.1	24.0	14.3

8. Tax expenditure for special rates for dividends and capital gains

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law
2000	76.2	83.6	76.2	76.2
2001	30.6	32.0	30.6	39.5
2002	22.6	23.4	22.5	29.1
2003	32.3	33.0	32.4	36.3
2004	56.5	58.0	56.5	61.0
2005	79.3	81.5	79.4	83.8
2006	92.3	95.6	92.5	97.5
2007	88.9	92.0	89.1	94.7
2008	87.4	90.9	87.4	92.2
2009	87.1	90.7	87.1	92.1
2010	102.8	107.8	102.8	108.2
2011	62.9	65.5	62.9	66.8

9. Tax expenditure for earned income tax credit

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law
2000	32.2	32.2	32.2	32.2
2001	33.1	33.1	33.1	33.2
2002	36.9	36.9	36.9	36.9
2003	36.4	36.4	36.4	36.6
2004	38.6	38.6	38.6	38.6
2005	39.6	39.6	39.6	39.6
2006	40.5	40.5	40.5	40.5
2007	41.4	41.4	41.4	41.5
2008	42.5	42.5	42.5	42.5
2009	43.5	43.5	43.5	43.5
2010	44.5	44.5	44.5	44.6
2011	46.0	46.0	46.0	46.0

10. Tax expenditure for child tax credit

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law
2000	19.9	19.9	19.9	19.9
2001	27.8	27.7	27.8	23.4
2002	27.9	27.9	27.9	23.6
2003	44.2	44.2	44.2	23.8
2004	47.0	47.0	47.0	24.7
2005	47.4	47.4	47.4	24.8
2006	47.8	47.8	47.8	24.9
2007	46.2	48.0	29.1	24.7
2008	28.3	48.2	28.3	18.7
2009	27.4	48.4	27.4	17.9
2010	26.5	48.5	26.5	17.2
2011	12.0	19.8	12.0	11.9

11. Tax expenditure for Lifetime and Hope Credits

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law
2000	4.8	4.8	4.8	4.8
2001	4.9	4.9	4.9	5.2
2002	4.9	4.9	4.9	5.1
2003	5.8	5.8	5.8	6.2
2004	6.0	6.0	6.0	6.5
2005	6.2	6.2	6.2	6.6
2006	6.6	6.6	6.6	7.1
2007	6.6	6.6	4.4	7.1
2008	4.4	6.7	4.4	5.6
2009	4.3	6.7	4.3	5.4
2010	4.2	6.7	4.2	5.3
2011	5.3	7.2	5.3	5.3

12. Hypothetical tax expenditure: Personal Exemption

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	121.0	122.5	121.0	121.0	116.9
2001	118.5	119.9	117.6	126.0	122.5
2002	119.1	121.1	117.5	128.6	126.7
2003	106.8	109.2	96.5	130.0	128.2
2004	111.2	114.3	98.2	134.3	131.5
2005	117.2	121.5	100.5	142.1	137.7
2006	125.2	130.2	101.2	152.0	145.1
2007	129.0	135.8	83.5	159.1	151.3
2008	85.0	145.6	85.0	148.1	158.7
2009	83.8	152.3	83.8	150.8	164.9
2010	83.0	163.0	83.0	154.6	173.5
2011	153.5	186.3	153.5	150.2	176.3

13. Hypothetical tax expenditure: Thirteen items

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	315.9	326.0	315.9	315.9	122.9
2001	279.9	285.1	279.0	289.1	130.3
2002	268.0	272.5	266.8	277.9	130.6
2003	274.2	280.3	273.8	290.5	125.8
2004	316.4	325.0	317.2	334.5	135.8
2005	352.5	362.9	355.4	363.4	144.2
2006	383.4	396.5	387.9	398.5	155.9
2007	387.7	403.3	375.2	407.4	162.7
2008	389.3	420.8	389.3	408.4	173.5
2009	403.1	434.5	403.1	421.5	182.3
2010	436.6	471.7	436.6	455.7	194.6
2011	416.9	445.1	416.9	419.7	205.0

Notes: Authors calculations using the NBER TAXSIM model. The thirteen items are the top thirteen expenditures in terms of tax revenues lost that can be estimated using the TAXSIM model. These items include the mortgage interest deduction, deduction for medical and dental expenses, deduction for state and local taxes, deduction for property taxes on owner-occupied homes, deduction for charitable contributions, the EITC, the child tax credit, the Lifetime and Hope credits, the child and dependent care credit, the tax exemption on municipal bonds, the special rates on capital gains and dividends, the tax preferences for IRAs and Keogh plans, and the exclusion for certain pensions and annuities. See text for further details.

14. Hypothetical tax expenditure: Eleven items

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	263.8	274.0	263.8	263.8	122.9
2001	219.0	224.2	218.1	232.6	130.3
2002	203.2	207.6	201.9	217.4	130.6
2003	192.6	198.7	192.2	229.7	125.8
2004	230.5	239.1	231.2	271.1	135.8
2005	265.1	275.5	268.0	298.9	144.2
2006	294.8	307.9	299.3	333.1	155.9
2007	300.1	313.5	308.1	341.1	162.7
2008	322.0	329.7	322.0	348.9	173.5
2009	335.6	342.3	335.6	361.9	182.3
2010	368.9	378.4	368.9	396.0	194.6
2011	359.9	378.7	359.9	362.9	205.0

Notes: Authors calculations using the NBER TAXSIM model. The eleven items consist of all of the expenditures included in the "13 items" above with the exception of the EITC and child care credits. See text for further details.

15. Hypothetical tax expenditure: Standard deduction

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	65.6	65.7	65.6	65.6	71.6
2001	60.0	59.9	59.9	65.9	72.5
2002	59.1	59.1	59.0	65.6	73.2
2003	62.0	62.0	60.5	69.2	83.2
2004	63.5	63.6	61.5	70.3	83.8
2005	67.7	67.8	64.4	80.6	87.8
2006	71.8	71.9	66.5	85.4	92.0
2007	75.2	75.7	63.6	90.3	96.8
2008	65.6	80.0	65.6	89.2	100.8
2009	66.7	83.9	66.7	92.3	104.9
2010	67.7	88.0	67.7	95.3	109.2
2011	90.9	98.2	90.9	89.7	105.6

16. Hypothetical tax expenditure: Property tax and mortgage interest deductions

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	86.5	87.6	86.5	86.5	61.4
2001	91.1	92.5	90.6	92.8	66.9
2002	88.6	90.3	87.8	92.0	67.7
2003	75.5	78.4	75.6	93.1	64.2
2004	80.4	84.1	81.2	99.0	68.2
2005	86.8	91.1	88.9	101.6	73.3
2006	93.9	99.0	97.1	110.4	79.2
2007	99.1	103.7	108.5	116.2	82.9
2008	115.4	110.9	115.4	121.8	87.9
2009	123.1	117.7	123.1	129.1	92.9
2010	130.8	125.2	130.8	136.2	98.5
2011	147.8	154.5	147.8	147.1	108.4

17. Hypothetical tax expenditure: Property tax deduction and State and local income tax deduction

	Current Law	Current Law with No AMT	Current Law with No AMT Patch	Pre-EGTRRA Law	Current law with flat rate of 19%
2000	67.3	72.5	67.3	67.3	46.7
2001	69.3	74.4	68.3	70.8	49.5
2002	65.4	70.0	63.8	68.6	48.5
2003	57.7	64.3	49.0	72.5	48.4
2004	63.3	72.5	53.2	80.9	53.8
2005	66.8	78.0	55.4	85.1	57.5
2006	71.9	85.2	56.0	93.0	62.4
2007	74.8	89.4	55.8	97.8	65.4
2008	57.2	96.2	57.2	92.6	69.8
2009	58.9	101.7	58.9	95.7	73.6
2010	59.2	108.9	59.2	97.4	78.4
2011	100.6	127.5	100.6	99.0	82.1

Notes: Authors calculations using the NBER TAXSIM model. See text for further details.

Appendix Figure 1
Distribution of Tax Expenditure for Marginal Rate Brackets, 2005

