# The First-Time Homebuyer Tax Credit: An Economic Analysis

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# Summary

The Housing and Economic Recovery Act of 2008 (P.L. 110-289) enacted a temporary tax credit for first-time homebuyers that was intended to address two housing market concerns: an excess supply of homes on the market and falling prices of homes. The American Recovery and Reinvestment Act of 2009 (ARRA; H.R. 1, P.L. 111-5), as agreed to in conference and signed into law by the President, recently increased the value of the tax credit for home purchases in 2009 and extended the period over which the credit applies. Proponents argue that the tax credit will help to reduce the supply of homes on the market and stabilize home prices by stimulating home buying. Opponents argue that the design and administration of the tax credit, coupled with general economic uncertainty, prevent the tax credit from achieving its intended objective.

As a result of the provisions in ARRA, the amount that a first-time homebuyer in 2009 may claim as a credit against their federal income tax liability is equal to a maximum of 10% of a home's purchase price, or $8,000. The credit is limited to a maximum of $7,500 for buyers in 2008. The credit amount is reduced for individuals with modified adjusted gross income (AGI) of more than $75,000 ($150,000 for joint filers), and is zero for those individuals with modified AGI in excess of $95,000 ($170,000 for joint filers). The tax credit is refundable. Homebuyers that purchased their homes in 2008 must repay the tax credit. The repayment requirement is waived for home purchases made in 2009 unless the home is sold within three years of purchase. To qualify for the credit the buyer must not have owned a principal residence in the last three years. In addition, the home must have been purchased after April 8, 2008, and before December 1, 2009.

This report analyzes the ability of the first-time homebuyer tax credit to stimulate home buying and stabilize home prices. Because the tax credit may not be claimed until after a home purchase, it is unlikely that the tax credit will be of great help to a large number of potential homebuyers that need down payment and closing cost assistance. In addition, the requirement that some homebuyers must repay the tax credit greatly reduces the credit's effective value for those buyers. Lastly, as long as forecasts predict that home prices are falling and that the economy will remain weak, a large fraction of potential homebuyers may choose to remain on the sidelines with or without the tax credit.

This report concludes with a review of policy options available to Congress. These options include modifying the tax credit's value, modifying the tax credit eligibility criteria, and allowing for the tax credit to be advanced.

This report will be updated as warranted by legislative events.

# Contents



Figures

## Tables



## Appendixes



## Contacts

# Introduction

In the summer of 2008 a first-time homebuyer tax credit was enacted as part of the comprehensive Housing and Economic Recovery Act of 2008 (P.L. 110-289).[1] The American Recovery and Reinvestment Act of 2009 (ARRA; H.R. 1, P.L. 111-5), as agreed to in conference and signed into law by the President, recently increased the value of the tax credit for home purchases in 2009 and extended the period over which the credit applies. The tax credit is intended to address concern over the excess home inventory and falling home prices.[2] Proponents argue that the tax credit provides households with the necessary incentive to purchase a home, and will thus reduce excess home inventory and stabilize prices. Opponents of the tax credit argue, however, that the tax credit may be limited in its ability to achieve its objective for several reasons. First, the tax credit may only be claimed after a taxpayer purchases a home. Research indicates that most first-time buyers need assistance prior to, or at the time of, purchase to cover the down payment and closing costs. Second, the first-time homebuyer tax credit must be repaid for homes purchased in 2008. Repayment reduces the credit's effective value and incentive for homebuyers in 2008 by approximately 60% to 75%.[3] Third, it is expected that the economy will show continued signs of weakness through 2009 which increases the likelihood that buyers will remain on the sidelines even with the tax credit.[4]

This report analyzes the potential of the first-time homebuyer tax credit to achieve its intended objective. The report begins with an overview of current economic conditions. Next, a brief summary of the tax credit is provided followed by an economic analysis of the credit. The final section reviews policy options.

# Current Economic Conditions

## The Housing Market

The current condition of the housing market stems from a series of events that unfolded over a number of years. During the early part of this decade residential home sales began to accelerate as a combination of low mortgage rates and financial market innovations enabled more households to purchase a home. As more households made the transition into homeownership, the demand for

[1] The Housing and Economic Recovery Act of 2008 was intended to strengthen the regulation of Freddie Mac and Fannie Mae, modernize the Federal Housing Administration, and provide assistance for homeowners unable to pay their current mortgage. For more information on the act see, CRS Report RL34623, *Housing and Economic Recovery Act of 2008*, by N. Eric Weiss et al.

[2] See for example, Sen. Benjamin L. Cardin, *Congressional Record*, vol. 154, no. 52 (April 3, 2008), p. S2419, Sen. Max Baucus, *Congressional Record*, vol. 154, no. 124 (July 26, 2008), p. S7501, and Sen. Ken Salazar, *Congressional Record*, vol. 154, no. 123 (July 25, 2008), p. S7457.

[3] The effective value of the tax credit is measured as the amount of the tax credit minus the present value of the stream of repayments. The present value of the stream of repayments depends on the number of years a buyer expects to remain in the home. The range cited above represents a 6 year and a 16 year expected tenure. A complete discussion of the credit's value is presented later in this report.

[4] Federal Reserve Bank of Chicago, "U.S. Economic Growth Will Be Weak In 2009, Chicago Fed Economic Outlook Symposium Participants Say," press release, December 8, 2008, http://www.chicagofed.org.

owner-occupied housing began to exceed supply. The increased demand for home purchases placed upward pressure on real estate prices.

In response to higher prices and enhanced profit margins, homebuilders increased home production. With the expectation of higher future home prices, due in part to speculation, the increased supply of homes on the market began to exceed demand. Homebuilders soon faced a large inventory of unsold homes. Home inventory increased further as interest rate resets on adjustable rate mortgages (ARMs) and an increasing number of upside-down borrowers (i.e., those who owe more on a home than it was worth) led to a rise in the number of foreclosures. By November 2008 (the most recently available data), the new and existing home inventories stood at 11.5 months and 11.2 months, respectively, while a 5.0 month inventory has been, historically, considered more normal.[5] Deteriorating economic conditions exerted a separate negative effect on the housing market in areas of the country that were originally isolated from the housing bubble.

Regional markets have been impacted differently by the downturn in housing. States such as Arizona, California, Florida, and Nevada experienced the most dramatic increase and subsequent decrease in prices. For example, home prices in Phoenix, Los Angeles, San Francisco, San Diego, and Miami have fallen more than 30% from their 2006 peak according the S&P/Case-Shiller Home Price Index. These cities have also been left with some of the largest inventories of unsold homes. Other areas such as Detroit were initially less affected by turmoil in the mortgage market. Still, home prices there have fallen nearly 29% from their 2006 high as the result of significant job loss and a reduction in population. At the same time, home prices in some areas of the country, such as Charlotte and Dallas, have remained relatively stable.

Conditions in the housing market could deteriorate further over the next two years as a number of pay-option adjustable rate mortgages, also known as option ARMs, are set to be recast. An option ARM mortgage provides the borrower with several monthly payment options for a specified number of years. At the end of the specified period the mortgage is “recast” and payments increase to ensure repayment by the time the loan matures. Recast can occur earlier if the borrower’s monthly payments are less than accrued interest. The difference between the monthly payment and the interest only payment is added to the outstanding principal. When the outstanding principal grows to a predetermined amount of the original balance the mortgage is recast and payments increase. Fitch Ratings estimates $29 billion in option ARM mortgages will be recast in 2009, followed by another $67 billion in 2010.[6] Fitch Ratings also estimates that monthly payments on recast mortgages could increase $1,053, or 63%. The increased monthly payments could translate into higher default rates, which would add to the home inventory and put downward pressure on home prices

## The Broader Economy

The weakness in the housing market has contributed to, and has been reinforced by, weakness in the overall economy. Household wealth, a large portion of which consists of home equity, has

[5] The housing inventory expressed in monthly terms indicates how long the current quantity of homes on the market would take to sell off at the current rate of sales. Home inventory statistics are published by two different organizations. The National Association of Realtors reports the existing home inventory, while the U.S. Census Bureau reports the new home inventory.

[6] Fitch Ratings, *Option ARMs: It’s Later Than It Seems*, New York, NY, September 2, 2008, pp. 1-6, http://www.fitchratings.com.

been reduced due to falling home prices. As a result, consumer spending and borrowing have decreased which has directly affected aggregate economic activity. At the same time, deteriorating employment conditions have adversely affected the ability of some owners to make mortgage payments, therefore contributing to home foreclosures and falling home prices. Banks and financial institutions worried about the ability of borrowers to repay and already suffering large losses have been hesitant to extend credit to consumers and each other. State and local governments' budgets have become strained as falling home prices have reduced the ability to raise revenue through property taxes.[7]

# The First-Time Homebuyer Tax Credit

First-time homebuyers in 2009 are allowed a credit against their federal income tax equal to a maximum of 10% of a home's purchase price, or $8,000.[8] The credit amount is limited to $7,500 for homebuyers in 2008. The amount of the credit that may be claimed is reduced for individuals with modified adjusted gross income (AGI) of more than $75,000 ($150,000 for joint filers), and is zero for those individuals with modified AGI in excess of $95,000 ($170,000 for joint filers).[9] To qualify for the credit the buyer must not have had an interest in a principal residence in the last three years. [10] In addition, the home must be purchased no earlier than April 9, 2008, and no later than November 30, 2009.

The tax credit is refundable, which allows lower-income households with little or no tax liability to take full advantage of the credit. For example, consider a first-time homebuyer who owes $5,000 in income taxes. Assuming the buyer and the home purchase qualify for an $8,000 tax credit, the buyer's tax liability will be reduced to zero and, in addition, the buyer will receive a $3,000 refund check from the Treasury.

Taxpayers that purchase a home in 2008 must repay the tax credit in equal installments over 15 years beginning in the second taxable year after the purchase of a home. The repayment requirement is waived for home purchases made in 2009 unless the home is sold within three years of purchase. Given that interest does not accumulate during the repayment period, the repayable tax credit equates to an interest free loan with a 16-year repayment period (a 1-year grace period plus 15 years of payments). The annual repayment is equal to 1/15$^{th}$ the amount of

[7] For a more detailed report on the current state of the economy see CRS Report R40104, *Economic Stimulus: Issues and Policies*, by Jane G. Gravelle, Thomas L. Hungerford, and Marc Labonte.

[8] For a more detailed discussion on the technical aspects of the tax credit see CRS Report RL34664, *The First-Time Homebuyer Tax Credit*, by Carol A. Pettit.

[9] The reduced credit for an individual with a modified AGI between $75,000 and $95,000 may be determined using the following general formula provided (in written form) in P.L. 110-289:

$$\text{Tax credit} = \$7{,}500\ (\text{or } 10\% \text{ of price}) \times \left(1 - \frac{\text{Modified AGI} - \$75{,}000}{\$20{,}000}\right)$$

Joint filers with modified AGI between $150,000 and $170,000 could determine the amount of the reduced credit they are eligible for by replacing $75,000 with $150,000 in the formula above. For the purposes of the homebuyer tax credit, modified AGI is defined as adjusted gross income plus foreign earned income.

[10] Principle residence is not defined explicitly in the Internal Revenue Code (IRC) section that created the tax credit. For a more detailed discussion on this issue see CRS Report RL34664, The First-Time Homebuyer Tax Credit, by Carol A. Pettit. Taxpayers who are allowed the District of Columbia's homebuyer tax credit are not allowed the first-time homebuyer tax credit.

the original tax credit. Should the home be sold or no longer used as the owner's principal residence, the entire tax credit is to be repaid in the tax year when such change in use of the property occurs. The recaptured amount may not exceed any gain realized by the sale of the house.

An eligible purchase made in 2009 may be treated for tax purposes as having occurred on December 31, 2008. This allows homebuyers who purchase their home in 2009 to receive the benefit of the tax credit more quickly by either claiming the purchase on their 2008 tax return (if the purchase is made prior to filing the 2008 return), or by filing an amended 2008 tax return (if the purchase is made after filing the 2008 return).

# Economic Analysis of the Tax Credit

The economic analysis presented below is organized as follows. First, the administrative aspects of the tax credit and its ability to target marginal first-time buyers are examined. Next, the reduction in the cost of homeownership induced by the tax credit is estimated and is followed by an estimate of how responsive households are to the reduction. The ability of the tax credit to stimulate new home purchases given the current economic environment is also discussed. Lastly, a brief comparison of the new national first-time homebuyer tax credit with the D.C. first-time homebuyer tax credit is made.

# Marginal First-Time Homebuyers

If the first-time homebuyer tax credit is to be effective at stimulating new home purchases it will need to target marginal homebuyers. Marginal homebuyers are households who, absent the tax credit, would not purchase a home, but as a result of the tax credit choose to purchase a home. As a result, the home purchase decisions of marginal buyers are directly influenced by the tax credit. A tax credit that targets marginal homebuyers carries with it the greatest potential for spurring new home demand. Alternatively, there exists those homebuyers that are not on the margin. These households are either unable or unwilling to purchase a home even with the tax credit, or would purchase a home even without the tax credit. The home purchase decisions of these taxpayers are not directly influenced by the tax credit and do not represent new home demand.[11]

Administratively, the first-time homebuyer tax credit may not be able to induce marginal buyers to purchase a home. A home purchase is a relatively high cost transaction, requiring a purchaser to make an equity contribution in the form of a down payment and pay closing costs and settlement fees. The high transaction cost associated with purchasing a home, or more specifically the necessity that a buyer hold an adequate amount of (liquid) wealth to cover such cost, has been identified by economists as the primary barrier to homeownership.[12] Because the tax credit may

[11] While a tax credit may not influence a non-marginal buyer's decision to purchase a home, it may influence their decision about which home to purchase. For example, the extra money from a tax credit may lead to the purchase of larger homes.

[12] See for example, Peter D. Linneman and Susan M. Wachter, "The Impacts of Borrowing Constraints on Homeownership," *Journal of American Real Estate and Urban Economics Association*, vol. 17, no. 4 (Winter 1989), pp. 389-402, and Donald R. Haurin, Patrick H. Hendershott, and Susan M. Wachter, "Borrowing Constraints and the Tenure Choice of Young Households," *Journal of Housing Research*, vol. 8, no. 2 (1997), pp. 137-154.

not be claimed until **after** a home has been purchased, the tax credit does little to address this barrier. Allowing households to treat a home purchase in 2009 as having occurred during the 2008 tax year in order to more quickly receive the tax credit still requires the household to first purchase the home.

The need to allow for advanced payment of a tax credit has been recognized by policy makers working in other areas. For example, the earned income tax credit (EITC) and the health care coverage tax credit (HCTC) allow eligible taxpayers to claim at least a portion of their credits in advance. Recent proposals for a higher education tax credit have also included proposals for an advance payment. Allowing for a tax credit to be advanced may, however, be complex and costly. A more detailed discussion of an advanced homebuyer tax credit is provided below when policy options are reviewed.

# The Cost of Homeownership

The effectiveness of the first-time homebuyer tax credit also depends on the amount by which it reduces the relative cost of homeownership and how responsive households are to the reduction. A household will be more likely to purchase a home when the cost of homeownership falls relative to renting. The larger is the reduction in the cost of homeownership caused by the tax credit, the greater the effect the will be on home demand. At the same time, the more responsive households are to a given reduction, the greater the effect the tax credit will have. Thus, analyzing the homebuyer tax credit requires an estimate of how much it reduces the cost of ownership. Existing research can then be used to estimate how responsive buyers are to a given cost reduction.

## Tax Credit Induced Price Reduction

The first-time homebuyer tax credit effectively reduces the purchase price of a home, but for homebuyers in 2008 the reduction is less than the dollar amount of the credit. For these tax credit recipients, the reduction in a home's purchase price is less than the dollar value of the credit (maximum $7,500) because the tax credit must be repaid. The tax credit still reduces the price of owner-occupied housing even though it must be repaid because there are no interest charges during the repayment period. For homebuyers in 2009, the tax credit effectively reduces the purchase price of a home dollar for dollar (maximum $8,000).

Economic theory provides a straightforward approach—known as the net present value (NPV) method—for determining by how much the tax credit reduces the purchase price of a home when it must be repaid. Use of the NPV method begins by converting future tax credit repayments into "present values" through a process known as discounting, which requires the use of a discount rate. The present value of future repayments are then deducted from the tax credit to arrive at an estimate of the credit's economic value. The economic value of the tax credit is effectively the amount by which the tax credit reduces the purchase price of a home.

Which discount rate to use in the NPV calculation is critical because of the role it plays in the valuation. The discount rate should be chosen to reflect the rate of return on alternative investments. Arguably, this cost is best summarized by a mortgage interest rate as the household could take the credit and reduce their mortgage. In the end, the higher are mortgage interest rates, the more valuable the tax credit.

The length of time a household expects to remain in their home is also an important factor, as the NPV of the tax credit will be smaller for those homebuyers that expect to move before the end of the repayment period. Essentially, moving prevents the homebuyer from taking full advantage of the interest free repayment. Under current law, a household must repay the tax credit over a 15 year period beginning in the second year after purchasing a home. The one year grace period before a buyer is required to start repaying implies that the effective repayment period is 16 years. A buyer who moves prior to the end of the 16 year repayment period is required to repay in full the remainder of that tax credit. According to the most recent data, the average first-time homebuyer only expects to stay in his or her first home for six years.[13] Therefore, the actual repayment period for the average first-time homebuyer is significantly less than 16 years.

The maximum $7,500 tax credit is estimated to reduce the purchase price of a home bought in 2008 by between $1,877 and $3,086 depending on the buyer's expected tenure. This estimate assumes a discount (mortgage) rate of 6.5% and expected tenure lengths of 6 years and 16 years, respectively. The range for the tax credit's value reflects the notion that the longer a buyer remains in the home, the longer they have to take advantage of the interest free repayment. The tax credit's value would increase if a higher mortgage rate were assumed. The value increases because the tax credit could be used to reduce the amount owed on a higher interest rate mortgage. As mentioned above, for homes purchased in 2009, the credit reduces the purchase price by the amount of the credit, regardless of tenure or mortgage rates. In the example just discussed the home price reduction would be $8,000.

## Annual Cost of Homeownership

While the tax credit effectively reduces the absolute price of a home, its effect on the annual cost of homeownership is the determining factor for a marginal first-time buyer. The reason for this is that a potential buyer has the option of continuing to rent. Therefore, a method is needed to translate the absolute price of a home into an annual cost which can then be compared to annual rental rates. This task is non-trivial as the total annual cost of owning a home involves more than simply its purchase price. Financing, maintenance, and depreciation costs, as well as property taxes, all add to the cost of owning a home. At the same time, a number of benefits such as the tax deductibility of mortgage interest and property taxes, as well as home price appreciation reduce the cost of owning a home.

A popular approach used to estimate the annual cost of owning a home is the user cost framework. The user cost approach allows one to measure the total cost of owning (using) a house for one year by incorporating the direct costs of homeownership, while also adjusting for the benefits of homeownership. The user cost approach produces an estimate of the imputed rental rate of an owner-occupied home. It is the rental rate an owner-occupied home would command on the rental market.

Although there are several variations of the user cost formula they all express the same fundamental relationship which may be summarized compactly as:

[13] National Association of Realtors, *The 2006 National Association of Realtors Profile of Home Buyers and Sellers*, Chicago, IL, 2006.

$$\text{Annual homeownership cost} = \underbrace{\left[(1-t_y)(r+t_p)+\delta+m+\beta-g\right]}_{\text{user cost}} P$$

where $P$ is the home's purchase price, $r$ is the mortgage rate, $t_p$ are property taxes, $\delta$ is depreciation, and $m$ are maintenance costs.[14] The tax credit reduces a home's purchase price, and, as a result, reduces the annual cost of owning a home. Mortgage interest and property taxes are deductible. Taking this into account, the net effect on the cost of homeownership is then $(1- t_y)(r + t_p)$, where $t_y$ is the taxpayer's marginal income tax rate. A premium $\beta$ has been incorporated to account for the risk associated with investing in housing. Finally, the cost of homeownership is reduced (increased) if the expected rate of home appreciation $g$ is positive (negative). The sum of the latter terms is the user cost and represents annual unit (dollar) cost of owning a home.

**Table 1. Tax Credit Induced Reduction in Absolute Home Prices and Annual Homeownership Costs By Expected Tenure and Region**

| | 6 Year Expected Tenure | | | | 16+ Year Expected Tenure | | | |
|---|---|---|---|---|---|---|---|---|
| | Midwest | N. East | South | West | Midwest | N. East | South | West |
| Median Home Price December 2008 | $140,800 | $235,000 | $158,600 | $213,100 | $140,800 | $235,000 | $158,600 | $213,100 |
| Tax Credit Induced Price Reduction ($) With Repayment | $1,877 | $1,877 | $1,877 | $1,877 | $3,086 | $3,086 | $3,086 | $3,086 |
| Tax Credit Induced Price Reduction ($) Without Repayment | $8,000 | $8,000 | $8,000 | $8,000 | $8,000 | $8,000 | $8,000 | $8,000 |
| **Annual Cost of Homeownership**: | | | | | | | | |
| Without Tax Credit | $9,610 | $16,039 | $10,824 | $14,544 | $9,610 | $16,039 | $10,824 | $14,544 |
| With Repayable Tax Credit | $9,481 | $15,911 | $10,696 | $14,416 | $9,399 | $15,828 | $10,614 | $14,333 |
| Reduction (%) | 1.33% | 0.80% | 1.18% | 0.88% | 2.19% | 1.31 % | 1.95% | 1.45% |
| With Non-Repayable Tax Credit | $9,064 | $15,493 | $10,278 | $13,998 | $9,064 | $15,493 | $10,278 | $13,998 |
| Reduction (%) | 5.68% | 3.40% | 5.04% | 3.75% | 5.68% | 3.40% | 5.04% | 3.75% |

**Source:** Author's calculations, National Association of Realtors (preliminary estimates for December).

**Notes:** The median home prices listed in **Table 1** are for existing single-family homes. The U.S. Census Bureau reports median new home prices. For several reasons, the available existing and new home data are not directly comparable.

[14] The user cost formula used above is from James M. Poterba, "Taxation and Housing: Old Questions, New Answers," *American Economic Review* , vol. 82, no. 2 (May 1992), pp. 237-242. Other variations of the user cost formula may be found in James M. Poterba, "Tax Subsidies to Owner-Occupied Housing an Asset-Market Approach," *The Quarterly Journal Of Economics*, vol. 99, no. 4 (November 1984), p. 729-752 and Charles Himmelberg, Christopher Mayer, and Todd Sinai, "Assessing High Housing Prices: Bubbles, Fundamentals, and Misperceptions," *Journal of Economic Perspectives*, vol. 19, no. 4 (Fall 2005), pp. 67-92.

Given the estimated tax credit induced price reduction from the previous section, the user-cost of housing method was used to estimate the annual cost of homeownership, with and without the tax credit.[15] **Table 1** presents the estimation results, stratified by geographic region and expected tenure. The top panel of **Table 1** displays existing single-family median home prices as of the December of 2008 and the amount of the tax credit induced price reduction. Note that the dollar reduction in home prices stemming from the tax credit is constant across geographic region for households with the same expected tenure since median home prices always exceed $80,000.[16] As reported in the previous section, the effective value of the tax credit for homebuyers in 2008 is estimated to be $1,877 if a household expects to remain in their first home for six years. The credit's value increases to an estimated $3,086 if a household expects to remain in the home for at least 16 years. Also discussed in the previous section was the fact that the value of the tax credit for homebuyers in 2009 was a constant $8,000.

The bottom panel of **Table 1** presents an estimate of the annual cost of owning a home with and without the repayable and non-repayable homebuyer tax credit. Looking across regions the estimates show that the tax credit, regardless of if it must be repaid, is more valuable in lower priced markets. At the high end, the repayable tax credit is estimated to reduce the annual cost of homeownership by approximately 2.19% (Midwest, 16+ year expected tenure). At the low end the repayable tax credit is estimated to reduce the annual cost of homeownership by approximately 0.80% (North East, six year expected tenure). At the high end, the non-repayable tax credit is estimated to reduce the annual cost of homeownership by approximately 5.68% (Midwest), while at the low end it is estimated to reduce the annual cost of homeownership by approximately 3.40% (North East).

To put the size of the tax credit induced price reductions in perspective, consider that the median existing home price in the U.S. has fallen by 21% since 2006.[17] The West region experienced the greatest decline (38%), the Midwest (16%), followed by the Northeast (15%), and finally the South (14%).[18]

## Buyer Response to the Tax Credit

Of equal importance to how much the tax credit reduces the cost of homeownership is how responsive households are to a given reduction. Economists use the concept of elasticity to measure how responsive individual behavior is to a given change in prices, taxes, income, and other economic variables. The elasticity that matters for studying the effectiveness of the first-time homebuyers tax credit is the tenure-choice price elasticity. This behavioral response measure indicates the likelihood that a renter will become an owner given a reduction in relative cost of homeownership. An elasticity of 1 indicates that a 1% decrease in the cost of owning a home increases the probability a renter becomes an owner by 1 percentage point. The more elastic a renter's behavior is the more likely it is that they will become owners.

[15] To actually employ the user cost method described above, assumptions had to be made with regard to home prices, property taxes, depreciation, etc. The appendix lists the assumptions and sources for the assumptions.

[16] Recall that the dollar amount of the tax credit is equal to the maximum of 10% of a home's purchase price, or $8,000. The $8,000 cap only comes into play when a home's purchase price exceeds $80,000.

[17] National Association of Realtors existing home price data.

[18] The median home price for the Northeast increased between 2006 and 2007. The percent change presented in the body of the report is from 2007 to 2008.

Combining empirical estimates of the tenure-price elasticity with the estimated decrease in the relative cost suggests that the tax credit may have a small effect on the demand for owner-occupied housing. Estimates of the tenure-price elasticity, although limited, are approximately clustered around 1, while the cost reduction stemming from the repayable tax credit is estimated to be between 0.80% and 2.19%, while the cost reduction for the non-repayable tax credit is estimated to be between 3.40% and 5.68%.[19] Under the assumption that annual cost of owning and rental are now reasonably close, the first-time homebuyer tax credit could be expected to increase the probability that the average household purchases a home in 2009 by at most 5.68 percentage points. The estimated home buying response may be overestimated since the tenure-price elasticity used for the estimate are based on data from a period well before our current economic environment.

## The Influence of the Economy and Future Home Prices

While the homebuyer tax credit is predicted to have some effect on home demand, the influence of economic uncertainty may prove more powerful. Weakness in the labor market as indicated by rising unemployment points toward an increased risk that a potential homebuyer may have trouble making mortgage payments. As a result, some households could delay purchasing a home until the economy improves and employment conditions stabilize. At the same time, any assets that a household may have set aside for a down payment are likely to have fallen in value significantly over the last year, reducing the ability to purchase a home.

Expectations over the future path of home prices can also be expected to affect a household's decision to buy a home. If homebuyers expect prices to continue to fall they are likely to remain on the sidelines until a bottom to the housing market begins to be established. Once prices are perceived to have stabilized and the economy has begun to recover, increased demand for owner-occupied housing can be expected. It is possible that home prices may not stabilize until after the homebuyer tax credit expires (July 1, 2009).

## The D.C. Homebuyer Tax Credit

There currently exists one other federal tax credit for first-time homebuyers. In an effort to revitalize city neighborhoods, first-time homebuyers in the District of Columbia have been allowed a credit against their federal income tax equal to $5,000 since 1997. A first-time homebuyer is any taxpayer that has had no interest in a principal residence in D.C. within the last year. Non-D.C. residents, including non-D.C. resident homeowners, are eligible to claim the credit for a home purchased in the city. Unlike the new homebuyer tax credit, the D.C. tax credit is non-refundable and need not be repaid. The credit amount is reduced for individuals with

[19] See for example, Harvy S. Rosen, "Housing Decision and The U.S. Income Tax: An Econometric Analysis," *Journal of Public Economics*, vol. 11, no. 1 (February 1979), pp. 1-23, or Carol Rapaport, "Housing Demand and Community Choice: An Empirical Analysis," *Journal of Urban Economics*, vol. 42, no. 2 (September 1997), pp. 243-260, or Allen C. Goodman, "An Econometric Model of Housing Price, Permanent Income, Tenure Choice, and Housing Demand," *Journal of Urban Economics*, vol. 23, no. 3 (May 1988), pp. 327-353.

modified AGI of more than $70,000 ($110,000 for joint filers), and is zero for those individuals with modified AGI in excess of $90,000 ($130,000 for joint filers).

A 2005 Fannie Mae special report found that the D.C. tax credit increased city homeownership and home prices, and that a large fraction of buyers claimed the credit.[20] There are a number of reason to be cautious, however, about extrapolating the results nation-wide. The environment during the time period from which the data used in the study were drawn (1997-2001) reflected economic expansion. Households were purchasing homes because they had job security and a sense of wealth as the stock market rose. Home buying in D.C. may have also increased faster than in surrounding suburbs due in part to lower relative prices in the city. A tax credit administered at the national level leaves relative regional home prices unchanged, and would thus not be expected to generate such geographically driven purchases.

Unlike the D.C. homebuyer tax credit, the new homebuyer tax credit may not increase property values in some markets. The stronger the demand is for homes relative to the supply of homes, the more likely it is that sellers can capture a large portion of the credit by raising their sales price. At the time the D.C. homebuyer tax credit was introduced, home demand was relatively strong and home supply relatively tight, which would explain the documented home appreciation in the city. Currently, however, the demand for homes is relatively weak and the supply of homes relatively abundant, suggesting there may be little to no upward pressure on home prices as a result of the tax credit.

The number of homebuyers that claim the homebuyer tax credit may not be indicative of how effective the tax credit is at stimulating home buying. The Fannie Mae report estimated that the D.C. tax credit was claimed by approximately 77% of homebuyers between 1999-2001. Any eligible homebuyer, however, could be expected to claim the tax credit. And given that the new first-time homebuyer tax credit may not be claimed until after a home purchase, a large fraction of those claiming the credit probably would have purchased a home anyway.

# Policy Options

The first-time homebuyer tax credit is set to expire on December 1, 2009. On the one hand, if the housing market begins to show strong signs of a recovery Congress may choose to allow the credit to expire. On the other hand, if housing demand is still weak, Congress may choose to extend the credit as is, or make modifications. If modifications are considered, several policy options are available which may be categorized into three general categories. First, the tax credit could be advanced. Second, the value of the credit may be adjusted, either directly or indirectly. Third, the criteria used to determine tax credit eligibility may be modified. Specific options within each of these categories are discussed below. Where applicable, reference to other homebuyer tax credit proposals made in the 110th Congress are provided as examples.[21]

[20] Zhong Yi Tong, “Washington, D.C.’s First-Time Homebuyer Tax Credit: An Assessment of the Program ,” *Fannie Mae Foundation Special Report*, March 2005, pp. 1-44.

[21] The examples provided are not intended to be all inclusive. While they are used to illustrate one possible modification that could be made, the proposed tax credits often differed along other dimensions.

# Advance the Tax Credit

Restructuring the tax credit rules to allow taxpayers to claim it in advance of a home purchase would increase the assistance to marginal homebuyers and likely increase the stimulative effect of the tax credit. As previously mentioned, homebuyers, particularly first-time homebuyers, need assistance at the time of purchase. The first-time homebuyer tax credit as currently administered, however, may not be claimed until after a taxpayer purchases a home. As a result, taxpayers claiming the tax credit may be doing so because they bought a house, not buying a house because the credit is available.

As mentioned previously, the health care coverage tax credit (HCTC) and the earned income tax credit (EITC) are examples of two tax credits that permit advanced payment.[22] With the HCTC, eligible taxpayers receive a tax credit equal to 65% of the cost of health insurance. Each month, taxpayers that would like an advance send the Internal Revenue Service (IRS) a payment equal to 35% of the insurance premium. The IRS then combines the taxpayers payment with the HCTC and sends the full payment to the taxpayer's health insurance provider. Eligible workers with at least one child may have a portion of the EITC advanced to them through their paycheck by completing a W-5 Form. In 2009, no more than $1,826 may be advanced to a taxpayer through the EITC program.

Two recent reports by the Government Accountability Office (GAO) indicate that participation in the advancement programs is low.[23] Approximately 3% of eligible EITC participants and 6% of eligible HCTC participants received advanced payment.[24] Several reasons have been offered for the low participation rates. Some taxpayers may be unaware of the advanced option. Others may fear they will receive more than they are actually eligible for, thus requiring them to pay back money at the end of the year. Still others simply find the cost of navigating the complex process, especially with respect to HCTC, too difficult. Advancing the homebuyer tax credit, perhaps to the mortgage lender or seller through the IRS thus reducing down payment and closing costs, would likely be complex as well. As a result, participation in the tax credit program could be reduced.

# Modify the Tax Credit's Value

Several possible avenues exist for Congress to modify the first-time homebuyer tax credit's value. Three of which are discussed here. First, the face value of the credit itself could be raised or lowered. For example, in the 110th Congress the original first-time homebuyer tax credit had a face value of $8,000, while S. 2566 proposed a $15,000 tax credit. Second, the tax credit could be made non-refundable. Doing so, however, would reduce the tax credit's value for households with

[22] For more information on the HCTC see, CRS Report RL32620, *Health Coverage Tax Credit Authorized by the Trade Act of 2002*, by Bernadette Fernandez. For more information on the EITC see, CRS Report RL31768, *The Earned Income Tax Credit (EITC): An Overview*, by Christine Scott.

[23] See, U.S. Government Accountability Office, *Advanced Earned Income Tax Credit: Low Use and Small Dollars Paid Impede IRS's Efforts to Reduce High Noncompliance*, GA0-07-1110, August 2007, and U.S. Government Accountability Office, *Health Coverage Tax Credit: Simplified and More Timely Enrollment Process Could Increase Participation*, GA0-04-1029, September 2004.

[24] Time period of reference for advanced EITC figure was 2002-2004. Time period of reference for advanced HITC figure was July 2004.

a tax liability of less than $8,000. Given the fact that tax liability is strongly related to income, lower income earners would likely be most affected by eliminating the refundable aspect of the credit. The tax credit proposed in S. 2734 is one example of a non-refundable tax credit.

Third, as was recently done with the American Recovery and Reinvestment Act of 2009, the repayment requirement could be eliminated which would increase the tax credit's value to the credit's full face value ($8,000 or 10% of the purchase price). As mentioned previously, a repayable tax credit's value is reduced below the credit's face value, although on net it is still positive. More taxpayers may choose to also claim the credit if they are not required to have the discipline to ensure they can meet the increased tax liability that stems from repayment. Homebuyer tax credits proposed in the 110$^{th}$ Congress by S. 12 and H.R. 5670 were non-repayable.

Modifications that increased the tax credit's value **and** allowed for advance payment would likely provide the greatest amount of stimulus. Marginal homebuyers, defined as that group of households predicted to be most responsive to a tax credit, often need down payment and closing cost assistance. Increasing the value of the credit without advancing the tax credit payment fails to address these two barriers to homeownership. In addition, increasing the tax credit's value without advance payment could simply cause non-marginal homebuyers to purchase larger homes.

# Modify the Eligibility Criteria

The criteria used to determine eligibility for the tax credit could be modified. Two general ways that draw on legislation in the 110$^{th}$ Congress are described. First, the definition of eligible properties could be more narrowly focused. For example, S. 2566 and S. 12 each proposed a homebuyer tax credit for a home purchase that met one of three criteria: the home was new and unoccupied; the owner's mortgage was in default; or the home was in foreclosure. A similar, but more focused tax credit was proposed by an early version of H.R. 3221 (the American Housing Rescue and Foreclosure Prevention Act of 2008), which would have been allowed exclusively for the purchase of a foreclosed home. Most recently, the American Recovery and Reinvestment Act of 2009 extended the tax credit to homes purchased before December 1, 2009.

Second, the definition of an eligible taxpayers could be modified. One definition would expand eligibility beyond first-time homebuyers to include current homeowners, as well as renters that recently have been homeowners. Such a modification would likely increase the number of buyers who claim the tax credit, although a large fraction the purchases would have likely occurred with or without the credit.

Additionally, the definition of an eligible taxpayer could be modified by adjusting the limitations on income. One option would be to eliminate the income eligibility limits altogether. Such a change could possibly stimulate demand among potential homebuyers that were previously only eligible for a reduced tax credit. At the same time, eliminating the income limits altogether would likely result in a number of higher income individuals claiming the credit, although the credit itself did not influence their decision to purchase a home.

Another option would be to impose an income limit above which taxpayers were ineligible to receive the credit, but below which all taxpayers received the full credit amount. Adjusting the income limits in this manner could increase use of the tax credit for more individuals whose decisions are likely to be influenced by the tax credit.

# Appendix.

This appendix lists the assumptions used in the user cost of capital formula for calculating the annual cost of homeownership. Recall that the annual cost of homeownership may be estimated with the following formula:

$$\text{Annual homeownership cost} = \Big[\underbrace{(1-t_y)(r+t_p)+\delta+m+\beta-g}_{\text{user cost}}\Big]P$$

Given home price data, which was taken from the National Association of Realtors and is listed in **Table 1**, the remaining parameters values required for the estimation are: the marginal income tax rate $t_y$; the mortgage rate $r$; the property tax rate $t_p$; the home depreciation rate $\delta$; maintenance costs $m$; a risk premium for housing investment $\beta$; and the rate of home appreciation $g$.

The marginal income tax rate, the property tax rate, and the mortgage rate were assumed to be 25%, 1%, and 6.5%, respectively. The research of Harding, Rosenthal, and Sirmans (2007) was used to pin down the depreciation rate and maintenance costs at 2.5% and 0.50%, respectively.[25] And Himmelberg, Mayer and Sinai (2005) estimate the housing risk premium to be 2.0% and the long run home appreciation rate to be 3.8%.[26]

The estimated home appreciation rate citied above may be too high to apply to the current housing market and any attempt to adjust this figure downward would likely be arbitrary. Reducing the home appreciation rate, however, would result in a higher homeownership cost estimate. As a result, the value of the homebuyer tax credit expressed as a fraction of the annual ownership cost would fall, reducing the credit's stimulative effect.

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[25] John P. Harding, Stuart S. Rosenthal, and C.F. Sirmans, "Depreciation of Housing Capital, Maintenance, and House Price inflation: Estimates From a Repeat Sales Model," *Journal of Urban Economics*, vol. 61, no. 2 (March 2007), pp. 193-217.

[26] Charles Himmelberg, Christopher Mayer, and Todd Sinai, "Assessing High House Prices: Bubbles, Fundamentals, and Misperceptions," *Journal of Economic Perspectives*, vol. 19, no. 4 (Autumn 2005), pp. 67-92.