Effects of Tax Simplification Options on Equity, Efficiency, and Simplicity: A Quantitative Analysis

October, 2002

Latest Revision: June, 2003

William G. Gale
Brookings Institution
and
Tax Policy Center

Jeffrey Rohaly
Urban Institute
and
Tax Policy Center

This paper was prepared for a conference on "The Crisis in Tax Administration" at the Brookings Institution, November 7 and 8, 2002 and is forthcoming in a Brookings volume of the same title, edited by Henry Aaron and Joel Slemrod. We thank Matt Hall and Manijeh Azmoodah for outstanding research assistance and Henry Aaron, David Glickman, Michael Graetz, Joseph Minarik, Deborah Schenk and Joel Slemrod for helpful comments. The views expressed and any errors are the responsibility of the authors and should not be attributed to the trustees, officers, or staff of the Brookings Institution, the Urban Institute, or the Tax Policy Center.

ABSTRACT

Although pleas to simplify the tax system are ubiquitous, quantitative analyses of simplification options are rare. This paper explores the effects of tax simplification proposals on selected aspects of equity, efficiency, and complexity, using the Tax Policy Center's tax microsimulation model. We show that simplification proposals differ dramatically with respect to their effects on revenue, distribution, marginal tax rates, and indeed on simplification per se. As a result, a focus on simplification options does not eliminate the need to make judgments regarding the distributional, efficiency, or revenue consequences of tax changes.

Although pleas to simplify the tax system are ubiquitous, quantitative analyses of simplification options is rare.[1] The difficulties in simplifying taxes are well-known. Policy makers and the public care about economic performance, the level of revenues, the distribution of tax burdens and other items as well as the complexity of the tax system. These goals, however, are often in conflict. Efforts to fine-tune the tax system to provide more precisely targeted fairness inevitably make taxes more complex, and create a trade-off between simplicity and horizontal equity. Rules that tax people different amounts at different income levels also increase complexity, creating a trade-off between simplicity and vertical equity. Policies that target particular forms of saving or investment in the hopes of spurring economic activity also make tax planning more difficult, causing a potential trade-off between simplicity and growth.

This paper explores the effects of tax simplification proposals on selected aspects of equity, efficiency, and complexity. As Slemrod (1984) emphasizes, quantitative analyses of the effects of simplification options is essential if such options are to receive the same serious scrutiny as other proposals. Our analysis uses the tax microsimulation model developed at the Tax Policy Center. We use the model to examine changes to the individual income tax and alternative minimum tax, and a partial replacement of the income tax with a value-added tax (VAT).

We evaluate the effects on equity by considering the distribution of tax burdens, holding revenues constant by adjusting marginal tax rates. We evaluate the efficiency

[1] Pechman (1987) proposes a base-broadening, rate-lowering set of changes to the income tax and examines the impact on marginal tax rates and the distribution of tax burdens. Slemrod (1989) estimates the reduction in the resource cost of complying with and filing income taxes from alternative simplification options.

effects by examining the impact on the effective marginal tax rate on consumption financed by labor supply and by saving in interest-bearing assets. We evaluate the impact on tax complexity by using regression analysis of taxpayers' likelihood of using a paid tax preparer.

Our goal is not to advocate or oppose any particular simplification proposal. Rather, we believe the paper makes two broad contributions. First, we subject some prominent simplification proposals to the type of analysis regarding equity, efficiency, and revenues that other proposals routinely receive. Second, we provide new evidence on the way in which these simplification proposals would affect the use of tax preparers.

Our results show that simplification proposals differ dramatically with respect to their effects on revenue, distribution, marginal tax rates, and indeed on simplification per se. As a result, a focus on simplification options does not eliminate the need to make judgments regarding the distributional, efficiency, or revenue consequences of tax changes.

We begin by describing the tax model and the simplification options considered, after which the following three sections examine the impact on distribution, marginal tax rates, and tax preparer usage, respectively. The last section provides a short conclusion. An appendix discusses the tax model and our regression specification.

Background

The version of the Urban-Brookings Tax Policy Center microsimulation model used here is based on data from the stratified, random sample of tax returns in the 1996 public use file produced by the Statistics of Income division of the Internal Revenue

Service. The data contain virtually complete information from the income tax filings of approximately 112,000 returns.

Earlier versions of the model (for example, see Burman, Gale, Rohaly and Harris 2002) incorporated major provisions of the individual income tax and the individual alternative minimum tax (AMT). In this paper, we expand the model to incorporate a consumption tax. The model assumes that individual income tax and AMT liabilities are borne by the individuals who are liable for the taxes, and that consumers bear the burden of consumption taxes. We allocate consumption expenditures across filing units as a function of the number of people in the unit and after-tax income, based on data from Sabelhaus and Groen (2000) and our own extrapolations based on that data for very high-income households. The Appendix contains details on the model specification and the incidence assumptions and compares our results to those reported by Treasury and the Congressional Budget Office.

The income tax system is projected to change significantly over the next decade. The tax cuts enacted in 2001 are slated to phase-in slowly and then to expire at the end of 2010. The tax legislation passed in 2003 accelerates some of the of the 2001 tax cuts, at least temporarily, and reduced the tax rates applied to long-term capital gains and dividends through 2009. In addition, the AMT is projected to grow rapidly, because the 2001 tax cuts reduced regular income tax liability without sustained cuts in AMT liability and because the AMT is not indexed for inflation (Burman, Gale, Rohaly and Harris 2002). Because of uncertainty regarding the way in which these issues will be resolved, we focus our analysis on projections for calendar year 2010. This is late enough to capture the massive projected growth in AMT coverage and liabilities, and to allow the

2001 tax cut to phase-in fully, but still pre-dates the legislated expiration of the 2001 tax cut. Under this specification, all features of the 2003 tax cut, including the dividend and capital gains rate reductions, have expired.

There are an unending variety of ways to simplify the tax system.[2] In this paper, we focus on policies that can be examined usefully in the tax model, that mirror recent or well-known proposals, and that are likely to be significant. We begin by examining changes to the income tax and the AMT, including:

- Raise the AMT exemption to $100,000 or repeal the AMT[3];
- Raise the standard deduction by $1,000 or by $5,000;
- Exclude the first $500 or the first $1,000 of interest and dividend income; and.
- Tax capital gains as ordinary income.

We model combinations of the first option in each case above (called combination A) and the second option in each case above (combination B). Both combinations tax capital gains as ordinary income.

We also consider replacing much of the income tax with a value-added tax.[4] One of the notions underlying this idea is that the income tax has an inexorable tendency toward complexity and that the only way to significantly and permanently simplify taxes for the vast majority of households is to remove them entirely from the need to file returns or

[2] See Burman and Gale (2001) and JCT (2001) for recent discussions.

[3] The $100,000 amount is for married couples filing a joint return. The exemption for singles and married individuals filing separately would rise to $50,000; for heads of household the exemption would be $75,000.

[4] This option is inspired by the work of Graetz (1997, 1999, 2002). But we emphasize both that our proposal only considers a fraction of the sweeping changes Graetz advocates and that even for just the VAT replacement combined with the wage and child credits, a variety of results can be obtained depending on the details of the specification. Thus, our results in no way should be taken to reflect estimates of the impact of Graetz's proposals per se.

collect information for tax purposes. To model this idea, we make the following modifications to the tax system, as of 2010:

- Raise the exemption to $85,000 for joint filers, $42,500 for singles, and $63,750 for heads of households;
- Repeal all credits other than the foreign tax credit;
- Add a credit based on wages and the number of children, described below;
- Repeal the AMT;
- Impose a flat 25 percent income tax rate on all taxable income, including capital gains and dividends;
- Impose a broad-based value-added tax of 17.5 percent (tax-exclusive) to make up the lost revenue.[5]

We retain the foreign tax credit because it would continue to serve its current role in ensuring that foreign-source income is not taxed twice. The other credits are repealed because they would require low- and moderate-income household to file income tax returns.

As a partial replacement for the lost credits and in order to offset the burden of the VAT on low- and moderate-income households, we include a refundable wage subsidy program and child credit. Both subsidies are based on *individual's* earnings levels

[5] This rate is revenue-neutral, but is not budget-neutral. If a switch from an income tax to a consumption tax raises the consumer price level (including the consumption tax), then nominal government transfer payments must be raised to maintain their real value. If the consumer price level including the consumption tax remains constant after the replacement of an income tax with a VAT, then nominal pre-tax prices and wages must fall, implying lower tax revenues than if they did not fall. Either way, the budget-neutral consumption tax rate would be about 21 percent. See Gale (1999) for details. Unfortunately, incorporating a budget-neutral change is beyond the scope of this paper because it would require information on the allocation and taxation of government transfer payments by income class. By using a 17.5 percent VAT rate with no changes to government spending, we are understating the needed consumption tax rate. However, using a 21percent tax rate with no change in government spending would significantly overstate the revenues needed.

The wage credit is equal to 40 percent of earnings up to $15,000, yielding a maximum credit of $6,000; and would phase out at a 15-percent rate on earnings above $20,000. The credit would be exhausted when earnings reached $60,000. The child credit would be $1,500 per dependent child, but would phase out at a rate of 5 percent on earnings above $15,000. For a two-child family, the credit would be exhausted when earnings reached $75,000.

Since low- and moderate-income individuals would no longer have to fill out income tax returns under the consumption-tax proposal, the credits would be on an individual rather than a tax return basis and would be based solely on earnings.[6] This has several implications. Although each working spouse would be entitled to the wage credit, a married couple would have to choose which spouse would claim the child credit.[7] In addition, unlike the current earned income and child credits, the new subsidies would not be restricted to low-income families The spouse of an individual with millions of dollars of income could still obtain a wage and child credit if he or she had a small amount of wage or self-employment income. Similarly, an individual with substantial investment income but only a small amount of wage or self-employment income would be eligible for the credit.[8]

We acknowledge that the VAT would likely create significant administrative costs and tax complexity, but we have no way of estimating those costs in the context of the

[6] Earnings are defined as wage and salary income plus income from self-employment. Since, under the consumption-tax proposal, individuals would still be required to pay self-employment taxes, they would still need to calculate income from self-employment.

[7] In the revenue and distribution estimates of the VAT proposal, we assume that the couple makes the optimal choice that results in the highest possible amount of child credit.

[8] Under current law in 2003, if an individual has investment income of more than $2,600 (indexed for inflation), he or she is disqualified from receiving the EITC. In addition, the phaseout of the EITC is based on either earnings or AGI, whichever results in a smaller credit value.

current modeling framework. Also, we ignore all transition costs.

Distributional effects

We use several alternative measures of the distributional impacts of tax simplification options, all of which are reported on an overall basis and by adjusted gross income class. First is a simple tabulation of the share of tax filers that would obtain increases or reductions in tax burdens under the proposals. This gives a simple metric for measuring the number of "winners" and "losers" under each option. Second, we examine the changes, in dollars and percent, in mean after-tax income. Although controversy exists regarding whether absolute dollar changes or percent changes in income are most useful, we find both measures informative. The percent change in after-tax income is probably the most useful measure of how the progressivity of the tax system changes (see Cronin 1999, Gale and Potter 2002, and Gravelle 2001). A change that altered everyone's after-tax income by the same percent would leave the distribution of after-tax income unchanged. The change in dollar liabilities provides a basic reality check on the interpretation of tax proposals, since trivial differences in the change in taxes as a percent of income often mask huge differences in changes in tax liability in dollars across income groups. The VAT proposal is constructed to be revenue-neutral. For the income tax reform proposals, we obtain revenue-neutrality by increasing all marginal tax rates (including those that apply to capital gains) in the regular income tax by an equal proportion. As noted above, all of our distribution results are obtained using 2010 law at 2010 income levels, with income classes and mean tax change figures quoted in 2001 dollars.

Examined in isolation and without offsetting marginal tax rate adjustments to maintain revenue-neutrality, each of the components of income tax simplification has plausible estimated effects (that are not shown in the tables). Repealing the AMT or raising the AMT exemption to $100,000 would provide tax cuts for about 24 percent of filers, but the distributional impacts and costs would differ significantly. Repeal would help all high-income taxpayers, whereas increasing the exemption to $100,000 would provide almost no help to those with income above $500,000 because the AMT exemption phases out at lower income levels. Dividend and interest exemptions would cut taxes for almost 50 percent of all filers, but the change in tax liability would be tiny for the vast majority of households. Raising the standard deduction would cut taxes for just over 40 percent of taxpayers, including a sizable majority of those with income between $15,000 and $50,000.[9] About 11 percent of taxpayers would be worse off if the taxation of capital gains were increased, with the share rising dramatically with income.

Table 1 shows the distributional effects of the two combined income tax reforms and the VAT proposal, all estimated under conditions that generate revenue-neutrality[10]. The distributional effects of these simplification options differ considerably. Income tax reforms A and B would raise taxes for between 15 and 30 percent of tax filers, with the share growing with income. The VAT proposal would raise tax burdens for about half of filers overall, with the likelihood of experiencing a tax increase varying markedly by

[9] One caveat to the estimates involving the standard deduction is that the SOI file does not contain information on itemized deductions for filers who choose to take the standard deduction. If itemized deductions grow with nominal income, or at any rate faster than inflation – which is the rate of growth of the standard deduction – records that were non-itemizers in our 1996 data could have itemized deductions greater than our increased standard deduction when aged to 2010 income levels. These individuals would thus not benefit in reality from the increased standard deduction. We would not capture this effect since we would continue to assume they take the standard deduction.

[10] Appendix table 4 shows the marginal tax rates required for revenue neutrality.

income class. Middle-income taxpayers would be most likely to experience an increase in their tax burden; two-thirds of those in the $30,000-$50,000 income group would see their taxes increase (not shown in table). The effects of the consumption tax are partially offset for many lower-income individuals by the wage and child credits; upper-income taxpayers are helped by the lower income tax rates and the fact that they consume a proportionately smaller amount of their income than those in the lower ranges.

The lower two panels of table 1 report the actual tax change in dollars and the percentage change in after-tax income. All three panels tell the same story. Relative to current law, the income tax proposals would be progressive with respect to current income. The VAT proposal hits the middle class the hardest and provides the largest benefit to those at the top of the income scale. Although we do not report a range of results, it is worth noting that by varying the parameters of the wage and child credits, and the associated VAT rates, a wide variety of distributional results can be obtained. We focused on the specification above because we thought it would be fairly representative of the type of proposal that might emerge.

Effects on marginal tax rates

Because the proposals involve changes to the tax rate on wages, capital gains, and consumption, determining "the" marginal tax rate is difficult. To provide a sense of these changes, we focus on incentives to work and to save in interest-bearing assets. Define tw as the marginal income tax rate on wage income, tcons as the marginal consumption tax rate (in a tax-exclusive form), tcorp as the marginal tax rate on taxable corporate income, and tint as the marginal tax rate on taxable interest income. We examine two composite

sets of marginal tax rates:

- The marginal tax rate on wages used for consumption. This is given by 1-(1-tw)/(1+tcons). For example, a worker who earns $1, pays 10 percent in income taxes and then faces a 25 percent tax-exclusive sales tax, is able to spend 72 cents on private consumption, and thus faces an effective tax rate of 28 percent, where .28 = 1 - (1-.1)/(1.25).

- The marginal tax rate on taxable interest that is used for consumption. This is given by 1- {(1-tint)(1-tcorp)/(1+tcons)}. The corporate rate appears because we assume that capital income generally bears the burden of the corporate tax.

Table 2 shows the effects of the proposals on these incentives. The income tax reforms would provide modest reductions in marginal tax rates on consumption financed by wage earnings for low- and middle-income households and raise marginal tax rates for high-income households. The VAT proposal would raise marginal tax rates on wages sharply for lower-income households because they are either currently not subject to the income tax or face statutory rates of 10 or 15 percent, but would now have to face the 17.5 percent VAT. Marginal tax rates would also rise, but less dramatically, for higher-income households. Many upper-middle income households, particularly in the $50,000 to $75,000 income range, who would no longer be subject to the income tax would see their marginal rates fall (not shown in table). The VAT proposal has similar effects on marginal tax rates on consumption financed by interest earnings. The income tax reforms

would raise the marginal tax rate significantly more for higher earners.

Effects on the use of tax preparers

The use of preparers is by no means an ideal metric for measuring tax complexity (see the discussion in Slemrod 1992 and Gale and Holtzblatt 2002). People use preparers for reasons other than the complexity of the tax system, for example, to save time or to receive "rapid-refund loans". Likewise, the use of a preparer does not directly measure the extent of complexity. Nevertheless, use of preparers is a simple and straightforward measure and provides evidence on how one threshold of tax complexity--whether people feel they can or want to do their tax returns by themselves--would be affected. As a result, holding other factors constant, such as households' valuation of their time, changes in the use of tax preparers induced by changes in the tax code can provide some useful information on the impact of simplification options.[11]

To determine the impact of the reforms on the extent to which filers use tax preparers, we proceed in two steps (see the Appendix for details). First, we estimate a regression equation that explains tax preparer usage as a function of income and other factors. For income, we use a series of indicator variables corresponding to different income groups (e.g, $20,000 to $30,000). The income variables capture the fact that, controlling for taxes, households in different income groups face different incentives or may have different preferences for use of paid preparers.

Other variables that affect preparer usage, but are not altered in the simulations include indicators for married, joint returns; claiming the EITC, and presence of business

[11] For additional research on this topic, see Long and Caudill (1993), Erard (1993), Mills (1999), Frischmann and Frees (1999), Blumenthal and Christian (2002), and Christian, Gupta, and Lin (1993).

income. Each of these variables is interacted with income in order to allow the effect of each item to vary by income class. The EITC variable is only interacted with income groups that have AGI up to $30,000. Other variables that affect usage and are altered in the simulations include indicators for positive AMT liability; being required to fill out the AMT forms; dividend and interest income that is below $500, between $501 and $1,000, or above $1,000; short-term capital gains, long-term capital gains, or both; and for itemizer status.

Appendix table 1 reports the results and shows that holding other factors constant, preparer use rises significantly with income level, the presence of business income, and the EITC.[12] Having AMT liability or having to file the AMT form, even with no liability, has a large impact on the use of preparers at all income levels. The presence of less than $1,000 of dividend and interest income has relatively small impacts on the likelihood of using a preparer, except for filers with negative or low AGI and those with very high AGI. Taxpayers with long-term capital gains but not short-term gains are significantly more likely to use paid preparers in almost every income class, compared to those with short- term gains, but not long-term gains. A seemingly paradoxical result is that those with both types of gains are less likely to use paid preparers than those with just long-term gains.[13] Itemizing deductions raises the likelihood of using a preparer by about 10 percentage points for households with income below $50,000, by 2 to 5 percentage points for filers with income between $50,000 and $100,000, and by negligible amounts for

[12] It is possible, of course, that it is the use of a preparer that raises the likelihood of claiming the EITC. We do not evaluate that possibility here, since we include the EITC only as a control and we focus on other variables.

[13] One possible explanation is that taxpayers with both types of gains are more financially sophisticated than others and thus more able to complete their own tax forms.

filers with higher income.

Our methodology for estimating the effects of policy changes on tax preparer usage is described in the appendix, with the results in table 3. In the base case, 56.8 percent of filers use paid preparers, with the share rising sharply with income. However, even for households with AGI between zero and $50,000 between 44 and 52 percent use preparers.

The two income tax reforms would reduce tax preparer usage by between 8 and 10 percent (4.4. to 5.6 percentage points). These are significant declines, representing about 35 to 45 percent of the increase in use of preparers since 1980, but they would still leave over half of all filers using preparers.

The VAT proposal has a very substantial impact on the use of tax preparers. We estimate that only 20 percent of the would-be filers under the income tax would use tax preparers under this system . The proposal would reduce the use of preparers by 100 percent for AGI groups below $30,000.[14] Even in higher income groups, the proposal would reduce the likelihood of filing by between 10 and 17 percentage points. These significant declines suggest that the proposal would be effective in reducing filing burdens. However, the proposal would not be entirely successful in removing the income tax from the day-to-day lives of middle-class households. About 18 percent of households with income between $30,000 and $50,000 and 32 percent of filers with income between $50,000 and $75,000 would still use preparers. In addition, it is crucial to note that the proposal would create an entirely new tax system, a value-added tax, with presumably significant administrative costs (Slemrod 1996, Gale and Holtzblatt 2002).

[14] For simplicity, we have assumed that the 0.7 percent of taxpayers with negative AGI would not have to file. In practice, many of them probably would be required to file.

There could also be significant costs associated with the administration of the wage and child credits that would be necessary to reduce the burden of a consumption-based tax on low- and moderate-income households.

Conclusion

We view the principal contribution of this paper as providing a unified set of quantitative estimates of the impact of simplification proposals on selected aspects of equity, efficiency, and complexity. Our results suggest that simplification proposals that fall well short of fundamental tax reform nevertheless can have a significant impact on the distribution of average tax burdens, the level of marginal tax rates, and the use of tax preparers. That is, different ways of simplifying taxes provide widely disparate benefits to different income groups and can have significantly different effects on tax complexity and the incentives to work and save. Our methodology and results should provide at least a first step in the direction of more quantitative analysis of simplification proposals.

Appendix: Model and Methodology

Model Overview

We use a large-scale microsimulation model of the U.S. federal income tax system, developed at the Tax Policy Center (TPC). The model is similar to those used by the Congressional Budget Office (CBO), the Joint Committee on Taxation (JCT), the Treasury's Office of Tax Analysis (OTA), and private-sector tax analysts.

The model uses data from the 1996 public-use file produced by the Statistics of Income (SOI) Division of the Internal Revenue Service. The file contains 112,186 records with detailed information on federal individual income tax returns filed in the 1996 calendar year.[15] In some cases, imputations from other sources such as the Current Population Survey of the U.S. Census Bureau supplement the SOI tax data. For example, imputations for education expenses are necessary to estimate the HOPE and lifetime learning credits. We also use data from the Urban Institute's TRIM microsimulation model – which uses CPS data – to impute the ages of dependent children in order to estimate the child tax credit. These imputations are necessary because the 1996 public-use file does not contain information on either the education or child credits.

The model incorporates EGTRRA provisions for changes in marginal tax rates, the 10 percent tax bracket, credits for children and dependent care, itemized deduction limitations, personal exemption phase outs, the AMT, and the standard deduction, 15 percent bracket, and earned income tax credit provisions for married couples. It does not currently incorporate EGTRRA's education and retirement saving provisions. The model

[15] Weber (2001) describes the SOI public-use data file, including the sampling methodology and disclosure avoidance procedures used to maintain taxpayer confidentiality.

also incorporates the individual income tax measures in the Job Creation and Worker Assistance Act of 2002.

Aging and Extrapolation Process

To produce a representative sample of filers in years beyond 1996, the input data are first extrapolated to 1999 based on published SOI data and then "aged" to future years based on CBO aggregate forecasts and projections. The extrapolation to 1999 occurs in two steps. First, the dollar amounts for income, adjustments, deductions and credits on each record are grown by their actual per capita 1996-1999 growth rate. To capture the large growth in income at the top end of the distribution that occurred between 1996 and 1999, we employ a separate wage-skewing factor for high-income returns. For items where SOI provides the necessary information, separate per capita growth rates are used for each filing status. Record weights are grown by the actual growth rate in the number of returns by filing status over the 1996-1999 period. Second, the weights on each record are adjusted via a large linear programming problem to ensure that for the major income items, adjustments, and deductions the model hits aggregate targets and for some items – including wages and AGI – distributional targets as well. The extrapolated outcomes closely resemble published aggregate and distributional results for 1999.

For years 2000 to 2012, we "age" the data based on forecasts and projections from CBO (2002) for variables such as wages, personal income, capital gains, and inflation. Where possible, we use actual 2000 and 2001 data instead of projections. Again, we use a two-stage routine, this time for each future year. In the first stage, dollar amounts for the items on each record are grown by the appropriate forecasted per capita growth rate,

with per capita personal income serving as the default growth factor for many items. Record weights are increased each year by the average annual growth rate for each filing status over the last decade. In the second stage, the record weights are further adjusted to ensure that the model hits a very limited number of aggregate targets. For years beyond 1999 we do not target distributions for any item; wages and salaries, for example, are grown by the same per capita growth factor for all records.

Calculating the AMT

Many of our simplification options entail changes to, or repeal of, the AMT and we therefore need to include these variants as well as current-law AMT projections in our tax model. The SOI data file provides information on AMT adjustment and preference items for taxpayers who filed Form 6251 in 1996. However, when we simulate tax law and income levels for future years, individuals who were not subject to the AMT in 1996 could potentially be affected by the tax. This requires calculating AMT adjustments and preferences for all individuals in future years. Using the public-use file, we calculate the major AMT items: state and local tax deductions, personal exemptions, miscellaneous deductions above the 2-percent floor, the standard deduction, the additional disallowance of medical deductions, and state and local tax refunds. Together, these provisions account for over 95 percent of the projected reconciliation between AMTI and regular taxable income by 2010 in Tempalski (2001). Our measure of lost credits includes disallowed amounts for the following credits, where appropriate: child, child and dependent care, elderly, HOPE, lifetime learning, general business, and prior year minimum tax.

The TPC model estimates for AMT taxpayers and revenue are very similar to those in the Treasury's Office of Tax Analysis model (Tempalski 2001), and the JCT (2001) (see Appendix Table 2). Appendix Table 3 shows our projected distribution of AGI, the regular income tax, and the AMT for the 2010 calendar year.

Revenue-Neutral Reform Options

As discussed in the text, we look at paying for the individual income tax and AMT simplification options by changing all statutory tax rates (including the rates on long-term capital gains) by the same proportion. Appendix Table 4 summarizes the marginal income tax rates that would prevail under each revenue-neutral option. All of the options other than the taxation of capital gains as ordinary income would require tax rate increases; repealing the AMT for example would require across-the-board tax rate increases of about 11 percent. Taxing capital gains as ordinary income would allow rates to fall by about 8.5 percent.

Consumption Tax

In order to estimate the revenue, distributional, and incentive effects of the VAT proposal that include the introduction of a broad-based tax on consumption, it is necessary to impute consumption expenditures for each filing unit on the SOI tax file.[16]

We allocate consumption to each record on the tax file based on after-tax income and the number of individuals in the filing unit. We first rank filing units by a measure of family-size-adjusted income. Our measure of income is expanded to include AGI plus

[16] Nonfilers would also be subject to the consumption tax, but are not in the current version of the model.

the nontaxable portion of social security benefits, nontaxable pension income, and tax-exempt interest income. This measure of income is then adjusted for family-size by dividing by the implicit adjustment factors in the 2001 federal poverty thresholds. The poverty threshold adjustment factors imply, for example, that a family of two requires about 28 percent more income than a single individual to be equally well off; a family of three would require 50 percent more income.[17] The filing units are then divided into percentile classes based on our measure of family-size-adjusted income.

We then use results from Sabelhaus and Groen (2000) to impute a level of consumption expenditure to each return. Sabelhaus and Groen use data from the 1992 Consumer Expenditure Survey to construct ratios of average consumption to average after-tax income by family-adjusted income decile. Their results show that families in the bottom income decile spend more than two times their income; families in the 80th to 90th percentile spend a little less than three-quarters of their income (Appendix Table 7). Families in the bottom half of the income distribution spend more than their income on an annual basis. These results are consistent with other analysis of the consumption to income ratio. Feenberg, Mitrusi, and Poterba (1997) report a consumption-income ratio of about 2.3 for households with incomes less than $10,000.[18]

In order to impute consumption for those at the very top of the income scale, we estimate separate consumption to income ratios for various percentile classes within the top decile. Formally, we run the following regression:

---

[17] CBO has recently begun adjusting by dividing by the square root of family size (CBO, 2001) arguing that it is more consistent and less arbitrary than using the adjustments implicit in the federal poverty thresholds. Our method allows us to use the estimates provided by Sabelhaus and Groen (2000) as described below.

[18] Feenberg, Mitrusi, and Poterba (1997) use a broad-based measure of income that includes the imputed value of owner-occupied housing and medical expenses that are paid by a third party.

$$\ln(C/Y)_i = \alpha + \beta \ln Y_i + \varepsilon_i ,$$

where $(C/Y)_i$ is the consumption to income ratio for each decile as reported by Sabelhaus and Groen and Y_i is average family-size-adjusted income for each decile as calculated by the tax model. We then use the estimated coefficients from this regression together with the average income levels for the percentile classes at the top of the income distribution to construct fitted values for the corresponding consumption to income ratios. These values, along with Sabelhaus and Groen's reported values for the first nine deciles, are shown in appendix table 5. The result is a plausible pattern of gradually declining consumption to income ratios within the top decile. Households in the top one-tenth of one percent of the income distribution – who have average income of $4.1 million – are estimated to consume one-fourth of their after-tax income.

After filing units are assigned to the appropriate percentile class, we calculate each record's consumption expenditures by multiplying after-tax income (expanded income less individual income taxes net of refundable tax credits) by the corresponding consumption-expenditure ratio for that class.[19] The resulting distribution of consumption subject to the VAT and the distribution of a 17.5 percent VAT is shown in Appendix Tables 6 (by AGI class) and 7 (by AGI quintile). In comparison to the individual income tax, the consumption tax is regressive: individuals in the bottom quintile face an average consumption tax rate of 33.2 percent; those in the top quintile have an average rate of only 8.8 percent.[20] This pattern of results is broadly consistent with others who have examined the distributional implications of a broad-based consumption tax (see, for

[19] Returns with negative after-tax income are ignored in the analysis; they are treated as having zero consumption.

example, Feenberg, Poterba, and Mitrusi 1997).

Regression estimates

We use a base case specification that uses the 1996 public use file to estimate a linear probability regression of the form:

$$
\begin{aligned}
P \quad = {} & a1*Y + a2*Y*JOINT + a3*Y*EITC + a4*Y*BUSINESS + \\
& a5*Y*AMTLIABILITY + a6*Y*AMTFORM + \\
& a7*Y*DIVINT001500 + a8*Y*DIVINT5011000 + a9*Y*DIVINTHIGH + \\
& a10*Y*CGLONG + a11*Y*CGSHORT + a12*Y*CGBOTH + \\
& a13*Y*ITEMIZE + u.
\end{aligned}
$$

We also estimated the same equation as a logistic and a probit model, with similar results. Because calculating the marginal effects of tax changes is simpler with the linear model, we focus on those results here.

P takes the value 1 if the filer used either a paid preparer, voluntary income tax assistance, or tax counsel for the elderly, and 0 otherwise. About 61 million filers used a paid preparer and a total of 1 million additional filers used one of the other two options. Y is a mutually exclusive and exhaustive vector of indicator variables for different income groups. The Y vector captures the fact that, controlling for taxes, households in different income groups face different incentives or may have different preferences for use of paid preparers. JOINT, EITC, and BUSINESS are indicator variables for whether

[20] These figures do not include the partially-offsetting effects of the wage and child credits targeted to low- and moderate-income households.

the unit files jointly, files for the EITC, or has business income or loss (defined as filing schedule C, E, or F), respectively. These are included to help control for general determinants of propensity to use a preparer, aside from income. The variables are interacted with income in order to allow the effect of each item to vary by income class. The EITC variable is only interacted with income groups that have AGI up to $30,000.

AMTLIABILITY takes the value of 1 if households had AMT liability on their form 6251, and 0 otherwise. AMTFORM takes the value of 1 if the filer had to fill out the AMT form but did not have AMT liability, and 0 if either the filer did not have to fill out the form or had positive AMT liability. DIVINT001500, DIVINT5011000, and DIVINTHIGH take the value of 1 if dividend and interest receipts are between $1 and $500, $501 and $1,000, and greater than $1,000, respectively. CGSHORT, CGLONG, and CGBOTH take the value of 1 if the filer has short-term gains but no long-term gains, long-term gains but no short-term gains, or both, respectively. ITEMIZE takes the value of 1 for filers who itemize their deductions.

Methodology for estimating effects of reform of tax preparer usage

To estimate the effects of repealing the AMT, we set the AMTFORM and AMTLIABILITY variables equal to zero and recalculate the aggregate likelihoods of using a preparer. To examine the effects of raising the AMT exemption to $100,000, we determine whether each filer has to pay AMT under the new rule and adjust the AMTLIABILITY variable accordingly. We stipulate that anyone with AMT income below $100,000 need not fill out the AMT forms (unless they have certain types of income that automatically trigger AMT calculations, see Burman, Gale, Rohaly and

Harris 2002).

To simulate the effect of taxing long-term capital gains as ordinary income, we assume that the effect of having long-term capital gains (but no short-term gains) and the effect of having both short-term and long-term gains, on the use of preparers becomes the same as the effect estimated in the base regression of having short-term gains (but no long-term gains).

To measure the impact of raising the standard deduction, we examine which taxpayers would choose to change their itemization status. Those that do, have the value of ITEMIZE changed from 1 to 0. Then aggregate probabilities of using preparers are recalculated using the equation estimated in Appendix table 1.

To measure the impact of allowing dividend and interest exemptions, we simply zero out the coefficients on the terms that indicate whether the household has between $1 and $500, or between $500 and $1,000 of interest and dividend income, as appropriate.

To analyze the VAT proposal, we set EITC, AMTLIABILITY, and AMTFORM equal to zero for all taxpayers, remove the effects of preferential capital gains treatment as noted above, and set the likelihood of filing a return at zero for anyone whose adjusted gross income is below the exemption level, given the filing status.

References

Blumenthal, Marsha and Charles Christian. 2002. "Practitioners and Tax Administration." Conference on "The Crisis in Tax Administration." Brookings Institution. November 8, 2002.

Burman, Leonard E. and William G. Gale. 2001. "A Golden Opportunity to Simplify the Tax System." Brookings Institution Policy Brief No. 77. April.

Burman, Leonard E., Gale, William G., Rohaly, Jeffrey, and Benjamin H. Harris. 2002. "The Individual AMT: Problems and Potential Solutions." Urban-Brookings Tax Policy Center Discussion Paper No. 5. August.

Christian, Charles W., Gupta, Sanjay, and Suming Lin. 1993. "Determinants of Tax Preparer Usage: Evidence From Panel Data." National Tax Journal 46(4): 487-503.

Congressional Budget Office. 2001. "Effective Federal Tax Rates, 1979-1997." October.

Congressional Budget Office. 2002. "The Budget and Economic Outlook: Fiscal Years 2003-2012. Washington, DC. (January).

Cronin, Julie-Anne. 1999. "U.S. Treasury Distributional Analysis Methodology." Office of Tax Analysis Paper No. 85. September.

Erard, Brian. 1993. "Taxation With Representation." Journal of Public Economics. 52: 163-197.

Feenberg, Daniel R., Mitrusi, Andrew W., and James M. Poterba. 1997. "Distributional Effects of Adopting a National Retail Sales Tax." In: James M. Poterba, ed. Tax Policy and the Economy (Vol. 11). MIT Press for the National Bureau of Economic Research. 49-89.

Frischmann, Peter J. and Edward W. Frees. 1999. "Demand for Services: Determinants of Tax Preparation Fees." Journal of the American Taxation Association. 21: 1-23.

Gale, William G. 1999. "The Required Tax Rate in a National Retail Sales Tax." National Tax Journal 52(3): 443-55.

Gale, William G. and Janet Holtzblatt. 2002. "The Role of Administrative Issues in Tax Reform: Simplicity, Compliance, and Administration." In: George R. Zodrow and Peter Mieszkowski, eds. United States Tax Reform in the 21st Century. Cambridge University Press. 179-214.

Gale, William G. and Samara R. Potter. 2002. "An Economic Evaluation of the Economic Growth and Tax Relief Reconciliation Act of 2001. National Tax Journal. 55(1): 133-86.

Graetz, Michael J. 1997. The Decline and Fall of the Income Tax. New York: W.W. Norton & Co. Press.

Graetz, Michael J. 1999. The U.S. Income Tax: What It Is, How It Got That Way, and Where We Go From Here. New York: W.W. Norton & Co. Press.

Graetz, Michael J. 2002. Testimony before the Subcommittee on Select Revenue Measures of the U.S. House of Representatives Committee on Ways and Means. Washington, D.C. April 10, 2002.

Gravelle, Jane G. 2001. "Who Bears the Burden of the Corporate Tax in the Open Economy?" NBER Working Paper 8280. May.

Harberger, Arnold C. 1962. "The Incidence of the Corporation Income Tax." Journal of Political Economy 70 (3): 215-40.

Joint Committee on Taxation. 1993. "Methodology and Issues in Measuring Changes in the Distribution of Tax Burdens." JCS-7-93 (June 14).

Joint Committee on Taxation. 2001. "Estimated Budget Effects of the Conference Agreement for H.R. 1836 [1]." JCX 03-12-02. (March 6).

Long, James E. and Steven B. Caudill. 1993. "Tax Rates and Professional Tax Return Preparation: Reexamination and New Evidence." National Tax Journal. 46(4): 511-518.

Mills, Lillian F. 1999. "Discussion of 'Demand for Services: Determinant of Tax Preparation Fees.'" Journal of the American Taxation Association. 21: 24-37.

Pechman, Joseph A. 1987. "Tax Reform: Theory and Practice." Economic Perspectives. 1(1): 11-28.

Sabelhaus, John and Jeffrey A. Groen. 2000. "Can Permanent-Income Theory Explain Cross-Sectional Consumption Patterns?" The Review of Economics and Statistics 82(3): 431-38.

Slemrod, Joel. 1984. "Optimal Tax Simplification: Toward a Framework for Analysis." Proceedings of the Seventy-Sixth Annual Conference on Taxation. National Tax Association-Tax Institute of America. 158-67.

Slemrod, Joel. 1989. "The Return to Tax Simplification: An Econometric Analysis." Public Finance Quarterly 17(1): 3-27.

Slemrod. Joel. 1992. "Did the Tax Reform Act of 1986 Simplify Tax Matters?" Journal of Economic Perspectives. 6:1. Winter. 45-57.

Slemrod, Joel. 1996. “Which is the Simplest Tax System of Them All?” In: Henry J. Aaron and William G. Gale, eds. Economic Effects of Fundamental Tax Reform. Brookings Institution Press. 355-91.

Tempalski, Jerry. 2001. “The Impact of the 2001 Tax Bill on the Individual AMT.” Prepared for the National Tax Association Conference: Baltimore, Maryland. (November).

Weber, Mike, 2001. “General Description Booklet for the 1996 Public Use Tax File.” Internal Revenue Service, Statistics of Income Division (February).

Table 1
Effect of Broad-Based Simplification Options on Distribution of Tax Burdens, 2010

	AGI Class (thousands of 2001$)[1]				
	All	**15-30**	**75-100**	**200-500**	**> 1,000**
Percent of Filers with Tax Increase					
Combination A (revenue-neutral)[2]	29.7	26.6	30.2	21.6	98.5
Combination B (revenue-neutral)[3]	15.9	3.2	31.6	36.0	96.6
VAT Proposal[4]	51.0	45.2	37.7	26.5	23.5
Change in Mean After-Tax Income (2001$)					
Combination A (revenue-neutral)	0	32	916	3,173	-152,137
Combination B (revenue-neutral)	0	368	1,117	1,085	-199,260
VAT Proposal	36	-40	612	2,498	48,688
Percent Change in Mean After-Tax Income					
Combination A (revenue-neutral)	0.0	0.1	1.2	1.4	-6.9
Combination B (revenue-neutral)	0.0	1.7	1.5	0.5	-9.1
VAT Proposal	0.1	-0.2	0.8	1.1	2.2

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

(1) Returns with negative AGI have been excluded from the lowest income class but are included in the totals.
(2) Raise the AMT exemption to $100,000; raise the standard deduction by $1,000; $500 interest and dividend exclusion; and tax capital gains as ordinary income.
(3) Repeal the AMT; raise the standard deduction by $5,000; $1,000 interest and dividend exclusion; and tax capital gains as ordinary income.
(4) The VAT proposal includes the following provisions: raise the personal exemption to $85,000 for MFJ, $42,500 for singles and MFS, and $63,750 for heads of household; retain current-law dependent exemptions as well as standard and itemized deductions; tax capital gains as ordinary income; repeal all tax credits other than the foreign tax credit; repeal the AMT; 17.5 percent VAT rate; a single 25 percent income tax rate; wage and child credits as outlined in text.

Table 2
Effect of Broad-Based Simplification Options on Marginal Tax Rates

	AGI Class (thousands of 2001$)[1]				
	All	**15-30**	**75-100**	**200-500**	**> 1,000**
Change in Mean Effective Marginal Tax Rate on Consumption Financed by Wage Income[2]					
Combination A (revenue-neutral)[3]	0.0	0.6	-0.5	3.3	3.1
Combination B (revenue-neutral)[4]	0.6	-1.2	-0.2	5.6	5.6
VAT Proposal[5]	2.4	6.4	0.6	6.0	2.0
Change in Mean Effective Marginal Tax Rate on Consumption Financed by Interest Income[6]					
Combination A (revenue-neutral)	1.1	-0.1	-0.3	3.8	5.8
Combination B (revenue-neutral)	1.7	-3.2	-0.9	5.5	8.6
VAT Proposal	3.0	2.0	0.9	3.6	3.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

(1) Returns with negative AGI have been excluded from the lowest income class.

(2) Returns are weighted by the amount of wage and salary income.

(3) Raise the AMT exemption to $100,000; raise the standard deduction by $1,000; $500 interest and dividend exclusion; and tax capital gains as ordinary income.

(4) Repeal the AMT; raise the standard deduction by $5,000; $1,000 interest and dividend exclusion; and tax capital gains as ordinary income.

(5) The VAT proposal includes the following provisions: raise the personal exemption to $85,000 for MFJ, $42,500 for singles and MFS, and $63,750 for heads of household; retain current-law dependent exemptions as well as standard and itemized deductions; tax capital gains as ordinary income; repeal all tax credits other than the foreign tax credit; repeal the AMT; 17.5 percent VAT rate; a single 25 percent income tax rate; wage and child credits as outlined in text.

(6) Returns are weighted by the amount of interest income.

Table 3
Effect of Broad-Based Simplification Options on Tax Preparer Usage

	AGI Class (thousands of 2001$)[1]				
	All	**15-30**	**75-100**	**200-500**	**> 1,000**
Current Law					
Probability (Percent)	56.8	51.0	73.4	90.6	95.1
Combination A					
Probability (Percent)	52.4	49.7	59.0	89.3	92.0
Change	-4.4	-1.3	-14.4	-1.3	-3.1
Percent Reduction	7.7	2.6	19.6	1.4	3.2
Combination B					
Probability (Percent)	51.1	49.0	57.8	78.0	85.3
Change	-5.6	-2.1	-15.6	-12.5	-9.8
Percent Reduction	9.9	4.0	21.2	13.9	10.3
VAT Proposal[2]					
Probability (Percent)	20.0	0.0	57.7	78.6	85.5
Change	-36.8	-51.0	-15.7	-11.9	-9.6
Percent Reduction	64.8	100.0	21.4	13.2	10.1

Source: Urban-Brookings Tax Policy Center Microsimulation Model and authors' calculations.

(1) Returns with negative AGI have been excluded from the lowest income class but are included in the totals.

(2) All filers with AGI less than personal exemption are assigned a zero percent likelihood of using a preparer in the VAT proposal.

Appendix Table 1
Estimate of the Likelihood of Using a Preparer

	AGI Class (thousands of 2001$)[1]									
	< 0	**0-15**	**15-30**	**30-50**	**50-75**	**75-100**	**100-200**	**200-500**	**500-1,000**	**> 1,000**
Intercept	38.7	31.4	39.0	39.2	47.8	52.7	63.5	70.1	62.1	75.4
	(32.9)	(45.4)	(49.1)	(40.7)	(31.3)	(19.2)	(25.)	(24.9)	(12.)	(14.)
Joint	1.6	2.0	5.7	3.6	-1.3	-3.0	-4.2	-0.4	-1.5	-1.8
	(1.9)	(2.1)	(6.4)	(4.1)	-(1.2)	-(2.)	-(4.1)	-(.4)	-(1.7)	-(4.1)
Business	31.9	24.3	20.7	23.4	20.9	21.0	15.4	12.5	11.7	7.4
	(24.1)	(27.6)	(22.3)	(25.2)	(21.9)	(17.8)	(18.9)	(16.)	(12.5)	(13.4)
EITC	11.5	17.1	13.7	8.6	-	-	-	-	-	-
	(6.)	(18.8)	(13.5)	(2.2)						
AMT Liability	6.5	13.3	15.0	12.2	16.7	18.3	16.7	10.8	6.4	5.6
	(4.3)	(1.6)	(1.5)	(2.1)	(6.)	(7.4)	(13.4)	(12.8)	(7.)	(10.5)
AMT Form Only	7.5	28.2	22.5	20.3	26.0	26.9	23.0	13.6	7.7	6.6
	(8.4)	(13.3)	(10.9)	(11.2)	(16.6)	(17.)	(26.)	(19.4)	(11.)	(18.7)
DIVINT $1-500	15.6	3.4	2.3	2.1	-0.8	-1.5	-0.1	1.6	11.3	1.1
	(11.2)	(3.5)	(2.3)	(1.9)	-(.6)	-(.6)	(.)	(.5)	(1.9)	(.2)
DIVINT $500-1000	16.9	15.2	6.6	6.7	2.8	-2.4	0.3	-0.1	16.7	5.2
	(8.8)	(8.7)	(3.4)	(3.7)	(1.4)	-(.8)	(.1)	(.)	(2.9)	(.9)
DIVINT $1000+	17.0	16.3	12.1	6.1	3.1	1.0	1.0	2.7	13.6	8.8
	(12.8)	(13.7)	(9.7)	(4.7)	(2.)	(.4)	(.4)	(1.)	(2.7)	(1.6)
CG Long Only	5.0	13.8	10.2	8.9	9.7	8.7	4.3	-0.1	4.8	0.2
	(4.8)	(9.2)	(6.8)	(6.2)	(7.)	(5.6)	(4.4)	-(.1)	(4.4)	(.2)
CG Short Only	3.5	11.4	1.2	7.4	4.6	-1.6	1.9	-2.6	0.2	-4.0
	(1.7)	(3.4)	(.4)	(2.6)	(1.6)	-(.5)	(1.)	-(1.7)	(.1)	-(3.3)
CG Both	2.5	9.4	4.0	4.3	3.2	1.5	2.5	-1.3	3.4	-0.5
	(2.2)	(4.4)	(1.9)	(2.3)	(1.9)	(.9)	(2.5)	-(1.7)	(3.6)	-(.8)
ITEMIZED	-	12.7	9.9	10.7	4.9	2.4	-1.5	0.7	0.2	0.5
		(8.3)	(9.3)	(12.)	(5.2)	(1.9)	-(1.6)	(.7)	(.2)	(.7)

Source: Urban-Brookings Tax Policy Center Microsimulation Model.
(1) Estimates are obtained using a linear probability model. Numbers in parentheses are t-statistics. Number of observations is 112,186.

Appendix Table 2
Comparison With Treasury and JCT AMT Projections, 2001-12[1]

Year	AMT Taxpayers						AMT Revenue			
	Pre-EGTRRA Law			Current Law[2]			Pre-EGTRRA Law		Current Law	
	Treasury[3]	JCT[4]	TPC[5]	Treasury	JCT	TPC[6]	Treasury	TPC	Treasury	TPC
2001	1.8	1.5	2.0	1.7	1.4	1.9	10.2	10.9	10.3	11.1
2002	3.6	3.5	4.8	2.7	2.7	2.6	12.6	14.7	12.6	13.0
2003	4.7	4.3	5.5	3.5	3.3	3.0	14.6	16.5	14.5	14.4
2004	5.8	5.6	6.5	5.6	5.3	5.5	16.8	18.8	20.4	20.7
2005	7.5	7.1	8.1	13.4	13.0	13.8	19.7	21.8	34.9	36.4
2006	9.1	8.7	9.9	20.4	19.6	20.3	22.9	25.5	59.2	60.7
2007	11.1	10.5	11.4	25.3	23.9	25.0	27.2	29.4	72.7	74.2
2008	13.1	12.8	13.4	29.0	29.1	29.9	32.4	34.6	96.0	100.0
2009	15.7	14.9	15.5	32.1	32.1	32.9	38.4	40.6	111.4	117.9
2010	18.0	17.5	17.9	35.1	35.5	35.6	45.0	47.0	133.2	141.4
2011	20.8	20.7	20.5	*	*	38.3	53.2	55.3	*	162.5
2012	*	*	23.3	*	*	41.0	*	64.9	*	185.6

* Estimate not available.

(1) Calendar years. AMT taxpayers include those with AMT liability from Form 6251 and those with lost credits. AMT revenue includes direct AMT liability and lost credits.

(2) Assumes EGTRRA is extended and includes the effects of the Job Creation and Worker Assistance Act of 2002.

(3) Estimates from the Treasury's Individual Income Tax Model as presented in Tempalski (2001). Does not include the effects of the Job Creation and Worker Assistance Act of 2002.

(4) Estimates from Joint Committee on Taxation, JCX-51-01, May 26, 2001. Does not include the effects of the Job Creation and Worker Assistance Act of 2002. JCT has not published projections of AMT revenue.

(5) Estimates from the Urban-Brookings Tax Policy Center Microsimulation Model.

(6) Assumes that the provisions in EGTRRA that expire after 2010 are extended through 2012.

Appendix Table 3
Distribution of AMT and Regular Income Tax by AGI, 2010

AGI Class (thousands of 2001$)	Returns (thousands)		Percent of Returns		Percent of AGI		Percent of Tax Liability	
	AMT Taxpayers[1]	All Returns	AMT Taxpayers	All Returns	AMT Taxpayers	All Returns	AMT[2]	All Income Tax[3]
Less than 0	8	1,040	*	0.7	-0.1	-1.1	0.2	*
0-15	1	41,681	*	28.3	*	3.9	*	-1.9
15-30	136	31,730	0.4	21.6	0.1	8.8	0.1	1.0
30-50	2,220	25,401	6.2	17.3	2.1	12.6	1.4	7.0
50-75	7,815	18,082	22.0	12.3	11.4	14.1	8.1	10.5
75-100	8,926	11,364	25.1	7.7	17.7	12.5	14.7	11.1
100-200	13,036	13,862	36.7	9.4	39.7	23.2	38.2	27.1
200-500	3,052	3,156	8.6	2.1	19.8	11.5	28.5	18.6
500-1,000	287	531	0.8	0.4	4.2	4.5	3.9	8.0
1,000 and more	72	267	0.2	0.2	5.1	10.1	5.0	18.5
All	35,554	147,114	100.0	100.0	100.0	100.0	100.0	100.0

* Less than 0.05 percent.

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

(1) AMT taxpayers include those with AMT liability from Form 6251 and those with lost credits.

(2) Includes direct AMT liability and lost credits.

(3) All income tax is the sum of regular income tax net of refundable credits plus direct AMT liability.

Appendix Table 4
Revenue-Neutral Income Tax and AMT Options: Statutory Marginal Tax Rates, 2010

	Individual Income Tax Bracket					
	Lowest	**Second**	**Third**	**Fourth**	**Fifth**	**Top**
Current Law	10.0	15.0	25.0	28.0	33.0	35.0
Repeal AMT	11.1	16.6	27.7	31.0	36.5	38.8
Increase AMT exemption to $100,000	11.0	16.4	27.4	30.7	36.2	38.4
$500 Interest and Dividend Exemption	10.1	15.2	25.3	28.4	33.5	35.5
$1,000 Interest and Dividend Exemption	10.2	15.3	25.6	28.6	33.7	35.8
Increase standard deduction by $1,000	10.2	15.3	25.5	28.5	33.6	35.7
Increase standard deduction by $5,000	10.8	16.2	27.1	30.3	35.7	37.9
Tax Capital Gains as Ordinary Income	9.2	13.7	22.9	25.6	30.2	32.1
Combination A[1]	10.7	16.0	26.7	29.9	35.3	37.4
Combination B[2]	11.3	17.0	28.3	31.7	37.3	39.6

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

(1) Raise the AMT exemption to $100,000; raise the standard deduction by $1,000; $500 interest and dividend exclusion; and tax capital gains as ordinary income.

(2) Repeal the AMT; raise the standard deduction by $5,000; $1,000 interest and dividend exclusion; and tax capital gains as ordinary income.

Appendix Table 5
Consumption-Income Ratios By Family-Adjusted Income Decile

Income Class (in percentiles)[1]	Ratio of Average Consumption to Average Income[2]	Average Income ($)
0-10	2.30	2,839
10-20	1.37	8,043
20-30	1.34	13,613
30-40	1.12	20,183
40-50	1.00	27,634
50-60	0.95	35,913
60-70	0.90	46,784
70-80	0.81	61,050
80-90	0.74	83,157
90-95	0.69	117,642
95-98	0.62	172,703
98-99	0.54	270,144
99-99.5	0.48	403,230
99.5-99.8	0.42	665,899
99.8-99.9	0.36	1,157,964
99.9-100	0.25	4,108,537
All	0.75	52,315

Source: Sabelhaus and Groen (2000), based on data from the 1992 Consumer Expenditure Survey; Urban-Brookings Tax Policy Center Microsimulation Model; and authors' calculations.

(1) Before-tax family income divided by the family-size adjustment implicit in the federal poverty thresholds.

(2) Represents the ratio of average consumption to average income within income deciles; not average consumption-income ratios across families.

Appendix Table 6
Distribution of 17.5 Percent VAT by AGI Class, 2010

AGI Class (thousands of 2001 dollars)	VAT Revenue		Average Tax Rate (Percent)[1]	Consumption Base for VAT		
	Dollars (billions)	Percent of Total		Dollars (billions)	As Percent of Expanded Income	As Percent of After-Tax Income[2]
0-15	120.3	9.5	28.8	687.3	164.7	129.6
15-30	179.8	14.3	19.7	1,027.7	112.7	100.0
30-50	202.9	16.1	15.7	1,159.8	89.9	88.0
50-75	193.4	15.3	13.3	1,105.0	76.0	77.9
75-100	156.2	12.4	12.1	892.7	69.2	72.6
100-200	250.5	19.8	10.3	1,431.2	59.0	66.8
200-500	92.3	7.3	7.6	527.5	43.7	54.6
500-1,000	27.8	2.2	5.8	158.8	33.4	43.8
More than 1,000	38.3	3.0	3.7	218.9	21.4	27.9
All	1,261.9	100.0	12.1	7,211.1	69.4	74.6

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

(1) Average tax rate is consumption tax liability divided by expanded income, which is AGI plus nontaxable social security and pensions, plus tax-exempt interest income.

(2) After-tax income is expanded income less individual income tax net of wage and child credits.

Appendix Table 7
Distribution of 17.5 Percent VAT by Percentiles, 2010

AGI Class	VAT Revenue		Average Tax Rate (Percent)[1]	Consumption Base for VAT		
	Dollars (billions)	Percent of Total		Dollars (billions)	As Percent of Expanded Income	As Percent of After-Tax Income[2]
Bottom Quintile	64.6	5.1	33.2	369.2	189.7	147.5
Second Quintile	138.2	10.9	22.6	789.6	129.1	107.1
Middle Quintile	201.2	15.9	17.6	1,149.6	100.4	94.4
Fourth Quintile	289.5	22.9	13.8	1,654.2	78.8	80.1
Top Quintile	568.1	45.0	8.8	3,246.4	50.4	58.9
All	1,261.9	100.0	12.1	7,211.1	69.4	74.6
Top 10 Percent	359.7	28.5	7.6	2,055.6	43.7	53.3
Top 5 Percent	231.8	18.4	6.7	1,324.4	38.1	47.9
Top 1 Percent	91.3	7.2	4.9	521.6	27.9	36.4

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

(1) Average tax rate is consumption tax liability divided by expanded income, which is AGI plus nontaxable social security and pensions, and tax-exempt interest income.

(2) After-tax income is expanded income less individual income tax net of wage and child credits.