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SHOULD THE BUSH TAX CUTS OF 2001 AND 2003 BE  
PERMANENTLY EXTENDED?

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## **Introduction**

Much of the current attention on tax policy issues is related to whether the tax provisions in the Economic Growth and Tax Reduction Reconciliation Act of 2001 (EGTRRA) and the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) should be extended permanently. In addition, the alternative minimum tax (AMT) also has received widespread attention since a large number of taxpayers, including many who earn less than \$100,000, will be affected by the AMT in the next several years if changes are not enacted.

The debate over permanent extension of EGTRRA and JGTRRA focuses primarily on issues of economic growth, equity, and affordability. Proponents of permanently extending the tax cuts argue that the reduction in tax rates will increase individual incentives to work and save. They also argue that an extension of the 2001 and 2003 tax packages in combination with tight spending controls would reduce the size of the deficit in relation to gross domestic product (GDP) to a sustainable level. Opponents of permanently extending the tax cuts argue that, given the current U.S. budget deficit, the tax cuts are unaffordable. They contend that the tax cuts are unlikely to increase economic production because larger deficits will lead to higher interest rates and debt-servicing costs, thereby offsetting the potential long-run gains from tax-induced increases in labor supply and personal saving. Given this, they believe that extending the tax cuts would be detrimental to the government's ability to solve other pressing budget issues, such as the need to reform the AMT and the predicted budget shortfalls related to demographic changes. Finally, many opponents believe the tax cuts are unfairly distributed, with most of the benefits accruing to higher-income taxpayers.

This paper focuses on the impact on the federal deficit, the distribution of after-tax income, and economic growth of permanently extending most provisions in EGTRRA and JGTRRA, coupled with potential legislative changes to the AMT. The paper is organized as follows. The second section describes the present law tax code, the effect of permanently extending EGTRRA and JGTRRA on the tax code, the predicted effect of

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the AMT under current law, and the long-run projections of income tax revenues if EGTRRA and JGTRRA were permanently extended or allowed to sunset, both with and without reforms of the AMT. This “static” analysis suggests that the cost over the period 2005 to 2014 of permanently extending the 2001 and 2003 income tax cuts, including plausible AMT relief, is \$1.67 trillion.

The third section compares differences in the estimated budget effects of permanently extending the 2001 and 2003 income tax cuts if the assumption of static behavioral responses is replaced with reasonable behavioral responses. Including moderate behavioral responses offsets 16 percent of the estimated static revenue loss from 2005 to 2014. Including the additional cost of servicing the debt along with moderate behavioral responses, however, reduces this offset to 1 percent.

The fourth section discusses the distributional impact of the 2001 and 2003 income tax cuts. Most analyses of the 2001 and 2003 income tax cuts, such as Gale and Orzag (2004), are quick to note that the static percentage change in after-tax income increases with income. Including behavioral responses implies, however, that the percentage change in after-tax base income from permanently extending the 2001 and 2003 income tax cuts would be largest for taxpayers with incomes ranging from \$20,000 to \$40,000.

The fifth section discusses the macroeconomic effects of extending the 2001 and 2003 income tax cuts, assuming that government expenditures are cut to avoid the dramatic increases in government consumption in relation to GDP, compared with historical norms, that are implicit in the continuation of current law (even with AMT relief). The simulation results suggest that extending the 2001 and 2003 income tax cuts and immediately reducing the growth rate of government spending, excluding Social Security and Medicare, would increase investment, employment, and output. The simulation results also suggest, however, that delaying implementation of tight spending controls (and thus relying more heavily on debt financing) for ten years would more than offset the positive benefits of lower tax rates on the size of the economy and leave future generations with fewer resources for private consumption and production. The last

section concludes with a discussion of a reasonable path for tax policy changes, given the above analysis.

### **Present Law and the Proposed Tax Change**

Under present law, a number of tax provisions from EGTRRA and JGTRRA are scheduled to phase in, phase out, or expire over the next several years. An outline of these changes and the effects of extending EGTRRA and JGTRRA is provided in this section.<sup>1</sup>

Under present law, the 10 percent rate bracket threshold will be reduced to \$6,000 from its current level of \$7,000 in taxable years 2005 through 2007. The bracket limits will be indexed for inflation, beginning in taxable years after December 31, 2008. In 2004, the standard deduction for married taxpayers filing jointly is scheduled to be twice the basic standard deduction for single taxpayers. In 2005 through 2008, the standard deduction for married taxpayers filing jointly is scheduled to be less than twice the standard deduction for single taxpayers but will be increased gradually. For 2009 and 2010, the standard deduction for married taxpayers filing jointly is again scheduled to be twice the size of the standard deduction for single taxpayers. In 2004, the size of the 15 percent rate bracket for married taxpayers filing jointly is scheduled to be twice the width of the 15 percent bracket for single filers. In 2005 through 2007, the width of the 15 percent bracket for married taxpayers filing jointly is scheduled to be less than twice the width of the 15 percent bracket for single taxpayers but will be increased gradually. In 2008 through 2010, the size of the 15 percent rate bracket for married taxpayers filing jointly is again scheduled to be twice the width of the 15 percent bracket for single filers. The child credit is scheduled to be \$700 in 2005 through 2008 and is then scheduled to increase to \$800 in 2009 and \$1,000 in 2010. Under present law, the dividend and capital gains tax rate structure (15 percent except for low-income taxpayers, who face a rate of zero) is

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<sup>1</sup> Note that passage of the Working Family Tax Relief Act of 2004 is not accounted for in this section. The major features of this legislation would extend the current levels of the child credit through 2009, accelerate refund of the child credit to 2004, extend the current marriage penalty relief provisions through 2008, extend the 10 percent bracket through 2010, and extend the AMT relief through 2005.

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scheduled to expire after 2008. After the expiration date, the capital gains tax rate would increase to 20 percent on most capital gains, and dividends would be treated as ordinary income for tax purposes.

The proposal to permanently extend JGTRRA would eliminate the reductions in the income threshold of the 10 percent rate bracket, marriage penalty relief, and the child credit that are scheduled to begin after 2004. It also would repeal the sunset of the dividend and capital gains tax rates that are scheduled to expire at the end of 2008. In addition, the extension of JGTRRA would repeal the sunset of the increase in the maximum dollar amount that can be expensed under section 179 of the Internal Revenue Code of 1986 to \$100,000 from \$25,000 and the increase in the beginning of the phase-out threshold to \$400,000 from \$200,000 (this provision also includes software as section 179 property). The extension of EGTRRA would permanently extend the 2004 tax rate bracket structure, the child credit, the marriage penalty relief provisions, and the estate tax and gift tax repeal after 2010.

Whether or not the 2001 and 2003 tax cuts are extended, modifying the AMT will be necessary at some point soon. Before the 2001 and 2003 tax cuts, problems with the AMT were well documented. For example, Harvey and Tempalski (1997) reported that under the 1997 income tax code more than 9 million taxpayers would be subject to the AMT in 2007. They estimated that by 2007 roughly 7 percent of tax returns with adjusted gross income (AGI) between \$50,000 and \$75,000, almost 25 percent of tax returns with AGI between \$75,000 and \$100,000, and more than 33 percent of tax returns with AGI over \$100,000, would be subject to the AMT.

Under present law, in which all of the 2001 and 2003 tax cuts expire by 2011, 20 million taxpayers would be affected by the AMT in 2014, including returns that would have either an AMT liability on Form 1040 or would lose tax credits because of the AMT.<sup>2</sup> (In general, tax credits are not allowed to reduce a taxpayer's regular income tax liability

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<sup>2</sup> The calculations in this paragraph are the author's, using the Joint Committee on Taxation's individual tax calculator.

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below his minimum tax liability unless the credit also is allowed under the AMT, such as the child tax credit or adoption tax credit.) In 2010, 26.6 million taxpayers would be affected by the AMT. This shows that enactment of the 2001 and 2003 tax cuts has focused attention on this problem sooner because the reduction in tax rates increased the number of taxpayers facing an AMT liability. One potential solution to this problem is to increase the AMT exemption amounts and index the exemption amounts for inflation. Increasing the AMT exemption amounts to the 2004 levels \$58,000 for married taxpayers and \$40,250 for single taxpayers, and indexing these amounts for inflation beginning in 2005 would reduce revenues by \$48 billion in 2014, leaving only 2.7 million taxpayers affected by the AMT. By comparison, in 2003, approximately 3 million taxpayers were subject to the AMT.

In addition, if no changes were made to the AMT, and the 2001 and 2003 tax cuts were not permanently extended, then the ratio of federal tax revenue to GDP would increase far above historical levels. This result would occur due to “bracket creep” since the AMT is not indexed for inflation and because the combination of real GDP growth and progressive tax rates pushes taxpayers under the regular income tax into higher tax brackets over time. The Congressional Budget Office (CBO) (2003b) estimates that under present law the ratio of federal tax revenue to GDP will increase to 24.7 percent by 2050, 6.3 percentage points higher than the historical average value of the ratio of tax revenue to GDP over the last thirty years. In 2014, the ratio of federal tax revenue to GDP would be greater than 20 percent. By comparison, CBO (2003b) predicts that if the 2001 and 2003 tax cuts were permanently extended and the AMT exemption amounts were indexed for inflation starting in 2005, then the ratio of federal tax revenue to GDP after 2012 would equal the historical average over the past thirty years of 18.4 percent.

In addition, CBO (2003b) estimates that individual income tax liabilities as a percentage of GDP would exceed 15 percent with no changes in the AMT and 12 percent if the AMT were adjusted for inflation at 2005 levels. These values are high compared to the last fifty years, over which individual income taxes as a percentage of GDP have ranged from 8 to 10 percent. This implies that extending a portion or all of the 2001 and 2003 tax cuts can

be justified as an attempt to keep the ratio of federal tax revenue to GDP constant at its historical average. In this case, additional deficit reduction would have to be achieved by cutting federal government expenditures.

The proposal analyzed in this paper includes extending all of the provisions of EGTRRA and JGTRRA outlined above, except for the permanent repeal of the estate and gift tax provisions and the section 179 expensing provision. The repeal of the estate and gift tax is excluded from the analysis since there is so much uncertainty about the size of the efficiency and compliance costs of the estate and gift tax.<sup>3</sup> The section 179 expensing provision is excluded because the benefits and costs associated with the provision are difficult to model, and it has a relatively small revenue impact in the long run.<sup>4</sup> The analysis takes account of the effects of reforming the AMT. Specifically, following CBO (2003b), it is assumed that the AMT exemption amounts for 2004 are made permanent and indexed for inflation beginning in 2005. This proposal will be referred to as “the 2001 and 2003 income tax cuts.”

### **Official Budget Effects, Static Budget Effects, and Dynamic Budget Effects**

The Joint Committee on Taxation (JCT) (2003) estimates that the total cost of all provisions of EGTRRA and JGTRRA is \$1,160 billion from 2004 through 2014.<sup>5</sup> This includes repeal of the estate and gift tax and the section 179 expensing provision. Excluding the repeal of the estate and gift tax and the section 179 expensing provision, the JCT estimates that the total cost of permanently extending EGTRRA and JGTRRA in the absence of AMT relief is \$920 billion from 2004 through 2014. Given the apparent political infeasibility of allowing a growing number of taxpayers in moderate- and high-

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<sup>3</sup> For example, see Gale and Slemrod (2000) and Holtz-Eakin et al. (1993).

<sup>4</sup> The benefit of the expensing provision includes increased incentives to invest in capital goods, which is fairly straightforward to model, and increased simplicity of small-business tax accounting. Inefficiency costs also would be associated with the expensing provision since small business owners would have an incentive to reclassify some types of consumption as investments in capital goods.

<sup>5</sup> The JCT takes account of a variety of taxpayer’s behavioral responses in official revenue estimates, but such responses are constrained by the conventional assumption of a fixed baseline level of Gross National Product.

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income ranges to be subject to the AMT, however, it is likely that changes to the AMT will be enacted. Thus, an accurate assessment of the budgetary effects of permanently extending the 2001 and 2003 income tax cuts should include permanent AMT relief. In addition, the estimated budget effects of permanently extending the 2001 and 2003 income tax cuts should account for the potential effect of the tax cuts on economic output, the deficit, and the interest costs associated with a larger national debt. This section provides an analysis of the cost of permanently extending the 2001 and 2003 income tax cuts, the additional costs associated with providing AMT relief, the potentially offsetting revenue effect of short- and medium-term behavioral responses, and the cost of servicing the debt.

Table 1 shows that providing taxpayers relief from the AMT will increase the cost of permanently extending the tax cuts. This cost is in addition to the revenue cost of the AMT relief. The first row of Table 1 shows that the static cost estimate of permanently extending the 2001 and 2003 income tax cuts with no AMT relief is equal to \$1,094 billion over the ten-year period from 2005 to 2014. The second row shows that the ten-year static cost of extending the 2001 and 2003 income tax cuts and permanently extending and indexing the 2004 AMT exemption amounts is \$1,670 billion. The third row shows that the static cost of permanently extending and indexing the 2004 AMT exemption amounts beginning in 2005 is \$377 billion from 2005 to 2014. Subtracting the first and third rows from the second row implies that the interaction between the AMT relief provision and the permanent extension of the 2001 and 2003 income tax cuts is equal to \$198 billion from 2005 through 2014. The interaction amount reflects the increase in the cost of AMT relief from lowering tax rates, which would increase the number of taxpayers on the AMT. The final row in Table 1 shows the static cost of permanently extending the 2001 and 2003 income tax cuts, compared with a baseline that includes AMT relief, is \$1,314 billion. This represents the full static cost of permanently extending the 2001 and 2003 income tax cuts, including the interaction cost with the AMT, without including the direct cost of providing AMT relief. The total ten-year, static cost of extending the 2001 and 2003 income tax cuts will thus vary between \$1,094 billion and \$1,670 billion, depending on the amount and enactment date of the AMT

relief.

These estimates do not account, however, for two major issues that should be included in estimating the total cost of enacting tax legislation. The first issue is the effect of increased federal budget deficits. If the increase in federal budget deficits were not offset completely by an increase in domestic and foreign savings, then the increase in federal government borrowing would reduce the funds available to finance private domestic investment. A reduction in the funds available for private investment may adversely affect the rate of economic growth by increasing the interest rate and thus reducing the size of the stock of private capital used in production. This imposes a burden on future generations, since output and wage rates are negatively related to the size of the capital stock. In addition, the distribution of after-tax wealth within and across generations may be affected by increased federal deficits, depending on the distribution of interest payments on the federal government debt and the timing and distribution of tax increases to pay the higher interest costs on the debt.

Empirical analysis has been unable to produce a consensus of the impact that changes in federal debt have on interest rates. Engen and Hubbard (2004) show that the wide range of empirical estimates is partly the result of different specifications and definitions across the various studies. They present evidence that suggests that the effect of a change in the federal debt on interest rates is very modest. In particular, they estimate that a 1 percent increase in the debt-to-GDP ratio would be expected to increase the real long-term interest rate by three to five basis points. The effect of allowing public debt to crowd out private capital is included in the simulations in the penultimate section of this paper.

Second, there is a wide range of potential behavioral responses that may accompany a change in tax policy. Changes in individual behavior may increase or decrease the static change in federal revenues that results from a change in tax policy. This effect can occur through changes in the size or composition of the taxable income base. The size of the taxable income base changes as taxpayers adjust taxable behavior, such as labor supply or saving. The composition of the tax base changes as individuals shift income between

taxable and nontaxable forms or change their deductions to minimize their tax liabilities. This type of behavior is only partially included in the revenue estimates of the Joint Committee on Taxation and the Treasury Department's Office of Tax Analysis.<sup>6</sup>

With respect to the second issue, Feldstein (1995) found rather large behavioral responses. A number of more recent papers, however, have presented much smaller estimates of the elasticity of taxable income or adjusted gross income to changes in the after-tax share (one minus the marginal tax rate). Carroll (1998), Gruber and Saez (2002), and Saez (2003) all report a taxable income elasticity of approximately 0.4. Carroll (1998) uses a panel of tax returns for the period 1989 through 1995 to estimate the responsiveness of taxable income to the tax rate increases enacted in 1990 and 1993. His findings indicate that the static revenue estimate would change by 13 to 39 percent, depending on whether the response represented a change in taxable income to either a lower-taxed or an untaxed source of income.

Gruber and Saez (2002) use a panel of tax returns for 1979 through 1990. This period spans the two major tax reforms of 1981 and 1986 and thus provides a significant amount of variation in the after-tax share. Their results also suggest that the overall elasticity of taxable income is 0.4. But this masks the larger responsiveness of high-income taxpayers relative to low- and middle-income taxpayers. They report that the responsiveness of taxable income for the low-, middle-, and high-income groups is 0.284, 0.265, and 0.484, respectively. Gruber and Saez note that dividing the sample by a broader measure of income instead of by taxable income gives a slightly different result. In this case, they find an elasticity of broad income equal to 0.12. The broader income elasticity for taxpayers with incomes above \$100,000 is 0.57, while the responsiveness for lower income groups is roughly 0.15.

Saez (2003) reports that the elasticity of taxable income with respect to the after-tax share is around 0.4, and the elasticity of adjusted gross income with respect to the after-tax

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<sup>6</sup> The conventional estimating assumption of fixed macroeconomic aggregates precludes a full inclusion of these types of behavioral effects. See JCT (2003).

share is roughly 0.3.<sup>7</sup> In addition, his findings suggest that much of the short-term response (since he examines changes in adjacent years) comes from itemizers in the form of changes in itemized deductions. This indicates that changes in wage earnings may be a smaller part of the short-run taxable income response, with this being especially true for high- and middle-income wage earners. These studies suggest that significant taxable income responses are likely to occur in response to changes in the after-tax share, especially for higher-income taxpayers.

The taxable income response in these studies is calculated net of capital gains income. Since JGTRRA reduces capital gains tax rates by nearly 25 percent, the static gains estimate should be adjusted to reflect an increase in capital gains realizations. One problem is a large variance in the estimates of the capital gains realization response. Time-series studies of the capital gains realization response have generally found small responses, while estimates based on individual level data suggest that capital gains realizations may be highly responsive to changes in the capital gains tax rate.<sup>8</sup> More recent studies have used panel data to distinguish between temporary and permanent capital gains realization responses. For example, Burman and Randolph (1996) report a transitory elasticity of -3.3 and a permanent elasticity of -0.17, but, their estimate of the permanent elasticity of capital gains realizations is not statistically different from zero. Auerbach and Siegel (2000) estimate that the transitory elasticity of capital gains realizations is -4.9 and the permanent elasticity of capital gains realizations is -0.34. Their estimates are significantly different from zero at a high confidence level, leading them to reject the hypothesis that the long-run elasticity is zero.<sup>9</sup> In addition, their estimates suggest that permanent capital gains realization elasticities much above -0.5 (in absolute value) are highly unlikely. Auerbach and Siegel point out that a potential criticism of the

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<sup>7</sup> Goolsbee (2000) and Sammartino and Weiner (1997) find evidence of income shifting across short time periods and an insignificant elasticity of AGI in response to the tax increase of 1993. Auten and Carroll (1997) and Navratil (1995) report taxable income responses that are significantly larger than 0.4.

<sup>8</sup> For examples of time-series based studies on capital gains realizations see Auerbach (1989) and Gillingham and Greenlees (1992). For examples of capital gains realization studies using individual level data see Feldstein, et al. (1980). For a survey of this literature, see Zodrow (1993).

<sup>9</sup> They find that the greater precision of their estimates compared with similar studies, such as Burman and Randolph (1994), is a result of a larger sample size and increased variation in state tax rates.

estimating framework used to distinguish between transitory and permanent responses is that it restricts the current first-dollar tax rate from being used to predict the long-run tax rate on capital gains. They modify the regression framework by using the one-year-ahead marginal tax rate to predict the future long-run tax rate on capital gains. This allows more information to be used in predicting long-run tax rates; in particular, the current first-dollar tax rate can be used to predict the long-run capital gains rate. Using this specification, their estimate of the transitory elasticity of capital gains realizations is -4.4 and the permanent elasticity of capital gains realizations is -1.7. In addition, preliminary estimates by Auten and Joulfaian (2004) suggest that the transitory elasticity of capital gains realizations is -3 and the permanent elasticity of capital gains realizations is -0.8.<sup>10</sup>

Table 2 repeats the static cost estimate of permanently extending the 2001 and 2003 income tax cuts and the AMT relief provision described above and shows the revenue feedbacks associated with the behavioral responses of taxable income and capital gains realizations. The total static cost equals \$1,670 billion from 2005 to 2014, with \$343 billion of the total static cost occurring in 2014.<sup>11</sup> Assuming a taxable income elasticity of 0.4, the responsiveness of taxable income to changes in the after-tax share offsets 14 percent of the static revenue loss from 2005 to 2014. Following the existing literature, this elasticity was applied to taxable income, net of capital gains. The capital gains realization response was calculated using a transitory elasticity equal to -4.5 and a permanent elasticity equal to -0.2. As noted above, this is consistent with estimates in the moderate to low end of the literature on the elasticity of capital gains realizations. Overall, the short-term revenue feedback from 2005 to 2014 is 16 percent of the static revenue estimate. Finally, the estimated cost of servicing the deficit-induced increase in debt was estimated to be \$245 billion from 2005 to 2014.<sup>12</sup> The cumulative estimate of the total revenue and debt-service cost of permanently extending the 2001 and 2003

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<sup>10</sup> However, their estimates are sensitive to various specifications and across age classes.

<sup>11</sup> By comparison, Gale and Orszag (2004, pg. 1282) report a total revenue change of \$1,578 billion from 2005 through 2014 (with \$344 billion of the total cost in 2014) for the proposal being analyzed in this paper.

<sup>12</sup> The debt service cost was provided by CBO.

income tax cuts equals \$1,654 billion for the ten-year period from 2005 to 2014.

There are several reasons why these estimates may still overstate the revenue change of permanently extending the 2001 and 2003 income tax cuts. First, the capital gains realization responses may be more elastic than assumed in these estimates, especially in light of the evidence presented by Auerbach and Siegel (2000) and Auten and Joulfaian (2004). Second, to the extent that the elasticity of taxable income includes changes in individual labor supply decisions, it would increase payroll tax collections in response to a decrease in tax rates on labor income, and thus a larger share of the static revenue cost would be offset. This effect is not included in the calculations above. Third, tax-induced increases in saving and investment may have potentially important effects on the size and composition of the capital stock and on wages that are not likely to be included in the estimates of the elasticity of taxable income since the estimating period generally covers only two- to four-year periods. The simulation results presented in the penultimate section of this paper attempt to address this issue.

### **Distributional Effects of the 2001 and 2003 Income Tax Cuts**

This section examines how extending the 2001 and 2003 income tax cuts would affect after-tax income and average tax rates by income class. Before presenting the effects of extending the 2001 and 2003 income tax cuts on after-tax income and average tax rates, however, it is instructive to examine some characteristics of the distribution of the tax burden under present law.

The first column in Table 3 shows that taxable income divided by AGI in 2014 increases from 31 percent for taxpayers with AGI between \$10,000 and \$20,000 to 86 percent for taxpayers with AGI more than \$200,000. These calculations do not include the impact of refundable and nonrefundable tax credits, since they are subtracted from the taxpayer's tax liability after the calculation of taxable income for income tax purposes. Including refundable and nonrefundable tax credits would completely offset the income tax burden for many low- and middle-income taxpayers. This is apparent in the second column of

Table 3, which presents the ratio of the number of income tax returns with zero or negative tax liability to the total number of tax returns for each income class. This shows that 95 percent of households in the lowest-income class and 62 percent of households in the next-to-lowest-income class are predicted to have a zero or negative income tax liability in 2014. For households with more than \$100,000 in income, the ratio of returns with zero or negative tax liabilities to the total number of returns in that income class is less than one-half of one percent.

The third and fourth columns in Table 3 show the average income tax rates by income class, including refundable credits, under present law with AMT relief and under the 2001 and 2003 income tax cuts with AMT relief. The two lowest-income groups have negative average income tax rates. Middle- and high-income taxpayers are more likely to be subject to positive and significant average income tax liabilities, which increase with the taxpayer's income.<sup>13</sup> The fifth column shows that if the 2001 and 2003 income tax cuts were permanently extended, then the largest percentage reductions in average income tax rates would occur for low-income taxpayers. Since deductions and credits already offset a large fraction of lower-income taxpayer's income, however, this does not translate into larger percentage changes in after-tax income. The last column in Table 3 shows that the static percentage change in after-tax income ranges from 1.2 to 1.7 percent for taxpayers with economic incomes between \$10,000 and \$75,000.<sup>14</sup> After-tax income increases by 2.1 and 2.5 percent for taxpayers with incomes ranging from \$75,000 to \$100,000 and \$100,000 to \$200,000, respectively. The static increase in after-tax income of the highest-income group (incomes greater than \$200,000) is 4.9 percent as a result of permanently extending the 2001 and 2003 income tax cuts.

An important issue in calculating the average income tax rate and the percentage change in after-tax income is the treatment of the AMT. Most tax policy analysts believe that

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<sup>13</sup> Marginal tax rates can differ dramatically from average tax rates because of the various deductions, credits, and phase-ins and phase-outs in the present law tax code.

<sup>14</sup> Economic income is defined as AGI plus tax-exempt interest, employer contributions for health plans and life insurance, the employer share of payroll taxes, worker's compensation, nontaxable Social Security benefits, the insurance value of Medicare, alternative minimum tax items, and excluded income of U.S. citizens living abroad.

allowing the AMT to increase the tax liability of 27 million taxpayers by 2010 is politically infeasible.<sup>15</sup> Furthermore, such an increase would be contrary to the original intent of the AMT, which was only to insure that very high-income taxpayers paid their fair share of the tax burden. This implies that AMT reform will be enacted whether or not the 2001 and 2003 income tax cuts are permanently extended. Thus, to focus solely on the distributional effects of extending the 2001 and 2003 income tax cuts, including the interaction between the AMT and the extension of tax cuts, the AMT relief provision should be included in the baseline and in the proposed extension of the 2001 and 2003 income tax cuts. Comparing the last two columns of Table 3 shows that including an AMT fix in the baseline reduces the percentage increase in after-tax income for taxpayers with incomes over \$50,000; taxpayers with economic income of \$75,000 and over are affected the most by the AMT relief.

In addition, it also is common for distributional analyses to include payroll taxes in the calculation of changes in after-tax income and average federal personal tax rates, since many low- and middle-income taxpayers pay more in payroll taxes than in income taxes.<sup>16</sup> The first and second columns of Table 4 show the effect of including payroll taxes in the calculation of the percentage change in after-tax income. Note that it is assumed that the employer's portion of the payroll tax is fully passed on to the employee in the form of a lower wage, while income taxes are distributed according to statutory liability. Because payroll taxes are a larger percentage of low- and middle-income taxpayers' incomes relative to the highest-income taxpayers, subtracting payroll taxes in the definition of after-tax income has a proportionately larger effect on the percentage change in income, net of both personal income and payroll taxes, of taxpayers making less than \$200,000 compared with those making more than \$200,000. Table 4 also shows the effects of including payroll taxes in the calculation of the average tax rate. The largest effects are on the average tax rates of low- and middle-income taxpayers since they generally pay more in payroll taxes than in income taxes. For example, the percentage change in the average tax rate for taxpayers with adjusted gross income in the \$10,000-

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<sup>15</sup> See Congressional Budget Office (2003) and Gale and Orszag (2004).

<sup>16</sup> For example, see Joint Committee on Taxation (1993) and Congressional Budget Office (1998).

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to-\$20,000 range would be 166 percent for income taxes only and 15 percent with income and payroll taxes. The last column of Table 4 shows that if the 2001 and 2003 income tax cuts were permanently extended, with the AMT extended and indexed for inflation in the baseline, the percentage change in average tax rates (including payroll taxes) would still be largest for taxpayers with adjusted gross incomes between \$10,000 and \$20,000 in 2014.

Moreover, these estimates likely overstate the benefit to high-income taxpayers and understate the benefit to low-income taxpayers since they assume that the taxpayer bears the full burden of the income tax and the wage earner bears the full burden of the payroll tax (including the employer's share). These are the most extreme assumptions about the incidence of income and payroll taxes, which ignore the potential for changes in taxpayer behavior to shift the burden of income taxes to others, while at the same time assuming that firms fully shift the burden of payroll taxes to workers. Accounting for the potential tax-induced behavioral effects may considerably alter the distribution of changes in the tax burden.

If the estimates of Gruber and Saez (2002) are reliable, then taking account of behavioral changes is likely to have a significant impact on the analysis of the distributional effects of permanently extending the 2001 and 2003 income tax cuts. To examine whether including behavioral effects changes the analysis significantly, I focus on the same two measures of potential behavioral changes discussed above, namely the elasticity of taxable income with respect to the after-tax share and the elasticity of capital gains realizations. In Table 5, I calculate the taxable income response using elasticity estimates from Gruber and Saez (2002). In particular, I assume that the elasticity of taxable income (less net capital gains) is 0.0 for taxpayers with AGI less than \$10,000, 0.15 for taxpayers with AGI between 10,000 and \$100,000, and 0.57 for taxpayers with AGI over \$100,000. In the aggregate, this implies a taxable income elasticity of 0.4 on taxable income, less net capital gains. Table 6 calculates the capital gains realization response by income class, using a temporary elasticity equal to -4.5 (for the first year after a tax change) and a permanent elasticity of capital gains realizations equal to -0.2. In both cases, a large share

of the feedback effect from the behavioral response occurs in the upper end of the income distribution.

Table 7 shows the effect of including these fairly modest taxable income and capital gains responses on the percentage change in after-tax income that would result from permanently extending the 2001 and 2003 income tax cuts, with AMT relief permanently included in both the present law baseline and the proposal. The third column repeats the static percentage change in after-tax income; it shows that after-tax income increases by 1.8 to 2.5 percent for taxpayers in the \$10,000 to \$100,000 income range, while the after-tax income of taxpayers with incomes above \$100,000 increases by 3.0 to 4.9 percent. The last column in Table 7 shows that including behavioral effects significantly reduces the percent changes in after-tax income for the two highest-income groups, to 2.3 and 2.2 percent from 3.0 and 4.9 percent, respectively. Including behavioral responses implies that the percentage change in after-tax (baseline) income from permanently extending the 2001 and 2003 income tax cuts would be largest for taxpayers with incomes ranging from \$20,000 to \$40,000.<sup>17</sup>

### **Macroeconomic Growth Effects**

An important determinant of the effect of permanently extending the 2001 and 2003 income tax cuts is the potential increase or decrease in total output. Proponents argue that lower marginal tax rates and tight spending controls will stimulate labor supply and saving, resulting in an increase in economic output in the long run. Opponents argue that the increase in the deficit will have a negative impact on national saving, leading to higher interest rates, less investment in private capital, and lower economic output. This section reviews two previous analyses of EGTRRA and JGTRRA to gain insight into the potential macroeconomic effects of permanently extending the 2001 and 2003 income tax cuts. In addition, a dynamic overlapping generations model is used to simulate the effects of permanently extending the 2001 and 2003 income tax cuts under several assumptions about how the fiscal gap is closed.

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<sup>17</sup> These results do not factor in any fiscal policy adjustments in response to higher federal deficits.

### **Existing Analyses of EGTRRA and JGTRRA**

A recent analysis by the Joint Committee on Taxation (JCT) (2003) found that a tax-cut package similar to JGTRRA would have positive effects on employment and production in the short run but would reduce employment and output in the five-year period from 2008 to 2013. A description of the temporary nature of the provisions examined in JCT (2003) is helpful in understanding the implications of the results.

JCT (2003) analyzed the Jobs and Growth Tax Act of 2003, as reported by the House Ways and Means Committee on May 6, 2003. This proposal, eventually passed by the House Ways and Means Committee, contained the following tax provisions: (1) a reduction in the dividend and capital gains tax rates to 15 percent (5 percent for low-income taxpayers) that sunsets for taxable years beginning after December 31, 2012; (2) a 50 percent expensing provision for property placed in service before January 2006; (3) an acceleration of the phase-in of the income tax reductions, marriage penalty relief, and an increase in the child credit through taxable year 2004; (4) AMT relief through taxable year 2004; and (5) a section 179 expensing provision that sunsets after 2007.

Approximately 43 percent of the total long-run revenue cost of this proposal would have occurred in the five-year period from 2003 to 2007. Furthermore, JCT (2003) Table 6 shows that the proposal would not have affected the marginal tax rate on wage or interest income after 2005, and the reductions in the dividend and capital gains tax rates would have expired after December 31, 2008. The temporary nature of the dividend and capital gains tax rate reductions would have reduced the beneficial effects on incentives to save and invest in the second five-year period and thereafter. In addition, the temporary expensing provision would have increased investment before the expiration date of the provision and reduced investment immediately after the expiration date of the provision. These factors imply that the results of the JCT (2003) study are more descriptive of the negative effects of deficit-financed temporary tax cuts, including the negative effects of accumulating a larger federal debt, rather than the long-run effects of permanent tax cuts

financed by reductions in government spending.

Another recent analysis by House and Shapiro (2004) focuses on the effects of delayed tax cuts. House and Shapiro show that delayed labor tax rate reductions decrease employment, investment, and GDP in the short run as individuals have an incentive to defer work from the current period with relatively high tax rates to future periods with lower tax rates, but that the eventual decrease in the wage tax rate causes employment, investment, and GDP to rise to a steady state level above their initial steady state values.<sup>18</sup> For a delayed capital-tax rate reduction, House and Shapiro show that employment, investment, and GDP all increase immediately, regardless of whether the tax cut is enacted immediately or delayed. If firms were allowed accelerated depreciation deductions, then delayed tax cuts would stimulate employment, investment, and GDP more than immediate tax cuts, since the accelerated deductions would be taken at a relatively high tax rate.

The analysis by House and Shapiro suggests that EGTRRA substantially reduced employment, investment, and output in the phase-in period. Since JGTRRA decreased tax rates on capital and labor immediately, it should have immediately boosted employment, investment, and GDP. As will be discussed below, however, it is important to note that House and Shapiro assume that the government closes the fiscal gap through lump-sum transfers to avoid capturing the fiscal effects attributable to alternative means of reducing the government budget deficit.

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<sup>18</sup> There are two reasons why House and Shapiro (2004) may overestimate the short-run negative impact of delayed labor tax cuts. First, as they note, their model of individual labor supply decisions does not account for returns to on-the-job training or experience. In a model that included the returns from on-the-job training and experience, current employment would be more akin to an investment in human capital. In this case, a delayed labor tax rate reduction would increase an individual's incentive to work more now to increase his or her future wage rate. Including this effect would offset the intertemporal substitution of leisure and consumption in the model employed by House and Shapiro. The relative strength of these various effects is impossible to determine without specifying the model of individual labor supply and human capital accumulation. Second, House and Shapiro assume that the compensated labor supply elasticity is equal to 0.5. This is high compared to the existing estimates in the labor economics literature, which cluster around 0.15, as reported by CBO (1996). Decreasing the magnitude of the assumed compensated labor supply elasticity would reduce the immediate declines in employment, investment, and GDP from delayed labor tax cuts.

Permanently extending the 2001 and 2003 income tax cuts roughly corresponds to a delayed tax cut on labor income, since the bulk of the reduction in income tax rates occurs after 2010. The capital income tax cuts also are delayed, since the tax rate reductions on dividends and capital gains are effective for taxable years beginning after 2008, and the most significant tax rate reductions on interest income and noncorporate business income occur for taxable years after 2010. The House and Shapiro results imply that permanently extending the 2001 and 2003 income tax cuts would increase investment and decrease employment in the short run. Their results suggest that the long-run effect of permanently extending the income tax cuts would be an increase in investment, employment, and output. However, their long-run results (purposefully) do not account for the effects of closing the fiscal gap, which is likely to have an important impact on the results, an issue that is examined below.

### **Simulation Results**

This section of the paper provides alternative estimates of the effects of extending the 2001 and 2003 income tax cuts. It is similar to the studies cited above, except that it focuses specifically on the effects of permanently extending the 2001 and 2003 income tax cuts and considers a variety of fiscal policy offsets. The model used in this analysis is similar to the model developed by Auerbach and Kotlikoff (1987). Individual behavior is modeled, using a dynamic overlapping generations framework with fifty-five generations. There is a single representative individual for each generation who has an economic life span of fifty-five years, works for the first forty-five of those years, and is retired for the last ten.<sup>19</sup> Individual tastes are identical, so that differences in behavior across generations are due solely to differences in lifetime budget constraints. An individual accumulates assets from “economic birth” that are used to finance consumption over the life cycle, including retirement and the making of bequests. The model follows Fullerton and Rogers (1993) in including a relatively primitive “target model” of bequests; that is, bequests are assumed to be completely insensitive to changes

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<sup>19</sup> Economic age represents an individual’s working life from actual age 21 to 75. It is assumed that

in economic conditions, including changes in income. The model of individual behavior thus includes the following features: a simple bequest motive; a model of the Social Security system; payroll taxes; a progressive wage tax rate structure; and effective marginal proportional tax rates on interest income, dividends, capital gains, and business income.<sup>20</sup> A single firm characterizes the production sector. The firm chooses optimal levels of labor and investment to maximize its value in each year. Adjustment costs of implementing and installing new capital investments are included and play an important role in determining the optimal level of investment during the transition to the long-run steady-state equilibrium.

To simulate the effects of permanently extending the 2001 and 2003 income tax cuts, the percentage changes in tax rates for each source of income in the model were calculated on the assumption that the baseline was present law, modified to include AMT relief.<sup>21</sup> In addition, an offsetting federal fiscal policy assumption must be implemented to insure a constant debt-to-GDP ratio in the long run.<sup>22</sup> There are an infinite number of fiscal policies that could achieve this goal, and the choice of policy has an important effect on the simulation results. The three main fiscal policy responses considered in this paper are: (1) a cut in government consumption after ten years that achieves a constant debt-to-GDP ratio; (2) an increase in federal income taxes after ten years that achieves a constant debt-

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individual retirement spans from age 65 to 75.

<sup>20</sup> The intertemporal elasticity of substitution governs the willingness of consumers to substitute consumption across periods in response to changes in the relative price of consumption. This parameter is set equal to 0.35. The intratemporal elasticity of substitution governs the labor supply response to a change in the after-tax wage. Following Fullerton and Rogers (1993), this parameter is equal to 0.5. The ratio of leisure time to the size of the endowment is equal to 0.7. This implies that the uncompensated elasticity of labor supply with respect to the after-tax wage is approximately 0.15. The taxable income response is reduced from 0.4 to 0.25 to avoid double counting the change in labor supply. The model does not include the other short-term taxable income responses, and thus those responses are included by reducing the static revenue cost.

<sup>21</sup> The percentage change in the average and marginal tax rates for different sources of taxable income were calculated using the Joint Committee on Taxation's individual tax model. Marginal tax rates are calculated on an income-weighted basis. Tax rates with similar patterns and percentage changes were averaged together across adjacent years to simplify the presentation. From 2005 to 2010, the average wage tax rate decreases by 4 percent, the marginal wage tax rate decreases by 1 percent, and the tax rate on interest income decreases by 2 percent. From 2011 to 2014, the average wage tax rate decreases by 20 percent, the marginal wage tax rate decreases by 12 percent, and the tax rate on interest income decreases by 15 percent. From 2009 to 2014, the dividend tax rate decreases by 54 percent and capital gains tax rate decreases by 23 percent. (There is no change in dividend or capital gains tax rates before 2009.)

<sup>22</sup> It is assumed that the baseline federal debt-to-GDP ratio is constant at 38 percent. This is roughly

to-GDP ratio; and (3) a federal fiscal policy that assumes the growth in real discretionary government spending increases at the population growth rate instead of the growth rate of real GDP (in which case an offsetting income tax adjustment may be necessary to achieve a constant debt-to-GDP ratio). The first two scenarios are often assumed by the JCT and CBO in analyses of the effects of changes in tax policy. Feldstein (2004) suggested a fiscal policy similar to the third alternative in a commentary that supported permanent extension of the 2001 and 2003 tax cuts. By comparison, JCT (2003) and CBO (2003) assume that changes in income tax rates or government consumption (or transfer payments) are implemented after 2014, the end of the federal budget window, to insure a stable long-run equilibrium growth path.

Tables 8 and 9 show the percentage changes in the average and marginal wage tax rates, the marginal tax rate on interest income, the marginal tax rate on dividend income, and the marginal tax rate on capital gains income that would occur if the 2001 and 2003 income tax were permanently extended. Table 8 shows the percentage changes in income tax rates if the AMT relief provision is included in the present law baseline and in the proposal. Table 9 shows the percentage changes in income tax rates if the AMT relief provision is included only in the proposal.

Table 10 shows the effects of permanently extending the 2001 and 2003 income tax cuts, assuming that transfer payments are reduced after 2014. The results indicate that permanently extending the 2001 and 2003 income tax cuts would increase employment and output by 0.1 percent over the five-year period after enactment. Investment would increase by 0.9 percent in the first five years after enactment. This occurs because individuals increase saving in response to the lower tax rates and to offset the decrease in transfer payments in 2014 and thereafter.<sup>23</sup> In the long run, the permanent extension of the tax cuts increases employment and output by more than 0.8 percent over the baseline. The capital stock increases by 0.7 percent, and private consumption increases by 0.8 percent in the long run.

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consistent with scenario 5 in CBO (2003b) except that AMT relief is provided in the baseline.

<sup>23</sup> In the model, households are assumed to have perfect foresight and are, therefore, fully aware of the

Beginning in 2015, transfer payments, which are 4.4 percent of GDP in the baseline, are reduced by roughly 44 percent to reach a stable fiscal policy. The remaining items that make up government spending (Social Security, Medicare, and government consumption) are held constant at their baseline levels, except for net interest payments, which increase to 2.5 percent of GDP from 2 percent in the long run. This policy increases the debt-to-GDP ratio from 38 percent in 2005 to 47 percent in 2014 and beyond. Net interest payments increase by roughly \$70 billion in 2014, which is consistent with the estimate in Table 2. A \$262 billion reduction in real transfer payments is necessary to hold the debt-to-GDP ratio constant in 2015. By comparison, Gale and Orzsag (2004) predict that a \$393 billion reduction in all nominal noninterest outlays in 2014 would be necessary to offset the lost revenue from permanently extending EGTRRA and JGTRRA and providing permanent AMT relief. This corresponds to a change in all real noninterest outlays equal to \$314 billion, which is calculated using CBO's forecast of the percentage change in consumer prices. The difference in the real spending cuts that are required to balance the budget in this paper and the cuts assumed by the Gale and Orzsag paper is primarily attributable to the inclusion of individual behavioral responses in the analysis in this paper.

The net welfare effects, however, paint a much different picture than the aggregate macroeconomic variables, such as GDP, labor supply, and investment. The net welfare effects show that current old and future generations would suffer a net welfare loss if the 2001 and 2003 tax cuts were permanently extended and transfer payments were cut after 2014. The oldest six generations (economic age 49 to 55)<sup>24</sup> at the time of enactment would experience a net welfare change of -0.2 to -0.5 percent of remaining lifetime utility. Current young and middle-aged generations would experience a net welfare gain ranging from 0.1 to 0.3 percent of remaining lifetime utility, with the largest net welfare gains occurring for individuals in economic age six (roughly 27 years old) in the year of enactment. Generations born more than eight years after enactment would experience a

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pending cut in transfer payments.

<sup>24</sup> Economic ages 1 to 55 are meant to model cohorts that are age 21 to 75 in real life.

net welfare change ranging from -0.1 to -0.4 percent of remaining lifetime utility. The welfare losses show the negative effects of larger federal deficits that occur before the assumed enactment of offsetting fiscal policy actions in 2014. If the fiscal policy response occurred in 2005, the net welfare effects would range from 0 to 0.4 percent for all generations younger than economic age 24 (or 45 years old) at the time of enactment. The labor supply responses are roughly equivalent whether or not the fiscal policy response occurs immediately or is delayed for 10 years. The investment response in the case in which the fiscal policy response is delayed, however, is mitigated considerably. In the long run, for example, investment increases by 3.2 percent in the case with an immediate fiscal policy response rather than 0.4 percent if the fiscal policy response is delayed ten years. This shows the importance of enacting offsetting fiscal policy responses in a timely manner.

Table 11 shows the effect of permanently extending the 2001 and 2003 income tax cuts, assuming a cut in government consumption after 2014. This policy results in a decrease in labor supply, investment, and GDP in the short run because of the inframarginal nature of the tax cuts in the first few years and the negative effects of an increasing federal deficit in the ten-year period before the fiscal policy offset. In the long run, the size of the capital stock is 0.3 percent larger than in the baseline and GDP is 0.1 percent larger than in the baseline. Labor supply decreases by 0.1 percent in the long run. In this case, however, net welfare changes are positive for all but the five oldest age cohorts. Net welfare increases by at least 1 percent of remaining lifetime utility for every generation younger than economic age 23 at the date of enactment. These net welfare changes are highly suspect, however, because government consumption does not enter into the utility function and thus is not included in the net welfare calculations. (Transfer payments are included in the utility function.) This is equivalent to assuming households do not value government consumption.<sup>25</sup> Many analysts reasonably object to the assumption that all government consumption has no value to individuals. This assumption is relaxed below by treating government consumption as transfer payments so that cuts in government

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<sup>25</sup> Another interpretation would be that utility from private and government consumption is separable. If government consumption is treated as separable in the utility function, then the net welfare calculations will

consumption have direct effects on individual utility.

Table 12 shows the effects of permanently extending the 2001 and 2003 income tax cuts, assuming that increases in income tax rates are enacted in 2014 to reach a stable fiscal policy. In this case, employment increases in the short and long run. In the short run, households supply more labor because tax rates are expected to increase in the future.<sup>26</sup> In the long run, households must work more to maintain the same levels of consumption, since the burden of increased debt service costs and the reduction in the private capital stock reduces after-tax disposable income. The capital stock would decline by 1.2 percent in relation to the baseline as a result of government debt's crowding out private capital.

Because the fiscal offset is not enacted until after 2014, government debt increases from 2005 to 2014 as tax revenues are reduced and government expenditures net of interest payments are unchanged in relation to the baseline values. The debt-to-GDP ratio increases from 38 percent in 2005 to 47 percent in 2014. Net interest payments on the debt increase as the government accumulates more debt, although a decline in the interest rate in the first five years mitigates this effect slightly in the short run. Households increase private consumption immediately by effectively borrowing from future generations. Household consumption of private goods would be roughly constant after 2020 as the increase in income tax rates, lower wage rates, and an increase in labor supply would have offsetting effects on disposable income. Current young and middle-aged generations receive small welfare benefits from the extension of the tax cuts, while older and future generations suffer a net welfare loss. The net welfare loss of future generations is approximately 0.4 percent of their remaining lifetime utility.

In the five-year period 2015 to 2019, income tax rates increase by 16.5 percent from 2015 to 2019 levels (after accounting for the extension the 2001 and 2003 tax cuts). Income tax rates are increased by approximately 19 percent thereafter. The net effect of the 2001 and 2003 tax cuts and the increase in income tax rates after 2014 is different for each source

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be incomplete unless the utility function for government consumption is specified.

<sup>26</sup> This result is similar to the behavioral effects in response to a delayed tax cut found in House and

of income. The net effect on dividend and capital gains tax rates is a net decrease. Interest income and the general business tax rate increase after 2014 relative to the baseline. In the long run, the marginal tax rate on wages falls by roughly 1 percent and the average tax rate on wages is unchanged. Thus, this could be viewed as a scenario similar to allowing the tax cuts to sunset in 2010, although the period that federal debt is accumulated would be four years shorter.

Feldstein (2004) offers another potential fiscal policy response: holding the rate of growth of discretionary spending equal to the rate of inflation. He supports tight fiscal controls and a permanent extension of the 2001 and 2003 tax cuts, along with AMT relief for most middle-income taxpayers.

To simulate Feldstein's scenario, it is assumed that the growth of real transfer payments and government spending, excluding Social Security and Medicare, are equal to the population growth rate for fifty years. (After this 50-year period, they grow at the growth rate of GDP.)<sup>27</sup> In the baseline, transfer payments and government consumption were assumed to grow at the growth rate of GDP, which is determined by the growth rate of the population and technological growth.<sup>28</sup> Thus, this fiscal policy reduces the growth rate of real transfer payments and government spending from 2 percent to 1 percent per year for 50 years after enactment of the permanent extension of the 2001 and 2003 income tax cuts. After 40 years, the income tax rates are allowed to adjust to stabilize the debt-to-GDP ratio.

Table 13 shows that the immediate impacts of this fiscal policy on labor supply and GDP are insignificant in the first five years after enactment. After that five-year period, labor supply increases permanently by 0.3 to 0.5 percent relative the baseline. GDP increases in the 15-year period from 2010 to 2024, but this increase slowly diminishes as the stock of

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Shapiro (2004).

<sup>27</sup> The 50-year period is chosen arbitrarily. Periods shorter than 50 years will decrease the gains in economic output and periods longer than 50 years will increase the gains in economic output.

<sup>28</sup> It is important to note, however, that actual transfer payments and government consumption currently are growing more slowly than GDP; thus, the offsetting spending cuts will reduce per capita spending over time.

capital declines. This occurs because the increase in the deficit relative to GDP crowds out private investment and results in a declining capital stock. As the effect of moderate spending controls strengthens slowly over time, the deficit is reduced and private investment rebounds. In the long run, the permanent extension of the 2001 and 2003 income tax cuts increases investment, labor supply, and GDP. In 2095, the capital stock is 1.7 percent higher relative to the baseline. Table 11 shows that private consumption is higher in every period relative to the baseline.

The reductions in transfer spending and government consumption are equivalent to a reduction in real noninterest spending equal to 6 percent in 2015, 16 percent in 2035, and 25 percent in the long run. The deficit-to-GDP ratio from 2010 to 2034 increases above the baseline level as current generations borrow from future generations. In the long run, the debt-to-GDP ratio is roughly 9 percentage points higher than in the baseline. Note, however, that the income tax rate adjustment to stabilize the debt-to-GDP ratio, which occurs 40 years after enactment, reduces income tax rates by an additional 11.3 percent in the period from 2045 to 2054 and 15.4 percent in the long run.<sup>29</sup>

Figure 1 shows the intergenerational welfare effects in terms of percentage changes in remaining lifetime utility across all generations, taking into account all tax-induced welfare gains and losses considered in the model. The results indicate that the seven oldest cohorts (economic ages 48 to 55) alive in the year of enactment would experience a change in net welfare ranging from -0.04 to -0.9 percent of remaining lifetime utility. Older cohorts would experience the largest net welfare loss because they are assumed to be retired and thus cannot change their labor supply. In addition, generations with longer life spans after enactment have longer to benefit from higher after-tax interest rates on their remaining financial wealth. Cohorts economic age 34 or less in the year of enactment experience a net welfare change of 0.05 percent or greater. In this case, the youngest generations experience a net welfare gain equal to 1.6 percent of remaining

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<sup>29</sup> This tax rate reduction affects wages, interest income, dividends, capital gains, and pass through business entities.

lifetime utility. Implementing this fiscal policy response increases net welfare for every age cohort younger than economic age 48.

Table 14 shows the results if all government spending is valued or included in the individual's utility function by treating all government spending as transfer payments. In the long run, the capital stock increases by 4.0 percent, labor supply increases by 1.2 percent, and output increases by 2.1 percent. In this case, the increase (decrease) in net welfare is smaller (larger) than in the case with a reduction in nonvalued government consumption and transfer payments, since individuals must increase labor supply (decrease their consumption of leisure) to offset the decrease in valued government consumption. Future generations experience an increase in net welfare equivalent to 0.6 percent of their remaining lifetime utility.

## **Conclusion**

In conclusion, there are several arguments in favor of extending the 2001 and 2003 income tax cuts, even after assuming the AMT exemption amounts will be extended and indexed for inflation. Opponents of extending the 2001 and 2003 income tax cuts argue that the tax cuts are unaffordable, would unfairly benefit the rich, and would reduce long-term economic growth. This paper has estimated that including relatively modest behavioral responses to the tax reductions reduces the static cost of permanently extending the 2001 and 2003 income tax cuts by roughly 16 percent over the 10-year period from 2005 to 2014. Moreover, the combination of extending the tax cuts and providing AMT relief results in a ratio of taxes to GDP that corresponds to historical averages. By comparison, current law, even if coupled with AMT relief, would result in a dramatic increase in tax revenues as a share of GDP. From a distributional perspective, if the 2001 and 2003 income tax cuts were extended and behavioral effects were ignored, the after-tax income of high-income taxpayers would increase by roughly twice the amount of middle- and low-income taxpayers. Allowing for fairly moderate behavioral effects, however, reduces the percentage change in after-tax income for the highest-income taxpayers to 2.3 percent from 4.9 and implies that the largest percentage increase

in after-tax income would accrue to taxpayers with incomes between \$20,000 and \$40,000.

The simulation results presented in this paper suggest that extending the 2001 and 2003 income tax cuts and reducing the growth rate of government spending, excluding Social Security and Medicare, would increase investment, employment, and output. In this case, the net welfare of the oldest generations alive at the time of enactment would decrease, while the net welfare of future generations would likely increase. By comparison, adopting other fiscal policy offsets assumed in this paper would decrease the net welfare of future generations. Increasing future taxes to finance the 2001 and 2003 tax cuts would impose a significant net welfare loss on future generations. In addition, postponing the adoption of tight fiscal controls on spending would reduce the net welfare changes of future generations as they are forced to pay higher debt-service costs. For instance, the simulations suggest that waiting ten years (as is often assumed by the JCT and CBO) to implement tight spending controls would more than offset the positive benefits of lower tax rates on the size of the economy and leave future generations with fewer resources for private consumption and production.

The two extreme reform options are to permanently extend all 2001 and 2003 tax cuts or to allow the tax cuts to sunset in 2008 and 2010. A more moderate option, however, such as permanent extension of a portion of the 2001 and 2003 tax cuts, is a more likely outcome. Future policy research should focus on the effect of permanently extending each provision separately in terms of its impact on efficiency and equity, including equity considerations within and across generations. In general, the provisions in the 2001 and 2003 income tax cuts that increase efficiency also are likely to increase the welfare of future generations. Provisions that often are viewed as improving the equity of the tax system, such as child tax credits, may have a negative effect on the long-run size of the economy and thus reduce the welfare of future generations. But the net welfare effects will depend critically on the nature and date of enactment of the fiscal offset.

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**Table 1**  
**Revenue and Interest Cost of Permanently Extending EGTRRA and JGTRRA**  
**Excluding Estate Tax Repeal and Section 179 Expensing<sup>(1)</sup>**  
(\$ Billions)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004-14
<b>Extension of EGTRRA and JGTRRA provisions, excluding the estate tax repeal and section 179 expensing, AMT relief in 2005</b>	-29	-24	-23	-22	-38	-42	-218	-225	-233	-241	-1,094
<b>Extension of EGTRRA and JGTRRA provisions, excluding the estate tax repeal and section 179 expensing, the AMT is extended permanently and indexed for inflation</b>	-50	-53	-57	-64	-89	-103	-286	-303	-322	-343	-1,670
<b>AMT extension and indexing</b>	-19	-25	-32	-47	-42	-60	-29	-34	-41	-48	-377
<b>EGTRRA and JGTRRA interaction with AMT relief</b>	-2	-4	-3	4	-9	0	-38	-43	-49	-54	-198
<b>Extension of EGTRRA and JGTRRA provisions, excluding the estate tax repeal and section 179 expensing provisions, the AMT is extended permanently and indexed for inflation in the baseline and proposed law runs</b>	-33	-29	-27	-24	-39	-43	-261	-273	-286	-300	-1,314

(1) All estimates are the author's calculations using the JCT individual tax model.

**Table 2**  
**Revenue and Interest Cost of Permanently Extending EGTRRA and JGTRRA, Excluding Estate Tax Repeal and Section 179 Expensing, AMT Extended and Indexed Under Proposed Law EGTRRA and JGTRRA, Excluding Estate Tax Repeal and Section 179 Expensing, AMT Extended and Indexed Under Proposed Law**  
(\$ Billions)

	2005-2009	2010-2014	2005-2014	2014
<b>Static Revenue Change<sup>(1)</sup></b>	-313	-1,357	-1,670	-343
<b>Taxable Income Offset<sup>(2)</sup></b>	34	201	235	51
<b>Capital Gains Revenue Offset<sup>(3)</sup></b>	4	23	26	5
<b>Short-Term Dynamic Revenue Change</b>	-275	-1,133	-1,408	-287
<b>Debt Service Cost<sup>(4)</sup></b>	32	213	245	73
<b>Short-Term Total Cost<sup>(5)</sup></b>	-307	-1,347	-1,654	-360

(1) No AMT relief under present law, fully static estimate.

(2) Calculation assuming 0.4 elasticity of taxable income with respect to after-tax share. Elasticity is applied to taxable income less net capital gains of form 1040. Source data is from JCT's individual tax model.

(3) Capital gains realizations assuming a short-run response parameter of -4.5 and a long-run response parameter of -0.2.

(4) Debt service cost provided by CBO.

(5) This is the revenue and interest costs only. It does not include potential spending changes.

**Table 3**

The Effect of Permanently Extending the 2001 and 2003 Income Tax Cuts on Average Income Tax Rates and the Percentage Change in After-Tax Income  
Calendar Year 2014 (in 2005 \$)

AGI Class	Taxable Income as a Percentage of AGI	Percentage of Returns with Zero or Negative Liabilities	Average Income Tax Rate		Percentage Change Average Income Tax Rate	Percentage Change After-Tax Income <sup>(1)</sup>	
			Present Law With AMT Relief	Proposal With AMT Relief		Present Law Not Adjusted for AMT	Present Law Adjusted for AMT
\$ *****-\$ 10000.	-28	95	-8.1	-8.3	-3	0.2	0.2
\$ 10000.-\$ 20000.	31	62	-0.7	-1.8	-166	1.2	1.2
\$ 20000.-\$ 30000.	44	47	2.6	1.4	-47	1.3	1.3
\$ 30000.-\$ 40000.	52	25	4.9	3.5	-28	1.4	1.3
\$ 40000.-\$ 50000.	59	12	7.2	5.7	-20	1.5	1.5
\$ 50000.-\$ 75000.	65	5	9.4	7.7	-18	1.8	1.7
\$ 75000.-\$ 100000.	69	1	11.9	9.8	-17	2.6	2.1
\$ 100000.-\$ 200000.	74	0	17.0	14.5	-15	3.1	2.5
\$ 200000.-\$*****	86	0	34.5	29.6	-14	5.2	4.9

Source is JCT's individual tax calculator.

(1) Income is defined as AGI plus tax-exempt interest, employer contributions for health plans and life insurance, the employer share of payroll taxes, worker's compensation, non-taxable Social Security benefits, the insurance value of Medicare, alternative minimum tax items, and excluded income of U.S. citizens living abroad. Taxes equal individual income taxes less refundable credits.

**Table 4**  
**The Effect of Permanently Extending the 2001 and 2003 Income Tax Cuts on Average Tax Rates and the  
 Percentage Change in After-Tax Income AMT Relief Under Present and Proposed Law**  
 Calendar Year 2014 (in 2005 \$)

	Percentage Change in After-Tax Income Present Law Adjusted for AMT		Average Tax Rate Includes Payroll Taxes		Percentage Change in the Average Tax Rate
	Income Tax Only	Income and Payroll Tax <sup>(1)</sup>	Present Law <sup>(2)</sup>	Proposal <sup>(3)</sup>	
\$***** -\$ 10000.	0.2	0.2	2.6	2.3	-9.2
\$ 10000. -\$ 20000.	1.2	1.3	8.2	7.0	-15.2
\$ 20000. -\$ 30000.	1.3	1.4	11.7	10.4	-11.6
\$ 30000. -\$ 40000.	1.3	1.5	15.1	13.6	-9.8
\$ 40000. -\$ 50000.	1.5	1.6	18.6	17.0	-8.8
\$ 50000. -\$ 75000.	1.7	1.8	21.1	19.3	-8.7
\$ 75000. -\$ 100000.	2.1	2.3	25.4	23.0	-9.1
\$ 100000. -\$ 200000.	2.5	2.8	31.1	28.3	-9.0
\$ 200000. -\$*****	4.9	5.2	42.2	37.0	-12.2

Source is JCT's individual tax calculator.

- (1) Includes employer and employee portion of the payroll tax.
- (2) Present law adjusted to include permanent AMT relief.
- (3) Includes permanent AMT relief.

**Table 5**  
**Taxable Income Response By AGI Class AMT Relief Under Present and Proposed Law**  
Calendar Year 2014 (in 2005 \$)

AGI Class	Present Law MTR <sup>(1)</sup> (%)	Proposed Law MTR <sup>(1)</sup> (%)	Percentage Change in the After-Tax Share	Taxable Income Less Capital Gains <sup>(2)</sup> (\$ billions)	Capital Gains in AGI <sup>(2)</sup> (\$ billions)	Taxable Income Response <sup>(3)</sup> (\$ billions)	Static Revenue Effect <sup>(2)</sup> (\$ billions)	Revenue Feedback Effect (\$ billions)	Dynamic Revenue Effect (\$ billions)	Revenue Offset (%)
\$*****-\$ 10000.	-2.4	-3.3	0.9	-4	10	0	-1	0.0	-1	0
\$ 10000.-\$ 20000.	9.1	5.1	4.4	72	1	0	-5	0.0	-5	-1
\$ 20000.-\$ 30000.	16.5	14.4	2.5	199	2	1	-11	0.1	-11	-1
\$ 30000.-\$ 40000.	18.0	16.8	1.4	269	2	1	-12	0.1	-11	-1
\$ 40000.-\$ 50000.	17.6	16.2	1.7	349	2	1	-11	0.1	-11	-1
\$ 50000.-\$ 75000.	21.0	19.3	2.2	975	6	3	-28	0.6	-27	-2
\$ 75000.-\$ 100000.	24.4	19.9	5.9	895	8	8	-26	1.6	-25	-6
\$ 100000.-\$ 200000.	29.0	25.8	4.6	2,028	39	53	-71	13.7	-57	-19
\$ 200000.-\$*****	36.4	31.2	8.3	2,753	485	129	-135	40.4	-95	-30
<b>Total</b>	27.5	23.9	5.0	7,538	555	151	-300	36.1	-263	-12

(1) Data source is the JCT's individual tax calculator. Income-weighted marginal tax rates are calculated by adding \$100 to each type of income and then dividing the income-weighted tax change by the total income change. A smoothing function is employed to account for cliffs in the tax code.

(2) Source is the JCT's individual tax calculator.

(3) The assumed elasticity of taxable income by income class is 0 for the lowest income group, 0.15 for taxpayers with AGI between \$10,000 and \$100,000, and 0.57 for taxpayers with AGI over \$100,000. The aggregate elasticity of taxable income is assumed to be 0.4. These elasticity of taxable income estimates are from Gruber and Saez (2002).

**Table 6**  
**Capital Gains Realization Response By AGI Class AMT Relief Under Present and Proposed Law**  
Calendar Year 2014 (in 2005 \$)

AGI Class	Capital Gains in AGI <sup>(1)</sup> (\$ billions)	Present Law MTR <sup>(2)</sup> (%)	Proposed Law MTR <sup>(2)</sup> (%)	Capital Gains Realization Response <sup>(3)</sup> (\$ billions)	Capital Gains Revenue Feedback (\$ billions)
\$*****-\$ 10000.	10	0.0	0.0	4	0.1
\$ 10000.-\$ 20000.	1	0.1	0.0	0	0.0
\$ 20000.-\$ 30000.	2	0.1	0.0	1	0.0
\$ 30000.-\$ 40000.	2	0.1	0.0	1	0.0
\$ 40000.-\$ 50000.	2	0.1	0.1	1	0.0
\$ 50000.-\$ 75000.	6	0.1	0.1	2	0.2
\$ 75000.-\$ 100000.	8	0.2	0.1	3	0.3
\$ 100000.-\$ 200000.	39	0.2	0.2	14	2.2
\$ 200000.-\$*****	485	0.2	0.2	177	30.0
<b>Total</b>	<b>555</b>	<b>0.2</b>	<b>0.2</b>	<b>202</b>	<b>32.3</b>

(1) Source is the JCT's individual tax calculator.

(2) Data source is the JCT's individual tax model. Income-weighted marginal tax rates are calculated by adding one percent to capital gains income and then dividing the income-weighted tax change by the total income change. A smoothing function is employed to account for cliffs in the tax code.

(3) Capital gains response parameter is -0.2.

**Table 7**  
**The Effect of Permanently Extending the 2001 and 2003 Income Tax Cuts By AGI Class AMT Relief Under Present and Proposed Law Static and Dynamic Change in After-Tax Income**  
Calendar Year 2014 (in 2005 \$)

	Base After-Tax Income <sup>(1),(2)</sup>	Static Tax Change <sup>(1)</sup>	Static Percentage Change in After-Tax Income	Dynamic Tax Change <sup>(3)</sup>	Dynamic Percentage Change in After-Tax Income
	(\$ billions)	(\$ billions)		(\$ billions)	
\$***** -\$ 10000.	92	-1	0.9	-1	0.8
\$ 10000. -\$ 20000.	258	-5	1.8	-5	1.8
\$ 20000. -\$ 30000.	437	-11	2.5	-11	2.5
\$ 30000. -\$ 40000.	467	-12	2.5	-11	2.4
\$ 40000. -\$ 50000.	515	-11	2.2	-11	2.1
\$ 50000. -\$ 75000.	1,300	-28	2.1	-27	2.1
\$ 75000. -\$ 100000.	1,116	-26	2.4	-24	2.2
\$ 100000. -\$ 200000.	2,350	-71	3.0	-55	2.3
\$ 200000. -\$*****	2,775	-135	4.9	-65	2.3
<b>TOTAL</b>	9,310	-300	3.2	-231	2.5

(1) Source is the JCT's individual tax calculator.

(2) Income is defined as AGI plus tax-exempt interest, employer contributions for health plans and life insurance, the employer share of payroll taxes, worker's compensation, non-taxable Social Security benefits, the insurance value of Medicare, alternative minimum tax items, and excluded income of U.S. citizens living abroad.

(3) Equals column 2 of Table 7 minus the last column in Table 6 and the next to last column in Table 5

**Table 8**  
**Effect of 2001 and 2003 Income Tax Cuts on Income Tax Rates by Type of Income**  
**AMT Relief in Present Law Baseline and Proposed Law**  
**Percentage Change from Present Law Tax Rates**

	Wage Income		Interest Income	Dividend Income	Capital Gains Income
	Average	Marginal			
<b>2005</b>	-7	-2	-2	1	-1
<b>2006</b>	-5	-2	-1	1	-1
<b>2007</b>	-3	-1	-1	0	0
<b>2008</b>	-4	0	0	-2	0
<b>2009</b>	-3	-1	-4	-49	-22
<b>2010</b>	-2	0	-5	-50	-21
<b>2011</b>	-20	-12	-16	-56	-23
<b>2012</b>	-19	-12	-15	-56	-23
<b>2013</b>	-19	-12	-15	-57	-23
<b>2014</b>	-20	-12	-15	-57	-23
<b>Average Percentage Change Across Specified Period</b>					
<b>2005 - 2010</b>	-4	-1	-2	---	---
<b>2011 - 2014</b>	-20	-12	-15	---	---
<b>2005 - 2008</b>	---	---	---	0	0
<b>2009 - 2014</b>	---	---	---	-54	-23

**Table 9**  
**Effect of 2001 and 2003 Income Tax Cuts on Income Tax Rates by Type of Income**  
**AMT Relief Included in Proposal Only**  
**Percentage Change from Present Law Tax Rates**

	Wage Income		Interest Income	Dividend Income	Capital Gains Income
	Average	Marginal			
<b>2005</b>	-8	-3	-2	0	0
<b>2006</b>	-8	-3	-2	0	0
<b>2007</b>	-6	-3	-2	0	0
<b>2008</b>	-8	-3	-2	0	0
<b>2009</b>	-8	-4	-6	-50	-22
<b>2010</b>	-7	-4	-7	-51	-21
<b>2011</b>	-21	-12	-16	-56	-23
<b>2012</b>	-21	-12	-15	-56	-23
<b>2013</b>	-21	-12	-15	-56	-23
<b>2014</b>	-23	-12	-15	-57	-23
<b>Average Percentage Change Across Specified Period</b>					
<b>2005 - 2010</b>	-8	-4	-4	---	---
<b>2011 - 2014</b>	-22	-12	-15	---	---
<b>2005 - 2008</b>	---	---	---	0	0
<b>2009 - 2014</b>	---	---	---	-54	-22

**Table 10**  
**Effect of Permanently Extending the 2001 and 2003 Income Tax Cuts AMT Relief in Present Law and Proposed Law**  
**Fiscal Policy Offset: Transfer Payments Cut After 2014**  
(Percentage Changes from Baseline Levels)

	<b>2005-2009</b>	<b>2010-2014</b>	<b>2015-2019</b>	<b>2020-2024</b>	<b>2025-2034</b>	<b>2035-2044</b>	<b>2045-2054</b>
<b>Capital</b>	0.1	0.4	0.8	0.9	1.0	0.9	0.7
<b>Labor</b>	0.1	0.7	0.8	0.8	0.8	0.8	0.9
<b>GDP</b>	0.1	0.6	0.8	0.9	0.9	0.8	0.8
<b>Investment</b>	0.9	1.5	1.4	1.2	1.0	0.6	0.4
<b>Consumption</b>	-0.1	0.4	0.6	0.7	0.8	0.8	0.8
<b>Transfer Payments</b>	0.0	0.0	-44.5	-44.3	-44.3	-44.4	-44.6
<b>Interest Rate<sup>(1)</sup></b>	-0.1	0.3	0.2	0.2	0.2	0.2	0.2
<b>Wage Rate</b>	0.0	-0.1	0.0	0.0	0.1	0.0	-0.1
<b>Income Tax Rate Offset</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Deficit to GDP<sup>(2)</sup></b>	1.0	2.4	0.9	0.9	0.9	0.9	0.9
<b>Debt to GDP<sup>(2)</sup></b>	38.2	43.0	46.6	46.6	46.6	46.6	46.6

(1) Interest rate changes are reported as percentage point changes (e.g. 0.4 indicates the interest rate increased by 0.004).

(2) The deficit to GDP and debt to GDP report the deficit and debt as a percent of GDP. These are not reported as percentage changes from the baseline.

**Table 11**  
**Effect of Permanently Extending the 2001 and 2003 Income Tax Cuts AMT Relief in Present Law and Proposed Law**  
**Fiscal Policy Offset: Government Consumption After 2014**  
 (Percentage Changes from Baseline Levels)

	2005-2009	2010-2014	2015-2019	2020-2024	2025-2034	2035-2044	2045-2054
<b>Capital</b>	-0.3	-1.5	-2.0	-1.1	-0.3	0.2	0.3
<b>Labor</b>	-0.1	0.3	0.0	0.0	0.0	-0.1	-0.1
<b>GDP</b>	-0.2	-0.3	-0.6	-0.4	-0.1	0.0	0.1
<b>Investment</b>	-2.9	-6.4	1.7	0.9	0.7	0.6	0.5
<b>Consumption</b>	0.3	0.9	1.9	2.1	2.4	2.6	2.6
<b>Government Consumption<sup>(1)</sup></b>	0.0	0.0	-45.9	-42.4	-42.0	-41.6	-41.4
<b>Interest Rate<sup>(2)</sup></b>	-0.1	0.4	0.6	0.2	0.2	0.1	0.1
<b>Wage Rate</b>	-0.1	-0.6	-0.7	-0.4	-0.1	0.1	0.1
<b>Income Tax Rate Offset</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Deficit to GDP<sup>(3)</sup></b>	1.0	2.5	0.9	0.9	0.9	0.9	0.9
<b>Debt to GDP<sup>(3)</sup></b>	38.3	43.6	47.7	47.6	47.5	47.4	47.4

(1) Government consumption does not include Social Security, Medicare, or other transfer payments. This is 4.9 percent of GDP in the baseline.

(2) Interest rate changes are reported as percentage point changes (e.g. 0.4 indicates the interest rate increased by 0.004).

(3) The deficit to GDP and debt to GDP report the deficit and debt as a percent of GDP. These are not reported as percentage changes from the baseline.

**Table 12**  
**Effect of Permanently Extending the 2001 and 2003 Income Tax Cuts AMT Relief in Present Law and Proposed Law**  
**Fiscal Policy Offset: Income Tax Rates After 2014**  
(Percentage Changes from Baseline Levels)

	2005-2009	2010-2014	2015-2019	2020-2024	2025-2034	2035-2044	2045-2054
<b>Capital</b>	-0.1	-0.4	-1.0	-1.0	-1.0	-1.1	-1.2
<b>Labor</b>	0.0	0.5	0.3	0.3	0.3	0.3	0.3
<b>GDP</b>	0.0	0.2	-0.1	-0.1	-0.1	-0.2	-0.2
<b>Investment</b>	-0.8	-2.3	-1.2	-0.9	-1.1	-1.2	-1.3
<b>Consumption</b>	0.1	0.6	0.1	0.0	0.0	0.0	0.0
<b>Government Consumption</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Interest Rate<sup>(1)</sup></b>	-0.1	0.4	-0.4	0.1	0.1	0.1	0.1
<b>Wage Rate</b>	0.0	-0.3	-0.4	-0.4	-0.4	-0.5	-0.5
<b>Income Tax Rate Offset</b>	0.0	0.0	16.5	19.1	19.1	19.2	19.3
<b>Deficit to GDP<sup>(2)</sup></b>	1.0	2.5	0.9	0.9	0.9	0.9	0.9
<b>Debt to GDP<sup>(2)</sup></b>	38.3	43.3	47.2	47.3	47.3	47.3	47.3

(1) Interest rate changes are reported as percentage point changes (e.g. 0.4 indicates the interest rate increased by 0.004).

(2) The deficit to GDP and debt to GDP report the deficit and debt as a percent of GDP. These are not reported as percentage changes from the baseline.

**Table 13**

**Effect of Permanently Extending the 2001 and 2003 Income Tax Cuts AMT Relief in Present Law and Proposed Law  
Fiscal Policy Offset: Real Transfer Payments and Government Consumption Increase at the Rate of Population Growth  
(2005-2045) Income Tax Rates Adjust to Stabilize Debt to GDP Ratio After 2045**  
(Percentage Changes from Baseline Levels)

	2005-2009	2010-2014	2015-2019	2020-2024	2025-2034	2035-2044	2045-2054	2095
<b>Capital</b>	-0.1	-0.1	-0.2	-0.3	-0.6	-0.4	0.5	1.7
<b>Labor</b>	0.0	0.5	0.5	0.4	0.3	0.3	0.4	0.4
<b>GDP</b>	0.0	0.3	0.3	0.2	0.0	0.1	0.5	0.9
<b>Investment</b>	-0.6	-0.1	-0.5	-0.9	-0.9	0.7	1.5	1.7
<b>Consumption</b>	0.2	0.7	1.1	1.3	1.6	1.8	2.6	3.2
<b>GC and Transfer Payments</b>	-2.0	-6.7	-11.2	-15.6	-21.6	-29.0	-35.7	-35.7
<b>Interest Rate<sup>(1)</sup></b>	-0.1	0.4	0.2	0.2	0.3	0.3	0.5	0.2
<b>Wage Rate</b>	0.0	-0.2	-0.2	-0.3	-0.3	-0.2	0.0	0.4
<b>Income Tax Rate Offset</b>	0.0	0.0	0.0	0.0	0.0	0.0	-11.3	-15.4
<b>Deficit to GDP<sup>(2)</sup></b>	0.8	1.7	1.8	1.6	1.2	0.5	0.9	0.9
<b>Debt to GDP<sup>(2)</sup></b>	37.9	40.5	45.5	49.3	52.3	50.6	47.5	47.3

(1) Interest rate changes are reported as percentage point changes (e.g. 0.4 indicates the interest rate increased by 0.004).

(2) The deficit to GDP and debt to GDP report the deficit and debt as a percent of GDP. These are not reported as percentage changes from the baseline.

**Table 14**  
**Effect of Permanently Extending the 2001 and 2003 Income Tax Cuts AMT Relief in Present Law and Proposed Law**  
**Fiscal Policy Offset: Valued Government Consumption Increases at the Rate of Population Growth (2005-2045)**  
**Income Tax Rates Adjust to Stabilize Debt to GDP Ratio After 2045**  
(Percentage Changes from Baseline Levels)

	2005-2009	2010-2014	2015-2019	2020-2024	2025-2034	2035-2044	2045-2054	2095
<b>Capital</b>	0.1	0.5	0.8	0.9	1.0	1.7	3.0	4.0
<b>Labor</b>	0.1	0.7	0.8	0.8	0.8	0.9	1.2	1.2
<b>GDP</b>	0.1	0.6	0.8	0.8	0.9	1.2	1.8	2.1
<b>Investment</b>	1.0	1.6	1.3	1.1	1.4	3.6	4.1	4.0
<b>Consumption</b>	-0.1	0.4	0.7	0.8	0.9	0.8	1.7	2.1
<b>Valued GC<sup>(1)</sup></b>	-2.0	-6.7	-11.2	-15.6	-21.6	-29.0	-35.7	-35.7
<b>Interest Rate<sup>(2)</sup></b>	-0.1	0.3	0.2	0.2	0.2	0.1	0.4	0.1
<b>Wage Rate</b>	0.0	-0.1	0.0	0.0	0.1	0.3	0.6	0.9
<b>Income Tax Rate Offset</b>	0.0	0.0	0.0	0.0	0.0	0.0	-15.4	-15.4
<b>Deficit to GDP<sup>(3)</sup></b>	0.8	1.7	1.7	1.4	1.0	0.1	0.8	0.9
<b>Debt to GDP<sup>(3)</sup></b>	38.3	40.6	45.2	48.3	49.8	45.5	40.8	42.3

(1) Valued government consumption is 9 percent of GDP in the baseline.

(2) Interest rate changes are reported as percentage point changes (e.g. 0.4 indicates the interest rate increased by 0.004).

(3) The deficit to GDP and debt to GDP report the deficit and debt as a percent of GDP. These are not reported as percentage changes from the baseline.

Figure 1  
Effects of Permanently Extending the 2001 and 2003 Income Tax Cuts  
AMT Relief in Present and Proposed Law  
Transfer Payments and Government Consumption Increase at  
the Rate of Population Growth (2005 - 2045)

