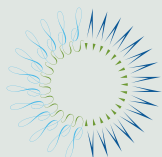




Costs and Benefits of Housing Tax Subsidies



BY ROBERT CARROLL, JOHN F. O'HARE AND PHILLIP L. SWAGEL



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1

The Current Housing Tax Subsidies

Americans have long viewed home ownership as part of the American dream, and the tax code reflects this aspiration. Under the current U.S. income tax system, homeowners may deduct both property taxes and interest paid on mortgages for both first and second homes up to \$1 million in mortgage debt.¹ In addition, the first \$500,000 of capital gains realized upon the sale of a home for a couple (\$250,000 for individuals) are excluded from income tax entirely. Another tax subsidy for housing is not as well known but is even larger than the two tax benefits for property taxes and mortgage interest (as calculated in this report): the exclusion of the implicit or imputed rental value of owner-occupied housing from the tax base.

This paper analyzes the impact of three major housing subsidies embedded in the U.S. tax system: the exclusion of the so-called “imputed rent,” and the deductibility of mortgage interest and property taxes.² These subsidies have the important effect of boosting homeownership by lowering the cost of owning a home relative to renting. Increased homeownership is associated with stronger and more cohesive neighborhoods, as owner-occupants invest in the development and safety of their communities. The paper calculates the amount of these subsidies, assesses who benefits and by how much and analyzes the economic consequences. In aggregate, we calculate these subsidies to result in nearly \$304 billion of foregone tax revenue in 2010 with the benefits accruing disproportionately to middle- and upper-income households. The subsidies for housing have important consequences for the allocation of capital between housing and other sectors, and thus matter for overall economic growth. This paper examines several alternatives to the current system of housing subsidies, as well as a set of narrower changes to just the subsidy created by the mortgage interest deduction on its own.

Housing Tax Subsidies

The tax code subsidizes housing in several ways. The first analyzed in this report is the non-taxation of the flow of housing services received by owner-occupants—the imputed rent enjoyed by homeowners. One way to think of a house is as an asset that delivers a stream of services—shelter and all the other benefits one receives from a home. An owner of a house receives the value of these services whether he or she enjoys them directly by living in the house or instead receives the monetary value of the services by renting the house to someone else. For homeowners who live in the houses they own, the monetary value of these services is known as imputed rent, and can be thought of as the amount the owner could have received in income had he or she rented the home instead of living in it. The actual income is taxed when a home is rented, but the imputed rental income effectively enjoyed by people who live in their own home is not included in their taxable income or otherwise taxed under the U.S. income tax system.

This exclusion creates an implicit subsidy—a disparity that favors owner-occupied housing over rental housing.³

Two other main housing subsidies in the U.S. income tax system are explicit rather than implicit: allowing taxpayers who itemize to deduct what they pay in mortgage interest and property taxes.⁴ These two tax subsidies are not available to people who rent, nor are they available to homeowners who do not itemize. The “housing tax subsidies,” as defined in this paper, are the difference between each tax unit’s (such as a household) tax liability under current law and the liability if net imputed rental income were included in the tax base and the home mortgage and property tax deductions were eliminated.

The framework used for calculating the subsidies in this paper takes into account potentially important interactions between itemization status and the tax brackets. Without the home mortgage and property tax deduction, some tax units would instead claim the standard deduction rather than itemizing, which would reduce the apparent cost of these deductions. Similarly, the inclusion of net imputed rental income and the elimination of the home mortgage and property tax deductions could cause some taxpayers to move between tax brackets and thus have some parts of their income taxed at different rates prior to the policy change. This will affect the incentives and behavior of taxpayers who straddle tax rate brackets—a taxpayer kicked into a higher or lower tax bracket would face different tax incentives for activities that generate additional income (with a higher bracket expected to reduce effort toward income generation and a lower bracket providing incentives for increased efforts). A description of the methodology used to impute rental income to households and calculate the housing tax subsidies is provided in Appendix A.

Estimates of the Housing Tax Subsidies and Their Distribution

This report estimates the aggregate housing tax subsidies to be \$304 billion in 2010 (see Appendix B, Table B-1). This is the combined total of foregone tax revenue on net imputed rental income plus the value of the deductions for mortgage interest and property tax payments. To compare this to the estimates reported by other researchers, we also estimated the subsidies for tax year 2004. The \$267 billion tax subsidies we estimate for 2004 is lower than the comparably estimated \$331 billion reported by Poterba and Sinai (2008) for tax year 2004 and the \$420 billion estimated by Gyourko and Sinai (2004) for tax year 1999.⁵ While the estimates reported by this report are lower, these other estimates are on the same order of magnitude, with differences likely reflecting mainly variations in data sources since the methodologies are broadly similar. Poterba and Sinai (2008) construct tax units and calculate tax liability directly from the 2004 Survey of Consumer Finances, while Gyourko and Sinai (2004) base their estimates on census data from 2000. We use the Statistics of Income Public Use File for our calculations. All of these estimates for the housing tax subsidies (including ours) are substantially higher than those reported by the Joint Committee on Taxation (JCT) and the Department of the Treasury (Treasury) in their tax expenditure estimates, which puts the cost of the subsidies in 2010 at \$120.1 billion (JCT)⁶ and \$143.6 billion (Treasury), respectively. In the case of the JCT, a difference is that the JCT does not include the non-taxation of net imputed rent as a tax

expenditure. The Department of the Treasury estimates are likewise significantly lower than the others based primarily on differences in the net imputed rent estimate, which Treasury counts as a subsidy but a modest one.

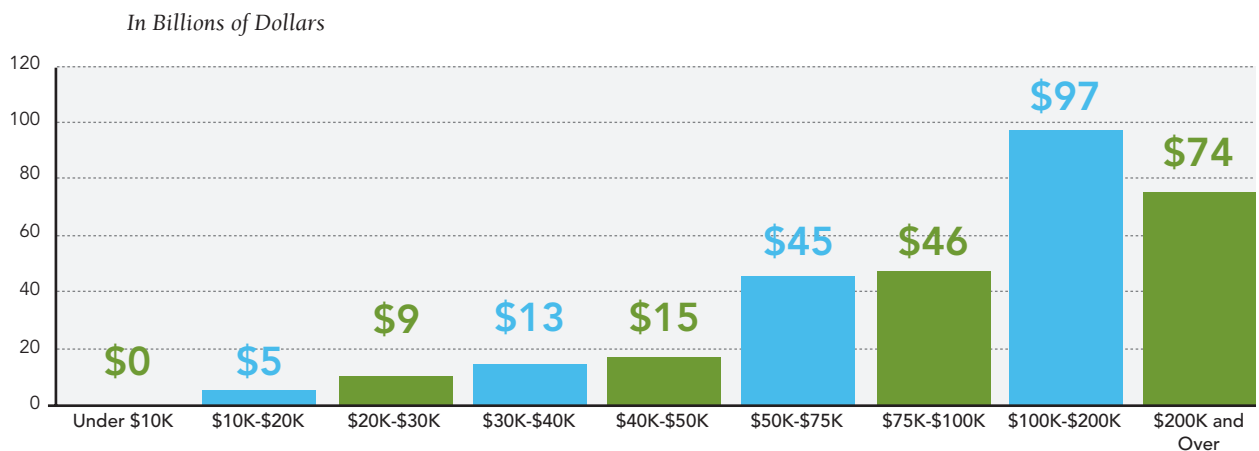
We estimate that the portion of the housing tax subsidies related to just the mortgage interest deduction is \$80 billion in 2010, and estimate the incremental subsidy for property taxes to be \$25 billion in the same year. These estimates are similar to those included among the Treasury tax expenditure estimates in the *Fiscal Year 2011 Budget of the United States*, which lists the cost of the mortgage interest deduction at \$92.2 billion and the property tax deduction at \$18.9 billion for 2010.⁷ Our calculation for the tax subsidy related to imputed rent for homeowners is \$198 billion for 2010, while the Treasury estimate in the FY 2011 Budget is \$32.5 billion.⁸

Table B-1 (see Appendix B) presents data illustrating how the housing tax subsidies affect people of different incomes. The average subsidy for the 70 million homeowners who receive a subsidy is \$4,342.⁹ There is, however, considerable variation in the subsidies across income classes, with higher-income tax units receiving larger subsidies than lower-income tax units (because the higher income tax units have larger houses, more debt and more valuable deductions given their higher tax rates). The average subsidy ranged from \$370 for those in the lowest income category (less than \$10,000 in annual income) to \$17,985 for those in the highest income category (more than \$200,000).

As Table B-1 (in Appendix B) and Figure 1 show, more than half (56.4 percent) of the housing tax subsidies went to the 25 percent of the tax units who had incomes of \$100,000 or more in 2010. This uneven distribution reflects the fact that people at higher income levels face higher marginal tax rates, are more likely to itemize and consume more housing.

Variation also exists across other demographic characteristics. Table B-2 (in Appendix B) shows the distribution of the housing tax subsidies by income, age and marital status. In general,

Figure 1: Income Distribution of the \$304 Billion Existing Housing Tax Subsidies, 2010



Source: Computations by authors

taxpayers aged 65 and over have somewhat lower average subsidies than younger taxpayers. This difference primarily reflects the higher incomes of younger taxpayers who are more likely to be in the work force. Taxpayers below 65 years of age receive 84 percent of the aggregate housing tax subsidies.

As Table B-2 also shows, the average subsidies for married taxpayers (\$5,157) is higher than that for non-married taxpayers (\$2,996), and married taxpayers receive 74 percent of the aggregate housing tax subsidies. These results reflect the fact that married taxpayers tend to have higher incomes as a unit and face higher tax rates than those who are not married.

2

How Tax Subsidies Affect Housing Decisions

As with most economic policies, housing subsidies have both positive and negative effects. By encouraging home ownership, the \$304 billion tax subsidies may help foster stronger and more cohesive neighborhoods and strengthen society as people become invested in their communities. Such benefits come, however, with both fiscal and financial costs. Housing-related tax subsidies reduce revenue to the government, and create incentives that distort the decisions of households and lead to the inefficient use of economic resources. Tax subsidies encourage taxpayers to invest in housing because the purchase of a home is subsidized and a substantial amount of the price appreciation is not taxed. Thus housing-related activity likely displaces other types of investment. This raises the question of whether the tax code encourages over-investment in housing at the expense of other productive uses. By providing a subsidy to use debt through the deductibility of mortgage interest payments, the tax code further provides an incentive for the overuse of leverage in the form of mortgage borrowing.

The events of the recent financial crisis illustrate the potential dangers to the economy of a bubble that reflects over-investment in housing. The tax advantages for housing are long-standing features of the U.S. tax code, and as such cannot have been the driving force behind the crisis. They were the background, not the immediate cause. Nonetheless, policies to encourage homeownership, including the tax subsidies analyzed here, have important economic effects beyond the housing market such as distorting the allocation of capital and thus may reduce economic growth by diverting resources from other productive uses.

Excessive Leverage

Housing subsidies, specifically the mortgage interest deduction, encourage Americans to buy larger homes and use more debt to finance those homes.¹⁰ The tax benefit from the home mortgage interest deduction rises with the amount of debt financed: the more debt, the greater the tax benefit. While the mortgage interest deduction dates to 1913 and is not a leading cause of the recent crisis, the tax bias for debt finance contributes to increased use of leverage that makes the financial system more fragile and susceptible to distress during economic downturns.

Overconsumption of Housing

The combination of housing tax subsidies analyzed in this report effectively lowers the price of owner-occupied housing relative to other goods and services, and thereby increases the demand for housing. The quantitative impact of the tax preferences depends on the responsiveness of the demand for owner-occupied housing to its price. Poterba (1992) suggests that housing demand is fairly sensitive to price changes, with a price elasticity of demand of minus one—a one percent increase in price leads to a one percent decline in demand for owner-occupied housing.¹¹ Based

on Poterba's estimates, for a family of four with a \$50,000 income, elimination of the tax subsidies for housing would reduce consumption of owner-occupied homes by about 23 percent over time (not in a single year, but after several years).

The tax subsidies not only affect overall consumption of, and investment in, housing, but also the choice between renting and owning. In 1940, roughly 44 percent of households were homeowners, as compared to nearly 70 percent of households today.¹² While many factors contributed to this increase in homeownership over time, a number of studies suggest that tax considerations have played a prominent role.¹³ As noted above, homeownership can have positive impacts; however, these must be balanced against potential negative effects of increased borrowing by families.

Inefficient Allocation of Investment

Tax subsidies for housing affect the allocation and use of the nation's financial resources. For the economy as a whole, the tax code favors capital investment in residential housing over business investment. This has important macroeconomic consequences, because lower business investment means that workers have fewer resources with which to work and therefore lower productivity than would otherwise be the case.

Economists often use marginal effective tax rates to measure the impact of taxes on investment decisions and the extent to which the tax code favors one type of investment over another. These rates capture how various provisions in the tax code, including the statutory tax rate, depreciation deductions, interest deductions, deferral of tax liability and both the individual and corporate levels of tax affect the after-tax rate of return on a new investment.

Many types of investment face uneven treatment because of the various ways in which tax rates, depreciation deductions, deferral of tax and inflation all interact and lead to different effective tax rates on different types of investment. A project facing a higher tax rate must have a larger economic return to offset the increased taxes—meaning that, conversely, a tax subsidy will lead some projects to be undertaken despite subpar economic returns.

The table below shows the marginal effective tax rates on different types of investment by type of financing and economic sector under current law. Currently, the overall effective tax rate is 17.3 percent across all types of investment for the entire economy.

Table: Marginal Effective Tax Rates for Different Types of Investment

TYPES OF INVESTMENT	MARGINAL EFFECTIVE TAX RATES (PERCENT)
Economy wide	17.3
Business Sector	25.5
Corporate	29.4
Debt financed	-2.2
Equity financed	39.7
Non-corporate	20
Owner-occupied housing	3.5

Source: U.S. Department of the Treasury, *Treasury Conference on Business Taxation and Global Competitiveness: Background Paper*, July 26, 2007

Note: Estimates reflect current law, but exclude the effects of bonus depreciation.

The favorable treatment of housing relative to other types of investment can be seen in the table above. Investment in owner-occupied housing faces an effective marginal tax rate of just 3.5 percent. In contrast, investment in the business sector faces an effective tax rate of 25.5 percent. This leads to a tax-induced bias for capital to flow into housing-related uses rather than other types of projects. As a result, businesses are less likely to purchase new equipment and less likely to incorporate new technologies than otherwise might be the case. Less business investment results in lower worker productivity and ultimately lower real wages and living standards. While the housing sector provides employment and has other positive effects on the overall economy and on society, the resources employed in the housing sector displace investment that would otherwise occur in the business sector were it not for the favored tax treatment of housing. The resulting distortion in the allocation of capital likely lowers overall output, because resources are allocated based on tax considerations rather than economic merit. In effect, the United States has chosen as a society to live in larger, debt-financed homes while accepting a lower standard of living in other regards.

Tax incentives that affect investment allocation also have consequences for individual households. A number of researchers have suggested that homeowners' mortgage borrowing is sensitive to taxes and that the favored tax treatment of housing leads Americans to have personal assets that are heavily skewed toward housing at the expense of some diversification in other investments. As would be expected, mortgage borrowing declines with increases in the after-tax cost of mortgage debt—and the impact is quite large.¹⁴ When borrowing is more expensive, households turn to other means to finance housing rather than borrowing. This margin of adjustment is particularly important for middle-aged and older households, many of whom accumulate financial assets while also incurring substantial mortgage debt. This is a result of the tax bias in favor of housing, which gives people an incentive to take on housing-related debt since the tax code lowers the after-tax cost of borrowing for housing. This leads some people to take out a mortgage even when they could put more of their own resources into the home and build up more equity—the tax deduction for mortgage interest gives an incentive to borrow. Without deductibility, families would be expected to rebalance their asset holdings away from debt.

Because the housing subsidies bolster demand for housing, housing prices may be higher than they otherwise would have been absent the subsidies, especially in markets where the housing supply is slow to respond to changes in demand. Thus, a portion of the subsidies may be “capitalized” into housing prices, in which case homeowners partially pay for the benefit of the subsidies in the form of higher purchase prices on their homes. Capitalization would tend to reduce the net effect of the subsidies on economic decisions.

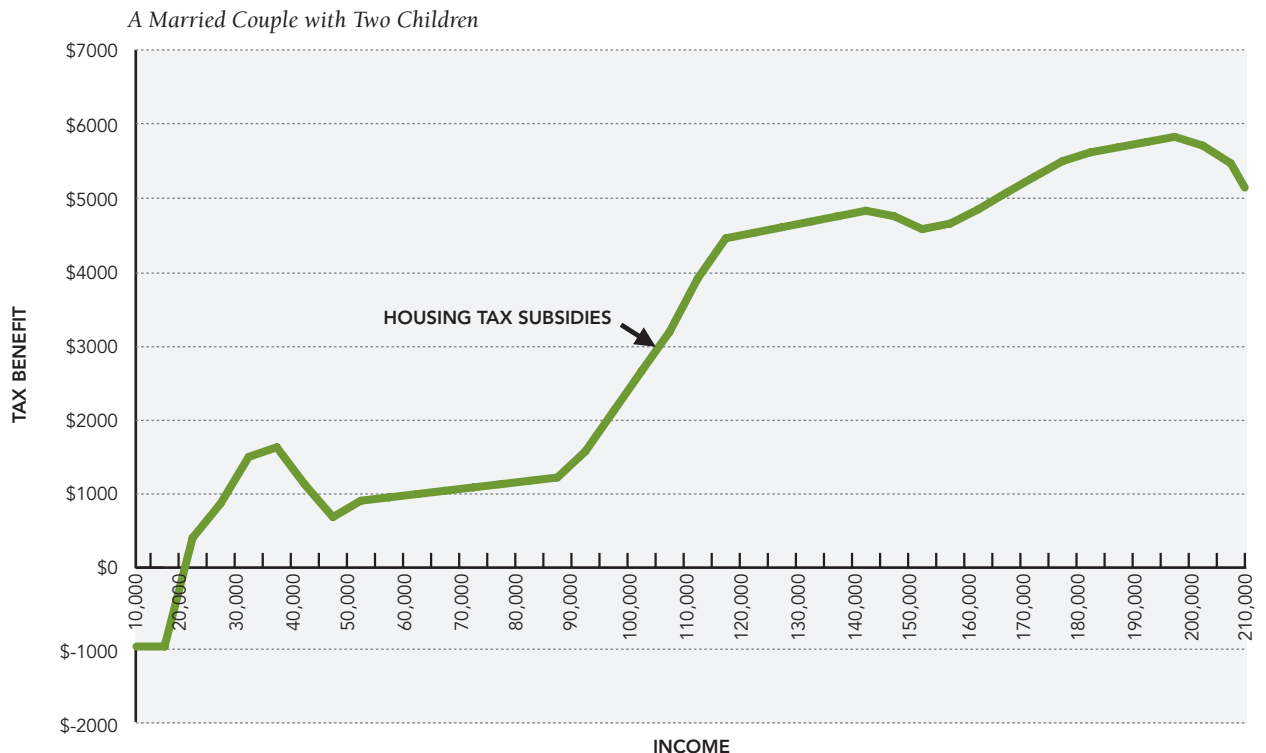
Value of Subsidies

The value of the tax subsidies for housing increases with income, reflecting the corresponding increase in marginal tax rates for higher incomes. Figure 2 below shows the tax benefit of the three major provisions that favor housing—the exclusion for net imputed rent, the mortgage

interest deduction and the property tax deduction—for a typical couple with two children who purchased a home for \$250,000 with a \$50,000 down payment. The figure illustrates the degree to which the tax value of these deductions rises with income. And yet this figure understates the degree to which higher-income households benefit disproportionately from the subsidies because higher-income taxpayers are more likely to itemize. Those who do not itemize receive no benefit from the home mortgage and property tax deductions. Also, higher-income households tend to purchase larger homes with greater home mortgage debt and thus receive larger tax subsidies.

The key to reforming the housing tax subsidies, while at the same time recognizing the importance of homeownership, is to encourage home ownership without providing any special bias in favor of the purchase of large homes and the overuse of debt finance. Such a change would promote homeownership, but not any particular size of home or type of financing. Thus, reform that improves incentives in the housing sector would generally break the link between the value of the tax subsidies and the amount of home purchase and mortgage loan. This type of reform would encourage people to buy a home, but not provide an incentive to buy a large or small home; that choice would be a personal decision rather than one influenced by the tax system. The next section discusses alternatives to the current system.

Figure 2: Tax Benefit of Buying a Home in 2009



Note: Calculations assume the taxpayer purchases a \$250,000 home with a downpayment of \$50,000. The estimated subsidies include the non-taxation of net imputed rent, the mortgage interest deduction and the property tax deduction. The taxpayer is assumed to receive all income from wages.

3

Alternatives to the Housing Tax Subsidies

The previous sections pointed out ways in which the subsidies distort economic choices and how upper-income taxpayers disproportionately benefit from the current subsidies. Changing the structure of the current tax system could reduce the biases that favor investment in housing over other uses of resources that lead to the overuse of leverage by favoring debt over equity for financing. Structural changes also could alter the current pattern by which housing tax subsidies are more heavily concentrated toward families with relatively high incomes.

In this section, we consider the effects of several alternatives on these biases and assess the impact on the allocation of housing tax subsidies across people of different income levels.¹⁵ These alternatives promote homeownership rather than home size—they provide an incentive for families to buy a house, but not an incentive to buy a big house.

The alternatives are estimated relative to the Congressional Budget Office (CBO) June 2010 current law baseline with several policy adjustments that were included in the administration's fiscal year 2011 budget. The adjustments include a higher Alternative Minimum Tax (AMT) exemption and its indexation, along with permanent extension of the 2001 and 2003 tax reductions (except for the repeal of the estate tax) for joint filers with incomes over \$250,000 and individual filers with incomes over \$200,000. These policy adjustments correspond to the policy proposals of the Obama Administration. A more detailed description of the micro-simulation model is provided in Appendix A.

As noted in Section 1, the exclusion of net imputed rent from taxable income is a significant housing tax subsidy, and thus we first discuss two alternatives that include that subsidy along with the mortgage interest and property tax deductions. However, because many policy discussions focus on the mortgage interest deduction (and leave aside property tax deduction and net imputed rental income—perhaps due to potential administrative difficulties associated with attempting to tax imputed rent), we also consider alternatives related solely to the mortgage interest deduction. Finally, we consider an alternative to limit the value of itemized deductions to 28 percent, similar to a proposal put forward by the Obama Administration.¹⁶

For each of the alternatives, we also calculate for comparison of distributional effects of an across-the-board change in tax rates that raises or loses an equivalent amount of revenue. The revenue-equivalent tax rate changes are intended to illustrate what an alternative policy that raises the same amount of revenue might look like. The detailed distributional tables for the revenue-equivalent tax rate changes are provided in Appendix C.

Elimination of Housing Subsidies

The most dramatic of these alternatives would simply repeal the existing \$304 billion annual housing tax subsidies embodied in the exclusion of net imputed rental value from income and eliminate the mortgage interest and property tax deductions.¹⁷ The effects of this alternative have already been shown in Table B-1 (see Appendix B). This would generally result in a tax increase relative to current law. This option would remove not just the tax biases for over-leverage and for large homes; it would remove tax subsidies for homeownership more generally. Given that tax subsidies for housing have traditionally received considerable political support, we view this as providing a baseline for analysis rather than as a politically viable option. It illustrates the degree to which different groups benefit from the existing tax subsidies and provides a starting point for discussions of alternatives.

Elimination of the subsidies would raise substantial revenue, mostly from moderate and higher income tax units. As shown in Table B-1, over 85 percent (\$262 billion) of the existing subsidies go to tax units with incomes over \$50,000 and over half (\$171 billion) to tax units with incomes over \$100,000. As shown in Appendix C (see Table C-1), the revenue raised by this option is equivalent to an across-the-board increase in tax rates of 28.2 percent.

Replacement of Housing Subsidies with Flat Credit

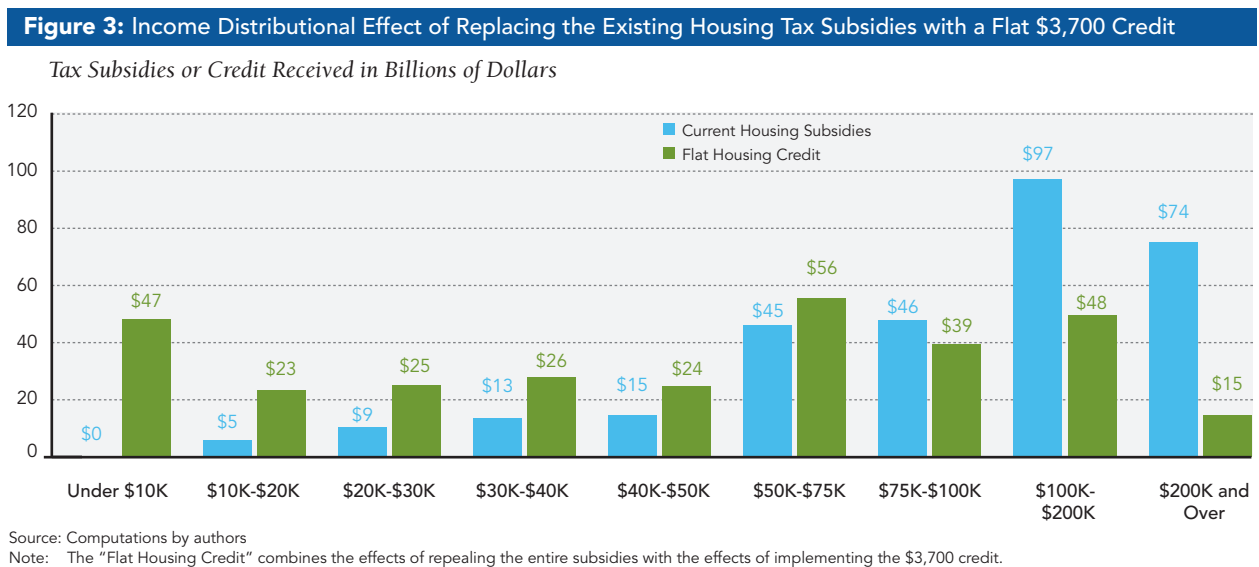
We next consider the replacement of the existing housing tax subsidies with a flat refundable credit for those who own a house. Under this option, the \$304 billion annual subsidies would be spread across 83 million homeowners, translating into a roughly \$3,700 flat credit every year for each homeowner. This option involves not only repealing the mortgage interest and property tax deductions, but also taxing net imputed rent, which may raise significant administrative issues.

The full credit would be available regardless of the size of the home and regardless of the amount borrowed for the home mortgage. In contrast to the current deduction, all homeowners would receive the credit, regardless of whether they itemized deductions and regardless of income. Because the credit would be fully refundable, it would be available to low-income families with zero or even negative income tax obligations. In effect, the credit would operate like a housing voucher—it would use the tax system to deliver a roughly \$3,700 payment to people who own a home. By construction, the flat credit would cost the same as the current subsidies, but the benefits would be allocated differently because some people now receive more than \$3,700 under the current system and some receive less.

Figure 3 and Table B-3 show that much more of the existing \$304 billion subsidies would go to low- and moderate-income taxpayers who buy smaller homes with less debt and have lower tax rates than is currently the case. Rather than just 14 percent (\$42 billion) of the subsidies going to households with less than \$50,000 in income under current law, 34 percent (\$104 billion) of the subsidies would go to these households under the flat credit. In other words, most homeowners with incomes below \$50,000 currently receive a housing-related tax benefit of less than \$3,700, so the change to the flat credit would help them. Homeowners with higher incomes typically receive tax subsidies worth more than \$3,700 and thus would lose part of their current subsidies with a change to a flat credit.

This option acknowledges the desire to promote homeownership, but would not encourage over-investment in large homes and over-leverage. This policy would break the link between the size of the tax benefit and how much home a household buys or the amount of debt used. The flat credit also would have the largest impact in boosting homeownership by making the subsidies more readily available and an equal value to all of those who purchase a home. Higher-income households would receive a smaller tax benefit than in the current system, but these units are likely to buy a home in any case, and the amount of the subsidies would be less likely to influence their home-buying decisions.

High-income households, however, might choose to purchase smaller homes and reduce their leverage (take out smaller mortgages) once the tax bias for borrowing is removed. The flat credit would have the most impact in terms of boosting homeownership, notably of low and moderate income taxpayers, because it provides equal subsidies to all.



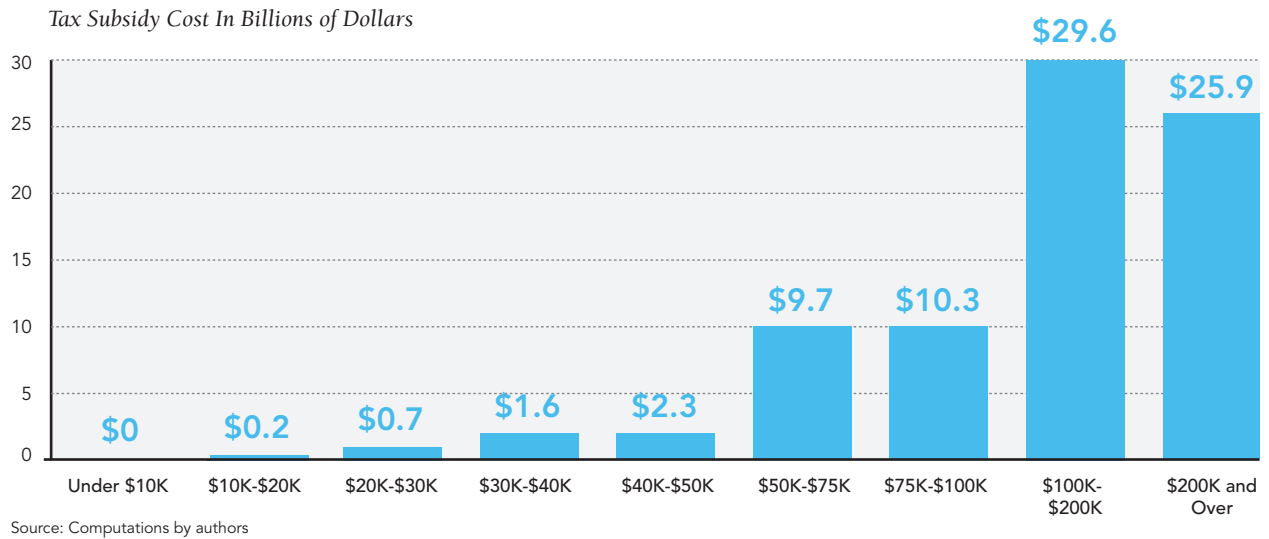
Mortgage Interest Deduction Options

Alternatives to the mortgage interest deduction (MID) generally focus on a credit or limiting the value of the current deduction. We start by looking at complete elimination of the MID and then analyze the effects of replacing it with credits for a percentage of interest on either the full or a capped mortgage interest amount. Finally, we examine the effect of capping the value of the current deduction at 28 percent.

Complete Elimination of Mortgage Interest Deduction

The MID is broadly popular, but eliminating it would reduce the tax bias in favor of leverage.¹⁸ Furthermore, as shown in Appendix B (See Table B-4), less than half—37.5 million of the 82.9 million current homeowners—benefit from this deduction.

Figure 4: Income Distributional Effect of Repealing the Mortgage Interest Deduction, 2010



The value of this \$80 billion annual deduction goes disproportionately to high-income households, as shown in Figure 4. While the average household receives a \$2,139 benefit, those with incomes over \$200,000 receive a \$7,579 benefit. More than 90 percent of the tax benefit goes to households with incomes over \$50,000 and nearly 70 percent goes to households with incomes over \$100,000. As shown in Appendix C (see Table C-2), the revenue raised through this policy would be equivalent to a 7.5 percent across-the-board increase in tax rates.

Replacement of Mortgage Interest Deduction with Tax Credit

Replacing the MID with a fixed credit would generally reduce the tax bias for over-leverage, particularly among higher-income households who would face higher marginal tax rates than with the MID (the precise outcome depends on the design of the credit). There are three main factors involved in constructing alternatives to the mortgage interest deduction with a tax credit: a) the percentage amount of the credit; b) whether or not the credit is refundable; and c) whether or not the credit is available to all taxpayers or only to those who itemize. We analyze four related scenarios:

- 1) First, we consider replacing the mortgage interest deduction with a refundable credit, equal to the value of 15 percent of mortgage interest, that would be available to all mortgage owners, including non-itemizers. As shown in Table B-5, this option would reduce the aggregate current tax benefit and raise \$16.3 billion in revenue. The revenue raised through this policy would be equivalent to a 1.5 percent across-the-board increase in tax rates for all taxpayers (see Appendix C, Table C-3).

About 20.6 million tax units would see their taxes rise, on average, by \$1,400. Those tax units with the highest incomes—incomes over \$200,000—would face the largest tax increases, averaging \$4,279 as they lose their ability to deduct mortgage interest at tax rates up to 35 percent under current law, and instead receive a credit equivalent to deducting mortgage interest at a 15 percent rate. About 51.2 million primarily low- and moderate-

income tax units would benefit under this option, receiving an average tax reduction of \$245 compared to what they receive under the current deduction. About 62 percent of the 82.9 million homeowners and 73 percent of the 69.9 million tax units that now receive at least some of the existing housing tax subsidies would benefit under this option. Those who benefit include tax units who currently do not itemize their deductions, or who are now unable to deduct mortgage interest because they have no income tax liability. The smaller average tax reduction reflects, in part, the smaller homes and correspondingly lower level of mortgage interest paid by these taxpayers. The tax benefit is likewise limited to 15 percent of their mortgage interest.

Although the tax bias for over-leverage would not be entirely eliminated under this option, the proposal would increase the after-tax cost of borrowing for all taxpayers who currently face a marginal tax rate above 15 percent. At the same time, this option would boost the tax bias toward borrowing for those with no tax liability and those who do not currently itemize their deductions. They would receive a tax benefit for borrowing and thus would be expected to do more of it. Rather than paying an after tax-cost of \$1 for each dollar in mortgage interest, these tax units would now pay only 85 cents for each dollar in mortgage interest. Generally, those with no taxes and those who do not itemize—typically families with moderate to low incomes—would thus have an increased incentive for borrowing along with the increased incentive for homeownership.

- 2) Limiting the 15 percent credit to only those with income tax liability—that is, making it non-refundable (see Appendix B, Table B-6)—would further constrict the subsidies and increase the revenue raised to \$22.9 billion. With this higher level of revenue, this option would be equivalent to a 1.2 percent across-the-board increase in tax rates (see Appendix C, Table C-4). The number of tax units with a tax reduction under this option would fall to 33.6 million, with an average reduction of only \$182. Without refundability, the benefit from a change to the credit is focused primarily on tax units who currently do not itemize their deductions but have some income tax liability. As can be seen in Table B-6, these tax units tend to have moderate incomes; about 65 percent of the benefit goes to tax units with incomes between \$50,000 and \$100,000.
- 3) We next consider increasing the amount of the credit to 25 percent of interest costs with refundability and making the credit available to non-itemizers (see Appendix B, Table B-7). Overall, a 25 percent credit would cost \$26.5 billion in additional tax revenue lost, compared to the revenue loss under current law. The revenue lost would be equivalent to a 2.5 percent across-the-board reduction in tax rates (see Appendix C, Table C-5). The number of tax units facing a tax increase would now be only 9.7 million and average only \$896 per year. Taxpayers with incomes over \$200,000 would face an average tax increase of nearly \$2,172, about half of the average \$4,279 tax increase with a 15 percent credit as shown in Table B-5.

About 62 million tax units would benefit under the 25 percent credit option, with an average tax reduction of \$567. The benefit is concentrated among people in the middle and

upper income ranges. About 61 percent of the tax benefit accruing to those who gain under the option goes to tax units with incomes over \$50,000. In contrast, only 49 percent of the tax benefit went to the same group of tax units with a 15 percent credit as shown in Table B-5.

- 4) Restricting the 25 percent credit to tax units with income tax liability by making it non-refundable (see Appendix B, Table B-8) lowers the overall loss in revenue to \$11.7 billion, but lowers the number of households with a tax reduction to 44.4 million and with an average tax reduction of \$464. Eliminating refundability also makes the option less progressive. Without refundability, more than 80 percent of the tax benefit accruing to those who gain under the proposal goes to tax units with incomes over \$50,000. The revenue lost through this option would be equivalent to a 1.1 percent across-the-board reduction in tax rates (see Appendix C, Table C-6).

Tax Credit with Cap on Mortgage Value

Under current law, mortgage interest is only deductible for the first \$1 million in mortgage debt. This means that in a given year, taxpayers may only deduct interest related to mortgage amounts that are \$1 million or less. Another option for reform of housing tax policy would be to lower the mortgage limit to \$500,000, effectively eliminating the bias for over-leverage for levels of mortgage debt exceeding \$500,000. The aggregate revenue and who benefits from the four options discussed above are shown in Tables B-9 through B-12 in Appendix B, with a \$500,000 cap on mortgage debt.

With the lower mortgage cap (i.e., \$500,000 rather than \$1 million), the 15 percent credit option raises an additional \$4.1 billion and \$3.6 billion in revenue, depending on whether the credit is refundable. The 25 percent mortgage cap option loses \$6.8 billion and \$5.8 billion less in revenue than the corresponding options with the higher cap, depending on whether the credit is refundable. The revenue-equivalent tax rate changes are somewhat higher than for the options without the lower mortgage cap (see Appendix C, Tables C-7 through C-10).

The \$500,000 mortgage cap does not have a large effect on the number of taxpayers with tax increases, but has a considerable impact on the size of tax increases, particularly among higher income taxpayers. For example, with the 15 percent refundable credit option, the average tax increase for those with incomes over \$200,000 goes from \$4,279 (see Appendix B, Table B-5) to \$5,171 with the lower mortgage cap (see Appendix B, Table B-9). Similarly, the average tax increase for the highest income tax units rises from \$2,172 (see Appendix B, Table B-7) to \$3,628 (see Appendix B, Table B-11) when the lower mortgage cap is applied to the 25 percent refundable credit. The lower cap on top of the credit reduces the incentive to buy a big home. Thus, it improves incentives and increases the degree to which effective tax rates rise with taxpayers' incomes (i.e., the progressivity of the tax code).

Limit Value of Deduction to 28 Percent

In the final option, we consider limiting the tax benefit of the deduction to 28 percent rather than replacing the mortgage interest deduction with a fixed credit. Under this option, the tax benefit for those in tax brackets above 28 percent would be limited to 28 percent, while taxpayers in lower tax brackets would receive the same tax benefit as under current law. A similar proposal was included in President Obama's Fiscal Year 2010 and 2011 budget that limited all itemized deductions to 28 percent.

This option would partly offset the distortion in incentives by increasing the after-tax cost of borrowing for those in tax brackets above 28 percent. As shown in Appendix B, Table B-13, however, this option has only a modest impact on revenues and affects a relatively small group of taxpayers. The option would raise \$5.6 billion, with 4.7 million tax units facing an average tax increase of \$1,188. That is, only 6.7 percent of the 69.9 million taxpayers receiving some of the existing housing tax subsidies would be affected. This option is equivalent to a relatively modest 0.5 percent across-the-board increase in tax rates (see Appendix C, Table C-11).

This proposal affects only taxpayers at the top of the income distribution (it reduces their current tax subsidies) and thus raises the extent to which effective tax rates rise with taxpayer's income, a concept economists term as progressive. Of course, in comparison to the credit options discussed above, this option only affects higher-income taxpayers (e.g., those whose marginal tax rates exceed 28 percent).

4

Conclusion

With a value of \$304 billion in 2010, the three tax preferences for housing in the form of the exclusion of net imputed rent from owner-occupied housing, the mortgage interest deduction and the property tax deduction are large subsidies in the current income tax code. Together, these subsidies encourage Americans to devote more of their household budgets to housing and to rely more heavily on debt when buying homes. Moreover, the value of housing subsidies rises with household incomes and thus provides a greater benefit to higher-income households.

This paper considers a series of alternatives to the tax subsidies. Complete replacement of the subsidies with a flat \$3,700 credit would leave in place a strong incentive for homeownership, but otherwise remove taxes from housing decisions. This alternative also would increase benefits for low- and moderate-income taxpayers.

More modest alternatives that focus on replacing the mortgage interest deduction with various credits also would help improve incentives and increase the tax benefit for lower-income families. Some of these alternatives could raise revenue.

In considering these policy alternatives, it must be kept in mind that there is considerable political support for the existing tax subsidies for housing. This might reflect the fact that they are widely available, even if the actual value of the subsidies is relatively concentrated among middle- and upper-income households.

Even so, the looming fiscal challenge facing the United States means that all aspects of federal spending and revenue programs could be up for consideration. The policy options for housing assessed in this report share the unusual feature of increasing economic efficiency and growth, while at the same time spreading the tax subsidies for housing more broadly and generally to families where it is most likely to have a major impact on their housing decisions. This reflects the nature of the current subsidies, which favor people who buy large homes and take out a large amount of debt, and favor people who itemize on their tax returns over others who do not. Policy reforms that change these current biases will tend to reduce the tax bias in favor of owner-occupied housing and thus improve the allocation of capital in the economy as a whole.

Methodology for Estimating the Housing Tax Subsidies

In this Appendix, we provide additional details on the methodology used to estimate the housing tax subsidies. The housing tax subsidies are first computed at the level of individual tax units using the Quantria Individual Tax Micro-Simulation Model by comparing how their federal tax liability changes with and without the housing tax preferences. The change in federal income tax liability is then aggregated for all tax units using a sample of individual tax records.

Micro-Simulation Model

The principal data source for the Quantria Individual Tax Micro-Simulation Model is the 2004 Statistics of Income (SOI) Public Use File.¹⁹ The SOI Public Use File is a stratified random sample of about 150,000 tax records representing the approximately 130 million federal income tax returns filed by individuals in the United States for tax year 2004.²⁰ The SOI Public Use File is supplemented with additional information on non-filers from the Current Population Survey (CPS).²¹ The SOI and CPS files are combined through a statistical matching routine that also affixes the demographic characteristics of households from the CPS with the tax attributes from the SOI Public Use File. This matched file is the basis for the Quantria Individual Tax Micro-Simulation Model.

All simulations are estimated relative to the CBO June 2010 current law baseline with adjustments to reflect certain proposed policies in the Obama Administration's fiscal year 2011 budget. The Administration's policy proposals, as described in the Fiscal Year 2011 Budget of the United States, include a permanent adoption and indexation of the Alternative Minimum Tax relief provided in the American Recovery and Reinvestment Act of 2009 and the permanent extension of the 2001 and 2003 tax cuts, except for the repeal of the estate tax, for joint filers with incomes over \$250,000 and individual filers with incomes over \$200,000.

Several pieces of information are needed to estimate the housing tax subsidies. First, data in the sources above are used to determine whether a tax unit rents or owns a home. For itemizers, this is based on whether they claim a mortgage deduction or property tax deduction. For non-itemizers, the choice of renting versus owning a home is obtained through the statistical match between the SOI Public Use File and the CPS. The total number of homeowners is compared and adjusted to match totals for the U.S. population.

Home values are then imputed to homeowners using a regression-based approach that predicts the value of a home owned by each tax unit based on their various characteristics in the data—all else equal, a family with a higher income, for example, is imputed to own a more valuable home than a family with a lower income. The underlying regression model is estimated from the 2004

Survey of Consumer Finances. The coefficients from this regression model are then used to estimate home values on the Quantria Individual Tax Micro-Simulation Model. The distribution of imputed home values for 2004 and 2010 is provided in table A-1 and A-2.

Net Imputed Rental Income

One way to think of a house is as an asset that throws off a stream of services—in this case, of “housing services” that provide shelter and all the other benefits one receives from a home. The owner of the house receives the value of these services, whether he or she enjoys them directly by living in the house or instead receives the monetary value of the services by renting the house to someone else. For a homeowner who lives in the house they own, the monetary value of these services is known as “imputed rent,” and can be thought of as the amount the owner could have received in income if he or she had chosen to rent the home instead of living in it. The imputed rental income “received” by people who live in their own home, however, is not included in their taxable income or otherwise taxed under the U.S. income tax system. This exclusion creates an implicit subsidy.

Under the broad principles behind an income tax, a taxpayer properly deducts the cost of earning income from total income. For example, business owners deduct the wages and other costs from their gross income, paying income tax only on profits (the business equivalent of income). Individuals in principle (in a pure income tax system—albeit a theoretical one) would likewise be allowed to deduct costs of earning income, which might include, say, their transportation costs for going to work. In the case of housing, if imputed rent were treated as income, homeowners would deduct the cost of earning rental income—maintenance, repairs, property taxes and mortgage interest—from the imputed rent. Viewed this way, property taxes and home mortgage interest are legitimate deductions under an income tax. These deductions align with the theoretical norm, however, only in a system in which the implicit rent is taxed—which is not the case in the United States.

While the mortgage interest deduction and the property tax exclusion are more visible, the exclusion of net imputed rental income from the tax base is the primary way in which the tax code favors housing. This subsidy is measured in this report as the revenue loss from excluding net imputed rental income from the tax base—that is, the net of the imputed rent and the offsetting deductions listed above of maintenance, repairs, property tax and mortgage interest.

If estimates of the net rental value are used, the cost of earning income has already been deducted. Thus, the deductions for property taxes and mortgage interest would be included in the measurement of the overall tax subsidies to avoid under counting. This is the rationale for why the U.S. Department of the Treasury includes both the property taxes and mortgage interest together with the net imputed rental value of housing in tax expenditure estimates.

Housing Tax Subsidies Calculation

This analysis uses the Poterba and Sinai (2008) framework for the user cost of capital to calculate the net imputed rent.²² The user cost of capital measures the “cost” of resources used or invested in a particular activity or asset, where the cost includes the interest rate paid to obtain the asset (for example, the interest rate charged by a lender for a mortgage), the impact of depreciation in consuming capital (and thus raising the cost of replacement), capital gains (which reduce the effective cost of capital) and the consequences of taxes that provide incentives for or against investment in the activities under study. In the case of housing, the user cost of capital includes the mortgage interest rate, depreciation and maintenance, capital gains and the tax impacts of the deductions for mortgage interest payments and local property taxes.

Following Poterba and Sinai (2008), the difference between the current user cost and that under the Haig-Simons tax base can be decomposed into three components (equation 4 in Poterba and Sinai):

$$c_{HS} - c = \tau_{ded} * \lambda * r_T + \tau_{ded} * \tau_{prop} + \{\tau_y * (1 - \lambda) * r_T + \tau_y * \beta\}.$$

where τ_{ded} is the marginal tax rate for mortgage interest deduction and the property tax deduction (note that τ_{ded} is zero for non-itemizers), λ is the loan to value ratio, τ_y is the marginal tax rate on investment income (i.e., capital gains, dividends and interest), r_T is the risk free interest rate, β is the pre-tax risk premium, and τ_{prop} is the property tax rate. The loan to value ratio, λ , is calculated by dividing the mortgage interest deduction by an assumed interest rate to estimate the loan amount, and dividing this result by the estimate of home value. The marginal tax rates are calculated for each taxpayer by adding 1 percent of the income source/deduction and dividing the change in tax liability by the change in the income source/deduction.

The first term, $\tau_{ded} * \lambda * r_T$, is due to mortgage interest deductibility. The second term, $\tau_{ded} * \tau_{prop}$, is due to property tax deductibility. The third term, $\tau_y * (1 - \lambda) * r_T + \tau_y * \beta$, is due to the untaxed return on the equity invested in the house. The relative importance of the components due to mortgage interest deductibility and due to the tax treatment of housing equity depends on λ , the loan-to-value ratio.

Net imputed rent is computed assuming households would have earned a 6.01 percent return, comprising a 4.27 percent yield on 10-year Treasury bonds in 2004 (the base year of the Quantria Individual Tax Micro-simulation Model) and a two hundred basis point risk premium on their home equity, and that this income would be taxed as interest income. Home equity is measured as the self-reported house value less self-reported housing debt, as reported on the Survey of Consumer Finances and imputed to the Quantria Model and can be negative. Net imputed rent is calculated using the relationship $v = r/c$, where “v” is home value; “r” is net imputed rent and “c” is the user cost as described above and in Poterba and Sinai (2008).

To calculate the subsidies, current tax liability for each tax return is computed using the Quantria Model and self-reported mortgage interest and property tax payments. The tax values are calculated by comparing each tax unit’s tax liability in our baseline to their tax liability with net

imputed rent added to their income and the home mortgage interest deduction and property tax deductions eliminated.²³ The tax value of the home mortgage interest deduction and property tax deduction are included because net imputed rental income already subtracts the cost of earning income, including property taxes and interest expenses. To avoid under counting, the tax value of the mortgage interest deduction and the property tax deduction also need to be included in the estimate of the housing tax subsidies.

Table A-1: Home Value, by Age, Marital Status and Total Income Class, 2004

Income Class	MARRIED TAXPAYERS			NON-MARRIED TAXPAYERS			ALL TAXPAYERS		
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)									
ALL TAXPAYERS									
Less Than \$10,000	6,928	133,928.2	19,331	6,026	223,629.6	37,109	12,954	357,557.8	27,601
\$10,000 to \$20,000	2,780	472,986.1	170,126	4,486	638,127.5	142,260	7,266	1,111,113.6	152,922
\$20,000 to \$30,000	3,094	640,165.4	206,904	4,382	762,854.2	174,069	7,477	1,403,019.6	187,657
\$30,000 to \$40,000	3,374	794,752.0	235,534	4,159	824,248.0	198,207	7,533	1,619,000.0	214,927
\$40,000 to \$50,000	3,665	955,588.6	260,700	3,509	777,909.8	221,716	7,174	1,733,498.4	241,634
\$50,000 to \$75,000	10,032	3,012,871.4	300,326	4,462	1,138,824.1	255,250	14,494	4,151,695.5	286,450
\$75,000 to \$100,000	7,505	2,595,288.2	345,826	1,466	435,976.0	297,378	8,971	3,031,264.2	337,908
\$100,000 to \$200,000	8,319	3,479,297.9	418,244	1,102	399,215.1	362,252	9,421	3,878,513.0	411,694
\$200,000 and Over	2,600	1,819,929.5	700,013	366	224,661.9	614,650	2,965	2,044,591.3	689,491
Total, All Taxpayers	48,297	13,904,807.3	287,900	29,957	5,425,446.2	181,109	78,254	19,330,253.5	247,019
NON-AGED TAXPAYERS (UNDER 65 YEARS OLD)									
Less Than \$10,000	2,589	72,247.2	27,904	2,534	135,192.9	53,348	5,123	207,440.0	40,490
\$10,000 to \$20,000	1,706	272,595.9	159,774	3,429	465,078.6	135,651	5,135	737,674.6	143,666
\$20,000 to \$30,000	2,261	447,972.3	198,163	3,750	631,461.0	168,387	6,011	1,079,433.3	179,586
\$30,000 to \$40,000	2,685	610,064.2	227,222	3,676	709,845.0	193,102	6,361	1,319,909.2	207,504
\$40,000 to \$50,000	3,130	796,137.2	254,328	3,132	677,060.3	216,173	6,262	1,473,197.5	235,245
\$50,000 to \$75,000	8,658	2,541,758.0	293,572	3,905	969,772.9	248,328	12,563	3,511,530.9	279,508
\$75,000 to \$100,000	6,671	2,265,044.6	339,538	1,283	371,164.6	289,399	7,953	2,636,209.2	331,453
\$100,000 to \$200,000	7,444	3,062,470.3	411,375	914	319,049.6	348,983	8,359	3,381,519.9	404,551
\$200,000 and Over	2,281	1,559,734.8	683,935	282	164,666.9	584,311	2,562	1,724,401.7	672,978
Total, All Taxpayers	37,425	11,628,024.5	310,701	22,905	4,443,291.8	193,992	60,330	16,071,316.3	266,391
AGED TAXPAYERS (65 YEARS OLD AND OVER)									
Less Than \$10,000	4,339	61,681.0	14,216	3,492	88,436.7	25,324	7,831	150,117.8	19,169
\$10,000 to \$20,000	1,074	200,390.2	186,570	1,057	173,048.9	163,694	2,131	373,439.1	175,223
\$20,000 to \$30,000	833	192,193.1	230,615	632	131,393.2	207,762	1,466	323,586.3	220,755
\$30,000 to \$40,000	689	184,687.7	267,908	483	114,403.0	237,094	1,172	299,090.8	255,220
\$40,000 to \$50,000	535	159,451.4	297,977	377	100,849.5	267,825	912	260,300.9	285,523
\$50,000 to \$75,000	1,374	471,113.4	342,888	556	169,051.2	303,829	1,930	640,164.6	331,630
\$75,000 to \$100,000	834	330,243.6	396,142	184	64,811.4	353,143	1,017	395,055.0	388,384
\$100,000 to \$200,000	874	416,827.7	476,729	188	80,165.4	426,843	1,062	496,993.1	467,908
\$200,000 and Over	319	260,194.7	814,840	84	59,994.9	716,803	403	320,189.6	794,480
Total, All Taxpayers	10,872	2,276,782.8	209,414	7,052	982,154.3	139,268	17,924	3,258,937.2	181,815

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers; Non-married includes both single and heads of household filers.

Table A-2: Home Value, By Age, Marital Status and Total Income Class, 2010

Income Class	MARRIED TAXPAYERS			NON-MARRIED TAXPAYERS			ALL TAXPAYERS		
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)									
ALL TAXPAYERS									
Less Than \$10,000	7,104	247,276	34,806	5,865	223,785	38,157	12,969	471,062	36,322
\$10,000 to \$20,000	2,280	388,961	170,602	4,037	575,559	142,576	6,317	964,520	152,692
\$20,000 to \$30,000	2,669	548,952	205,680	4,132	720,885	174,444	6,801	1,269,837	186,701
\$30,000 to \$40,000	3,107	735,417	236,708	3,945	789,764	200,200	7,052	1,525,181	216,285
\$40,000 to \$50,000	3,095	810,741	261,955	3,592	797,687	222,049	6,687	1,608,428	240,518
\$50,000 to \$75,000	9,246	2,787,826	301,516	5,915	1,510,732	255,420	15,161	4,298,558	283,532
\$75,000 to \$100,000	8,568	2,967,950	346,384	2,104	628,174	298,516	10,673	3,596,125	336,946
\$100,000 to \$200,000	11,475	4,809,986	419,185	1,647	596,589	362,335	13,121	5,406,575	412,051
\$200,000 and Over	3,627	2,524,661	696,091	502	307,773	612,667	4,129	2,832,434	685,942
Total, All Taxpayers	51,171	15,821,771	309,194	31,739	6,150,948	193,796	82,910	21,972,719	265,018
NON-AGED TAXPAYERS (UNDER 65 YEARS OLD)									
Less Than \$10,000	2,605	102,582	39,378	2,322	116,600	50,208	4,927	219,182	44,483
\$10,000 to \$20,000	1,408	224,685	159,551	3,098	421,374	136,035	4,506	646,059	143,385
\$20,000 to \$30,000	1,960	386,828	197,345	3,565	603,417	169,246	5,525	990,245	179,214
\$30,000 to \$40,000	2,464	563,712	228,812	3,431	666,414	194,235	5,895	1,230,126	208,687
\$40,000 to \$50,000	2,558	650,503	254,321	3,146	678,652	215,700	5,704	1,329,156	233,019
\$50,000 to \$75,000	7,835	2,299,461	293,500	5,138	1,273,571	247,877	12,973	3,573,032	275,430
\$75,000 to \$100,000	7,514	2,549,012	339,254	1,831	531,879	290,553	9,344	3,080,892	329,713
\$100,000 to \$200,000	10,140	4,173,641	411,617	1,352	471,538	348,775	11,492	4,645,179	404,224
\$200,000 and Over	3,169	2,157,606	680,802	384	224,793	584,651	3,554	2,382,399	670,399
Total, All Taxpayers	39,652	13,108,031	330,577	24,267	4,988,239	205,553	63,919	18,096,270	283,111
AGED TAXPAYERS (65 YEARS OLD AND OVER)									
Less Than \$10,000	4,499	144,694	32,159	3,542	107,186	30,257	8,042	251,880	31,321
\$10,000 to \$20,000	872	164,276	188,454	939	154,185	164,148	1,811	318,461	175,848
\$20,000 to \$30,000	709	162,124	228,731	567	117,468	207,117	1,276	279,592	219,123
\$30,000 to \$40,000	643	171,705	266,956	514	123,350	240,020	1,157	295,055	254,993
\$40,000 to \$50,000	537	160,238	298,308	446	119,034	266,820	983	279,272	284,021
\$50,000 to \$75,000	1,411	488,364	346,011	777	237,161	305,315	2,188	725,526	331,564
\$75,000 to \$100,000	1,055	418,938	397,171	274	96,295	351,765	1,329	515,233	387,815
\$100,000 to \$200,000	1,335	636,345	476,666	295	125,051	424,579	1,630	761,396	467,252
\$200,000 and Over	458	367,056	801,960	118	82,979	704,068	576	450,035	781,915
Total, All Taxpayers	11,519	2,713,740	235,587	7,472	1,162,709	155,611	18,991	3,876,449	204,121

Source: Computations by authors.

Note: Non-married includes both single and heads of household filers.

Distribution of Housing Tax Subsidies

Table B-1: Revenue Effect of Taxing Net Imputed Rent and Removing Deductions for Property Taxes and Mortgage Interest by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	1,034	382.2	370	–	–	–	1,034	382.2	370	0.1%
\$10,000 to \$20,000	5,505	4,640.4	843	–	–	–	5,505	4,640.4	843	1.5%
\$20,000 to \$30,000	6,675	9,465.8	1,418	–	–	–	6,675	9,465.8	1,418	3.1%
\$30,000 to \$40,000	7,012	12,569.1	1,792	–	–	–	7,012	12,569.1	1,792	4.1%
\$40,000 to \$50,000	6,661	14,698.2	2,207	–	–	–	6,661	14,698.2	2,207	4.8%
\$50,000 to \$75,000	15,120	44,684.1	2,955	–	–	–	15,120	44,684.1	2,955	14.7%
\$75,000 to \$100,000	10,660	45,802.3	4,297	–	–	–	10,660	45,802.3	4,297	15.1%
\$100,000 to \$200,000	13,117	97,062.7	7,400	–	–	–	13,117	97,062.7	7,400	32.0%
\$200,000 and Over	4,128	74,239.1	17,985	–	–	–	4,128	74,239.1	17,985	24.5%
Total, All Taxpayers	69,913	303,544.0	4,342	–	–	–	69,913	303,544.0	4,342	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-2: Housing Subsidy, by Age, Marital Status and Total Income Class, 2010

Income Class	MARRIED TAXPAYERS			NON-MARRIED TAXPAYERS			ALL TAXPAYERS		
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)									
ALL TAXPAYERS									
Less Than \$10,000	149	37.9	254	884	344.3	389	1,034	382.2	370
\$10,000 to \$20,000	1,788	1,165.1	652	3,718	3,475.2	935	5,505	4,640.4	843
\$20,000 to \$30,000	2,580	3,255.1	1,262	4,096	6,210.7	1,516	6,675	9,465.8	1,418
\$30,000 to \$40,000	3,078	5,363.9	1,742	3,934	7,205.2	1,832	7,012	12,569.1	1,792
\$40,000 to \$50,000	3,078	5,827.4	1,893	3,583	8,870.8	2,476	6,661	14,698.2	2,207
\$50,000 to \$75,000	9,218	23,134.4	2,510	5,902	21,549.7	3,651	15,120	44,684.1	2,955
\$75,000 to \$100,000	8,560	34,843.4	4,070	2,099	10,958.9	5,220	10,660	45,802.3	4,297
\$100,000 to \$200,000	11,472	84,766.3	7,389	1,646	12,296.4	7,471	13,117	97,062.7	7,400
\$200,000 and Over	3,626	66,172.8	18,250	502	8,066.3	16,070	4,128	74,239.1	17,985
Total, All Taxpayers	43,549	224,566.4	5,157	26,364	78,977.6	2,996	69,913	303,544.0	4,342
NON-AGED TAXPAYERS (UNDER 65 YEARS OLD)									
Less Than \$10,000	89	22.2	250	389.6	128.5	330	478	150.6	315
\$10,000 to \$20,000	954	547.1	573	2,782.3	2,378.7	855	3,736	2,925.8	783
\$20,000 to \$30,000	1,875	2,283.6	1,218	3,542.3	5,175.9	1,461	5,417	7,459.5	1,377
\$30,000 to \$40,000	2,444	4,051.4	1,658	3,421.3	5,885.6	1,720	5,865	9,937.0	1,694
\$40,000 to \$50,000	2,543	4,442.6	1,747	3,138.6	7,255.8	2,312	5,682	11,698.4	2,059
\$50,000 to \$75,000	7,808	18,595.5	2,382	5,125.5	17,808.0	3,474	12,934	36,403.5	2,815
\$75,000 to \$100,000	7,507	29,166.3	3,885	1,829.3	9,361.1	5,117	9,336	38,527.4	4,127
\$100,000 to \$200,000	10,137	73,961.0	7,296	1,351.5	9,954.2	7,365	11,488	83,915.2	7,304
\$200,000 and Over	3,169	57,358.0	18,101	384.4	6,146.4	15,990	3,553	63,504.4	17,872
Total, All Taxpayers	36,524	190,427.6	5,214	21,964.9	64,094.2	2,918	58,489	254,521.8	4,352
AGED TAXPAYERS (65 YEARS OLD AND OVER)									
Less Than \$10,000	61	15.8	259	494.6	215.8	436	555	231.6	417
\$10,000 to \$20,000	834	618.1	741	935.2	1,096.5	1,173	1,769	1,714.6	969
\$20,000 to \$30,000	705	971.5	1,378	553.4	1,034.8	1,870	1,258	2,006.3	1,594
\$30,000 to \$40,000	635	1,312.5	2,068	512.5	1,319.6	2,575	1,147	2,632.1	2,294
\$40,000 to \$50,000	535	1,384.8	2,589	444.6	1,615.1	3,633	980	2,999.9	3,063
\$50,000 to \$75,000	1,410	4,539.0	3,220	776.7	3,741.6	4,817	2,186	8,280.6	3,788
\$75,000 to \$100,000	1,054	5,677.1	5,387	270.2	1,597.9	5,914	1,324	7,275.0	5,494
\$100,000 to \$200,000	1,335	10,805.3	8,095	294.3	2,342.2	7,957	1,629	13,147.5	8,070
\$200,000 and Over	457	8,814.8	19,284	117.6	1,919.9	16,331	575	10,734.7	18,680
Total, All Taxpayers	7,025	34,138.8	4,860	4,399	14,883.4	3,383	11,424	49,022.2	4,291

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-3: Revenue Effect of Providing a Flat, Refundable Tax Credit of \$3,700 to Homeowners, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	12,969	-47,099.3	-3,632	12,969	-47,099.3	-3,632	–
\$10,000 to \$20,000	–	–	–	6,317	-18,486.1	-2,927	6,317	-18,486.1	-2,927	–
\$20,000 to \$30,000	7	2.5	378	6,795	-15,437.6	-2,272	6,801	-15,435.0	-2,269	–
\$30,000 to \$40,000	46	15.4	334	7,006	-13,263.4	-1,893	7,052	-13,248.0	-1,879	–
\$40,000 to \$50,000	463	235.5	508	6,224	-10,020.5	-1,610	6,687	-9,785.0	-1,463	–
\$50,000 to \$75,000	3,907	3,817.6	977	11,253	-14,638.7	-1,301	15,161	-10,821.1	-714	–
\$75,000 to \$100,000	6,932	9,889.5	1,427	3,740	-3,161.2	-845	10,673	6,728.3	630	–
\$100,000 to \$200,000	12,771	49,232.2	3,855	350	-207.4	-593	13,121	49,024.8	3,736	–
\$200,000 and Over	4,126	59,128.8	14,332	4	-7.4	-2,043	4,129	59,121.4	14,318	–
Total, All Taxpayers	28,253	122,321.5	4,330	54,658	-122,321.5	-2,238	82,910	0.0	0	–

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-4: Revenue Effect of Eliminating the Home Mortgage Interest Deduction, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	14	0.3	19	–	–	–	14	0.3	19	0.0%
\$10,000 to \$20,000	568	169.8	299	–	–	–	568	169.8	299	0.2%
\$20,000 to \$30,000	1,466	682.2	465	–	–	–	1,466	682.2	465	0.8%
\$30,000 to \$40,000	2,496	1,633.8	655	–	–	–	2,496	1,633.8	655	2.0%
\$40,000 to \$50,000	2,968	2,342.1	789	–	–	–	2,968	2,342.1	789	2.9%
\$50,000 to \$75,000	8,456	9,748.7	1,153	–	–	–	8,456	9,748.7	1,153	12.1%
\$75,000 to \$100,000	7,430	10,253.4	1,380	–	–	–	7,430	10,253.4	1,380	12.8%
\$100,000 to \$200,000	10,729	29,579.8	2,757	–	–	–	10,729	29,579.8	2,757	36.8%
\$200,000 and Over	3,418	25,905.8	7,579	–	–	–	3,418	25,905.8	7,579	32.3%
Total, All Taxpayers	37,546	80,315.9	2,139	–	–	–	37,546	80,315.9	2,139	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-5: Revenue Effect of Replacing the Home Mortgage Interest Deduction with a Refundable 15 Percent Credit, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	6,631	-593.9	-90	6,632	-593.9	-90	-3.7%
\$10,000 to \$20,000	–	–	–	5,114	-1,157.9	-226	5,114	-1,157.9	-226	-7.1%
\$20,000 to \$30,000	47	0.0	0	6,028	-1,455.0	-241	6,075	-1,455.0	-240	-9.0%
\$30,000 to \$40,000	161	0.1	1	6,290	-1,728.6	-275	6,451	-1,728.5	-268	-10.6%
\$40,000 to \$50,000	711	85.8	121	5,509	-1,503.2	-273	6,220	-1,417.4	-228	-8.7%
\$50,000 to \$75,000	3,525	1,509.4	428	10,824	-3,347.2	-309	14,350	-1,837.8	-128	-11.3%
\$75,000 to \$100,000	3,161	1,509.1	477	7,078	-2,101.4	-297	10,239	-592.3	-58	-3.6%
\$100,000 to \$200,000	9,577	11,252.1	1,175	3,067	-480.4	-157	12,644	10,771.7	852	66.3%
\$200,000 and Over	3,371	14,423.9	4,279	615	-162.5	-264	3,986	14,261.4	3,578	87.8%
Total, All Taxpayers	20,553	28,780.3	1,400	51,155	-12,530.0	-245	71,710	16,250.3	227	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-6: Revenue Effect of Replacing the Home Mortgage Interest Deduction with a Non-Refundable 15 Percent Credit, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	7	0.1	11	45	-0.3	-7	52	-0.2	-4	0.0%
\$10,000 to \$20,000	76	7.8	102	1,793	-65.8	-37	1,869	-58.0	-31	-0.3%
\$20,000 to \$30,000	310	81.3	263	3,138	-270.9	-86	3,448	-189.6	-55	-0.8%
\$30,000 to \$40,000	550	167.2	304	4,227	-574.6	-136	4,777	-407.4	-85	-1.8%
\$40,000 to \$50,000	726	89.1	123	4,345	-702.3	-162	5,071	-613.2	-121	-2.7%
\$50,000 to \$75,000	3,525	1,509.4	428	9,610	-2,148.5	-224	13,136	-639.2	-49	-2.8%
\$75,000 to \$100,000	3,161	1,509.1	477	6,841	-1,827.6	-267	10,002	-318.5	-32	-1.4%
\$100,000 to \$200,000	9,577	11,252.1	1,175	3,014	-398.4	-132	12,591	10,853.7	862	47.3%
\$200,000 and Over	3,371	14,423.9	4,279	611	-126.2	-206	3,982	14,297.7	3,590	62.4%
Total, All Taxpayers	21,303	29,040.0	1,363	33,625	-6,114.6	-182	54,928	22,925.3	417	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-7: Revenue Effect of Replacing the Home Mortgage Interest Deduction with a Refundable 25 Percent Credit, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	6,631	-990.0	-149	6,632	-989.9	-149	3.7%
\$10,000 to \$20,000	–	–	–	5,114	-2,043.0	-400	5,114	-2,043.0	-400	7.7%
\$20,000 to \$30,000	–	–	–	6,075	-2,879.8	-474	6,075	-2,879.8	-474	10.9%
\$30,000 to \$40,000	–	–	–	6,450	-3,970.1	-616	6,451	-3,970.1	-615	15.0%
\$40,000 to \$50,000	25	0.2	8	6,194	-3,924.1	-633	6,220	-3,923.9	-631	14.8%
\$50,000 to \$75,000	770	17.3	22	13,580	-9,583.6	-706	14,350	-9,566.3	-667	36.1%
\$75,000 to \$100,000	768	35.4	46	9,471	-7,858.2	-830	10,239	-7,822.8	-764	29.6%
\$100,000 to \$200,000	4,889	1,571.0	321	7,755	-3,340.1	-431	12,644	-1,769.1	-140	6.7%
\$200,000 and Over	3,257	7,073.2	2,172	729	-578.5	-794	3,986	6,494.8	1,629	-24.5%
Total, All Taxpayers	9,709	8,697.1	896	61,998	-35,167.3	-567	71,710	-26,470.1	-369	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-8: Revenue Effect of Replacing the Home Mortgage Interest Deduction with a Non-Refundable 25 Percent Credit, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	7	0.1	11	45	-0.4	-9	52	-0.3	-6	0.0%
\$10,000 to \$20,000	76	7.8	102	1,793	-83.0	-46	1,869	-75.3	-40	0.6%
\$20,000 to \$30,000	263	81.3	309	3,185	-558.0	-175	3,448	-476.7	-138	4.1%
\$30,000 to \$40,000	390	167.2	429	4,387	-1,395.3	-318	4,777	-1,228.1	-257	10.5%
\$40,000 to \$50,000	40	3.6	89	5,026	-2,000.8	-398	5,066	-1,997.3	-394	17.1%
\$50,000 to \$75,000	770	17.3	22	12,352	-6,209.2	-503	13,122	-6,191.9	-472	53.0%
\$75,000 to \$100,000	768	35.4	46	9,228	-6,880.6	-746	9,996	-6,845.2	-685	58.6%
\$100,000 to \$200,000	4,889	1,571.0	321	7,694	-3,056.7	-397	12,583	-1,485.7	-118	12.7%
\$200,000 and Over	3,257	7,073.2	2,172	725	-446.5	-616	3,982	6,626.8	1,664	-56.8%
Total, All Taxpayers	10,460	8,956.8	856	44,435	-20,630.6	-464	54,895	-11,673.7	-213	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-9: Revenue Effect of Replacing the Home Mortgage Interest Deduction with a Refundable 15 Percent Credit Limited to \$500,000 of Mortgage Debt, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	6,631	-561.4	-85	6,632	-561.4	-85	-2.8%
\$10,000 to \$20,000	–	–	–	5,114	-1,119.3	-219	5,114	-1,119.3	-219	-5.5%
\$20,000 to \$30,000	47	0.0	0	6,028	-1,444.9	-240	6,075	-1,444.8	-238	-7.1%
\$30,000 to \$40,000	161	0.1	1	6,290	-1,697.8	-270	6,451	-1,697.7	-263	-8.4%
\$40,000 to \$50,000	712	85.8	120	5,507	-1,481.1	-269	6,220	-1,395.2	-224	-6.9%
\$50,000 to \$75,000	3,552	1,537.7	433	10,798	-3,130.5	-290	14,350	-1,592.8	-111	-7.8%
\$75,000 to \$100,000	3,194	1,562.9	489	7,045	-2,037.0	-289	10,239	-474.1	-46	-2.3%
\$100,000 to \$200,000	9,586	11,704.9	1,221	3,058	-446.0	-146	12,644	11,258.9	890	55.4%
\$200,000 and Over	3,376	17,455.8	5,171	610	-97.7	-160	3,986	17,358.1	4,355	85.4%
Total, All Taxpayers	20,627	32,347.3	1,568	51,081	-12,015.7	-235	71,710	20,331.7	284	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-10: Revenue Effect of Replacing the Home Mortgage Interest Deduction with a Non-Refundable 15 Percent Credit Limited to \$500,000 of Mortgage Debt, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	7	0.1	11	45	-0.3	-7	52	-0.2	-4	0.0%
\$10,000 to \$20,000	76	7.8	102	1,793	-65.8	-37	1,869	-58.0	-31	-0.2%
\$20,000 to \$30,000	310	81.3	263	3,138	-270.9	-86	3,448	-189.6	-55	-0.7%
\$30,000 to \$40,000	550	167.2	304	4,227	-574.6	-136	4,777	-407.4	-85	-1.5%
\$40,000 to \$50,000	727	89.2	123	4,345	-702.3	-162	5,072	-613.2	-121	-2.3%
\$50,000 to \$75,000	3,552	1,537.7	433	9,599	-2,144.1	-223	13,150	-606.3	-46	-2.3%
\$75,000 to \$100,000	3,194	1,562.9	489	6,820	-1,818.8	-267	10,014	-255.9	-26	-1.0%
\$100,000 to \$200,000	9,586	11,704.9	1,221	3,007	-395.1	-131	12,593	11,309.9	898	42.6%
\$200,000 and Over	3,376	17,455.8	5,171	608	-93.3	-154	3,984	17,362.5	4,359	65.4%
Total, All Taxpayers	21,377	32,607.0	1,525	33,582	-6,065.2	-181	54,959	26,541.8	483	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-11: Revenue Effect of Replacing the Home Mortgage Interest Deduction with a Refundable 25 Percent Credit Limited to \$500,000 of Mortgage Debt, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	6,631	-935.8	-141	6,632	-935.8	-141	4.8%
\$10,000 to \$20,000	–	–	–	5,114	-1,978.7	-387	5,114	-1,978.7	-387	10.1%
\$20,000 to \$30,000	–	–	–	6,075	-2,862.9	-471	6,075	-2,862.9	-471	14.6%
\$30,000 to \$40,000	–	–	–	6,450	-3,918.8	-608	6,451	-3,918.8	-607	19.9%
\$40,000 to \$50,000	25	0.2	8	6,194	-3,887.1	-628	6,220	-3,886.9	-625	19.8%
\$50,000 to \$75,000	775	20.0	26	13,575	-9,177.9	-676	14,350	-9,157.9	-638	46.6%
\$75,000 to \$100,000	781	51.7	66	9,458	-7,677.4	-812	10,239	-7,625.7	-745	38.8%
\$100,000 to \$200,000	4,971	2,125.6	428	7,672	-3,082.7	-402	12,644	-957.1	-76	4.9%
\$200,000 and Over	3,282	11,907.1	3,628	705	-251.1	-356	3,986	11,656.0	2,924	-59.3%
Total, All Taxpayers	9,834	14,104.7	1,434	61,873	-33,772.4	-546	71,710	-19,667.8	-274	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-12: Revenue Effect of Replacing the Home Mortgage Interest Deduction with a Non-Refundable 25 Percent Credit Limited to \$500,000 of Mortgage Debt, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	7	0	11	45	-0.4	-9	52	-0.3	-6	0.0%
\$10,000 to \$20,000	76	8	102	1,793	-83.0	-46	1,869	-75.3	-40	1.3%
\$20,000 to \$30,000	263	81	309	3,185	-558.0	-175	3,448	-476.7	-138	8.1%
\$30,000 to \$40,000	390	167	429	4,387	-1,395.3	-318	4,777	-1,228.1	-257	20.8%
\$40,000 to \$50,000	40	3.6	89	5,026	-2,000.8	-398	5,066	-1,997.3	-394	33.9%
\$50,000 to \$75,000	775	20.0	26	12,347	-6,203.5	-502	13,122	-6,183.5	-471	104.9%
\$75,000 to \$100,000	781	51.7	66	9,216	-6,853.1	-744	9,997	-6,801.3	-680	115.4%
\$100,000 to \$200,000	4,971	2,125.6	428	7,615	-2,923.1	-384	12,586	-797.5	-63	13.5%
\$200,000 and Over	3,282	11,907.1	3,628	702	-242.0	-345	3,983	11,665.1	2,928	-197.9%
Total, All Taxpayers	10,585	14,364.3	1,357	44,316	-20,259.2	-457	54,901	-5,894.9	-107	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table B-13: Revenue Effect of Limiting the Value of the Home Mortgage Interest Deduction to 28 Percent, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	–	–	–	–	–	–	–
\$10,000 to \$20,000	–	–	–	–	–	–	–	–	–	–
\$20,000 to \$30,000	–	–	–	–	–	–	–	–	–	–
\$30,000 to \$40,000	–	–	–	–	–	–	–	–	–	–
\$40,000 to \$50,000	–	–	–	–	–	–	–	–	–	–
\$50,000 to \$75,000	–	–	–	–	–	–	–	–	–	–
\$75,000 to \$100,000	61	9.7	159	–	–	–	61	9.7	159	0.2%
\$100,000 to \$200,000	1,585	647.7	409	–	–	–	1,585	647.7	409	11.5%
\$200,000 and Over	3,060	4,972.4	1,625	–	–	–	3,060	4,972.4	1,625	88.3%
Total, All Taxpayers	4,706	5,629.8	1,196	–	–	–	4,706	5,629.8	1,196	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Revenue Equivalent Across-the-Board Tax Rate Changes

Below we provide revenue and distributional tables for across-the-board tax rate changes with roughly the same revenue as the housing alternatives discussed in the paper. These estimates are intended to provide a sense of the distributional effects of alternatives with roughly the same revenue consequences as the housing options. For example, as shown in the list of options provided below and Table C-1, individual tax rates would have to be increased across-the-board by 28.2 percent in order to raise roughly the same amount of revenue as elimination of the \$304 billion housing subsidies. The across-the-board tax rate changes were simulated as proportional changes in the following individual tax rates: the ordinary tax rates, capital gains tax rate, dividends tax rate and the Alternative Minimum Tax rate.

REVENUE EQUIVALENT ACROSS-THE-BOARD TAX RATE FOR HOUSING TAX OPTIONS		
TABLE	DESCRIPTION	ACROSS-THE-BOARD CHANGE IN TAX RATES
C-1	Eliminate the Housing Tax Subsidies	28.2%
C-2	Repeal the Home Mortgage Interest Deduction	7.5%
C-3	Replace the Home Mortgage Interest Deduction with a 15% Refundable Credit	1.5%
C-4	Replace the Home Mortgage Interest Deduction with a 15% Non-Refundable Credit	1.2%
C-5	Replace the Home Mortgage Interest Deduction with a 25% Refundable Credit	-2.5%
C-6	Replace the Home Mortgage Interest Deduction with a 25% Non-Refundable Credit	-1.1%
C-7	Replace the Home Mortgage Interest Deduction with a 15% Refundable Credit Limited to \$500,000 of Mortgage Debt	1.9%
C-8	Replace the Home Mortgage Interest Deduction with a 15% Non-Refundable Credit Limited to \$500,000 of Mortgage Debt	2.5%
C-9	Replace the Home Mortgage Interest Deduction with a 25% Refundable Credit Limited to \$500,000 of Mortgage Debt	-1.8%
C-10	Replace the Home Mortgage Interest Deduction with a 25% Non-Refundable Credit Limited to \$500,000 of Mortgage Debt	-0.6%
C-11	Limit the Benefit of the Home Mortgage Interest Deduction to 28%	0.5%

Table C-1: Revenue Effect of a 28.2 Percent Across-the Board Increase in Tax Rates, Revenue Roughly Equivalent to the Revenue Gain from Eliminating the Housing Tax Subsidies, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	3,702	156.0	42	–	–	–	3,702	156.0	42	0.0%
\$10,000 to \$20,000	11,081	1,720.1	155	–	–	–	11,081	1,720.1	155	0.5%
\$20,000 to \$30,000	11,679	4,621.4	396	–	–	–	11,679	4,621.4	396	1.5%
\$30,000 to \$40,000	11,256	7,882.7	700	–	–	–	11,256	7,882.7	700	2.5%
\$40,000 to \$50,000	9,370	9,394.7	1,003	–	–	–	9,370	9,394.7	1,003	3.0%
\$50,000 to \$75,000	18,745	29,295.7	1,563	–	–	–	18,745	29,295.7	1,563	9.3%
\$75,000 to \$100,000	12,175	29,029.8	2,384	–	–	–	12,175	29,029.8	2,384	9.2%
\$100,000 to \$200,000	14,145	66,673.2	4,714	–	–	–	14,145	66,673.2	4,714	21.1%
\$200,000 and Over	4,337	167,130.3	38,535	–	–	–	4,337	167,130.3	38,535	52.9%
Total, All Taxpayers	96,490	315,904.1	3,274	–	–	–	96,490	315,904.1	3,274	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-2: Revenue Effect of a 7.5 Percent Across-the Board Increase in Tax Rates, Revenue Roughly Equivalent to the Revenue Gain from Repeal of the Mortgage Interest Deduction, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	3,539	41.2	12	–	–	–	3,539	41.2	12	0.0%
\$10,000 to \$20,000	11,046	456.9	41	–	–	–	11,046	456.9	41	0.5%
\$20,000 to \$30,000	11,675	1,246.0	107	–	–	–	11,675	1,246.0	107	1.5%
\$30,000 to \$40,000	11,255	2,114.4	188	–	–	–	11,255	2,114.4	188	2.5%
\$40,000 to \$50,000	9,370	2,518.7	269	–	–	–	9,370	2,518.7	269	3.0%
\$50,000 to \$75,000	18,744	7,826.8	418	–	–	–	18,744	7,826.8	418	9.3%
\$75,000 to \$100,000	12,175	7,708.6	633	–	–	–	12,175	7,708.6	633	9.2%
\$100,000 to \$200,000	14,145	17,652.8	1,248	–	–	–	14,145	17,652.8	1,248	21.0%
\$200,000 and Over	4,337	44,304.4	10,215	–	–	–	4,337	44,304.4	10,215	52.8%
Total, All Taxpayers	96,287	83,869.8	871	–	–	–	96,287	83,869.8	871	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-3: Revenue Effect of a 1.5 Percent Across-the Board Increase in Tax Rates, Revenue Roughly Equivalent to the Revenue Gain from Replacing the Home Mortgage Interest Deduction with a Refundable 15 Percent Credit, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	2,912	8.3	3	–	–	–	2,912	8.3	3	0.0%
\$10,000 to \$20,000	10,881	92.5	8	–	–	–	10,881	92.5	8	0.5%
\$20,000 to \$30,000	11,647	253.4	22	–	–	–	11,647	253.4	22	1.5%
\$30,000 to \$40,000	11,246	429.5	38	–	–	–	11,246	429.5	38	2.5%
\$40,000 to \$50,000	9,369	511.8	55	–	–	–	9,369	511.8	55	3.0%
\$50,000 to \$75,000	18,734	1,587.9	85	–	–	–	18,734	1,587.9	85	9.3%
\$75,000 to \$100,000	12,171	1,561.6	128	–	–	–	12,171	1,561.6	128	9.2%
\$100,000 to \$200,000	14,145	3,574.0	253	–	–	–	14,145	3,574.0	253	21.0%
\$200,000 and Over	4,337	8,968.6	2,068	–	–	–	4,337	8,968.6	2,068	52.8%
Total, All Taxpayers	95,443	16,987.6	178	–	–	–	95,443	16,987.6	178	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-4: Revenue Effect of a 1.2 Percent Across-the Board Increase in Tax Rates, Revenue Roughly Equivalent to the Revenue Gain from Replacing the Home Mortgage Interest Deduction with a Non-Refundable 15 Percent Credit, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	3,097	11.8	4	–	–	–	3,097	11.8	4	0.0%
\$10,000 to \$20,000	10,943	130.6	12	–	–	–	10,943	130.6	12	0.5%
\$20,000 to \$30,000	11,653	357.2	31	–	–	–	11,653	357.2	31	1.5%
\$30,000 to \$40,000	11,247	605.6	54	–	–	–	11,247	605.6	54	2.5%
\$40,000 to \$50,000	9,370	721.5	77	–	–	–	9,370	721.5	77	3.0%
\$50,000 to \$75,000	18,735	2,239.1	120	–	–	–	18,735	2,239.1	120	9.3%
\$75,000 to \$100,000	12,171	2,202.5	181	–	–	–	12,171	2,202.5	181	9.2%
\$100,000 to \$200,000	14,145	5,041.5	356	–	–	–	14,145	5,041.5	356	21.0%
\$200,000 and Over	4,337	12,651.0	2,917	–	–	–	4,337	12,651.0	2,917	52.8%
Total, All Taxpayers	95,699	23,960.8	250	–	–	–	95,699	23,960.8	250	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-5: Revenue Effect of a 2.5 Percent Across-the Board Reduction in Tax Rates, Revenue Roughly Equivalent to the Revenue Loss from Replacing the Home Mortgage Interest Deduction with a Refundable 25 Percent Credit, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	3,197	-13.6	-4	3,197	-13.6	-4	0.0%
\$10,000 to \$20,000	–	–	–	11,014	-151.1	-14	11,014	-151.1	-14	0.5%
\$20,000 to \$30,000	–	–	–	11,758	-414.6	-35	11,758	-414.6	-35	1.5%
\$30,000 to \$40,000	–	–	–	11,343	-702.5	-62	11,343	-702.5	-62	2.5%
\$40,000 to \$50,000	–	–	–	9,444	-836.1	-89	9,444	-836.1	-89	3.0%
\$50,000 to \$75,000	–	–	–	18,857	-2,594.4	-138	18,857	-2,594.4	-138	9.4%
\$75,000 to \$100,000	–	–	–	12,193	-2,545.6	-209	12,193	-2,545.6	-209	9.2%
\$100,000 to \$200,000	–	–	–	14,154	-5,823.0	-411	14,154	-5,823.0	-411	21.0%
\$200,000 and Over	–	–	–	4,337	-14,612.3	-3,369	4,337	-14,612.3	-3,369	52.8%
Total, All Taxpayers	–	–	–	96,299	-27,693.1	-288	96,299	-27,693.1	-288	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-6: Revenue Effect of a 1.1 Percent Across-the Board Reduction in Tax Rates, Revenue Roughly Equivalent to the Revenue Loss from Replacing the Home Mortgage Interest Deduction with a Non-Refundable 25 Percent Credit, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	2,730	-6.1	-2	2,730	-6.1	-2	0.0%
\$10,000 to \$20,000	–	–	–	10,809	-66.9	-6	10,809	-66.9	-6	0.5%
\$20,000 to \$30,000	–	–	–	11,640	-183.4	-16	11,640	-183.4	-16	1.5%
\$30,000 to \$40,000	–	–	–	11,270	-310.7	-28	11,270	-310.7	-28	2.5%
\$40,000 to \$50,000	–	–	–	9,390	-370.0	-39	9,390	-370.0	-39	3.0%
\$50,000 to \$75,000	–	–	–	18,800	-1,148.6	-61	18,800	-1,148.6	-61	9.4%
\$75,000 to \$100,000	–	–	–	12,183	-1,127.6	-93	12,183	-1,127.6	-93	9.2%
\$100,000 to \$200,000	–	–	–	14,145	-2,579.8	-182	14,145	-2,579.8	-182	21.0%
\$200,000 and Over	–	–	–	4,337	-6,474.5	-1,493	4,337	-6,474.5	-1,493	52.8%
Total, All Taxpayers	–	–	–	95,304	-12,267.7	-129	95,304	-12,267.7	-129	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-7: Revenue Effect of a 1.9 Percent Across-the Board Increase in Tax Rates, Revenue Roughly Equivalent to the Revenue Gain from Replacing the Home Mortgage Interest Deduction with a Refundable 15 Percent Credit, Limited to \$500,000 of Mortgage Debt, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	3,018	10.4	3	–	–	–	3,018	10.4	3	0.0%
\$10,000 to \$20,000	10,926	115.8	11	–	–	–	10,926	115.8	11	0.5%
\$20,000 to \$30,000	11,650	317.1	27	–	–	–	11,650	317.1	27	1.5%
\$30,000 to \$40,000	11,247	537.5	48	–	–	–	11,247	537.5	48	2.5%
\$40,000 to \$50,000	9,370	640.4	68	–	–	–	9,370	640.4	68	3.0%
\$50,000 to \$75,000	18,734	1,987.1	106	–	–	–	18,734	1,987.1	106	9.3%
\$75,000 to \$100,000	12,171	1,954.4	161	–	–	–	12,171	1,954.4	161	9.2%
\$100,000 to \$200,000	14,145	4,473.4	316	–	–	–	14,145	4,473.4	316	21.0%
\$200,000 and Over	4,337	11,225.6	2,588	–	–	–	4,337	11,225.6	2,588	52.8%
Total, All Taxpayers	95,598	21,261.8	222	–	–	–	95,598	21,261.8	222	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-8: Revenue Effect of a 2.5 Percent Across-the Board Increase in Tax Rates, Revenue Roughly Equivalent to the Revenue Gain from Replacing the Home Mortgage Interest Deduction with a Non-Refundable 15 Percent Credit, Limited to \$500,000 of Mortgage Debt, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	3,188	13.6	4	–	–	–	3,188	13.6	4	0.0%
\$10,000 to \$20,000	10,962	150.8	14	–	–	–	10,962	150.8	14	0.5%
\$20,000 to \$30,000	11,654	412.4	35	–	–	–	11,654	412.4	35	1.5%
\$30,000 to \$40,000	11,250	699.3	62	–	–	–	11,250	699.3	62	2.5%
\$40,000 to \$50,000	9,370	833.1	89	–	–	–	9,370	833.1	89	3.0%
\$50,000 to \$75,000	18,739	2,585.6	138	–	–	–	18,739	2,585.6	138	9.3%
\$75,000 to \$100,000	12,171	2,543.7	209	–	–	–	12,171	2,543.7	209	9.2%
\$100,000 to \$200,000	14,145	5,822.5	412	–	–	–	14,145	5,822.5	412	21.0%
\$200,000 and Over	4,337	14,610.8	3,369	–	–	–	4,337	14,610.8	3,369	52.8%
Total, All Taxpayers	95,815	27,671.9	289	–	–	–	95,815	27,671.9	289	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-9: Revenue Effect of a 1.8 Percent Across-the Board Reduction in Tax Rates, Revenue Roughly Equivalent to the Revenue Loss from Replacing the Home Mortgage Interest Deduction with a Refundable 25 Percent Credit, Limited to \$500,000 of Mortgage Debt, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	3,051	-10.2	-3	3,051	-10.2	-3	0.0%
\$10,000 to \$20,000	–	–	–	10,952	-112.4	-10	10,952	-112.4	-10	0.5%
\$20,000 to \$30,000	–	–	–	11,705	-308.2	-26	11,705	-308.2	-26	1.5%
\$30,000 to \$40,000	–	–	–	11,328	-522.3	-46	11,328	-522.3	-46	2.5%
\$40,000 to \$50,000	–	–	–	9,422	-621.6	-66	9,422	-621.6	-66	3.0%
\$50,000 to \$75,000	–	–	–	18,821	-1,929.3	-103	18,821	-1,929.3	-103	9.4%
\$75,000 to \$100,000	–	–	–	12,187	-1,893.5	-155	12,187	-1,893.5	-155	9.2%
\$100,000 to \$200,000	–	–	–	14,149	-4,331.4	-306	14,149	-4,331.4	-306	21.0%
\$200,000 and Over	–	–	–	4,337	-10,870.1	-2,506	4,337	-10,870.1	-2,506	52.8%
Total, All Taxpayers	–	–	–	95,953	-20,598.9	-215	95,953	-20,598.9	-215	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-10: Revenue Effect of a 0.5 Percent Across-the Board Reduction in Tax Rates, Revenue Roughly Equivalent to the Revenue Loss from Replacing the Home Mortgage Interest Deduction with a Non-Refundable 25 Percent Credit, Limited to \$500,000 of Mortgage Debt, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	–	–	–	2,094	-3.0	-1	2,094	-3.0	-1	0.0%
\$10,000 to \$20,000	–	–	–	10,254	-33.8	-3	10,254	-33.8	-3	0.5%
\$20,000 to \$30,000	–	–	–	11,533	-92.5	-8	11,533	-92.5	-8	1.5%
\$30,000 to \$40,000	–	–	–	11,234	-156.7	-14	11,234	-156.7	-14	2.5%
\$40,000 to \$50,000	–	–	–	9,379	-186.4	-20	9,379	-186.4	-20	3.0%
\$50,000 to \$75,000	–	–	–	18,756	-579.2	-31	18,756	-579.2	-31	9.4%
\$75,000 to \$100,000	–	–	–	12,177	-569.0	-47	12,177	-569.0	-47	9.2%
\$100,000 to \$200,000	–	–	–	14,143	-1,301.8	-92	14,143	-1,301.8	-92	21.0%
\$200,000 and Over	–	–	–	4,337	-3,266.9	-753	4,337	-3,266.9	-753	52.8%
Total, All Taxpayers	–	–	–	93,907	-6,189.4	-66	93,907	-6,189.4	-66	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table C-11: Revenue Effect of a 0.5 Percent Across-the Board Increase in Tax Rates, Revenue Roughly Equivalent to Limiting the Value of the Home Mortgage Interest Deduction to 28 Percent, by Total Income Class, 2010

Income Class	RETURNS WITH TAX INCREASE			RETURNS WITH TAX DECREASE			TOTAL TAX CHANGE			
	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Number (000's)	Amount (\$Mil)	Average (\$)	Percent (%)
(RETURNS IN THOUSANDS; DOLLAR AMOUNTS IN MILLIONS)										
Less Than \$10,000	2,109	2.9	1	–	–	–	2,109	2.9	1	0.0%
\$10,000 to \$20,000	10,276	31.9	3	–	–	–	10,276	31.9	3	0.5%
\$20,000 to \$30,000	11,503	87.3	8	–	–	–	11,503	87.3	8	1.5%
\$30,000 to \$40,000	11,220	148.0	13	–	–	–	11,220	148.0	13	2.5%
\$40,000 to \$50,000	9,354	176.5	19	–	–	–	9,354	176.5	19	3.0%
\$50,000 to \$75,000	18,718	547.3	29	–	–	–	18,718	547.3	29	9.4%
\$75,000 to \$100,000	12,171	537.8	44	–	–	–	12,171	537.8	44	9.2%
\$100,000 to \$200,000	14,145	1,230.8	87	–	–	–	14,145	1,230.8	87	21.0%
\$200,000 and Over	4,337	3,088.7	712	–	–	–	4,337	3,088.7	712	52.8%
Total, All Taxpayers	93,833	5,851.0	62	–	–	–	93,833	5,851.0	62	100.0%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Average Effective Marginal Tax Rates by Income Source

Below we provide average marginal tax rates by major income source and for home mortgage interest under the current law baseline used by this analysis and the various housing tax options. Marginal tax rates provide a useful summary measure of the broad impacts of policy options. The marginal tax rates were calculated for each taxpayer by increasing the income source or the home mortgage interest deduction by 1 percent and then dividing the resulting tax change by change in income. The marginal tax rates were then aggregated across taxpayers. The marginal tax rates were weighted by the income source or deduction being examined.

Table D-1: Average Effective Marginal Tax Rates On Income, By Type of Income, Current Law Baseline, 2010

Income Class	AVERAGE EFFECTIVE MARGINAL TAX RATE				
	Wages and Salaries	Taxable Interest	Dividends	Business Income (Schedule C)	Capital Gains
Less Than \$10,000	2.0%	0.5%	0.6%	0.1%	0.3%
\$10,000 to \$20,000	8.4%	7.0%	4.1%	2.7%	2.9%
\$20,000 to \$30,000	14.7%	12.1%	9.0%	6.9%	4.6%
\$30,000 to \$40,000	15.1%	17.8%	11.5%	8.4%	6.6%
\$40,000 to \$50,000	14.9%	20.6%	14.8%	9.9%	10.2%
\$50,000 to \$75,000	17.3%	21.4%	16.8%	13.3%	11.4%
\$75,000 to \$100,000	18.3%	20.4%	16.0%	16.4%	13.0%
\$100,000 to \$200,000	25.5%	26.2%	21.0%	24.0%	19.6%
\$200,000 and Over	36.2%	33.9%	23.6%	34.9%	21.1%
Total, All Taxpayers	21.8%	23.3%	19.4%	19.8%	19.4%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table D-2: Average Effective Marginal Tax Rates On Income, by Type of Income, After Elimination of Housing Tax Subsidies, 2010

Income Class	AVERAGE EFFECTIVE MARGINAL TAX RATE				
	Wages and Salaries	Taxable Interest	Dividends	Business Income (Schedule C)	Capital Gains
Less Than \$10,000	2.4%	1.0%	1.1%	0.2%	0.4%
\$10,000 to \$20,000	8.9%	8.5%	6.9%	4.0%	3.8%
\$20,000 to \$30,000	15.6%	13.3%	12.0%	12.5%	5.0%
\$30,000 to \$40,000	16.9%	16.6%	15.8%	15.2%	6.8%
\$40,000 to \$50,000	17.0%	23.2%	23.2%	15.3%	13.1%
\$50,000 to \$75,000	19.1%	24.1%	23.6%	16.7%	14.1%
\$75,000 to \$100,000	20.4%	23.5%	24.6%	19.2%	16.0%
\$100,000 to \$200,000	26.4%	26.4%	26.5%	25.6%	20.5%
\$200,000 and Over	36.5%	34.9%	32.8%	35.6%	21.2%
Total, All Taxpayers	22.2%	23.6%	25.8%	20.5%	19.6%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model.

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table D-3: Average Effective Marginal Tax Rates On Income, by Type of Income, After Eliminating Housing Tax Subsidies And Allowing a Non-Refundable Homeowner Credit of \$3,700, 2010

Income Class	AVERAGE EFFECTIVE MARGINAL TAX RATE				
	Wages and Salaries	Taxable Interest	Dividends	Business Income (Schedule C)	Capital Gains
Less Than \$10,000	2.4%	1.0%	1.1%	0.2%	0.4%
\$10,000 to \$20,000	8.9%	8.5%	6.9%	4.0%	3.8%
\$20,000 to \$30,000	15.6%	13.3%	12.0%	12.5%	5.0%
\$30,000 to \$40,000	16.9%	16.6%	15.8%	15.2%	6.8%
\$40,000 to \$50,000	17.0%	23.2%	23.2%	15.3%	13.1%
\$50,000 to \$75,000	19.1%	24.1%	23.6%	16.7%	14.1%
\$75,000 to \$100,000	20.4%	23.5%	24.6%	19.2%	16.0%
\$100,000 to \$200,000	26.4%	26.4%	26.5%	25.6%	20.5%
\$200,000 and Over	36.5%	34.9%	32.8%	35.6%	21.2%
Total, All Taxpayers	22.2%	23.6%	25.8%	20.5%	19.6%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model.

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table D-4: Average Effective Marginal Tax Rates On Income, by Type of Income, With Repeal of the Home Mortgage Interest Deduction 2010

Income Class	AVERAGE EFFECTIVE MARGINAL TAX RATE				
	Wages and Salaries	Taxable Interest	Dividends	Business Income (Schedule C)	Capital Gains
Less Than \$10,000	2.0%	0.5%	0.6%	0.1%	0.3%
\$10,000 to \$20,000	8.5%	7.2%	4.3%	3.0%	3.1%
\$20,000 to \$30,000	15.0%	12.4%	9.4%	7.6%	5.1%
\$30,000 to \$40,000	15.7%	18.1%	12.0%	10.1%	7.1%
\$40,000 to \$50,000	16.0%	21.2%	15.4%	12.0%	11.0%
\$50,000 to \$75,000	18.2%	21.7%	17.1%	15.6%	12.1%
\$75,000 to \$100,000	19.6%	20.9%	16.6%	18.2%	14.0%
\$100,000 to \$200,000	26.7%	26.8%	21.7%	25.5%	20.3%
\$200,000 and Over	36.5%	34.7%	23.7%	35.3%	21.1%
Total, All Taxpayers	22.6%	23.8%	19.7%	20.9%	19.6%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table D-5: Average Effective Marginal Tax Rates On Income, by Type of Income, with Repeal of the Home Mortgage Interest Deduction and a 15 Percent Refundable Credit, 2010

Income Class	AVERAGE EFFECTIVE MARGINAL TAX RATE				
	Wages and Salaries	Taxable Interest	Dividends	Business Income (Schedule C)	Capital Gains
Less Than \$10,000	2.0%	0.5%	0.6%	0.1%	0.3%
\$10,000 to \$20,000	8.5%	7.2%	4.3%	3.0%	3.1%
\$20,000 to \$30,000	15.0%	12.4%	9.4%	7.6%	5.1%
\$30,000 to \$40,000	15.7%	18.1%	12.0%	10.1%	7.1%
\$40,000 to \$50,000	16.0%	21.2%	15.4%	12.0%	11.0%
\$50,000 to \$75,000	18.2%	21.7%	17.1%	15.6%	12.1%
\$75,000 to \$100,000	19.6%	20.9%	16.6%	18.2%	14.0%
\$100,000 to \$200,000	26.7%	26.8%	21.7%	25.5%	20.3%
\$200,000 and Over	36.5%	34.7%	23.7%	35.3%	21.1%
Total, All Taxpayers	22.6%	23.8%	19.7%	20.9%	19.6%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Table D-6: Average Marginal Tax Rates On Home Mortgage Interest Under Various Housing Tax Options, by Total Income, 2010

Income Class	Eliminate Existing Housing Subsidies	15% Refundable Credit	15% Non-Refundable Credit	25% Refundable Credit	25% Non-Refundable Credit	15% Refundable Credit	15% Non-Refundable Credit	25% Refundable Credit	25% Non-Refundable Credit	Limit Benefit of Mortgage Deduction to 28%
						LIMITED TO \$500,000 OF MORTGAGE DEBT				
Less Than \$10,000	–	-15.0%	0.0%	-25.0%	0.0%	-14.6%	0.0%	-24.4%	0.0%	0.0%
\$10,000 to \$20,000	–	-15.0%	-1.9%	-25.0%	-1.4%	-14.8%	-1.9%	-24.7%	-1.4%	-1.5%
\$20,000 to \$30,000	–	-15.0%	-4.9%	-25.0%	-5.8%	-15.0%	-4.9%	-25.0%	-5.8%	-4.7%
\$30,000 to \$40,000	–	-15.0%	-7.3%	-25.0%	-9.8%	-14.9%	-7.3%	-24.9%	-9.8%	-7.2%
\$40,000 to \$50,000	–	-15.0%	-9.6%	-25.0%	-13.2%	-14.9%	-9.6%	-24.9%	-13.2%	-10.0%
\$50,000 to \$75,000	–	-15.0%	-12.2%	-25.0%	-17.6%	-14.8%	-12.2%	-24.6%	-17.7%	-13.9%
\$75,000 to \$100,000	–	-15.0%	-14.2%	-25.0%	-22.2%	-14.9%	-14.2%	-24.8%	-22.3%	-16.6%
\$100,000 to \$200,000	–	-15.0%	-14.9%	-25.0%	-24.4%	-14.7%	-14.6%	-24.4%	-24.1%	-24.4%
\$200,000 and Over	–	-15.0%	-14.9%	-25.0%	-24.6%	-11.4%	-11.3%	-18.9%	-18.9%	-34.0%
Total, All Taxpayers	–	-15.0%	-12.0%	-25.0%	-18.5%	-14.3%	-11.4%	-23.8%	-17.6%	-20.2%

Source: Simulations performed using Quantria Strategies, LLC, Individual Income Tax Micro-simulation Model

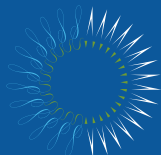
Note: Estimates use the CBO June 2010 current law baseline with several adjustments. These adjustments include a higher AMT exemption and its indexation, and permanent extension of the 2001 and 2003 tax reductions, except as they apply to higher income taxpayers.

Notes

- ¹ Taxpayers may also deduct interest on another \$100,000 of mortgage debt through home equity lines of credit. This effectively increases the mortgage debt limit to \$1.1 million.
- ² The paper does not assess a smaller fourth tax subsidy for housing in the form of the exclusion of capital gains from home sales. The U.S. Department of the Treasury estimated this tax expenditure as \$23.9 billion—much smaller than the top three subsidies. Nor does the paper consider other ways in which the federal government subsidizes housing, such as the lower interest rates for home mortgages that arise from government support for Fannie Mae and Freddie Mac.
- ³ Noting the existence of this subsidy is not to say that it should be repealed. Indeed, an attempt to tax imputed rent would raise serious administrative difficulties in measuring rental rates across a wide variety of homes.
- ⁴ Both of these provisions may be limited for higher income taxpayers. Although not in effect for 2012, both of these provisions will be subject to the so-called “Pease” provision, which reduces most itemized deductions by 3 percent of the amount over specified income thresholds up to 80 percent of their total value, if the temporary repeal of the Pease provision is allowed to sunset at the end of 2010. In addition, the deduction for property taxes may also be limited or eliminated altogether by the alternative minimum tax (AMT), which affects primarily upper income taxpayers.
- ⁵ See James Poterba and Todd Sinai, “Income Tax Provisions Affecting Owner-Occupied Housing: Revenue Costs and Incentive Effects,” NBER Working Paper 14253, August 2008; and, Joseph Gyourko and Todd Sinai, 2004, “The (Un)Changing Geographic Distribution of Housing Tax Benefits, 1980-2000,” In James Poterba, ed., *Tax Policy and the Economy* 18, 175-208.
- ⁶ Joint Committee on Taxation, “Estimates of Federal Tax Expenditures for Fiscal Years 2009–2013,” JCS-1-10 (January 11, 2010); Office of Management and Budget, *Budget of the U.S. Government, Fiscal Year 2011, Analytical Perspectives, Tax Expenditures (Chapter 16)*, (U.S. Government Printing Office: Washington, DC, February 2010).
- ⁷ Fiscal Year 2011 Budget of the United States, Analytical Perspectives, Chapter 16—Tax Expenditures, Table 16-1. The differences in estimates likely reflect a somewhat different distribution of the underlying income sources by income.
- ⁸ The Department of the Treasury estimate for net imputed rental income from owner-occupied housing relies on the Bureau of Economic Analysis (BEA) for data on the tax base from which imputed rent is calculated. See here for more (Table 7.9: <http://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=286&Freq=Year&FirstYear=2005&LastYear=2006>). Treasury’s estimate differs from this paper’s methodology because our estimate of imputed rent is derived from data on housing values from the Survey of Consumer Finances and estimates of the user cost.

- ⁹ We estimate that 82.9 million tax units owned homes in 2012, but that only 69.9 million tax units received housing tax subsidies. The difference, 13.0 million tax units, stemmed from those filers who either faced a zero marginal tax rate or were non-itemizers.
- ¹⁰ Under an income tax, the home mortgage interest deduction itself does not necessarily create a bias for debt finance. Conceptually, under an ideal income tax all interest income should be taxable and all interest expenses deductible. Under the current income tax system, however, a substantial portion of interest income is not taxable—by some estimates, roughly 50 percent—because it is held by tax-exempts or lightly taxed entities such as pension funds and foreigners. The combination of the home mortgage interest deduction and the non-taxation of interest income by some debt holders creates a substantial bias for debt finance under the current income tax system.
- ¹¹ Poterba, James, 1992, “Taxation and Housing: Old Questions, New Answers,” *American Economic Review* 80:2, pp. 237-242.
- ¹² U.S. Department of Commerce, Bureau of the Census, *Census of Housing*, selected years; www.census.gov/hhes/www/housing/census/historic/owner.html
- ¹³ Early research suggests that repeal of the mortgage deduction would negatively impact homeownership, while later research report negligible effects. These studies emphasize the importance of whether the subsidies are capitalized into housing prices or involve quantity responses. For the early research see Harvey S. Rosen, (1979), “Housing Decisions and the U.S. Income Tax,” *Journal of Public Economics* 11, pp. 1-23; and Patric H. Hendershott and James D. Shilling, “The Economics of Tenure Choice: 1955-79,” National Bureau of Economic Research, NBER Working Paper No. 543, September 1980. For the later research showing negligible effects see Harvey S. Rosen, Kenneth T. Rosen and Douglas Holtz-Eakin (1984), “Housing Tenure, Uncertainty and Taxation,” *Review of Economics and Statistics* 66, pp 405-416; and Berkovec, James and Don Fullerton (1992) “A General Equilibrium Model of Housing, Taxes, and Portfolio Choice,” *Journal of Political Economy*, 100(2), 390-429.
- ¹⁴ The price elasticity of demand for mortgage borrowing has been estimated to be close to minus one. For example, see Robert M. Dunskey and James R. Follain, (2000), “Tax-Induced Portfolio Reshuffling: The Case of the Mortgage Interest Deduction,” *Real Estate Economics* 4, 683-718; James Follain and Robert M. Dunskey, (1997), “The Demand for Mortgage Debt and the Income Tax,” *Journal of Housing Research* 8, 155-200; Ling, David C. and Gary A. McGill, 1998, “Evidence on the Demand for Mortgage Debt by Owner-Occupants,” *Journal of Urban Economics* 44, 391-414.
- ¹⁵ In the estimates provided below, we do not attempt to account for behavioral responses. As shown by Poterba and Sinai (2008), such behavioral responses, such as changes in the choice between owning and renting, can impact the estimated effect of the options somewhat. When simulating the repeal of the home mortgage interest deduction, for example, Poterba and Sinai (2008) consider the effect of households using liquid financial assets to buy down their home mortgage and find a modest behavioral impact. The static revenue gain is reduced by roughly 15 percent. Thus, the estimates provided below overstate the revenue effects (in absolute value), but nevertheless provide a sense of the overall effects.
- ¹⁶ President Obama included in both his FY 2010 and FY 2011 Budgets a proposal that would limit the value of all itemized deductions to 28 percent.

- ¹⁷ Some of the options below would, from a budgetary perspective, have an effect on both receipts and outlays. Refundable credits often have outlay effects because taxpayers who pay no income tax would receive a payment from the federal government equal to the size of the refundable portion of the tax credit. Thus, the estimates below can be interpreted as showing the effect of the options on the deficit.
- ¹⁸ Those who do not currently benefit may have done so in the past or could in the future. This could explain the broad support for the deduction.
- ¹⁹ 2004 is the most recent year for which reliable income tax information is available.
- ²⁰ In order to assure the confidentiality of information contained on administrative tax returns, data items in the Public Use File are rounded and often masked, or blurred, to prevent identification. As such, each individual tax record is suggestive of an actual tax return filed.
- ²¹ The CPS is conducted in March of every year and questions relating to income and employment are asked retrospectively to the prior year. CPS information for non-filers therefore is obtained from the March 2005 survey to align with the 2004 tax year data on the Public Use File.
- ²² For a detailed discussion see James Poterba and Todd Sinai, "Income Tax Provisions Affecting Owner-Occupied Housing: Revenue Costs and Incentive Effects," NBER Working Paper 14253, August 2008.
- ²³ An alternative approach for computing the housing tax subsidies would be to multiply net imputed rent, the home mortgage interest deduction and the property tax deduction by their respective marginal tax rates. This interest would miss interactions between the policies including the effect on whether or not a household chooses to itemize.



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