

## A Direct Solution for Foreclosure Mitigation

By Gerald Klassen



TECHNICAL REPORT

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# Home Equity Assistance Program

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# Home Equity Assistance Program: A Direct Solution for Foreclosure Mitigation

## Abstract

The current global financial crisis is a complex brew of interconnected problems that are pitting various social, business and political groups against each other in the search for a solution. Each proposed solution or rescue plan is just another way of allocating losses based on the economic interests of the solution designer.

A more holistic view of the problem is a solution that meets the needs of all affected parties —distressed homeowners, taxpayers, banks, mortgage backed securities (MBS) investors and politicians. This solution deals *directly* with foreclosures, the root cause of the financial and economic problems.

The Home Equity Assistance Program (HEAP) prevents foreclosures by providing a source of funding to prepay first and second mortgages so that a distressed homeowner is left with an affordable monthly payment. In exchange, the homeowner accepts an obligation with recourse to repay the equity assistance in the future. Beneficiaries of the program must accept certain reasonable conditions to participate and thus remain in their homes while achieving financial stability.

The program helps distressed homeowners today and provides oversight in the future to ensure they always have affordable mortgage payments as they buy and sell homes. The program does not seek to put a floor on housing prices like many believe is necessary. Rather, the goal is to restore the value of a mortgage by achieving affordable monthly payments without painful principal adjustments and cramdowns that damage the financial system. By making monthly payments affordable, previously distressed homeowners will be able to successfully service their mortgage *and* regain the ability to increase their consumer spending to a more normal level. This approach is the firewall that Martin Feldstein is calling for to put a halt to the housing crisis.

HEAP effectively addresses each of the interconnected problems the nation is facing. It provides real solutions to the conflicts raging in housing, the financial markets and the general economy. Although the assistance provided is substantial, it is less than the total direct and indirect costs of foreclosure. The total capital required for the program is estimated at 38 percent to 62 percent of the total capital committed by the U.S. government to all significant bailout and stimulus programs.

Finally, the program successfully addresses each of the eight points in the checklist that the Congressional Oversight Panel uses to evaluate foreclosure mitigation programs. It deals with

negative equity, can scale up rapidly and will gain acceptance from servicers of private label MBS.

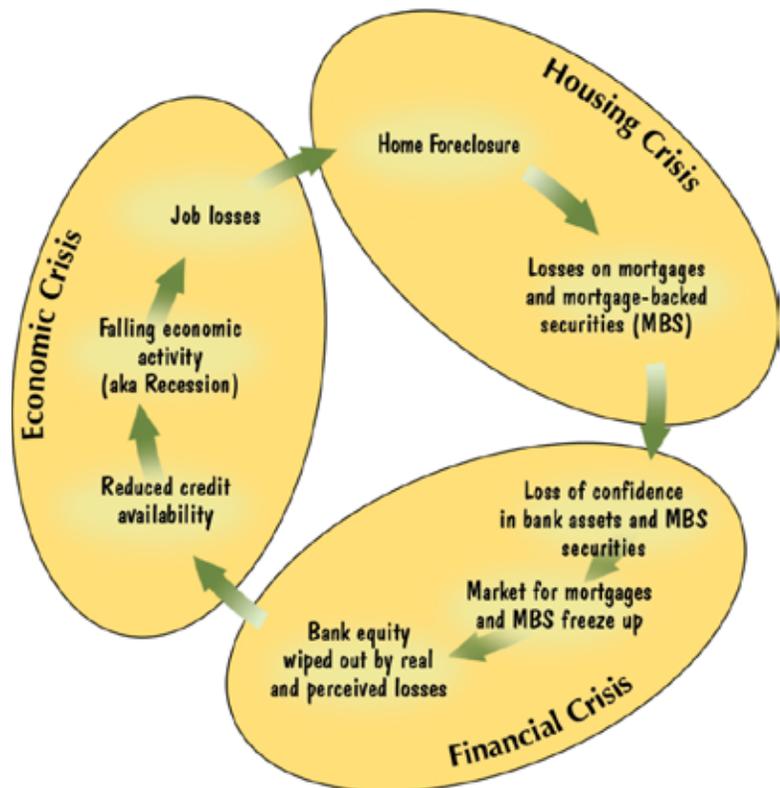
The gridlock of competing interests in this crisis makes it inevitable that objections will be raised to this program. The multiple benefits derived from each dollar of assistance need to be weighed against all of the tangible and intangible costs. Through implementation of appropriate policies and procedures, the program can adequately address objections to moral hazard, total cost and size of assistance provided.

## The Problem

The current global crisis is a complex brew of interconnected problems that are pitting various social, business and political groups against each other in the search for a solution. Each proposed solution or rescue plan is just another way of allocating losses based on the economic interests of the solution designer.

The problem is circuitous in nature (Figure 1). It started as a housing crisis in 2007 with the sudden rise in mortgage defaults and home foreclosures. Those affected were primarily subprime and Alt-A borrowers. Then it morphed into a financial crisis as banks and financial institutions experienced losses in

Figure 1. Evolution of Current Crisis



their holdings of mortgages and mortgage-backed securities (MBS). Finally, it spurred an economic crisis that is producing massive job losses that threaten to escalate the housing crisis.

If corrective action is not taken soon, the United States could face a second, much larger housing crisis affecting prime borrowers. The domino effect could produce another round of more severe losses because of the size of the prime mortgage market.

The challenge now is to break the gridlock of competing interests vying to control the rescue process. These interests and their concerns are:

- Taxpayers do not want to give a free handout to distressed homeowners who took on mortgages they could not afford or who lied on their mortgage applications.
- Distressed homeowners feel taken advantage of by deceptive lenders who did not tell them about escalating monthly payments.
- Distressed homeowners who made down payments or improvements to their homes do not want to be foreclosed on and lose their investments.
- Politicians want to prosecute lenders who deceived their constituents.
- Private investors do not want bankruptcy judges to have the ability to break contracts and force cramdowns on lenders.
- Banks that are forced to write down mortgage principal to help owners by restructuring their distressed mortgages do not want to lose equity capital.
- Politicians want banks to lend more to stimulate the economy even though bank capital is being destroyed by foreclosure losses and principal reductions.

- The market for MBS is no longer functioning because MBS investors do not trust the value of these securities. Without an active market, banks are unable to sell their MBS to raise cash to meet their operating needs.
- Financial institutions like AIG that sold credit default swaps (CDS) on collateralized debt obligations (CDOs) and MBS are being forced to pay more collateral to counterparties as the value of the CDOs and MBS fall. Taxpayers and politicians are growing increasingly angry over providing bailout funds to meet these collateral calls.
- Owners of the highly rated tranches of CDOs want servicing agents to foreclose and liquidate collateral before conditions get much worse while owners of the low-rated tranches threaten to sue the agent for foreclosing because of the losses they will incur.
- The Federal Reserve Bank is being forced to act as a lender and the U.S. Treasury as a guarantor in the securitization market because private investors no longer want to participate. The freeze in securitization is the leading cause for the credit crunch faced by consumers and businesses.
- MBS investors in foreign countries feel cheated by American homeowners who are defaulting on their mortgages. U.S. taxpayers and politicians do not want the U.S. government to make these foreign investors whole because the money is needed here to stimulate the economy.

Many experts have said that we will not come out of this crisis until we put a floor under housing prices or resolve the foreclosure problem. But the government does not have enough financial resources to do this or the capability to intervene so extensively in private markets. And debates about ways of

**Table 1. Largest-Scale Proposed Solutions**

Program	Program Size	Purpose
Troubled Asset Relief Program (TARP)	\$700 billion	Purchase toxic assets from banks. Actual use so far has been to inject common and preferred equity directly into banks.
American Recovery and Reinvestment Act (Stimulus Package)	\$787 billion	Spending and tax cuts designed to jump-start the sagging economy caused by the housing crisis and reduced consumer spending.
Term Asset-Backed Securities Loan Facility (TALF)	\$20 billion equity capital from TARP and \$200 billion in loans from the Federal Reserve (starting point). Program could expand to TARP contribution of \$100 billion and \$1 trillion in loans from Federal Reserve Bank.	Provide guarantees and incentives to private investors to purchase asset-backed securities so consumers and businesses can get more credit.
Long-Term Treasury Purchase by Federal Reserve	\$300 billion	Purchase long-dated Treasuries to help bring down mortgage rates.
Purchase MBS issued by Fannie Mae and Freddie Mac	Up to \$1.25 trillion by the end of 2009.	Provide reduced mortgage rates for homeowners to refinance at a lower rate.
Public-Private Investment Program (PPIP)	\$75-\$100 billion in TARP funds leveraged up to generate purchasing power of \$500 billion; could be expanded to \$1 trillion. Treasury provides 7 percent of equity capital and FDIC provides loan guarantees for 86 percent of funds.	Provide financing and loss guarantees to motivate private investors to purchase toxic assets from banks.
Homeowner Affordability and Stability Plan	\$75 billion	Direct assistance to prevent home foreclosures.

Source: Real Estate Center at Texas A&M University

preventing foreclosure bring a host of arguments about moral hazard while the differences between GSE-backed and private label MBS only serve to complicate matters.

The result is that the majority of government resources have been dedicated to indirect efforts like manipulating mortgage rates, facilitating private sector investment in “toxic” assets and restoring securitization markets. Only a fraction of resources have been directly committed to stopping the foreclosures that created the housing crisis in the first place.

Some compare this crisis to the real estate crisis of the 1980s and say we need a government entity like the Resolution Trust Corporation (RTC) to solve the problem. The key difference between now and then is that the RTC gathered banks’ foreclosed properties after the banks had failed. In this crisis, efforts are focused on preventing home foreclosures and thereby preventing banks from failing. The best way to achieve foreclosure mitigation is to establish a new government entity dedicated to providing the counseling and support services that have already proven effective in reducing default risk.

The costs of foreclosure are high for individuals, lenders and communities. On March 6, 2009, the Congressional Oversight Panel (COP) supervising foreclosure mitigation efforts by the Treasury department released a report called “Foreclosure Crisis: Working Toward a Solution.” The panel estimates that after accounting for foreclosure costs and the lower prices from foreclosure auctions, lenders lose an average of \$60,000 per foreclosure. The COP estimates that “each of the 80 closest neighbors of a foreclosed property can suffer a nearly \$5,000 property value decline as a result of a single foreclosure.”

Communities that have a high concentration of foreclosed properties also suffer the costs of urban blight and higher crime rates. The intangible costs are reflected in the emotional toll for families that are forced to relocate and cut community ties with friends, families, schools and medical care. The cost to the greater economy is manifested through constrained consumption by families who have had their finances devastated by foreclosure.

The alphabet soup of solutions designed to address various parts of the current crisis represent a significant commitment of resources by the Federal Reserve and U.S. Treasury. Yet they do not focus directly on foreclosure mitigation (Table 1).

The programs focused on reducing mortgage rates seek to solve the housing crisis by making mortgage payments more affordable, if homeowners can qualify for refinancing. The programs focused on expanding consumer and business credit hope to solve the crisis by providing financing for more consumption, which is what created this mess in the first place!

Other programs focus on lifting toxic assets out of financial institutions to improve bank balance sheets so they can start lending to businesses and debt-strapped consumers again. But how does having a private equity group service a troubled mortgage add any more value to the economy than having a bank service the mortgage?

The \$75 billion of direct assistance to homeowners represents just 1.5 percent of the approximate \$5 trillion in capital that the U.S. Treasury, FDIC and Federal Reserve are willing to commit to indirect efforts to solve the crisis.

A solution that focuses *directly* on foreclosure mitigation might put an end to the downward spiral started by the

housing crisis. Such a solution could creatively meet the needs of the multiple parties currently stuck in gridlock. Most importantly, it could be backed by adequate resources to prevent as many foreclosures as possible. Only this type of solution will bring about stabilization in the financial sector and broader economy.

## Framework for Evaluating Alternative Solutions

It is important to have a set of criteria for evaluating alternative solutions. In their report on the foreclosure crisis, the COP included this eight-point checklist to evaluate the likely effectiveness of any solution designed to prevent foreclosures.

- Will the plan result in modifications that create affordable monthly payments?
- Does the plan deal with negative equity?
- Does the plan address junior mortgages?
- Does the plan overcome obstacles in existing pooling and servicing agreements that may prevent modifications?
- Does the plan counteract mortgage servicer incentives not to engage in modifications?
- Does the plan provide adequate outreach to homeowners?
- Can the plan be scaled up quickly to deal with millions of mortgages?
- Will the plan have widespread participation by lenders and servicers?

Any solution that addresses these eight points will be more likely to achieve widespread success because it will reach all mortgages, including those in private-label MBS pools. The plan outlined in this white paper will be evaluated against this checklist.

The COP went on to raise concerns about the Homeowner Affordability and Stability Plan announced by the Obama Administration on February 18, 2009.

The Administration estimates that the Plan’s expanded refinancing opportunities for Fannie Mae and Freddie Mac mortgages could assist four to five million responsible homeowners, some of whom otherwise would likely have ended up in foreclosure.

While these projections are encouraging, the Panel has additional areas of concern that are not addressed in the original announcement of the Plan. In particular, the Plan does not include a safe harbor for servicers operating under pooling and servicing agreements to address the potential litigation risk that may be an impediment to voluntary modifications. It is also important that the Plan more fully address the contributory role of second mortgages in the foreclosure process, both as it affects affordability and as it increases the amount of negative equity. And while the modification aspects of the Plan will be mandatory for banks receiving TARP funds going forward, it is unclear how the federal regulators will enforce these new standards industry-wide to reach the needed level of participation.

The Plan also supports permitting bankruptcy judges to restructure underwater mortgages in certain situations. Such statutory changes would expand the impact of the Plan. Without the bankruptcy piece, however, the

Plan does not deal with mortgages that substantially exceed the value of the home, which could limit the relief it provides in parts of the country that have experienced the greatest price declines.

On March 4, 2009, the administration announced its Making Home Affordable Program “to offer assistance to as many as seven to nine million homeowners.” The program relies heavily on principal reduction and provides some financial incentives to lenders willing to reduce principal. It also proposes principal cramdowns by bankruptcy judges. However, Congress has been unable to agree on statutory changes to achieve this. Finally, the program provides financial incentives for mortgage servicers to reduce loan principal but does not provide protection from litigation by investors opposed to principal forgiveness. While it is well intentioned and functional for a subset of mortgages, the program fails to achieve the massive foreclosure mitigation needed.

The second-lien issue is emerging as a major challenge to the plan. The details of this problem are described in an April 3, 2009, *Wall Street Journal* article entitled “Homeowner-Aid Plan Caught in Second-Loan Spat.” Approximately half of homeowners who are seriously delinquent and in need of assistance have a second mortgage. The Treasury Department is trying to persuade lenders to forgive a portion of the second liens. But this is sparking a battle about how to share the losses between MBS investors who own the first mortgages and banks that hold the second mortgages. An effective plan to prevent foreclosure needs to adequately address this significant problem.

The Public Private Investment Program (PPIP) has been heralded by the financial markets as the most promising plan to fix the crisis. The common belief is that removing troubled mortgages and MBS securities from bank balance sheets will free up capacity for new lending. But success depends largely on the price at which the assets are transferred from the banks to private investors.

If the price is too low, the program will effectively transfer wealth from the banks to PPIP’s private investors. The banks would be forced to realize significant losses because of the low price while private investors and taxpayers would share in the long-term gains on the assets. However, the bank losses would force the government to inject hundreds of billions of taxpayer money into the banks to help them recapitalize.

If the price is too high, wealth will be transferred from taxpayers to the banks. The banks would benefit from the high price while PPIP would experience large losses. Private investors would absorb losses up to the small percentage of their equity investment in PPIP while taxpayers would realize all additional losses because of the guarantees provided by Treasury and the Federal Deposit Insurance Corporation. If the price is equal to the long-term value of the toxic assets, what has PPIP really accomplished other than bringing clarity to bank balance sheets?

Clarifying bank balance sheets is a good and worthy objective, but is PPIP the best way of achieving it? How will private investors be better at valuing distressed mortgages than the banks? How will private investors be better at foreclosure mitigation than the banks that own the assets and know the history of the loans? How long will it take private investors to ramp up

full foreclosure mitigation efforts to halt the continuing cascade of losses?

Maybe a better solution would be to lend the \$1 trillion plus in government (taxpayer) resources *directly* to creditworthy homeowners with negative equity. This would immediately halt foreclosures and restore mortgages to full performing value. The restoration of mortgage values would produce bank balance sheet clarity without all the risks of the PPIP. The most effective solution for this crisis will be one that focuses resources directly on restoring the performing status of mortgages and thereby clarifies the value of toxic assets.

Martin Feldstein, chairman of the Council of Economic Advisers under President Reagan, offered a description of the problem in housing and described a direct plan for foreclosure mitigation (*Wall Street Journal*, Oct. 4, 2008, “The Problem Is Still Falling House Prices”). The vehicle he prescribed for delivering assistance is what he called a mortgage replacement loan.

The prospect of a downward spiral of housing prices depresses the value of mortgage-backed securities and therefore the capital and liquidity of financial institutions. Experts say that an additional 10 percent to 15 percent decline in house prices is needed to get back to the prebubble level. The decline would double the number of homes with negative equity, raising the total to 40 percent of all homes with mortgages. The mortgages of five million homeowners would then exceed the value of their homes by 30 percent or more, which could prompt millions of defaults.

We need a firewall to break the downward spiral of house prices. Here’s how it might work. The federal government would offer any homeowner with a mortgage an opportunity to replace 20 percent of the mortgage with a low-interest loan [Mortgage Replacement Loan] from the government, subject to a maximum of \$80,000. This would be available to new buyers as well as those with mortgages. The interest on that loan would reflect the government’s cost of funds and could be as low as 2 percent. The loan would not be secured by the house but would be a loan with full recourse, allowing the government to take other property or income in the unlikely event that the individual does not pay. It would by law be senior to other unsecured debt and not eligible for relief in bankruptcy.

The individual could repay the loan at any time or could refinance the remaining loan on more favorable terms as long as the principal did not increase. A 30-year amortization of the government loan would make the payments low, and a life-insurance policy would protect taxpayers if the borrower dies before the loan is repaid. If the homeowner chooses to accept the loan, creditors would have to accept the 20 percent mortgage repayment, reducing the monthly payments of principal and interest by 20 percent.

This plan is much closer to what we need. It achieves a reduction in mortgage principal without causing a loss by the lender or MBS investors. All banks and mortgage servicers will gladly participate in any program that provides a repayment of principal in cash. Signaling to the market that principal reductions will

be funded through cash prepayments will remove a significant amount of uncertainty about bank balance sheets and MBS security values.

Feldstein's plan also resolves the "handout" issue raised in so many moral hazard arguments. The beneficiary homeowner retains responsibility for repaying the assistance amount so it is not a free handout. However, the homeowner will have a long period to repay the loan, and the rate of interest will be below market rates.

However, the plan does not adequately address four important points:

- **Affordability of monthly payments:** The plan proposes to reduce monthly payments by reducing principal by up to \$80,000. This limit reduces the capital required for the program but the homeowner may be left with a payment that is still unaffordable. The goal is to provide enough funding to insure that the resulting monthly payment (first mortgage + monthly payment on the mortgage replacement loan) is an affordable amount of 31 percent of gross income. This is the best way to protect the mortgage replacement loan principal.
- **Second-lien snafu:** This could spark a legal battle that would bog down the solution. Current second-lien holders will object to a new second-lien position inserting itself between the first lien and existing second lien.
- **Future mortgages:** This plan focuses on providing assistance to solve the current mortgage crisis, but it does not provide oversight that would prevent a future crisis. It is critical that adequate ongoing oversight be provided to prevent the homeowner from getting into trouble when purchasing a new home in the future.
- **Halting current foreclosures:** The plan may not provide adequate incentive to lenders and mortgage servicers to immediately halt foreclosures.

The Home Equity Assistance Program is a proposed solution focusing *directly* on foreclosure mitigation. It could be implemented under the Home Affordability and Stability Plan.

## Home Equity Assistance Program

Millions of homeowners are at risk of defaulting on their mortgages because they do not have enough equity in their homes, and their monthly payments are too high. Typically the homes were purchased with a high loan-to-value (LTV) mortgages, and now the value has fallen below the mortgage amount. Many of the mortgages had teaser rates or introductory low payments for an initial term and the end of that term is approaching. The mortgage payments are about to reset to an amount that is unaffordable. Lenders are not willing to refinance these mortgages because the homeowner has negative equity. Anticipated losses on mortgages have caused the market for MBS securities to become dysfunctional. Financial institutions are experiencing significant destruction of equity capital thanks to losses on their loan portfolios and on the MBS they own.

Congress needs to create a program to provide equity assistance to distressed homeowners so they can reduce the balances on their high-LTV mortgages and second mortgages to a level that produces affordable monthly payments over the remaining life of those mortgages. Affordable payments will prevent foreclosure and solve the economic crisis by enabling homeowners to resume more normal consumption patterns. The combination of effective foreclosure mitigation and support for consumer spending will slow the decline in home values and provide a floor for general economic activity.

The optimal program will provide assistance today and then offer support services to the beneficiaries so that over a period of years they will be able to earn enough equity through homeownership to repay the assistance. By funding the mortgage principal reduction with cash, the market will regain confidence in the value of mortgages, and MBS and write them up to a higher value that will restore equity capital to financial institutions.

HEAP prevents foreclosures by providing a source of funding to prepay first and second mortgages so that a distressed homeowner is left with an affordable monthly payment. In exchange, the homeowner accepts an obligation with recourse to repay the equity assistance in the future. Beneficiaries of the program must accept certain reasonable conditions to participate and thereby remain in their homes while achieving financial stability. The program helps distressed homeowners today and provides oversight in the future to ensure they always have affordable mortgage payments as they buy and sell homes.

The program does not seek to put a floor on housing prices like many believe is necessary. Rather, the goal is to restore the value of a mortgage by achieving affordable monthly payments without painful principal adjustments and cramdowns that damage the financial system. By making monthly payments affordable, distressed homeowners will be able to successfully service their mortgage *and* regain the ability to increase their consumer spending. This approach is the firewall that Feldstein is calling for to put a halt to the housing crisis.

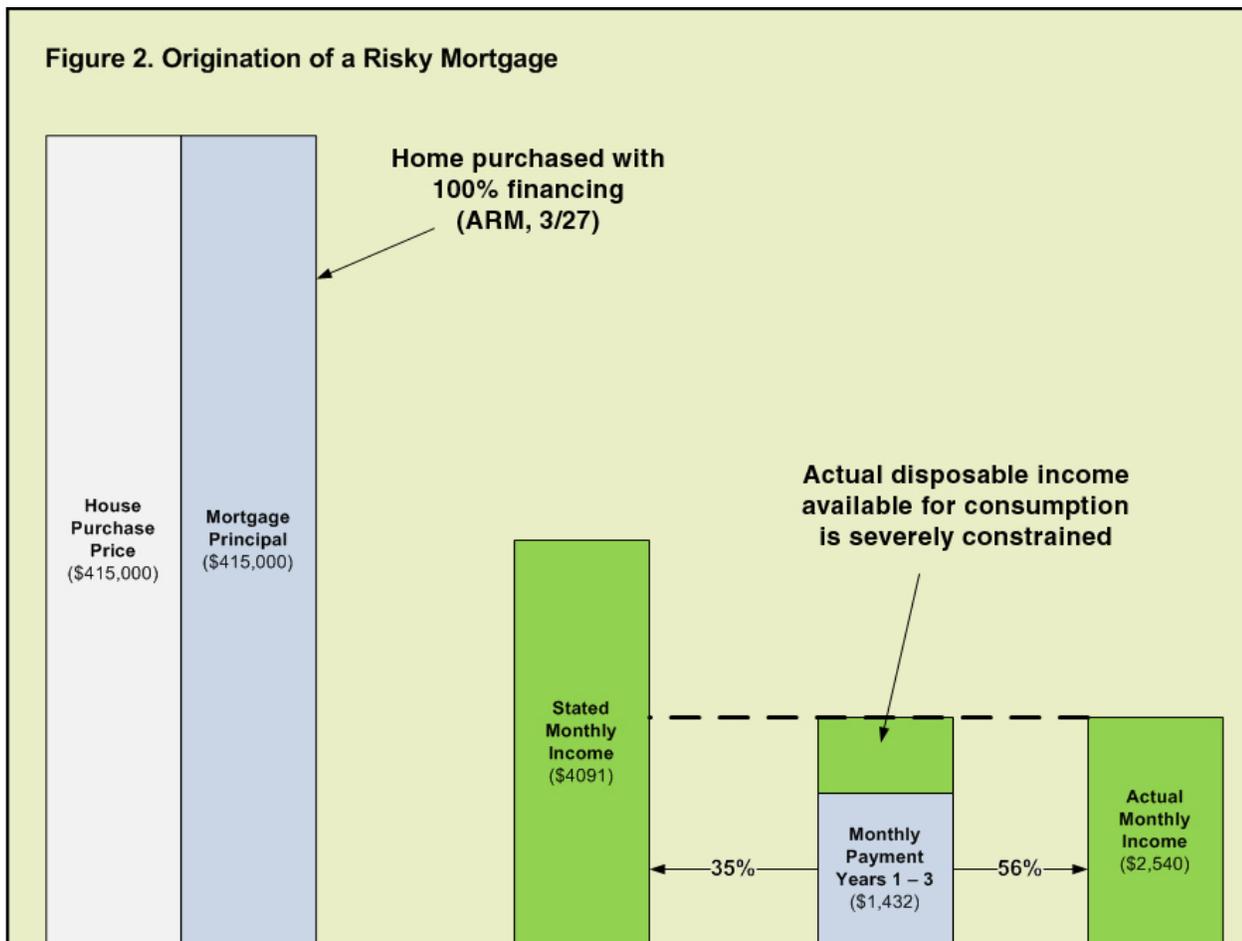
HEAP is best explained through a detailed hypothetical case study of how it would be implemented. The following section provides an overview of the case study with illustrating figures. Appendix A provides a detailed textual account.

## Case Study

This case study is a demonstration of how HEAP would be implemented to prevent foreclosure. The program's five goals are:

- To help distressed homeowners stay in their homes by achieving an affordable monthly payment.
- To restore normal consumer spending patterns.
- NOT to be a free handout.
- To restore confidence in the value of a mortgage.
- To restore bank equity capital so banks can begin lending again.

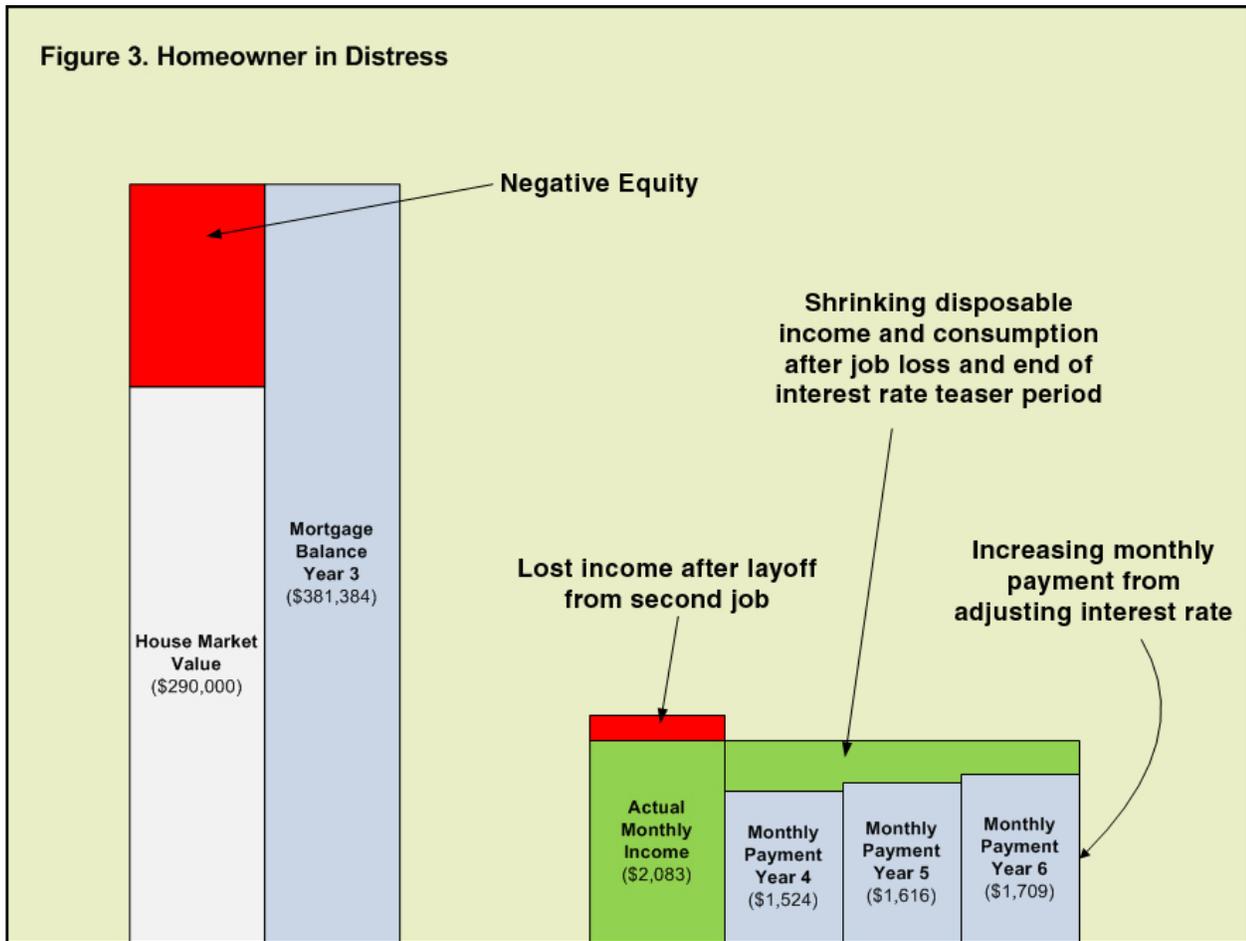
**Figure 2. Origination of a Risky Mortgage**



**Originating a Risky Mortgage**

- In 2006 a person decides to purchase a home and finds the “perfect house” for \$415,000.
- The buyer secures 100 percent financing through a low-documentation loan. It is an adjustable rate mortgage (ARM) with a low teaser rate for the first three years. After the introductory period the rate rises annually subject to a maximum adjustment cap.
- This was a first-time home purchase, so the buyer was not familiar with all the paperwork. The mortgage broker completed the lender’s application and entered a stated monthly income of \$4,091. The buyer, whose actual monthly income was only \$2,540, did not raise any objections.
- The buyer’s monthly income comes from two sources. The primary source is a full-time clerical position with the local school district that pays \$25,000 per year. The secondary source of income is a part-time job at a local retail store. Average annual pay from this position is \$5,480.
- The schedule of monthly payments is presented in Appendix B.
- The monthly payment is a stretch for the buyer, but the buyer is committed to making it work.

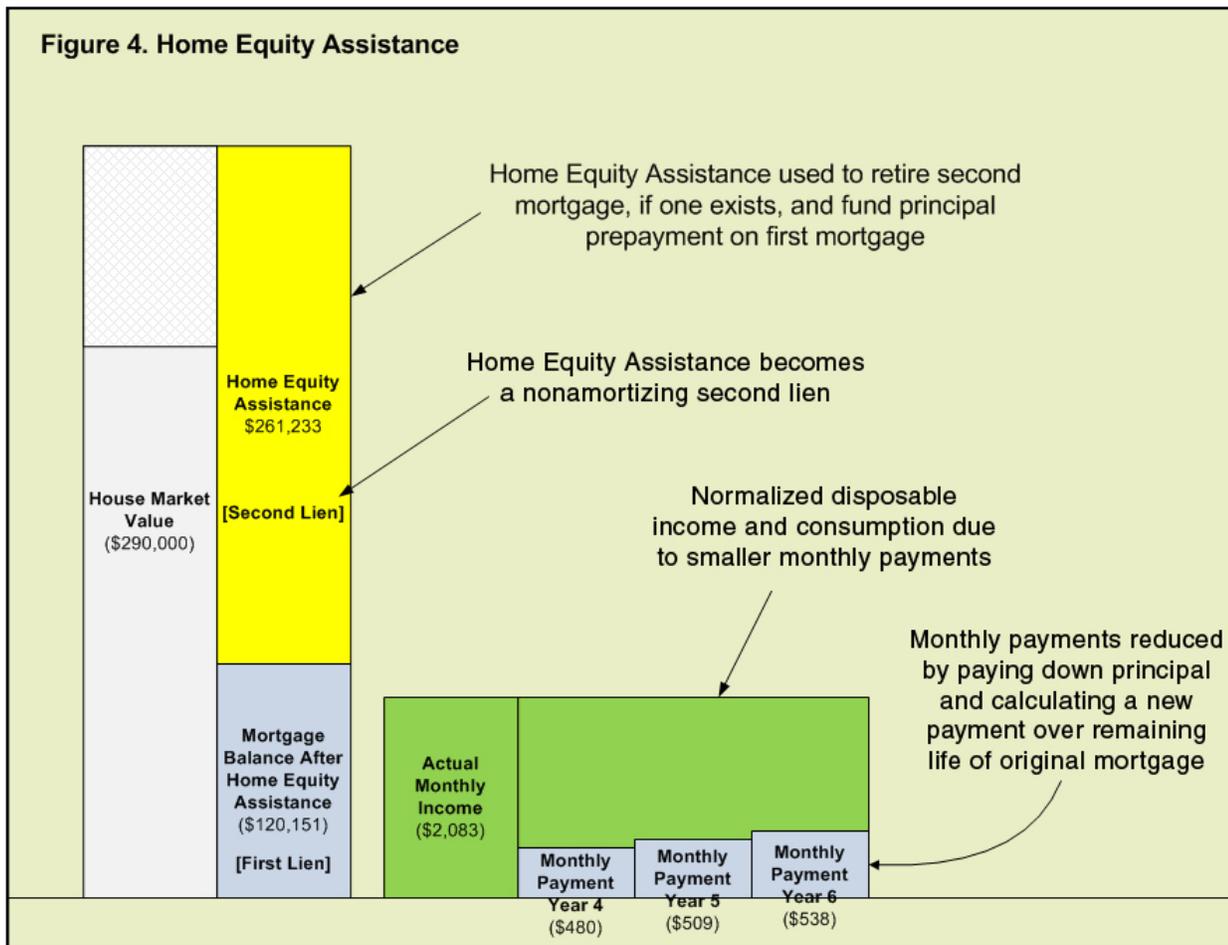
**Figure 3. Homeowner in Distress**



**Homeowner in Distress**

- By spring 2009, the homeowner is in distress and facing default on the mortgage. In December 2008 the part-time position ended when the retailer went bankrupt. This reduced the homeowner’s monthly income to \$2,083. In addition, the introductory rate on the mortgage is about to end and monthly payments will begin rising each year.
- The homeowner hears about efforts to help distressed homeowners refinance their mortgages, but the market value of the home has fallen well below the current balance on the mortgage. The homeowner is underwater with significant negative equity.
- The homeowner is forced to cut back on all unnecessary (and some necessary) monthly consumption in an effort to avoid defaulting on the mortgage.

**Figure 4. Home Equity Assistance**

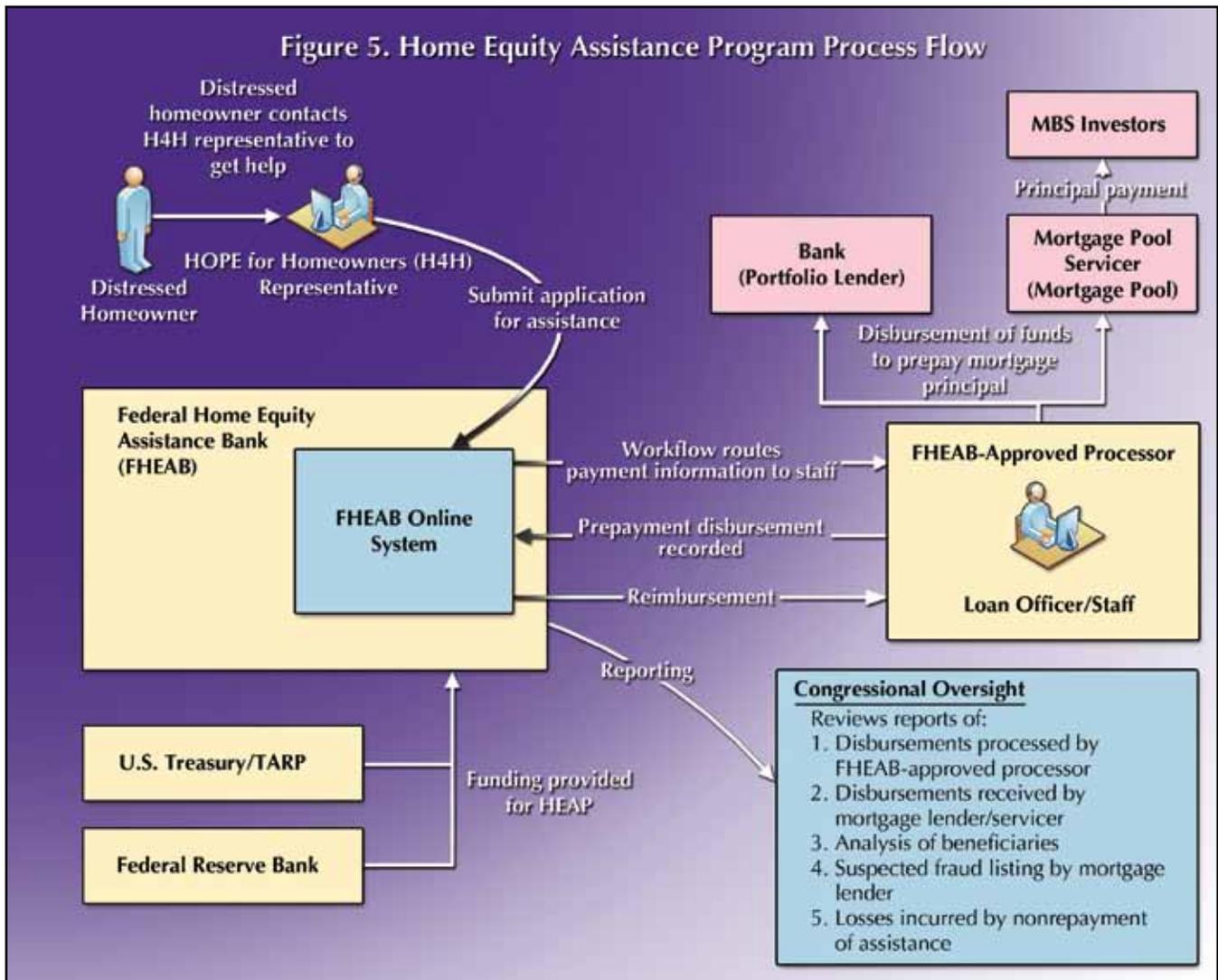


### Providing Home Equity Assistance

- The homeowner hears about a new assistance program that sounds promising. A government-sponsored entity called the Federal Home Equity Assistance Bank (FHEAB; Appendix C) has been created to assist in reducing the homeowner's mortgage burden by providing a nonamortizing loan called a Home Equity Assistance Loan (HEAL; Appendix D) for the purpose of prepaying mortgage principal.
- If a second mortgage exists, the HEAL will be used first to fully retire the second mortgage. Then, the remaining proceeds will be used to pay down the first mortgage and produce an affordable monthly payment. The first mortgage will remain intact but a new monthly payment will be calculated by amortizing the reduced balance over the remaining life of the mortgage. After these transactions, the HEAL becomes a second lien behind the first mortgage and is superior to all other unsecured debt of the homeowner.
- The distressed homeowner calls a Hope for Homeowner (a government program to assist distressed homeowners) representative to inquire about getting a HEAL. The representative provides objective, unbiased counsel about the responsibilities and conditions of getting a HEAL as well as the consequences of foreclosure. Based on analysis of all documentation, the representative determines that the homeowner qualifies for a loan of \$261,233. The homeowner agrees to the conditions of assistance and accepts the HEAL.
- The new schedule of monthly payments is presented in Appendix E.
- The top priority of a HEAL is to provide an affordable monthly payment that enables the homeowner to stay in the home. The 31 percent affordability threshold for this homeowner is \$645. The amount of assistance provided will reduce the Year 4 monthly payment to below this threshold (\$480), however, the annual rate adjustment will cause the payment to increase each year. The payment will stay below the threshold for six years. This will enable the homeowner to resume a more normal pattern of consumption and provide adequate time to find alternative financing before the payment becomes unaffordable again.
- The conditions for obtaining a HEAL are:
  - o Current monthly payment must be greater than 31 percent of gross income. The affordability threshold may vary depending on geographic location. FHEAB will determine the threshold for each region of the country.
  - o The homeowner is not permitted to borrow against the new "equity" created by the HEAL.

- o The HEAL is a loan with recourse. It is secured by all income and assets of the homeowner. A second lien will be placed on the home to protect the FHEAB's economic interest.
- o The homeowner is required to purchase insurance to protect the principal of the HEAL.
- o If the homeowner sells the existing home and purchases a new home while the loan is outstanding, the new

- o mortgage may not have a monthly payment greater than 31 percent of gross income. The FHEAB will assist the homeowner in rolling over a portion of the home sale proceeds into a 20 percent down payment on the new home. The HEAL will then be established as a second lien against the new home.
- o The term of assistance is 30 years. The entire balance must be repaid on or before the end of the term.



### Home Equity Assistance Process Flow

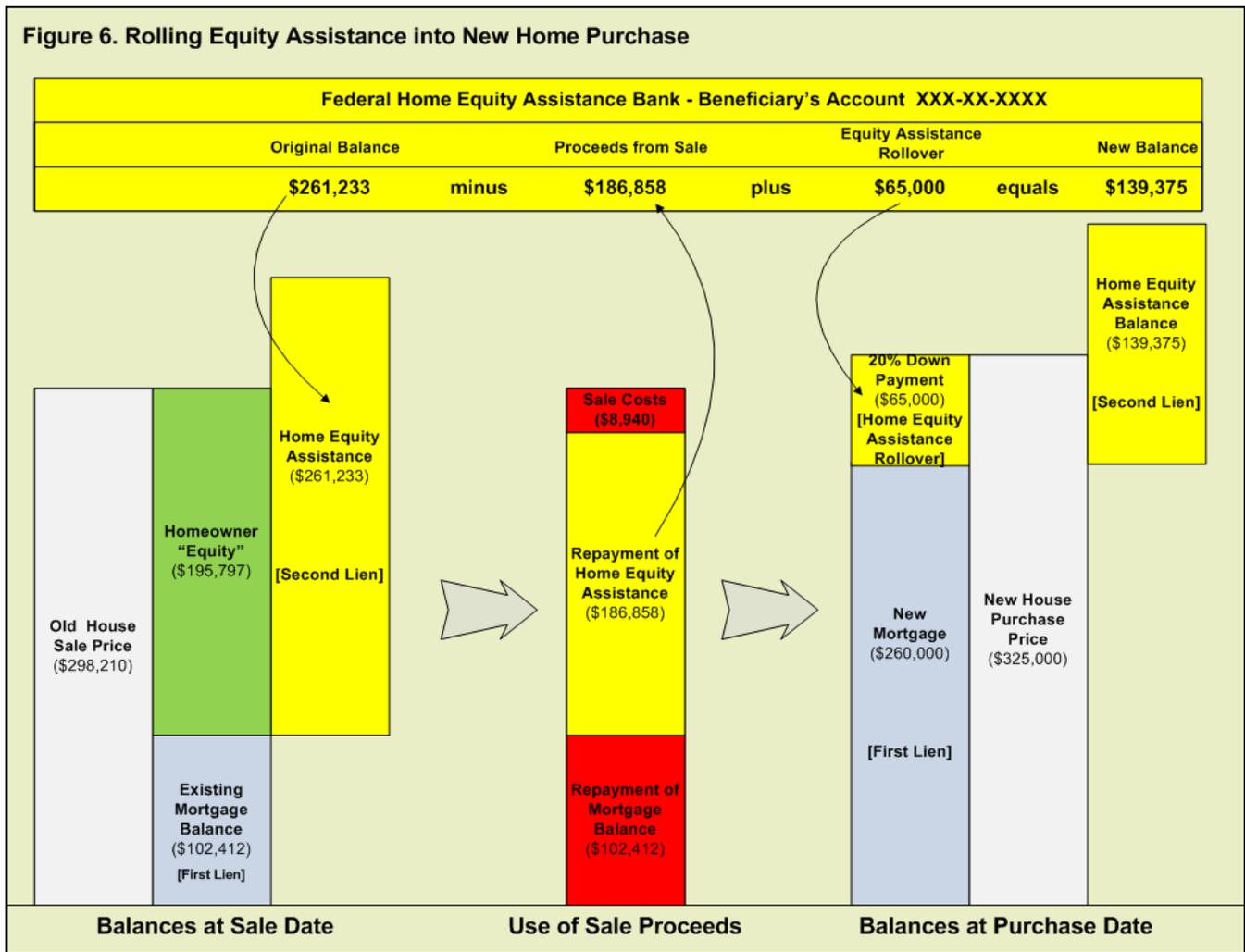
- FHEAB works with the Hope for Homeowners (H4H) program to implement the policies and procedures for providing assistance to distressed homeowners. H4H representatives provide objective counseling and complete information about equity assistance and home foreclosure so that distressed homeowners can make an informed decision about which option is best for them. It is critical that those providing assistance for this program be trustworthy and not have an economic interest in the outcome of the process.
- The distressed homeowner contacts a representative of the H4H program to seek assistance to prevent foreclosure.
- The H4H representative evaluates the case and reviews the following documents:
  - o All documents pertaining to the mortgage in danger of default.
  - o Prior three years' tax returns of the homeowner. This homeowner would present returns from 2006, 2007 and 2008.

- o Tax return for the year prior to the original loan. This homeowner would present the 2005 tax return.
- o Employment verification letter for the homeowner.
- o Property tax statement.
- The representative captures all case information in the FHEAB online system, which:
  - o Captures all information including digitized paper documents.
  - o Provides calculations of assistance amount.
  - o Implements the workflow to process assistance distributions and send reimbursements to approved processors.
  - o Manages the life of the HEAL, including:
    - Collection of proceeds from the sale of the existing home.
    - Distribution of proceeds as down payment in the purchase of a new home.
    - Records losses if there are doubts about the ability to collect.
    - Records repayment of the loan.
- The H4H representative compares the 2005 tax return to the original mortgage documents and determines that the borrower's actual income is less than the stated income.

This information is noted in the online system so that it can be analyzed later.

- The online system uses filtering criteria to forward payment instructions to an approved processing institution. The FHEAB selects a group of institutions with strong payment processing capabilities to process assistance distributions.
- Approved processors make individual payments to lenders and mortgage servicers and submit disbursement information to FHEAB. FHEAB aggregates the disbursements and makes a single bulk payment to each processor to reimburse them for the payments they have made.
- Funding for the reimbursement comes from a combination of proceeds from the U.S. Treasury and the Federal Reserve Bank.
- Management reporting is provided to Congress so that they can:
  - o Analyze the cases of homeowners receiving assistance.
  - o Monitor disbursement amounts and patterns.
  - o Analyze data about suspected cases of fraud in order to make decisions about prosecuting abusive lenders.
  - o Track losses that occur in the program.

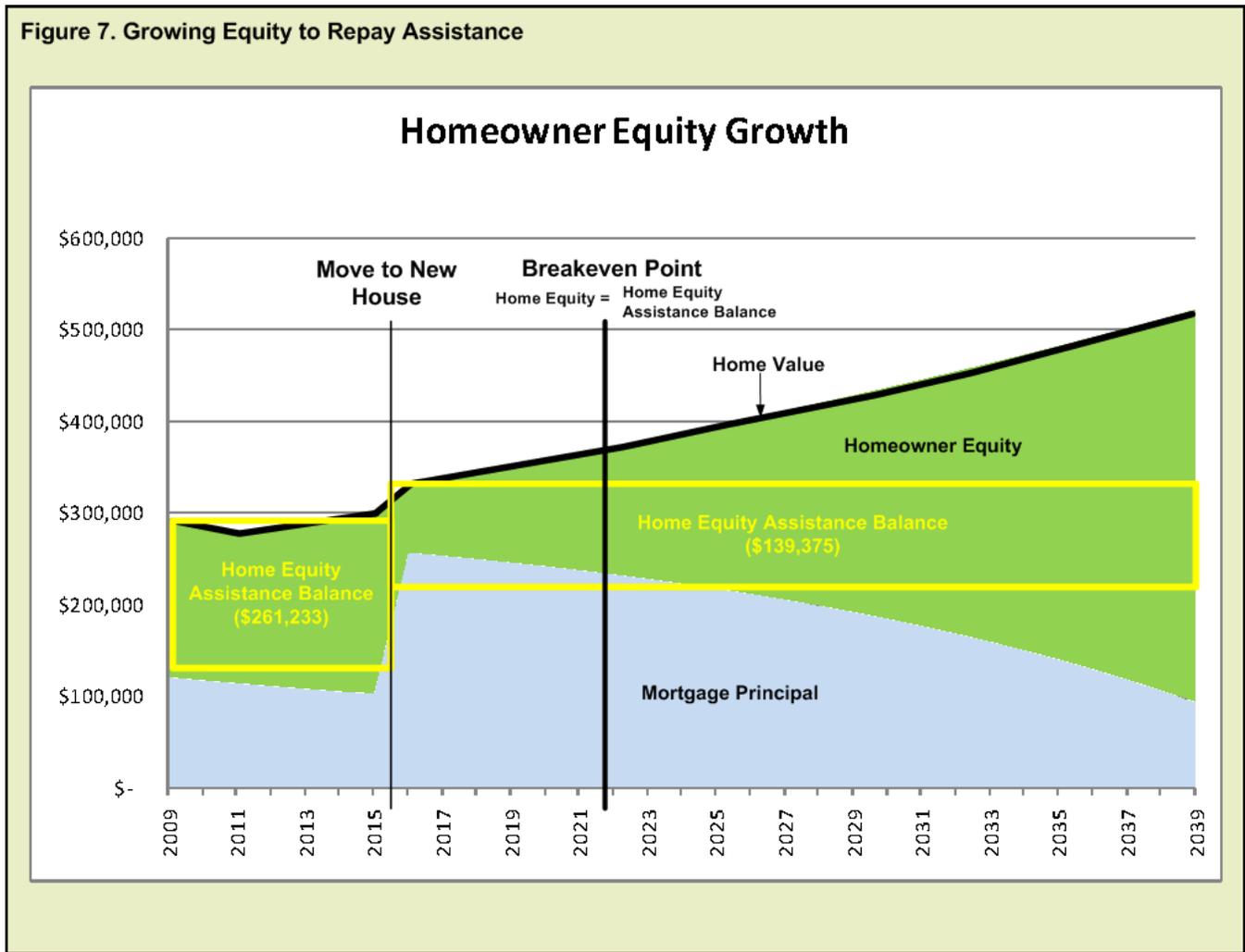
**Figure 6. Rolling Equity Assistance into New Home Purchase**



**Rolling Equity Assistance into New Home Purchase**

- In 2015, six years after receiving assistance, the homeowner accepts a better-paying job in a new city. The homeowner must sell the current home and purchase a new one.
- After receiving assistance, the homeowner was able to keep up with monthly payments and successfully pay the mortgage down to a current balance of \$102,412.
- Housing prices fell an additional 5 percent from 2010 to 2011 but began rising at 2 percent per year starting in 2012. The current market value of the home is \$298,210.
- No payments have been made on the HEAL so it remains at its original balance of \$261,233.
- FHEAB continues to provide support to the homeowner so that the homeowner can continue to reap growing wealth from homeownership. While the homeowner's equity has grown since the time of distress, it has still not grown to an amount that will fully repay the HEAL. Therefore, FHEAB allows the homeowner to roll a portion of the balance of the HEAL into a 20 percent down payment on a new home. This will enable the homeowner to continue growing his or her wealth and at some point refinance the home and repay the HEAL.
- The homeowner contacts FHEAB and notifies them of the pending home sale.
- At closing the sale proceeds are distributed as follows:
  - o Sale costs: \$8,940.
  - o Repayment of the first mortgage: \$102,412.
  - o Repayment of the HEAL: \$186,858 (residual balance of proceeds).
- The homeowner contacts FHEAB and notifies them of the pending purchase of a new home for \$325,000. With a 20 percent down payment, the monthly payments on the new mortgage will be no more than 31 percent of gross income. This meets the conditions of assistance so FHEAB will contribute the 20 percent down payment of \$65,000 at closing.
- The difference between the proceeds of sale (\$186,858) and the down payment (\$65,000) reduces the HEAL balance to \$139,375.
- FHEAB places a second lien against the home for the remaining HEAL balance. Positioning the HEAL balance as a second lien and providing 20 percent of "equity" cushion should enable the homeowner to secure a reasonable first mortgage.

Figure 7. Growing Equity to Repay Assistance



### Growing Equity to Repay Assistance

- Time is the most important ingredient in the success of the program. Distressed homeowners lack adequate financial resources to solve their current problems. They need time to accumulate the necessary resources. HEAP starts by lending distressed homeowners adequate capital to resolve the current demands of financial institutions in a way that does not destroy the equity capital of those institutions. Then it provides ongoing guidance to homeowners to insure they do not get into trouble again. Finally, as homeowners in the program achieve increased equity through home price appreciation and successfully paying down their mortgage, they will accumulate adequate wealth to pay back the assistance they received.
- The two key benefits that taxpayers will receive for providing assistance to distressed homeowners are:
  - o Repair of the financial system through preservation of equity capital and restoration of the value of MBS.
  - o Improved economic conditions as consumption patterns of millions of homeowners return to a more normal level.
- The relationship over time between the assistance provided, mortgage principal and homeowner equity is illustrated in Figure 7.
- Immediately after assistance is provided, the first mortgage position of the lender is protected by a large “equity” cushion created by the second lien position of the HEAL. The HEAL provides protection as home values continue to decline in the short term.
- The homeowner is able to service the new lower monthly payment after receiving assistance so the mortgage balance is reduced in the following six years.
- When the home is sold in 2015, a significant portion (\$121,858) of the assistance is recaptured when the sale is closed. At the same time, a portion (\$65,000) of the assistance from the old home is used to finance the purchase of a new home so that the homeowner can continue to earn equity.
- Approximately 13 years after the initial assistance, the homeowner has accumulated equity that is equal to the remaining balance of the HEAL. This is the breakeven point after which FHEAB can recover the full balance of assistance from sale of the home.
- As time progresses and homeowner’s equity increases, the homeowner will be able to refinance in the private market and repay the HEAL on or before the 30-year term. The expediency of repayment will depend largely on how onerous the program conditions of participation are to the homeowner.

## Evaluating the Home Equity Assistance Program

This white paper has laid out the plan for a solution designed to directly address home foreclosures. The solution overcomes the issues and shortfalls not addressed by other solutions. This section will evaluate the quality of the Home Equity Assistance Program by asking five questions:

1. How does the program address the interconnected problems of the current crisis?
2. How does the program overcome the gridlock of conflicts between competing parties in this crisis?
3. How does the cost of foreclosure compare to the amount of assistance provided?
4. What is the cost of the program?
5. How does the program stack up to the Congressional Oversight Panel's eight-point checklist used for evaluating foreclosure mitigation solutions?

### How does the program address the interconnected problems of the current crisis?

The program seeks to create a firewall that breaks the downward spiral of the housing crisis. It accomplishes this by establishing a new government-sponsored entity called the Federal Home Equity Assistance Bank (FHEAB) designed to provide the capital necessary to halt foreclosures. At the present time

only the U.S. government has a balance sheet large enough to fund large-scale foreclosure mitigation. A significant amount of resources have been committed to solve problems that were started by the housing crisis. A relatively small portion of resources have been committed to directly preventing foreclosures. The FHEAB will be able to directly halt a large number of foreclosures if given adequate capital to accomplish the task.

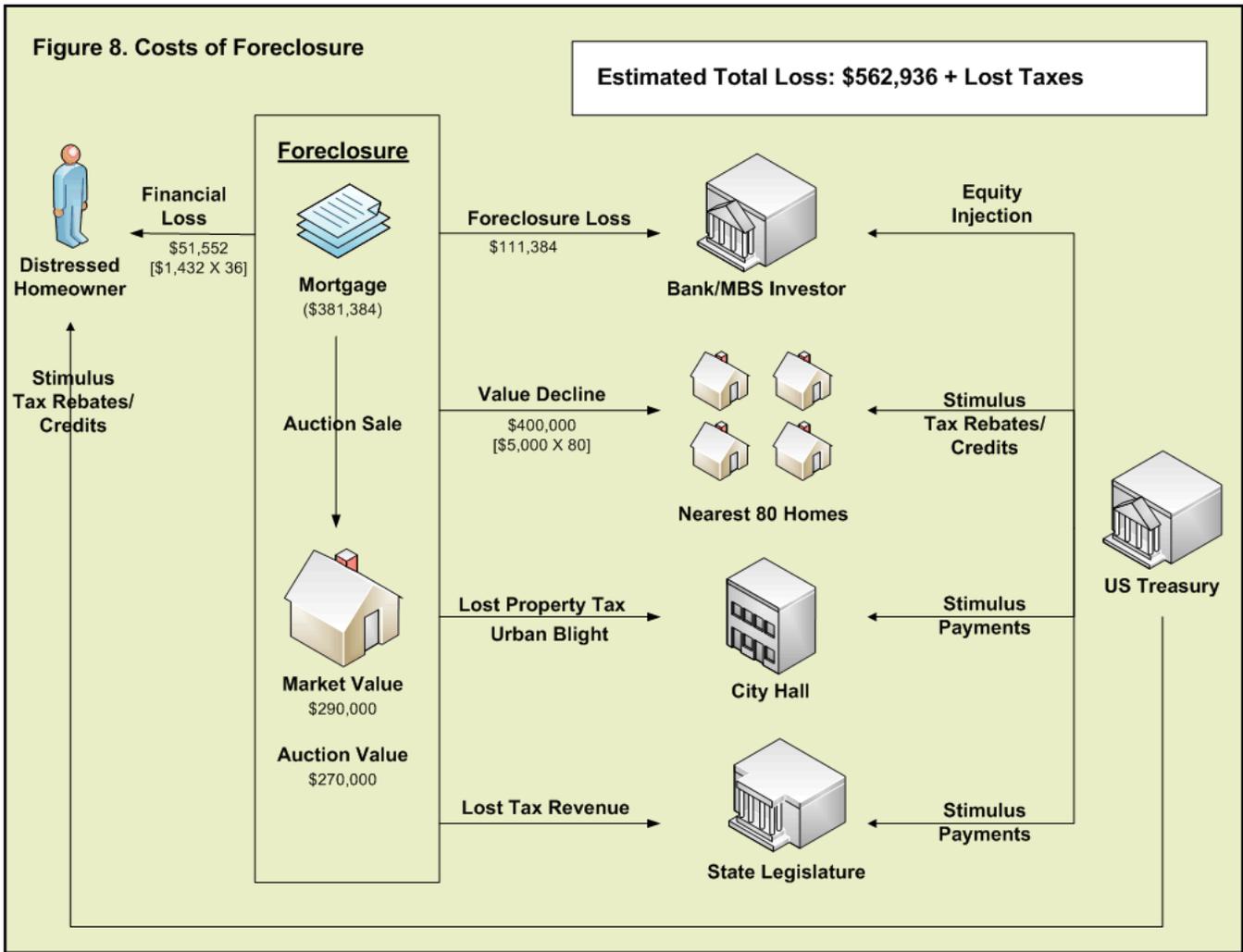
The program will help solve the financial crisis by restoring confidence in the value of mortgages and MBS. By funding the principal reductions with cash rather than forcing write-downs, the FHEAB will sharply reduce uncertainty about the value of bank assets. This will restore confidence in the financial system. The market for MBS should also begin functioning again once investors have confidence that they will receive most, if not all, of the principal from their investment.

Finally, the program will help solve the economic crisis by reducing the monthly mortgage payments of millions of homeowners to an affordable level. Millions of distressed homeowners with high mortgage payments are contributing to the severity of the recession by cutting back on their consumption. They need the help of a nonamortizing loan like a HEAL to free up additional funds for normal consumption. This will help provide stimulus for the economy without special economic stimulus packages.

### How does the program overcome the gridlock of conflicts between competing parties in this crisis?

Conflict	Taxpayers do not want to give a free handout to distressed homeowners.
Resolution	Home Equity Assistance Loans are not a free handout. They are a liability (loan with recourse) that the distressed homeowner commits to repaying through future growth in home equity. The program gives the distressed homeowner sufficient time to build equity to repay the loan.
Conflict	Distressed homeowners feel taken advantage of by deceptive lenders.
Resolution	The Federal Home Equity Assistance Bank is a government-sponsored entity without a motive for taking advantage of distressed homeowners. It works with representatives from the Hope for Homeowners Program to provide objective and complete information about how to get assistance and the consequences of foreclosure.
Conflict	Distressed homeowners who made small down payments or improvements to their home and have serviced their mortgage for three or five years do not want the banks to foreclose and take away their investment.
Resolution	The program will provide the capital necessary to reduce mortgage principal and prevent foreclosure. This will enable homeowners to retain the value of their investment and recoup it in the future when the home is sold.
Conflict	Politicians want to prosecute lenders who deceived their constituents.
Resolution	The program provides a centralized system for gathering information about troubled mortgages. The current distributed system of mortgage restructuring makes it difficult to get good information about improper lending practices. Creating a centralized database with information about distressed homeowners will make analysis and prosecution much easier.
Conflict	Private investors do not want bankruptcy judges to have the ability to break contracts and force cramdowns.
Resolution	This program prevents bankruptcy and does not require cramdowns. It reduces mortgage principal through cash prepayments.

Conflict	Equity capital is destroyed when banks are forced to write down mortgage principal to help distressed owners.
Resolution	This program preserves bank equity capital by funding principal reductions with cash prepayments. This will help solve the bank solvency crisis.
Conflict	Politicians want banks to lend more to stimulate the economy.
Resolution	By preserving bank equity capital, the program will enable banks to conduct more lending without the need for TARP equity injections.
Conflict	The market for MBS no longer functions because MBS investors do not trust the value of these securities.
Resolution	The program will fund principal reductions with cash prepayments so confidence in the value of MBS should return. This will go a long way to restoring the market for MBS.
Conflict	Taxpayers and politicians are growing increasingly angry over providing bailout funds to firms needing capital to meet collateral calls on credit-default swaps.
Resolution	The program restores confidence in the value of MBS underlying the CDSs and CDOs. Restoring value will enable sellers of CDSs to recover collateral.
Conflict	Owners of the highly rated tranches of CDOs want the servicing agent to foreclose and liquidate collateral before conditions get much worse while owners of the low-rated tranches threaten to sue the agent for foreclosing because of the losses it will incur.
Resolution	The program will prevent foreclosure losses by funding principal reductions with cash prepayments. Investors of all tranches should not object to the servicing agent accepting early principal payments.
Conflict	The Federal Reserve Bank is being forced act as a lender and the U.S. Treasury as a guarantor in the securitization market because private investors no longer want to participate because of heightened risk of loss.
Resolution	The program is the first step in restoring confidence to the securitization market. Many changes need to occur in the way MBS deals are structured but restoring principal to investors will give them the capital for participating in future securitizations.
Conflict	MBS investors in foreign countries feel cheated by American homeowners who are defaulting on their mortgages. U.S. taxpayers and politicians do not want the U.S. government to make these foreign investors whole because the money is needed here to stimulate the economy.
Resolution	The program makes foreign investors whole by funding principal reductions with cash prepayments. Achieving affordable monthly payments will provide stimulus to the economy. It is important that American homeowners repay their debts to foreign creditors because of America's dependence on foreign capital to fund government budget deficits.



**How does the cost of foreclosure compare to the amount of assistance provided?**

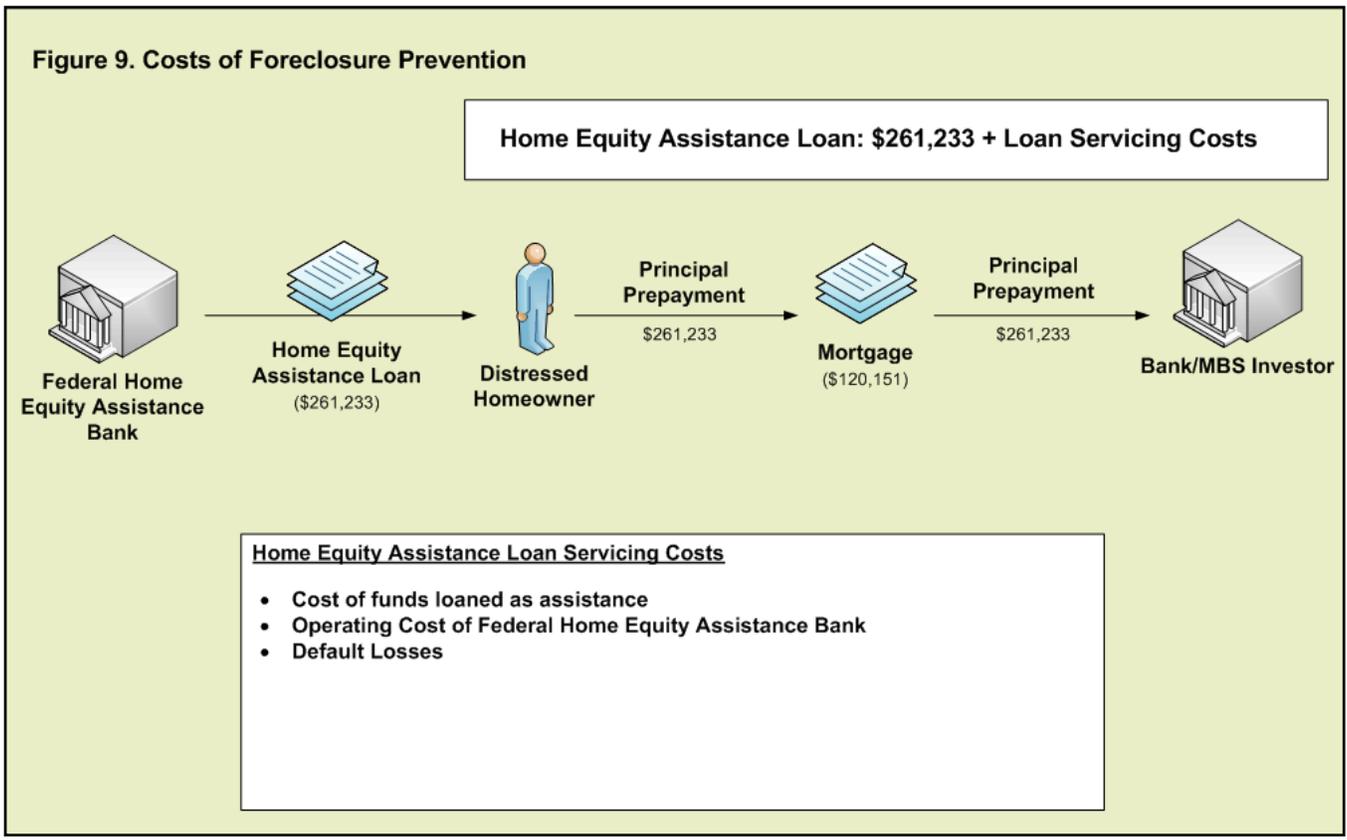
The wide-reaching losses from foreclosure that would occur in the context of this case study are shown in Figure 8. The most visible and easily quantifiable loss is the difference between the mortgage balance at foreclosure and the auction value of the home.

The least visible loss is that experienced by the homeowner who loses the value of three years of mortgage payments and any investments they made to improve the home. The general

public sees negative equity at foreclosure, but the foreclosed homeowner sees the loss of a down payment and mortgage payments they have made.

The largest loss is that experienced by the surrounding community. According to the Congressional Oversight Panel, the nearest 80 homes to a foreclosed home lose approximately \$5,000 in market value per home. The most indirect loss occurs in the budget shortfalls of local and state governments. All of these losses could have been avoided with a rapid, effective solution to prevent foreclosure.

**Figure 9. Costs of Foreclosure Prevention**



The costs of foreclosure mitigation through the HEAP are illustrated in Figure 9. The most visible cash flow is the HEAL used to pay down the mortgage principal. The loan is not a cost of the program but rather an investment by the FHEAB in an asset that will be recovered when the loan is repaid.

The long-term costs of the program are the cost of funds to the bank and the servicing provided to homeowners when they sell one home and purchase another. The most uncertain cost of the program is the loss that might occur if the homeowner defaults on the mortgage. In this case study, the significant equity cushion created by the large assistance loan would enhance the loss recovery for the bank.

**What is the cost of the program?**

The estimates provided here are not scientifically calculated and serve only to provide a rough estimate based on high-level assumptions.

According to IHS Global Insight, there is approximately \$11 trillion in home mortgages currently outstanding. These mortgages are owned either by institutions or mortgage-backed pools. Bill Gross of PIMCO wrote in his August 2008 Investment Outlook that “PIMCO estimates a total of \$5 trillion of mortgage loans are in risky asset categories and that nearly \$1 trillion of cumulative losses will finally mark the gravestone of this housing bubble.”

This much loss in such a short period is a significant blow to the financial system. The goal of the program is to restore the financial system by minimizing losses and stretching them out over a long period. It is assumed that \$1 trillion of mortgages have already been foreclosed or are beyond saving. The program will attempt to save the remaining \$4 trillion in risky mortgages.

Redefaults will represent a significant cost to the program. Many will object to providing such substantial assistance to a distressed homeowner because of the perceived risk of redefault. Many, but not all, distressed homeowners are poor credit risks. Distressed homeowners have often been able to service their low introductory mortgage payments for three years or more. They have proven that they are responsible in making a fixed monthly payment. The two key reasons they are in distress is because of the resetting payment and negative equity. Therefore, with equity assistance there is a high probability the homeowner will continue to meet the monthly payments if they are affordable.

The probability of redefault can be estimated based on the experience rate of existing mortgage modification efforts. The Office of the Comptroller of the Currency (OCC) and the Office of Thrift Supervision (OTS) recently released their quarterly report on first lien mortgage performance for fourth quarter 2008. It provides a view into the success of current loan modification efforts.

Overall for 2008, about 42 percent of modified loans resulted in reduced payments, 27 percent in unchanged payments, and 32 percent in increased payments. The proportion of reduced payments increased significantly in the fourth quarter, to more than 50 percent of all modifications.

Redefault rates were consistently lower for modifications that resulted in lower monthly payments. When modifications decreased monthly payments by more than 10 percent, only about 23 percent of the loans became seriously delinquent six months later. By contrast, some 51 percent of the loans in which payments

remained unchanged were seriously delinquent after six months. The comparable number for loan modifications in which payments increased was 46 percent.

Given that the HEAP will achieve a much greater reduction in monthly payments, the likely rate of redefault will be much lower than 23 percent.

The cost of funding Home Equity Assistance Loans over 30 years will be the largest cost of the program. A significant portion of the assistance balance will be recaptured when homeowners sell the home that was saved. This is illustrated in the case study. Collection of the entire balance will occur after the homeowner has accumulated enough equity to refinance it and draw out cash. The cost of capital used for this estimate is 4.5 percent. This would represent the rate on Treasury bonds

issued to fund the program and the cost of loans from the Federal Reserve Bank.

Worst-case and best-case estimates of program costs over 30 years starting in 2009 are shown in Tables 2 and 3. They are based on different sets of assumptions that are summarized here:

	Worst-Case Estimate	Best-Case Estimate
Average Principal Reduction By Assistance	65 percent	40 percent
Redefault Loss	20 percent	10 percent

**Table 2. Worst-Case Estimate of Program Costs**

[The estimates provided here are not scientifically calculated and serve only to provide a rough estimate based on high level assumptions.]

**(All Amounts in Billions)**

Total Home Mortgages*	\$ 11,000
Risky Home Mortgages**	\$ 5,000
Mortgages Beyond Saving	\$ 1,000
Total Mortgages in need of Assistance	<u>\$ 4,000</u>

Cost of Capital 4.50%

	Mortgages Assisted	Assistance %	Assistance Loans	Repayment %	Repayments	Assistance Balance	Cost of Funds
2009	\$ 500	65%	\$ 325	0%	\$ -	\$ 325	\$ 14.63
2010	\$ 1,500	65%	\$ 975	0%	\$ -	\$ 1,300	\$ 58.50
2011	\$ 1,500	65%	\$ 975	2%	\$ 52	\$ 2,223	\$ 100.04
2012	\$ 500	65%	\$ 325	2%	\$ 52	\$ 2,496	\$ 112.32
2013				5%	\$ 130	\$ 2,366	\$ 106.47
2014				6%	\$ 156	\$ 2,210	\$ 99.45
2015				6%	\$ 156	\$ 2,054	\$ 92.43
2016				6%	\$ 156	\$ 1,898	\$ 85.41
2017				4%	\$ 104	\$ 1,794	\$ 80.73
2018				3%	\$ 78	\$ 1,716	\$ 77.22
2019				3%	\$ 78	\$ 1,638	\$ 73.71
2020				2%	\$ 52	\$ 1,586	\$ 71.37
2021				2%	\$ 52	\$ 1,534	\$ 69.03
2022				1%	\$ 26	\$ 1,508	\$ 67.86
2023				1%	\$ 26	\$ 1,482	\$ 66.69
2024				1%	\$ 26	\$ 1,456	\$ 65.52
2025				1%	\$ 26	\$ 1,430	\$ 64.35
2026				1%	\$ 26	\$ 1,404	\$ 63.18
2027				1%	\$ 26	\$ 1,378	\$ 62.01
2028				1%	\$ 26	\$ 1,352	\$ 60.84
2029				1%	\$ 26	\$ 1,326	\$ 59.67
2030				1%	\$ 26	\$ 1,300	\$ 58.50
2031				1%	\$ 26	\$ 1,274	\$ 57.33
2032				1%	\$ 26	\$ 1,248	\$ 56.16
2033				1%	\$ 26	\$ 1,222	\$ 54.99
2034				1%	\$ 26	\$ 1,196	\$ 53.82
2035				1%	\$ 26	\$ 1,170	\$ 52.65
2036				2%	\$ 52	\$ 1,118	\$ 50.31
2037				5%	\$ 130	\$ 988	\$ 44.46
2038				9%	\$ 234	\$ 754	\$ 33.93
2039				9%	\$ 234	\$ 520	\$ 23.40
Totals			\$ 2,600	80%	\$ 2,080		<b>\$ 2,036.97</b>

\*\*\*Redefault Loss (%) **20%**  
**Redefault Loss (\$)** **\$ 520**

\* Source: IHS Global Insight

\*\* Source: Bill Gross, August 2008 Investment Outlook

\*\*\* Source: Estimate based on OCC report of redefault rate for loans with at least 10% reduction in monthly payments.

<http://www.occ.treas.gov/ftp/release/2009-37.htm>

### Table 3. Best-Case Estimate of Program Costs

[The estimates provided here are not scientifically calculated and serve only to provide a rough estimate based on high level assumptions.]

**(All Amounts in Billions)**

Total Home Mortgages*	\$ 11,000
Risky Home Mortgages**	\$ 5,000
Mortgages Beyond Saving	\$ 1,000
Total Mortgages in need of Assistance	\$ 4,000

Cost of Capital 4.50%

	Mortgages		Assistance		Assistance		Cost of Funds
	Assisted	Assistance %	Loans	Repayment %	Repayments	Balance	
2009	\$ 500	40%	\$ 200	0%	\$ -	\$ 200	\$ 9.00
2010	\$ 1,500	40%	\$ 600	0%	\$ -	\$ 800	\$ 36.00
2011	\$ 1,500	40%	\$ 600	2%	\$ 32	\$ 1,368	\$ 61.56
2012	\$ 500	40%	\$ 200	2%	\$ 32	\$ 1,536	\$ 69.12
2013				5%	\$ 80	\$ 1,456	\$ 65.52
2014				7%	\$ 112	\$ 1,344	\$ 60.48
2015				7%	\$ 112	\$ 1,232	\$ 55.44
2016				7%	\$ 112	\$ 1,120	\$ 50.40
2017				5%	\$ 80	\$ 1,040	\$ 46.80
2018				3%	\$ 48	\$ 992	\$ 44.64
2019				3%	\$ 48	\$ 944	\$ 42.48
2020				3%	\$ 48	\$ 896	\$ 40.32
2021				3%	\$ 48	\$ 848	\$ 38.16
2022				2%	\$ 32	\$ 816	\$ 36.72
2023				1%	\$ 16	\$ 800	\$ 36.00
2024				1%	\$ 16	\$ 784	\$ 35.28
2025				1%	\$ 16	\$ 768	\$ 34.56
2026				1%	\$ 16	\$ 752	\$ 33.84
2027				1%	\$ 16	\$ 736	\$ 33.12
2028				1%	\$ 16	\$ 720	\$ 32.40
2029				1%	\$ 16	\$ 704	\$ 31.68
2030				1%	\$ 16	\$ 688	\$ 30.96
2031				1%	\$ 16	\$ 672	\$ 30.24
2032				1%	\$ 16	\$ 656	\$ 29.52
2033				1%	\$ 16	\$ 640	\$ 28.80
2034				1%	\$ 16	\$ 624	\$ 28.08
2035				1%	\$ 16	\$ 608	\$ 27.36
2036				2%	\$ 32	\$ 576	\$ 25.92
2037				6%	\$ 96	\$ 480	\$ 21.60
2038				10%	\$ 160	\$ 320	\$ 14.40
2039				10%	\$ 160	\$ 160	\$ 7.20
Totals			\$ 1,600	90%	\$ 1,440	\$ 1,137.60	\$ 1,137.60
				<b>***Redeefault Loss (%)</b>	<b>10%</b>		
				<b>Redeefault Loss (\$)</b>		<b>\$ 160</b>	

\* Source: IHS Global Insight

\*\* Source: Bill Gross, August 2008 Investment Outlook

\*\*\* Source: Estimate based on OCC report of redefault rate for loans with at least 10% reduction in monthly payments.

<http://www.occ.treas.gov/ftp/release/2009-37.htm>

The total cost of funds and redefault losses over a 30-year period for the worst-case scenario would be approximately \$2.56 trillion. Under the best-case scenario, the total would be approximately \$1.3 trillion. These are significant amounts but they accomplish much more than just enabling millions of distressed homeowners to remain in their homes. For the price of the program taxpayers are also getting the following benefits:

- Healing of the financial system without having to inject more taxpayer money as equity capital.
- Economic stimulus by reducing mortgage payments so that consumers can return to healthier spending patterns.
- Upside potential for reduced program costs if the program goes well. This is unlike the current programs where taxpayers share a portion of the upside gains with private

capital but assume virtually all of the downside risk of loss if things go poorly. If the program goes well, most of the assistance proceeds will be recaptured, and all of the cost saving benefits will go to taxpayers. If the program goes poorly, taxpayers are no worse off than they would be under existing programs.

- Restored confidence in the securitization market as the creditworthiness of American homeowners is restored.

The capital requirements of the program compare favorably with the capital requirements of current bailout programs. Total capital required for the program ranges from \$1.6 trillion to \$2.6 trillion. The U.S. Treasury, Federal Reserve Bank and Federal Deposit Insurance Corporation have committed or are willing to commit approximately \$4.25 trillion of capital to

fund TARP, TALF, PPIP, purchases of Treasuries and purchases of agency MBS. The stimulus package of \$787 billion provides for some capital investment but is largely a spending bill that represents ongoing operating costs for the government. Most of

the capital required for these programs is not focused directly on foreclosure mitigation. So it is likely that additional funding will be needed until the end of the foreclosures is reached in two to three years.

**How does the program stack up to the Congressional Oversight Panel’s eight-point checklist used for evaluating foreclosure mitigation solutions?**

Checklist Item	Effectiveness Evaluation
Will the plan result in modifications that create affordable monthly payments?	Yes. The amount of a Home Equity Assistance Loan is calculated based on what it takes to achieve an affordable payment.
Does the plan deal with negative equity?	Yes. The significant size of the Home Equity Assistance Loan reduces the mortgage principal and restores positive equity. The second lien position of the loan means that the first mortgage receives the benefit of positive equity if foreclosure occurs in the future.
Does the plan address junior mortgages?	Yes. Junior mortgages are fully repaid first and the remaining balance of the Home Equity Assistance Loan is applied to the first mortgage. This enables the FHEAB to take a second lien position superior to all other unsecured creditors. Taking out the junior mortgages eliminates the legal challenges that would occur if they remained in place.
Does the plan overcome obstacles in existing pooling and servicing agreements that may prevent modifications?	Yes. Pooling and servicing agreements currently accept prepayments and should welcome any program designed to modify mortgages by funding principal reductions with cash prepayments.
Does the plan counteract mortgage servicer incentives not to engage in modifications?	Yes. Accepting cash prepayments is a part of the servicer’s normal business process so no exceptional effort is required. The program does not produce losses that would incent a servicer to not participate.
Does the plan provide adequate outreach to homeowners?	Yes. The program makes use of a partnership with the Hope for Homeowner Program. Lenders and servicers are encouraged to bring their troubled cases to H4H for assistance.
Can the plan be scaled up quickly to deal with millions of mortgages?	Yes. Processing of cash prepayments is a normal business process in the mortgage industry. The FHEAB would contract with a few large payment processing institutions to facilitate rapid disbursement of funds. The centralized online system would support the ramp up of staff to provide assistance while achieving timely reporting on the program.
Will the plan have widespread participation by lenders and servicers?	Yes. All lenders and servicers will seek participation to receive cash prepayments.

In summary, the Home Equity Assistance Program effectively addresses each of the interconnected problems we are facing in the current crisis. It provides real solutions to the conflicts raging in housing, the financial markets and the general economy. Although the assistance provided is substantial, it is less than the total direct and indirect costs of foreclosure. Total capital required for the program is estimated to be 38 percent to 62 percent of the total capital committed by the U.S. government to all significant bailout and stimulus programs. Finally,

the program successfully addresses each of the eight points in the checklist that the Congressional Oversight Panel uses to evaluate foreclosure mitigation programs. It deals with negative equity, can scale up rapidly and will gain acceptance from servicers of private label MBS.

The size and nature of the program are likely to raise several objections. The next section will address concerns that have been raised.

## Overcoming Objections

The gridlock of competing interests in this crisis makes it inevitable that objections will be raised to the solution presented in this white paper. The multiple benefits derived from each dollar of program assistance need to be weighed against all of the tangible and intangible costs. This section will address the following objections:

1. The program helps homeowners who lied on their mortgage application.
2. The program helps those who do not deserve it.
3. The program costs too much.
4. The assistance amount provided to a homeowner is too high.
5. The program creates moral hazard by rewarding bad behavior.

The responses to these objections will show that they can be addressed through reasonable policies and procedures used to implement the program.

### **The program helps homeowners who lied on their mortgage application.**

The program does not necessarily have to provide assistance to distressed homeowners who lied on their mortgage applications. This is an implementation issue that could be addressed through the conditions for assistance policy. The policy could explicitly deny assistance to any homeowner who lied on their application. The advantages of this approach would be:

- Reduces capital requirement and 30-year cost of assistance.
- Filters out a risky class of distressed homeowners.

The disadvantages of this would be:

- Increases the number of foreclosures and lowers the value of surrounding homes.
- Increases equity losses at financial institutions.
- Increases need for economic stimulus to offset damaged consumption of foreclosed homeowners.

### **The program helps those who do not deserve it.**

The generalization in this objection is subjective and does not contribute concretely to finding a solution. Who are those that qualify as deserving? Are there varying levels of deservedness? Should varying levels of deservedness be granted varying levels of assistance?

The program does not attempt to answer these questions. Rather, it asks that those who desire assistance make a commitment to pay it back as a condition for assistance. Some individuals who made an irresponsible decision to commit to a mortgage three years earlier may be willing to responsibly commit to a solution that will enable them to remain in their homes. The advantages of this approach would be:

- Prevents another foreclosure that hurts the value of surrounding homes.
- Reduces equity losses at financial institutions.
- Enables the homeowner to maintain a normal level of consumption.

The disadvantage of this approach would be that homeowners could change their minds later and default on the reduced primary mortgage, ultimately causing foreclosure.

There are certain to be losses as a result of redefault on the primary mortgage. However, the large equity cushion created by the Home Equity Assistance Loan amount is collateral that can be used to reduce the program loss from default.

### **The program costs too much.**

This program is not intended to be a zero-cost solution. Rather, the cost of the program should be compared to the aggregate capital committed to bank lending facilities, toxic asset purchase programs, bank equity injections and economic stimulus programs.

The cost of funds for the program could be partially offset by declaring the Home Equity Assistance Loan to be a taxable benefit. This would raise funds to pay for interest expense and the operating costs of the FHEAB. But the tax paid on the benefit should not put the homeowner back into a state of financial distress.

Declaring the loan amount to be a taxable benefit could also spur earlier repayment. A tax rate that increases over time would encourage the homeowner to repay the loan when the tax exceeded the cost of refinancing the first mortgage.

### **The assistance amount provided to a homeowner is too much.**

The size of assistance provided is an important factor in the success of the program. The greater the assistance provided, the less likely that redefault occurs. The OCC and OTS have demonstrated that the lowest probability of default occurs when the assistance provided causes the homeowner's monthly payment amount to decrease by more than 10 percent. Providing substantial assistance will also maximize protection of bank equity and produce the greatest economic stimulus.

### **The program creates moral hazard by rewarding bad behavior.**

It is important to contrast the competing solutions of principal reduction and principal prepayment in the search for a foreclosure mitigation strategy. A solution that provides relief through principal reduction creates moral hazard issues that are virtually impossible to overcome. Who should get the benefit of having their loan principal reduced? And who should pay for it?

A relief program that protects principal but provides temporary relief from principal amortization accomplishes two things. First, it upholds the value of a contract. The foundation of America's capitalist system rests on the value of contracts and property rights. If homeowners compromise their financial commitments now, they might repeat this behavior at the first sign of trouble in the future. The result will be erosion in our economic system and increased borrowing costs to compensate lenders for greater risk of loss.

Second, this program can be executed more rapidly because it eliminates the need for negotiating the amount of principal reduction. Lenders are not equipped to negotiate principal reductions on a large scale. Nor are they incentivized to negotiate quickly, lest they miss out on some big bailout program or economic conditions improve. Lenders are better equipped to process large principal repayment volume more than large principal reduction volume.

Some may argue that prepaying principal to lenders creates moral hazard because it rewards bad lending behavior. This argument can be addressed on three levels. First, was the lender's behavior legal and prudent? If the lender acted in a legal and prudent manner it should be protected from above-normal loss rates and full prepayment is justified. Second, was the lender's behavior legal but imprudent? If the lender acted legally but imprudently in the way it originated the loan then it should bear an above-normal loss rate reflected in a partially reduced prepayment. Third, was the lender's behavior illegal? If so, the lender should face the full amount of loss and should be penalized for the bad behavior.

Having an objective system for addressing moral hazard will be an important part of any foreclosure mitigation strategy. It is important that the program policies and procedures do not completely shut out all cases where imprudence occurred. This would discourage lenders and/or distressed homeowners from seeking assistance and having to disclose the circumstances of their situation. There is great value in gathering information about all of the distressed situations in the market so that effective steps can be taken to prevent future regulatory failures and penalize those who acted dishonestly.

## Conclusion

The current global crisis is a complex brew of interconnected problems that are pitting various social, business and political groups against each other in the search for a solution. The foreclosure crisis in housing is the starting point and must be addressed with an effective solution or else another round of even greater losses in a continuing downward spiral could occur. The conflicting interests of multiple parties are preventing us from arriving at a solution that will be positive for all. The U.S. government and Federal Reserve Bank have committed trillions of dollars in financial resources to fix the housing, financial and economic crises, but only a small percentage of those fixes deal directly with foreclosures.

The Home Equity Assistance Program prevents foreclosures by providing a source of funding to prepay first and second

mortgages so that a distressed homeowner is left with an affordable monthly payment. In exchange, the homeowner accepts an obligation with recourse to repay the equity assistance in the future.

Beneficiaries of the program must accept certain reasonable conditions to participate and thereby remain in their homes while achieving financial stability. The program helps distressed homeowners today and provides oversight in the future to ensure they always have affordable mortgage payments as they buy and sell homes.

The program does not seek to put a floor on housing prices like many believe is necessary. Rather, the goal is to restore the value of a mortgage by achieving affordable monthly payments without painful principal adjustments and cramdowns. By making monthly payments affordable, previously distressed homeowners will be able to successfully service their mortgage and regain the ability to increase their consumer spending to a more normal level. This approach is the firewall that Martin Feldstein is calling for to put a halt to the housing crisis.

HEAP effectively addresses each of the interconnected problems in the current crisis. It provides real solutions to the conflicts raging in housing, the financial markets and the general economy. Although the assistance provided is substantial, it is less than the total direct and indirect costs of foreclosure. The total capital required for the program is estimated to be 38 percent to 62 percent of the total capital committed by the U.S. government to all significant bailout and stimulus programs.

Finally, the program successfully addresses each of the eight points in the checklist that the Congressional Oversight Panel uses to evaluate foreclosure mitigation programs. It deals with negative equity, can scale up rapidly and will gain acceptance from servicers of private label MBS securities.

It is inevitable that objections will be raised to this program. The multiple benefits derived from each dollar of assistance need to be weighed against all of the tangible and intangible costs. Through implementation of appropriate policies and procedures, the program can adequately address objections to moral hazard, total cost and size of assistance provided.

## Appendix A. Program Implementation Case Study

### Originating a Risky Mortgage

1. On June 1, 2006, a person closes on the purchase of their new home. The net purchase price was \$415,000. The buyer was able to arrange for 100 percent financing.
2. The terms of the mortgage are as follows:
  - a. Low documentation loan based on stated income
  - b. Stated income: \$4,091 per month, \$49,097 annually
  - c. 3/27 adjustable rate mortgage
  - d. Loan amount: \$415,000
  - e. Term: 30 years
  - f. Starting interest rate: 1.5 percent
  - g. Initial rate fixed for three years
  - h. 12 months between rate adjustments
  - i. Expected adjustment: .5 percent per year
  - j. Interest rate cap: 12 percent
  - k. Monthly payment for first three years: \$1,432.25 (35 percent of stated income)
3. The schedule of monthly payments is presented in Appendix B.
4. This was the homeowner's first home purchase so they were not familiar with the mortgage process. The mortgage broker filled out the application for the borrower with a stated income that was higher than the borrower's actual income of \$30,480 per year (\$2,540 per month). The borrower saw the stated income amount on the application but did not object and chose to sign it.

### Homeowner in Distress

5. The homeowner works at two jobs to earn the gross annual income of \$30,480. The first is a full-time clerical position with the local school district that pays \$25,000 per year. The second job is a part-time position as sales clerk for a retail chain. The chain declared bankruptcy in December 2008 so the part-time position no longer exists.
6. The homeowner has tried to find another job to supplement income but has not been able to find anything. The mortgage rate is about to reset on June 1, 2009, and the payment will increase to \$1,524 per month. This is equal to 73 percent of actual monthly gross income of \$2,083 from the borrower's full-time job.
7. It is the spring of 2009, and the homeowner would like to find a way to lower the monthly payment to prevent foreclosure but is not able to refinance because the home value has declined to \$290,000 – less than the balance on the mortgage.

### Providing Home Equity Assistance

8. U.S. Congress passes a new law creating the Federal Home Equity Assistance Bank (FHEAB). This will be the new Government-Sponsored Entity responsible for carrying out the Home Equity Assistance Program under the Homeowner Affordability and Stability Plan. See Appendix C.
9. FHEAB works with the Hope for Homeowners (H4H) Program to implement the policies and procedures for providing assistance to distressed homeowners. H4H rep-

resentatives provide counseling about equity assistance and foreclosures so that distressed homeowners can make a decision about which option is best for them.

10. The homeowner contacts a representative of the H4H Program to seek assistance in preventing foreclosure.
11. The H4H representative evaluates the case and reviews the following documents:
  - a. All documents pertaining to the mortgage in danger of default;
  - b. Prior three years' tax returns of the homeowner. This homeowner would present returns from 2006, 2007 and 2008;
  - c. Tax return for the year prior to the original loan. This homeowner would present the 2005 tax return;
  - d. Employment verification letter; and
  - e. Property tax statement.
12. The H4H representative compares the 2005 tax return to the original mortgage documents and determines that the homeowner's actual income is less than the stated income. This is noted in the online application for assistance.
13. The H4H representative calculates a new payment that is affordable for the homeowner based on current gross income. Affordability will typically be 31 percent of gross income but may be slightly higher in markets where housing is more expensive. The maximum payment will be 38 percent of gross income. In this case, the affordable payment is \$645 [ $\$25,000/12 \times .31$ ].
14. The H4H representative uses a standardized rate and term to calculate the loan principal that would produce an affordable payment.
  - a. Monthly payment: \$645
  - b. Mortgage rate: 5 percent [Assume this is the current 30-year fixed-rate in the market]
  - c. Term: 30 years
  - d. Affordable loan principal: \$120,151
15. The H4H representative determines that the existing loan balance will be \$381,384 when it resets on May 31, 2009.
16. The H4H representative calculates the amount of a new nonamortizing loan called a Home Equity Assistance Loan (HEAL) that the borrower will need to achieve an affordable monthly payment on the original mortgage. The key assumption is that the current lender or servicer will adjust the original mortgage to have a lower monthly payment based on the remaining balance over the remaining life of the mortgage. This is different from the current process that keeps the monthly payment the same but shortens the remaining life. The loan is described in Appendix D. The amount of the HEAL will be \$261,233 [ $\$381,384 - \$120,151$ ].

### Home Equity Assistance Program Process Flow

17. The H4H representative reviews the calculations and amounts with the homeowner so that the homeowner can decide if they want to accept a HEAL. The HEAL is a way

of funding a principal reduction to the original mortgage rather than forcing a cramdown. If the homeowner is willing to commit to the conditions of the HEAL, the H4H representative will contact the owner-servicer of the mortgage to inform them of the intent to make an early payment via the funds from a HEAL. If the homeowner is unwilling to commit to the terms of the HEAL, they must find another way to keep up with payments on the original mortgage or choose to receive foreclosure assistance from FHEAB.

18. In this instance the borrower agrees to the terms of the HEAL. The H4H representative then initiates the application process to create the new loan.
19. The H4H representative uses the new FHEAB online system to file the online application and supporting documents.
20. An automated workflow process routes the application to an FHEAB-approved processor for processing (a group of processing institutions was selected for their ability to process large volumes of cash payments.)
21. Processor's staff member—loan officer receives the electronic documents and processes them.
22. The staff member—loan officer contacts the servicer of the homeowner's original mortgage to tell them which processing institution will be sending payment.
23. The processor's staff member—loan officer initiates payment of \$261,233 to the mortgage servicer on May 31, 2009. The mortgage servicer credits payment to the borrower's mortgage so the new balance on June 1, 2009, is \$120,151. The servicer then recalculates the monthly payments for the remaining life of the loan based on the new balance. The processor then notifies FHEAB that the funds were successfully disbursed. FHEAB reimburses the processor with a bulk payment using funds provided by the U.S. Treasury—TARP and the Federal Reserve.
24. On June 1, 2009, the new monthly payment for the homeowner on the original mortgage will be \$480 per month. The new payment schedule is presented in Appendix E. This is lower than the affordable payment of \$645 because of the interest adjustment cap on the original mortgage. The monthly payment will be less than or equal to \$652 until the June 1, 2016, reset date. The new payment will meet the affordability criteria for the next seven years assuming the homeowner's income does not change. Creating a buffer period of affordability is a critical goal of this program because of the role it will play in stimulating the economy through more normal consumption. The HEAL is nonamortizing so that it does not create a monthly payment burden. Repayment of the HEAL is not required until maturity date.
25. On June 1, 2009 the homeowner will begin making a monthly payment for insurance on the HEAL. It may be necessary for FHEAB to organize the insurance pool if private insurance companies are unwilling.
26. This process successfully averts an impending foreclosure. The list of benefits of this process are:
  - a. Homeowners remain in their home and have an affordable monthly payment. They can resume normal consumption rather than cutting back significantly to meet the increased mortgage payment. If the homeowner defaults under the new payment plan, this would be an indication that the home should be placed into foreclosure rather than providing further assistance.
  - b. The homeowner was able to work with an independent intermediary to achieve resolution. No awkward communication with the bank or mortgage servicer was required. The information provided by the H4H representative will be more trustworthy and less manipulative than what the homeowner experienced in accepting the initial mortgage.
  - c. The process leveraged existing infrastructure in the mortgage industry to achieve resolution. The two new components in the process are the Hope for Homeowner representatives and the new FHEAB online system.
  - d. By leaving the original mortgage open with an affordable monthly payment, the homeowner is given the opportunity to reestablish their creditworthiness. It is also a declaration to the market that the homeowner is willing to accept the consequences of their earlier actions. A good credit record will enable the homeowner to get more credit at a lower cost in the future. This is a much more constructive outcome than would occur in foreclosure or cramdown.
  - e. The new process avoids the issues of moral hazard. The homeowner maintains responsibility for repaying their debt. However, FHEAB provides the homeowner with the time and equity necessary to realize long-term real estate gains that will be used to repay the HEAL in the future.
  - f. By leaving the original mortgage open, the amount of funding required for the program will be reduced. A smaller amount of funding from the U.S. Treasury and Federal Reserve would be needed. The program would only need to fund principal reduction, not the buyout of the total balance on the original mortgage.
  - g. By having an H4H representative educate the homeowner about their options, the homeowner will be able to make an informed decision about accepting the HEAL. The calculations will be objective and accurate and the advice complete. Accepting the HEAL will enable the home to be saved quickly. Helping the homeowner understand the consequences of foreclosure may help the homeowner see the importance of honoring their debts. If counseling from the H4H representative causes the homeowner to decide that foreclosure is the desired option, it will speed the foreclosure process and reduce the processing costs and losses for banks and MBS investors.
  - h. MBS investors receive the full amount of their principal on mortgages they own. No cramdown is necessary. MBS investors are resistant to servicers accepting cramdowns and may threaten the servicers with lawsuits but they should be very willing to accept cash prepayments and waive any prepayment penalty. This will restore confidence in the property rights of investors and the value of MBS and restart the market for these securities.

- i. Financial institutions that have written down their MBS will be able to write them up in value in anticipation of receiving principal cash. Writing up the value of MBS will restore equity capital to the banks and reduce the collateral calls for institutions who sold credit default swaps. This will help heal the banking system without action from the Federal Reserve.
  - j. It is more likely to be viewed as “fair” by the greater taxpayer population because the homeowner remains committed to repaying the loan. The majority of the program’s cost to taxpayers will be for interest on the funds borrowed by the U.S. Treasury and loaned from the Federal Reserve to make the HEAL loans.
  - k. Making the HEAL a recourse loan with special protection in bankruptcy makes the liability enduring. Placing a second lien on the beneficiary’s home provides a public record that protects the assistance balance owed to FHEAB. Making the HEAL subordinate to the first mortgage should make mortgage lenders willing to lend to the homeowner at a reasonable interest rate.
  - l. The program provides support to the homeowner when they sell the current home and purchase a new one. The HEAL repayment process includes a provision for using a portion of the proceeds from the sale of one home as a down payment for the purchase of another home. This enables a homeowner to always have an affordable mortgage payment and earn equity through future home price appreciation. It is the long-term appreciation in home prices that will ultimately be used to repay the HEAL.
- 30. The new home purchase is made with the following terms:
    - a. Purchase price: \$325,000
    - b. Down payment disbursed by FHEAB: \$65,000
    - c. Principal of new first mortgage: \$260,000
    - d. Rate: 6 percent, fixed
    - e. Term: 30 year
    - f. Monthly Payment: \$1,558.83
  - 31. The monthly payment on the new mortgage is 31 percent of the homeowner’s income at the new job. This meets the conditions of assistance so FHEAB contributes \$65,000 of the HEAL balance as a 20 percent down payment at closing on the new home purchase.
  - 32. The outstanding balance on the HEAL after moving to the new city and purchasing a home is \$139,375 [\$261,233 – \$186,858 + \$65,000]. The homeowner begins with an “equity” position of \$65,000 in the new home. As the homeowner makes mortgage payments on the new home and the market value of the home increases in value at 2 percent per year, the homeowner’s equity position increases. The growth in equity is illustrated in Appendix F. Home Equity Growth Schedule. The schedule shows that by the 13th year (2022) of the HEAL the homeowner has reached an equity value that exceeds the HEAL balance. This is the breakeven point for the program.

### **Growing Equity to Repay Assistance**

#### **Rolling Equity Assistance into New Home Purchase**

- 27. In spring of 2015, the homeowner makes a decision to sell the home and move to a new state. The homeowner has located a new job that pays a higher salary. The original mortgage is still in place and payments are current.
- 28. After the Homeowner Affordability and Stability Plan successfully stabilized credit markets, it took two years for the housing market to stabilize. Home values sank by another 5 percent so that the value of the home was \$275,500 in mid- 2011. After that values began to appreciate at a slow 2 percent per year rate. By spring of 2015 the value of the home had appreciated to \$298,210.
- 29. The homeowner successfully sold the home at market value for \$298,210 on Feb. 28, 2015. The proceeds of the sale were distributed as follows:
  - a. Sale costs (3 percent): \$8,940
  - b. Original mortgage repayment: \$102,412
  - c. HEAL balance paydown: \$186,858
- 33. The HEAL reaches maturity in 2039 after 30 years. At this point, the homeowner will be required to repay the loan. The homeowner has two options for repayment. The first option is to refinance the home with a private lender and use a portion of the funds to repay the outstanding balance of \$139,375. If the homeowner is not able to find a loan in the private market, they will have the option of initiating a new loan through FHEAB. The rate on this loan will be 200 basis points over the published benchmark 30-year fixed-rate mortgage rate. The goal of the additional margin is to incent assistance beneficiaries to repay their HEAL from private funds so that the portfolio of HEAL loans eventually liquidates.

## Appendix B. Payment Schedule for a Risky Mortgage

### Adjustable Rate Mortgage (ARM) Calculator

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#### Loan Information

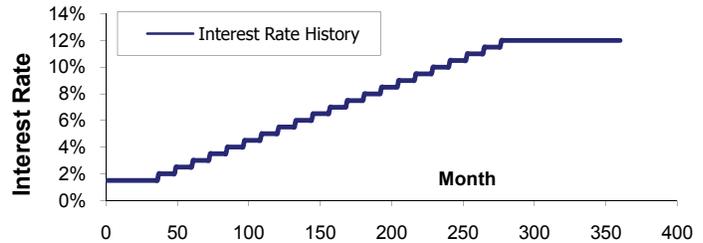
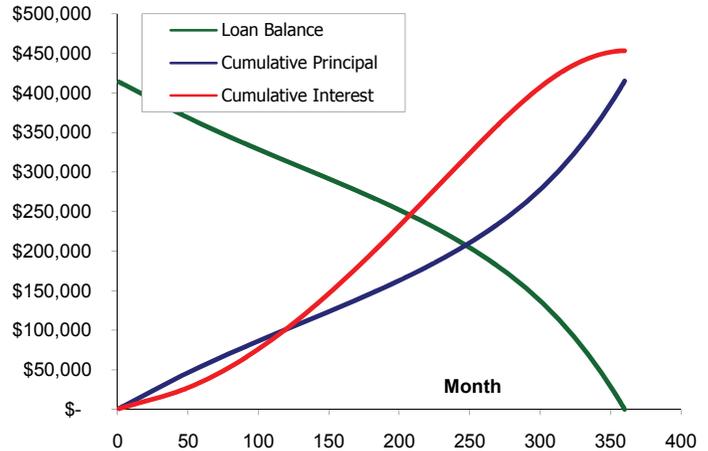
Loan amount	\$ 415,000
Term (years)	30
Starting interest rate	1.500%
First payment date	6/1/2006

Starting monthly payment **\$1,432.25**

#### Rate Adjustments

Rate remains fixed for	3	years
Months between adjustments	12	
Expected adjustment	0.500%	
Interest rate cap	12.000%	

Est. Max rate 12.00%  
 Est. Max monthly payment **\$3,056.74**  
 Total payments \$868,139.00  
 Total interest \$453,139.00  
 Internal Rate of Return 4.80%



No.	Payment Date	Interest Rate	Payment Due	Additional Payment	Interest	Principal	Balance	Cumulative Interest	Cumulative Principal
			\$ (415,000)				\$ 415,000		
1	6/1/2006	1.500%	1,432.25	0.00	518.75	913.50	414,086.50	518.75	913.50
2	7/1/2006	1.500%	1,432.25		517.61	914.64	413,171.86	1,036.36	1,828.14
3	8/1/2006	1.500%	1,432.25		516.46	915.79	412,256.07	1,552.82	2,743.93
4	9/1/2006	1.500%	1,432.25		515.32	916.93	411,339.14	2,068.14	3,660.86
5	10/1/2006	1.500%	1,432.25		514.17	918.08	410,421.06	2,582.31	4,578.94
6	11/1/2006	1.500%	1,432.25		513.03	919.22	409,501.84	3,095.34	5,498.16
7	12/1/2006	1.500%	1,432.25		511.88	920.37	408,581.47	3,607.22	6,418.53
8	1/1/2007	1.500%	1,432.25		510.73	921.52	407,659.95	4,117.95	7,340.05
9	2/1/2007	1.500%	1,432.25		509.57	922.68	406,737.27	4,627.52	8,262.73
10	3/1/2007	1.500%	1,432.25		508.42	923.83	405,813.44	5,135.94	9,186.56
11	4/1/2007	1.500%	1,432.25		507.27	924.98	404,888.46	5,643.21	10,111.54
12	5/1/2007	1.500%	1,432.25		506.11	926.14	403,962.32	6,149.32	11,037.68
13	6/1/2007	1.500%	1,432.25		504.95	927.30	403,035.02	6,654.27	11,964.98
14	7/1/2007	1.500%	1,432.25		503.79	928.46	402,106.56	7,158.06	12,893.44
15	8/1/2007	1.500%	1,432.25		502.63	929.62	401,176.94	7,660.69	13,823.06
16	9/1/2007	1.500%	1,432.25		501.47	930.78	400,246.16	8,162.16	14,753.84
17	10/1/2007	1.500%	1,432.25		500.31	931.94	399,314.22	8,662.47	15,685.78
18	11/1/2007	1.500%	1,432.25		499.14	933.11	398,381.11	9,161.61	16,618.89
19	12/1/2007	1.500%	1,432.25		497.98	934.27	397,446.84	9,659.59	17,553.16
20	1/1/2008	1.500%	1,432.25		496.81	935.44	396,511.40	10,156.40	18,488.60
21	2/1/2008	1.500%	1,432.25		495.64	936.61	395,574.79	10,652.04	19,425.21
22	3/1/2008	1.500%	1,432.25		494.47	937.78	394,637.01	11,146.51	20,362.99
23	4/1/2008	1.500%	1,432.25		493.30	938.95	393,698.06	11,639.81	21,301.94

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24	5/1/2008	1.500%	1,432.25	492.12	940.13	392,757.93	12,131.93	22,242.07
25	6/1/2008	1.500%	1,432.25	490.95	941.30	391,816.63	12,622.88	23,183.37
26	7/1/2008	1.500%	1,432.25	489.77	942.48	390,874.15	13,112.65	24,125.85
27	8/1/2008	1.500%	1,432.25	488.59	943.66	389,930.49	13,601.24	25,069.51
28	9/1/2008	1.500%	1,432.25	487.41	944.84	388,985.65	14,088.65	26,014.35
29	10/1/2008	1.500%	1,432.25	486.23	946.02	388,039.63	14,574.88	26,960.37
30	11/1/2008	1.500%	1,432.25	485.05	947.20	387,092.43	15,059.93	27,907.57
31	12/1/2008	1.500%	1,432.25	483.87	948.38	386,144.05	15,543.80	28,855.95
32	1/1/2009	1.500%	1,432.25	482.68	949.57	385,194.48	16,026.48	29,805.52
33	2/1/2009	1.500%	1,432.25	481.49	950.76	384,243.72	16,507.97	30,756.28
34	3/1/2009	1.500%	1,432.25	480.30	951.95	383,291.77	16,988.27	31,708.23
35	4/1/2009	1.500%	1,432.25	479.11	953.14	382,338.63	17,467.38	32,661.37
36	5/1/2009	1.500%	1,432.25	477.92	954.33	381,384.30	17,945.30	33,615.70
37	6/1/2009	2.000%	1,524.36	635.64	888.72	380,495.58	18,580.94	34,504.42
38	7/1/2009	2.000%	1,524.36	634.16	890.20	379,605.38	19,215.10	35,394.62
39	8/1/2009	2.000%	1,524.36	632.68	891.68	378,713.70	19,847.78	36,286.30
40	9/1/2009	2.000%	1,524.36	631.19	893.17	377,820.53	20,478.97	37,179.47
41	10/1/2009	2.000%	1,524.36	629.70	894.66	376,925.87	21,108.67	38,074.13
42	11/1/2009	2.000%	1,524.36	628.21	896.15	376,029.72	21,736.88	38,970.28
43	12/1/2009	2.000%	1,524.36	626.72	897.64	375,132.08	22,363.60	39,867.92
44	1/1/2010	2.000%	1,524.36	625.22	899.14	374,232.94	22,988.82	40,767.06
45	2/1/2010	2.000%	1,524.36	623.72	900.64	373,332.30	23,612.54	41,667.70
46	3/1/2010	2.000%	1,524.36	622.22	902.14	372,430.16	24,234.76	42,569.84
47	4/1/2010	2.000%	1,524.36	620.72	903.64	371,526.52	24,855.48	43,473.48
48	5/1/2010	2.000%	1,524.36	619.21	905.15	370,621.37	25,474.69	44,378.63
49	6/1/2010	2.500%	1,616.68	772.13	844.55	369,776.82	26,246.82	45,223.18
50	7/1/2010	2.500%	1,616.68	770.37	846.31	368,930.51	27,017.19	46,069.49
51	8/1/2010	2.500%	1,616.68	768.61	848.07	368,082.44	27,785.80	46,917.56
52	9/1/2010	2.500%	1,616.68	766.84	849.84	367,232.60	28,552.64	47,767.40
53	10/1/2010	2.500%	1,616.68	765.07	851.61	366,380.99	29,317.71	48,619.01
54	11/1/2010	2.500%	1,616.68	763.29	853.39	365,527.60	30,081.00	49,472.40
55	12/1/2010	2.500%	1,616.68	761.52	855.16	364,672.44	30,842.52	50,327.56
56	1/1/2011	2.500%	1,616.68	759.73	856.95	363,815.49	31,602.25	51,184.51
57	2/1/2011	2.500%	1,616.68	757.95	858.73	362,956.76	32,360.20	52,043.24
58	3/1/2011	2.500%	1,616.68	756.16	860.52	362,096.24	33,116.36	52,903.76
59	4/1/2011	2.500%	1,616.68	754.37	862.31	361,233.93	33,870.73	53,766.07
60	5/1/2011	2.500%	1,616.68	752.57	864.11	360,369.82	34,623.30	54,630.18
61	6/1/2011	3.000%	1,708.91	900.92	807.99	359,561.83	35,524.22	55,438.17
62	7/1/2011	3.000%	1,708.91	898.90	810.01	358,751.82	36,423.12	56,248.18
63	8/1/2011	3.000%	1,708.91	896.88	812.03	357,939.79	37,320.00	57,060.21
64	9/1/2011	3.000%	1,708.91	894.85	814.06	357,125.73	38,214.85	57,874.27
65	10/1/2011	3.000%	1,708.91	892.81	816.10	356,309.63	39,107.66	58,690.37
66	11/1/2011	3.000%	1,708.91	890.77	818.14	355,491.49	39,998.43	59,508.51
67	12/1/2011	3.000%	1,708.91	888.73	820.18	354,671.31	40,887.16	60,328.69
68	1/1/2012	3.000%	1,708.91	886.68	822.23	353,849.08	41,773.84	61,150.92
69	2/1/2012	3.000%	1,708.91	884.62	824.29	353,024.79	42,658.46	61,975.21
70	3/1/2012	3.000%	1,708.91	882.56	826.35	352,198.44	43,541.02	62,801.56
71	4/1/2012	3.000%	1,708.91	880.50	828.41	351,370.03	44,421.52	63,629.97
72	5/1/2012	3.000%	1,708.91	878.43	830.48	350,539.55	45,299.95	64,460.45
73	6/1/2012	3.500%	1,800.77	1,022.41	778.36	349,761.19	46,322.36	65,238.81
74	7/1/2012	3.500%	1,800.77	1,020.14	780.63	348,980.56	47,342.50	66,019.44
75	8/1/2012	3.500%	1,800.77	1,017.86	782.91	348,197.65	48,360.36	66,802.35

## Appendix B. Payment Schedule for a Risky Mortgage

### Adjustable Rate Mortgage (ARM) Calculator

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76	9/1/2012	3.500%	1,800.77	1,015.58	785.19	347,412.46	49,375.94	67,587.54
77	10/1/2012	3.500%	1,800.77	1,013.29	787.48	346,624.98	50,389.23	68,375.02
78	11/1/2012	3.500%	1,800.77	1,010.99	789.78	345,835.20	51,400.22	69,164.80
79	12/1/2012	3.500%	1,800.77	1,008.69	792.08	345,043.12	52,408.91	69,956.88
80	1/1/2013	3.500%	1,800.77	1,006.38	794.39	344,248.73	53,415.29	70,751.27
81	2/1/2013	3.500%	1,800.77	1,004.06	796.71	343,452.02	54,419.35	71,547.98
82	3/1/2013	3.500%	1,800.77	1,001.74	799.03	342,652.99	55,421.09	72,347.01
83	4/1/2013	3.500%	1,800.77	999.40	801.37	341,851.62	56,420.49	73,148.38
84	5/1/2013	3.500%	1,800.77	997.07	803.70	341,047.92	57,417.56	73,952.08
85	6/1/2013	4.000%	1,891.96	1,136.83	755.13	340,292.79	58,554.39	74,707.21
86	7/1/2013	4.000%	1,891.96	1,134.31	757.65	339,535.14	59,688.70	75,464.86
87	8/1/2013	4.000%	1,891.96	1,131.78	760.18	338,774.96	60,820.48	76,225.04
88	9/1/2013	4.000%	1,891.96	1,129.25	762.71	338,012.25	61,949.73	76,987.75
89	10/1/2013	4.000%	1,891.96	1,126.71	765.25	337,247.00	63,076.44	77,753.00
90	11/1/2013	4.000%	1,891.96	1,124.16	767.80	336,479.20	64,200.60	78,520.80
91	12/1/2013	4.000%	1,891.96	1,121.60	770.36	335,708.84	65,322.20	79,291.16
92	1/1/2014	4.000%	1,891.96	1,119.03	772.93	334,935.91	66,441.23	80,064.09
93	2/1/2014	4.000%	1,891.96	1,116.45	775.51	334,160.40	67,557.68	80,839.60
94	3/1/2014	4.000%	1,891.96	1,113.87	778.09	333,382.31	68,671.55	81,617.69
95	4/1/2014	4.000%	1,891.96	1,111.27	780.69	332,601.62	69,782.82	82,398.38
96	5/1/2014	4.000%	1,891.96	1,108.67	783.29	331,818.33	70,891.49	83,181.67
97	6/1/2014	4.500%	1,982.24	1,244.32	737.92	331,080.41	72,135.81	83,919.59
98	7/1/2014	4.500%	1,982.24	1,241.55	740.69	330,339.72	73,377.36	84,660.28
99	8/1/2014	4.500%	1,982.24	1,238.77	743.47	329,596.25	74,616.13	85,403.75
100	9/1/2014	4.500%	1,982.24	1,235.99	746.25	328,850.00	75,852.12	86,150.00
101	10/1/2014	4.500%	1,982.24	1,233.19	749.05	328,100.95	77,085.31	86,899.05
102	11/1/2014	4.500%	1,982.24	1,230.38	751.86	327,349.09	78,315.69	87,650.91
103	12/1/2014	4.500%	1,982.24	1,227.56	754.68	326,594.41	79,543.25	88,405.59
104	1/1/2015	4.500%	1,982.24	1,224.73	757.51	325,836.90	80,767.98	89,163.10
105	2/1/2015	4.500%	1,982.24	1,221.89	760.35	325,076.55	81,989.87	89,923.45
106	3/1/2015	4.500%	1,982.24	1,219.04	763.20	324,313.35	83,208.91	90,686.65
107	4/1/2015	4.500%	1,982.24	1,216.18	766.06	323,547.29	84,425.09	91,452.71
108	5/1/2015	4.500%	1,982.24	1,213.30	768.94	322,778.35	85,638.39	92,221.65
109	6/1/2015	5.000%	2,071.33	1,344.91	726.42	322,051.93	86,983.30	92,948.07
110	7/1/2015	5.000%	2,071.33	1,341.88	729.45	321,322.48	88,325.18	93,677.52
111	8/1/2015	5.000%	2,071.33	1,338.84	732.49	320,589.99	89,664.02	94,410.01
112	9/1/2015	5.000%	2,071.33	1,335.79	735.54	319,854.45	90,999.81	95,145.55
113	10/1/2015	5.000%	2,071.33	1,332.73	738.60	319,115.85	92,332.54	95,884.15
114	11/1/2015	5.000%	2,071.33	1,329.65	741.68	318,374.17	93,662.19	96,625.83
115	12/1/2015	5.000%	2,071.33	1,326.56	744.77	317,629.40	94,988.75	97,370.60
116	1/1/2016	5.000%	2,071.33	1,323.46	747.87	316,881.53	96,312.21	98,118.47
117	2/1/2016	5.000%	2,071.33	1,320.34	750.99	316,130.54	97,632.55	98,869.46
118	3/1/2016	5.000%	2,071.33	1,317.21	754.12	315,376.42	98,949.76	99,623.58
119	4/1/2016	5.000%	2,071.33	1,314.07	757.26	314,619.16	100,263.83	100,380.84
120	5/1/2016	5.000%	2,071.33	1,310.91	760.42	313,858.74	101,574.74	101,141.26
121	6/1/2016	5.500%	2,158.99	1,438.52	720.47	313,138.27	103,013.26	101,861.73
122	7/1/2016	5.500%	2,158.99	1,435.22	723.77	312,414.50	104,448.48	102,585.50
123	8/1/2016	5.500%	2,158.99	1,431.90	727.09	311,687.41	105,880.38	103,312.59
124	9/1/2016	5.500%	2,158.99	1,428.57	730.42	310,956.99	107,308.95	104,043.01
125	10/1/2016	5.500%	2,158.99	1,425.22	733.77	310,223.22	108,734.17	104,776.78
126	11/1/2016	5.500%	2,158.99	1,421.86	737.13	309,486.09	110,156.03	105,513.91
127	12/1/2016	5.500%	2,158.99	1,418.48	740.51	308,745.58	111,574.51	106,254.42

## Appendix B. Payment Schedule for a Risky Mortgage

### Adjustable Rate Mortgage (ARM) Calculator

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128	1/1/2017	5.500%	2,158.99	1,415.08	743.91	308,001.67	112,989.59	106,998.33
129	2/1/2017	5.500%	2,158.99	1,411.67	747.32	307,254.35	114,401.26	107,745.65
130	3/1/2017	5.500%	2,158.99	1,408.25	750.74	306,503.61	115,809.51	108,496.39
131	4/1/2017	5.500%	2,158.99	1,404.81	754.18	305,749.43	117,214.32	109,250.57
132	5/1/2017	5.500%	2,158.99	1,401.35	757.64	304,991.79	118,615.67	110,008.21
133	6/1/2017	6.000%	2,244.99	1,524.96	720.03	304,271.76	120,140.63	110,728.24
134	7/1/2017	6.000%	2,244.99	1,521.36	723.63	303,548.13	121,661.99	111,451.87
135	8/1/2017	6.000%	2,244.99	1,517.74	727.25	302,820.88	123,179.73	112,179.12
136	9/1/2017	6.000%	2,244.99	1,514.10	730.89	302,089.99	124,693.83	112,910.01
137	10/1/2017	6.000%	2,244.99	1,510.45	734.54	301,355.45	126,204.28	113,644.55
138	11/1/2017	6.000%	2,244.99	1,506.78	738.21	300,617.24	127,711.06	114,382.76
139	12/1/2017	6.000%	2,244.99	1,503.09	741.90	299,875.34	129,214.15	115,124.66
140	1/1/2018	6.000%	2,244.99	1,499.38	745.61	299,129.73	130,713.53	115,870.27
141	2/1/2018	6.000%	2,244.99	1,495.65	749.34	298,380.39	132,209.18	116,619.61
142	3/1/2018	6.000%	2,244.99	1,491.90	753.09	297,627.30	133,701.08	117,372.70
143	4/1/2018	6.000%	2,244.99	1,488.14	756.85	296,870.45	135,189.22	118,129.55
144	5/1/2018	6.000%	2,244.99	1,484.35	760.64	296,109.81	136,673.57	118,890.19
145	6/1/2018	6.500%	2,329.09	1,603.93	725.16	295,384.65	138,277.50	119,615.35
146	7/1/2018	6.500%	2,329.09	1,600.00	729.09	294,655.56	139,877.50	120,344.44
147	8/1/2018	6.500%	2,329.09	1,596.05	733.04	293,922.52	141,473.55	121,077.48
148	9/1/2018	6.500%	2,329.09	1,592.08	737.01	293,185.51	143,065.63	121,814.49
149	10/1/2018	6.500%	2,329.09	1,588.09	741.00	292,444.51	144,653.72	122,555.49
150	11/1/2018	6.500%	2,329.09	1,584.07	745.02	291,699.49	146,237.79	123,300.51
151	12/1/2018	6.500%	2,329.09	1,580.04	749.05	290,950.44	147,817.83	124,049.56
152	1/1/2019	6.500%	2,329.09	1,575.98	753.11	290,197.33	149,393.81	124,802.67
153	2/1/2019	6.500%	2,329.09	1,571.90	757.19	289,440.14	150,965.71	125,559.86
154	3/1/2019	6.500%	2,329.09	1,567.80	761.29	288,678.85	152,533.51	126,321.15
155	4/1/2019	6.500%	2,329.09	1,563.68	765.41	287,913.44	154,097.19	127,086.56
156	5/1/2019	6.500%	2,329.09	1,559.53	769.56	287,143.88	155,656.72	127,856.12
157	6/1/2019	7.000%	2,411.03	1,675.01	736.02	286,407.86	157,331.73	128,592.14
158	7/1/2019	7.000%	2,411.03	1,670.71	740.32	285,667.54	159,002.44	129,332.46
159	8/1/2019	7.000%	2,411.03	1,666.39	744.64	284,922.90	160,668.83	130,077.10
160	9/1/2019	7.000%	2,411.03	1,662.05	748.98	284,173.92	162,330.88	130,826.08
161	10/1/2019	7.000%	2,411.03	1,657.68	753.35	283,420.57	163,988.56	131,579.43
162	11/1/2019	7.000%	2,411.03	1,653.29	757.74	282,662.83	165,641.85	132,337.17
163	12/1/2019	7.000%	2,411.03	1,648.87	762.16	281,900.67	167,290.72	133,099.33
164	1/1/2020	7.000%	2,411.03	1,644.42	766.61	281,134.06	168,935.14	133,865.94
165	2/1/2020	7.000%	2,411.03	1,639.95	771.08	280,362.98	170,575.09	134,637.02
166	3/1/2020	7.000%	2,411.03	1,635.45	775.58	279,587.40	172,210.54	135,412.60
167	4/1/2020	7.000%	2,411.03	1,630.93	780.10	278,807.30	173,841.47	136,192.70
168	5/1/2020	7.000%	2,411.03	1,626.38	784.65	278,022.65	175,467.85	136,977.35
169	6/1/2020	7.500%	2,490.60	1,737.64	752.96	277,269.69	177,205.49	137,730.31
170	7/1/2020	7.500%	2,490.60	1,732.94	757.66	276,512.03	178,938.43	138,487.97
171	8/1/2020	7.500%	2,490.60	1,728.20	762.40	275,749.63	180,666.63	139,250.37
172	9/1/2020	7.500%	2,490.60	1,723.44	767.16	274,982.47	182,390.07	140,017.53
173	10/1/2020	7.500%	2,490.60	1,718.64	771.96	274,210.51	184,108.71	140,789.49
174	11/1/2020	7.500%	2,490.60	1,713.82	776.78	273,433.73	185,822.53	141,566.27
175	12/1/2020	7.500%	2,490.60	1,708.96	781.64	272,652.09	187,531.49	142,347.91
176	1/1/2021	7.500%	2,490.60	1,704.08	786.52	271,865.57	189,235.57	143,134.43
177	2/1/2021	7.500%	2,490.60	1,699.16	791.44	271,074.13	190,934.73	143,925.87
178	3/1/2021	7.500%	2,490.60	1,694.21	796.39	270,277.74	192,628.94	144,722.26
179	4/1/2021	7.500%	2,490.60	1,689.24	801.36	269,476.38	194,318.18	145,523.62

## Appendix B. Payment Schedule for a Risky Mortgage

### Adjustable Rate Mortgage (ARM) Calculator

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180	5/1/2021	7.500%	2,490.60	1,684.23	806.37	268,670.01	196,002.41	146,329.99
181	6/1/2021	8.000%	2,567.55	1,791.13	776.42	267,893.59	197,793.54	147,106.41
182	7/1/2021	8.000%	2,567.55	1,785.96	781.59	267,112.00	199,579.50	147,888.00
183	8/1/2021	8.000%	2,567.55	1,780.75	786.80	266,325.20	201,360.25	148,674.80
184	9/1/2021	8.000%	2,567.55	1,775.50	792.05	265,533.15	203,135.75	149,466.85
185	10/1/2021	8.000%	2,567.55	1,770.22	797.33	264,735.82	204,905.97	150,264.18
186	11/1/2021	8.000%	2,567.55	1,764.91	802.64	263,933.18	206,670.88	151,066.82
187	12/1/2021	8.000%	2,567.55	1,759.55	808.00	263,125.18	208,430.43	151,874.82
188	1/1/2022	8.000%	2,567.55	1,754.17	813.38	262,311.80	210,184.60	152,688.20
189	2/1/2022	8.000%	2,567.55	1,748.75	818.80	261,493.00	211,933.35	153,507.00
190	3/1/2022	8.000%	2,567.55	1,743.29	824.26	260,668.74	213,676.64	154,331.26
191	4/1/2022	8.000%	2,567.55	1,737.79	829.76	259,838.98	215,414.43	155,161.02
192	5/1/2022	8.000%	2,567.55	1,732.26	835.29	259,003.69	217,146.69	155,996.31
193	6/1/2022	8.500%	2,641.63	1,834.61	807.02	258,196.67	218,981.30	156,803.33
194	7/1/2022	8.500%	2,641.63	1,828.89	812.74	257,383.93	220,810.19	157,616.07
195	8/1/2022	8.500%	2,641.63	1,823.14	818.49	256,565.44	222,633.33	158,434.56
196	9/1/2022	8.500%	2,641.63	1,817.34	824.29	255,741.15	224,450.67	159,258.85
197	10/1/2022	8.500%	2,641.63	1,811.50	830.13	254,911.02	226,262.17	160,088.98
198	11/1/2022	8.500%	2,641.63	1,805.62	836.01	254,075.01	228,067.79	160,924.99
199	12/1/2022	8.500%	2,641.63	1,799.70	841.93	253,233.08	229,867.49	161,766.92
200	1/1/2023	8.500%	2,641.63	1,793.73	847.90	252,385.18	231,661.22	162,614.82
201	2/1/2023	8.500%	2,641.63	1,787.73	853.90	251,531.28	233,448.95	163,468.72
202	3/1/2023	8.500%	2,641.63	1,781.68	859.95	250,671.33	235,230.63	164,328.67
203	4/1/2023	8.500%	2,641.63	1,775.59	866.04	249,805.29	237,006.22	165,194.71
204	5/1/2023	8.500%	2,641.63	1,769.45	872.18	248,933.11	238,775.67	166,066.89
205	6/1/2023	9.000%	2,712.58	1,867.00	845.58	248,087.53	240,642.67	166,912.47
206	7/1/2023	9.000%	2,712.58	1,860.66	851.92	247,235.61	242,503.33	167,764.39
207	8/1/2023	9.000%	2,712.58	1,854.27	858.31	246,377.30	244,357.60	168,622.70
208	9/1/2023	9.000%	2,712.58	1,847.83	864.75	245,512.55	246,205.43	169,487.45
209	10/1/2023	9.000%	2,712.58	1,841.34	871.24	244,641.31	248,046.77	170,358.69
210	11/1/2023	9.000%	2,712.58	1,834.81	877.77	243,763.54	249,881.58	171,236.46
211	12/1/2023	9.000%	2,712.58	1,828.23	884.35	242,879.19	251,709.81	172,120.81
212	1/1/2024	9.000%	2,712.58	1,821.59	890.99	241,988.20	253,531.40	173,011.80
213	2/1/2024	9.000%	2,712.58	1,814.91	897.67	241,090.53	255,346.31	173,909.47
214	3/1/2024	9.000%	2,712.58	1,808.18	904.40	240,186.13	257,154.49	174,813.87
215	4/1/2024	9.000%	2,712.58	1,801.40	911.18	239,274.95	258,955.89	175,725.05
216	5/1/2024	9.000%	2,712.58	1,794.56	918.02	238,356.93	260,750.45	176,643.07
217	6/1/2024	9.500%	2,780.13	1,886.99	893.14	237,463.79	262,637.44	177,536.21
218	7/1/2024	9.500%	2,780.13	1,879.92	900.21	236,563.58	264,517.36	178,436.42
219	8/1/2024	9.500%	2,780.13	1,872.80	907.33	235,656.25	266,390.16	179,343.75
220	9/1/2024	9.500%	2,780.13	1,865.61	914.52	234,741.73	268,255.77	180,258.27
221	10/1/2024	9.500%	2,780.13	1,858.37	921.76	233,819.97	270,114.14	181,180.03
222	11/1/2024	9.500%	2,780.13	1,851.07	929.06	232,890.91	271,965.21	182,109.09
223	12/1/2024	9.500%	2,780.13	1,843.72	936.41	231,954.50	273,808.93	183,045.50
224	1/1/2025	9.500%	2,780.13	1,836.31	943.82	231,010.68	275,645.24	183,989.32
225	2/1/2025	9.500%	2,780.13	1,828.83	951.30	230,059.38	277,474.07	184,940.62
226	3/1/2025	9.500%	2,780.13	1,821.30	958.83	229,100.55	279,295.37	185,899.45
227	4/1/2025	9.500%	2,780.13	1,813.71	966.42	228,134.13	281,109.08	186,865.87
228	5/1/2025	9.500%	2,780.13	1,806.06	974.07	227,160.06	282,915.14	187,839.94
229	6/1/2025	10.000%	2,844.02	1,893.00	951.02	226,209.04	284,808.14	188,790.96
230	7/1/2025	10.000%	2,844.02	1,885.08	958.94	225,250.10	286,693.22	189,749.90
231	8/1/2025	10.000%	2,844.02	1,877.08	966.94	224,283.16	288,570.30	190,716.84

## Appendix B. Payment Schedule for a Risky Mortgage

### Adjustable Rate Mortgage (ARM) Calculator

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232	9/1/2025	10.000%	2,844.02	1,869.03	974.99	223,308.17	290,439.33	191,691.83
233	10/1/2025	10.000%	2,844.02	1,860.90	983.12	222,325.05	292,300.23	192,674.95
234	11/1/2025	10.000%	2,844.02	1,852.71	991.31	221,333.74	294,152.94	193,666.26
235	12/1/2025	10.000%	2,844.02	1,844.45	999.57	220,334.17	295,997.39	194,665.83
236	1/1/2026	10.000%	2,844.02	1,836.12	1,007.90	219,326.27	297,833.51	195,673.73
237	2/1/2026	10.000%	2,844.02	1,827.72	1,016.30	218,309.97	299,661.23	196,690.03
238	3/1/2026	10.000%	2,844.02	1,819.25	1,024.77	217,285.20	301,480.48	197,714.80
239	4/1/2026	10.000%	2,844.02	1,810.71	1,033.31	216,251.89	303,291.19	198,748.11
240	5/1/2026	10.000%	2,844.02	1,802.10	1,041.92	215,209.97	305,093.29	199,790.03
241	6/1/2026	10.500%	2,903.94	1,883.09	1,020.85	214,189.12	306,976.38	200,810.88
242	7/1/2026	10.500%	2,903.94	1,874.15	1,029.79	213,159.33	308,850.53	201,840.67
243	8/1/2026	10.500%	2,903.94	1,865.14	1,038.80	212,120.53	310,715.67	202,879.47
244	9/1/2026	10.500%	2,903.94	1,856.05	1,047.89	211,072.64	312,571.72	203,927.36
245	10/1/2026	10.500%	2,903.94	1,846.89	1,057.05	210,015.59	314,418.61	204,984.41
246	11/1/2026	10.500%	2,903.94	1,837.64	1,066.30	208,949.29	316,256.25	206,050.71
247	12/1/2026	10.500%	2,903.94	1,828.31	1,075.63	207,873.66	318,084.56	207,126.34
248	1/1/2027	10.500%	2,903.94	1,818.89	1,085.05	206,788.61	319,903.45	208,211.39
249	2/1/2027	10.500%	2,903.94	1,809.40	1,094.54	205,694.07	321,712.85	209,305.93
250	3/1/2027	10.500%	2,903.94	1,799.82	1,104.12	204,589.95	323,512.67	210,410.05
251	4/1/2027	10.500%	2,903.94	1,790.16	1,113.78	203,476.17	325,302.83	211,523.83
252	5/1/2027	10.500%	2,903.94	1,780.42	1,123.52	202,352.65	327,083.25	212,647.35
253	6/1/2027	11.000%	2,959.58	1,854.90	1,104.68	201,247.97	328,938.15	213,752.03
254	7/1/2027	11.000%	2,959.58	1,844.77	1,114.81	200,133.16	330,782.92	214,866.84
255	8/1/2027	11.000%	2,959.58	1,834.55	1,125.03	199,008.13	332,617.47	215,991.87
256	9/1/2027	11.000%	2,959.58	1,824.24	1,135.34	197,872.79	334,441.71	217,127.21
257	10/1/2027	11.000%	2,959.58	1,813.83	1,145.75	196,727.04	336,255.54	218,272.96
258	11/1/2027	11.000%	2,959.58	1,803.33	1,156.25	195,570.79	338,058.87	219,429.21
259	12/1/2027	11.000%	2,959.58	1,792.73	1,166.85	194,403.94	339,851.60	220,596.06
260	1/1/2028	11.000%	2,959.58	1,782.04	1,177.54	193,226.40	341,633.64	221,773.60
261	2/1/2028	11.000%	2,959.58	1,771.24	1,188.34	192,038.06	343,404.88	222,961.94
262	3/1/2028	11.000%	2,959.58	1,760.35	1,199.23	190,838.83	345,165.23	224,161.17
263	4/1/2028	11.000%	2,959.58	1,749.36	1,210.22	189,628.61	346,914.59	225,371.39
264	5/1/2028	11.000%	2,959.58	1,738.26	1,221.32	188,407.29	348,652.85	226,592.71
265	6/1/2028	11.500%	3,010.63	1,805.57	1,205.06	187,202.23	350,458.42	227,797.77
266	7/1/2028	11.500%	3,010.63	1,794.02	1,216.61	185,985.62	352,252.44	229,014.38
267	8/1/2028	11.500%	3,010.63	1,782.36	1,228.27	184,757.35	354,034.80	230,242.65
268	9/1/2028	11.500%	3,010.63	1,770.59	1,240.04	183,517.31	355,805.39	231,482.69
269	10/1/2028	11.500%	3,010.63	1,758.71	1,251.92	182,265.39	357,564.10	232,734.61
270	11/1/2028	11.500%	3,010.63	1,746.71	1,263.92	181,001.47	359,310.81	233,998.53
271	12/1/2028	11.500%	3,010.63	1,734.60	1,276.03	179,725.44	361,045.41	235,274.56
272	1/1/2029	11.500%	3,010.63	1,722.37	1,288.26	178,437.18	362,767.78	236,562.82
273	2/1/2029	11.500%	3,010.63	1,710.02	1,300.61	177,136.57	364,477.80	237,863.43
274	3/1/2029	11.500%	3,010.63	1,697.56	1,313.07	175,823.50	366,175.36	239,176.50
275	4/1/2029	11.500%	3,010.63	1,684.98	1,325.65	174,497.85	367,860.34	240,502.15
276	5/1/2029	11.500%	3,010.63	1,672.27	1,338.36	173,159.49	369,532.61	241,840.51
277	6/1/2029	12.000%	3,056.74	1,731.59	1,325.15	171,834.34	371,264.20	243,165.66
278	7/1/2029	12.000%	3,056.74	1,718.34	1,338.40	170,495.94	372,982.54	244,504.06
279	8/1/2029	12.000%	3,056.74	1,704.96	1,351.78	169,144.16	374,687.50	245,855.84
280	9/1/2029	12.000%	3,056.74	1,691.44	1,365.30	167,778.86	376,378.94	247,221.14
281	10/1/2029	12.000%	3,056.74	1,677.79	1,378.95	166,399.91	378,056.73	248,600.09
282	11/1/2029	12.000%	3,056.74	1,664.00	1,392.74	165,007.17	379,720.73	249,992.83
283	12/1/2029	12.000%	3,056.74	1,650.07	1,406.67	163,600.50	381,370.80	251,399.50

## Appendix B. Payment Schedule for a Risky Mortgage

### Adjustable Rate Mortgage (ARM) Calculator

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284	1/1/2030	12.000%	3,056.74	1,636.01	1,420.73	162,179.77	383,006.81	252,820.23
285	2/1/2030	12.000%	3,056.74	1,621.80	1,434.94	160,744.83	384,628.61	254,255.17
286	3/1/2030	12.000%	3,056.74	1,607.45	1,449.29	159,295.54	386,236.06	255,704.46
287	4/1/2030	12.000%	3,056.74	1,592.96	1,463.78	157,831.76	387,829.02	257,168.24
288	5/1/2030	12.000%	3,056.74	1,578.32	1,478.42	156,353.34	389,407.34	258,646.66
289	6/1/2030	12.000%	3,056.74	1,563.53	1,493.21	154,860.13	390,970.87	260,139.87
290	7/1/2030	12.000%	3,056.74	1,548.60	1,508.14	153,351.99	392,519.47	261,648.01
291	8/1/2030	12.000%	3,056.74	1,533.52	1,523.22	151,828.77	394,052.99	263,171.23
292	9/1/2030	12.000%	3,056.74	1,518.29	1,538.45	150,290.32	395,571.28	264,709.68
293	10/1/2030	12.000%	3,056.74	1,502.90	1,553.84	148,736.48	397,074.18	266,263.52
294	11/1/2030	12.000%	3,056.74	1,487.36	1,569.38	147,167.10	398,561.54	267,832.90
295	12/1/2030	12.000%	3,056.74	1,471.67	1,585.07	145,582.03	400,033.21	269,417.97
296	1/1/2031	12.000%	3,056.74	1,455.82	1,600.92	143,981.11	401,489.03	271,018.89
297	2/1/2031	12.000%	3,056.74	1,439.81	1,616.93	142,364.18	402,928.84	272,635.82
298	3/1/2031	12.000%	3,056.74	1,423.64	1,633.10	140,731.08	404,352.48	274,268.92
299	4/1/2031	12.000%	3,056.74	1,407.31	1,649.43	139,081.65	405,759.79	275,918.35
300	5/1/2031	12.000%	3,056.74	1,390.82	1,665.92	137,415.73	407,150.61	277,584.27
301	6/1/2031	12.000%	3,056.74	1,374.16	1,682.58	135,733.15	408,524.77	279,266.85
302	7/1/2031	12.000%	3,056.74	1,357.33	1,699.41	134,033.74	409,882.10	280,966.26
303	8/1/2031	12.000%	3,056.74	1,340.34	1,716.40	132,317.34	411,222.44	282,682.66
304	9/1/2031	12.000%	3,056.74	1,323.17	1,733.57	130,583.77	412,545.61	284,416.23
305	10/1/2031	12.000%	3,056.74	1,305.84	1,750.90	128,832.87	413,851.45	286,167.13
306	11/1/2031	12.000%	3,056.74	1,288.33	1,768.41	127,064.46	415,139.78	287,935.54
307	12/1/2031	12.000%	3,056.74	1,270.64	1,786.10	125,278.36	416,410.42	289,721.64
308	1/1/2032	12.000%	3,056.74	1,252.78	1,803.96	123,474.40	417,663.20	291,525.60
309	2/1/2032	12.000%	3,056.74	1,234.74	1,822.00	121,652.40	418,897.94	293,347.60
310	3/1/2032	12.000%	3,056.74	1,216.52	1,840.22	119,812.18	420,114.46	295,187.82
311	4/1/2032	12.000%	3,056.74	1,198.12	1,858.62	117,953.56	421,312.58	297,046.44
312	5/1/2032	12.000%	3,056.74	1,179.54	1,877.20	116,076.36	422,492.12	298,923.64
313	6/1/2032	12.000%	3,056.74	1,160.76	1,895.98	114,180.38	423,652.88	300,819.62
314	7/1/2032	12.000%	3,056.74	1,141.80	1,914.94	112,265.44	424,794.68	302,734.56
315	8/1/2032	12.000%	3,056.74	1,122.65	1,934.09	110,331.35	425,917.33	304,668.65
316	9/1/2032	12.000%	3,056.74	1,103.31	1,953.43	108,377.92	427,020.64	306,622.08
317	10/1/2032	12.000%	3,056.74	1,083.78	1,972.96	106,404.96	428,104.42	308,595.04
318	11/1/2032	12.000%	3,056.74	1,064.05	1,992.69	104,412.27	429,168.47	310,587.73
319	12/1/2032	12.000%	3,056.74	1,044.12	2,012.62	102,399.65	430,212.59	312,600.35
320	1/1/2033	12.000%	3,056.74	1,024.00	2,032.74	100,366.91	431,236.59	314,633.09
321	2/1/2033	12.000%	3,056.74	1,003.67	2,053.07	98,313.84	432,240.26	316,686.16
322	3/1/2033	12.000%	3,056.74	983.14	2,073.60	96,240.24	433,223.40	318,759.76
323	4/1/2033	12.000%	3,056.74	962.40	2,094.34	94,145.90	434,185.80	320,854.10
324	5/1/2033	12.000%	3,056.74	941.46	2,115.28	92,030.62	435,127.26	322,969.38
325	6/1/2033	12.000%	3,056.74	920.31	2,136.43	89,894.19	436,047.57	325,105.81
326	7/1/2033	12.000%	3,056.74	898.94	2,157.80	87,736.39	436,946.51	327,263.61
327	8/1/2033	12.000%	3,056.74	877.36	2,179.38	85,557.01	437,823.87	329,442.99
328	9/1/2033	12.000%	3,056.74	855.57	2,201.17	83,355.84	438,679.44	331,644.16
329	10/1/2033	12.000%	3,056.74	833.56	2,223.18	81,132.66	439,513.00	333,867.34
330	11/1/2033	12.000%	3,056.74	811.33	2,245.41	78,887.25	440,324.33	336,112.75
331	12/1/2033	12.000%	3,056.74	788.87	2,267.87	76,619.38	441,113.20	338,380.62
332	1/1/2034	12.000%	3,056.74	766.19	2,290.55	74,328.83	441,879.39	340,671.17
333	2/1/2034	12.000%	3,056.74	743.29	2,313.45	72,015.38	442,622.68	342,984.62
334	3/1/2034	12.000%	3,056.74	720.15	2,336.59	69,678.79	443,342.83	345,321.21
335	4/1/2034	12.000%	3,056.74	696.79	2,359.95	67,318.84	444,039.62	347,681.16

## Appendix B. Payment Schedule for a Risky Mortgage

### Adjustable Rate Mortgage (ARM) Calculator

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336	5/1/2034	12.000%	3,056.74	673.19	2,383.55	64,935.29	444,712.81	350,064.71
337	6/1/2034	12.000%	3,056.74	649.35	2,407.39	62,527.90	445,362.16	352,472.10
338	7/1/2034	12.000%	3,056.74	625.28	2,431.46	60,096.44	445,987.44	354,903.56
339	8/1/2034	12.000%	3,056.74	600.96	2,455.78	57,640.66	446,588.40	357,359.34
340	9/1/2034	12.000%	3,056.74	576.41	2,480.33	55,160.33	447,164.81	359,839.67
341	10/1/2034	12.000%	3,056.74	551.60	2,505.14	52,655.19	447,716.41	362,344.81
342	11/1/2034	12.000%	3,056.74	526.55	2,530.19	50,125.00	448,242.96	364,875.00
343	12/1/2034	12.000%	3,056.74	501.25	2,555.49	47,569.51	448,744.21	367,430.49
344	1/1/2035	12.000%	3,056.74	475.70	2,581.04	44,988.47	449,219.91	370,011.53
345	2/1/2035	12.000%	3,056.74	449.88	2,606.86	42,381.61	449,669.79	372,618.39
346	3/1/2035	12.000%	3,056.74	423.82	2,632.92	39,748.69	450,093.61	375,251.31
347	4/1/2035	12.000%	3,056.74	397.49	2,659.25	37,089.44	450,491.10	377,910.56
348	5/1/2035	12.000%	3,056.74	370.89	2,685.85	34,403.59	450,861.99	380,596.41
349	6/1/2035	12.000%	3,056.74	344.04	2,712.70	31,690.89	451,206.03	383,309.11
350	7/1/2035	12.000%	3,056.74	316.91	2,739.83	28,951.06	451,522.94	386,048.94
351	8/1/2035	12.000%	3,056.74	289.51	2,767.23	26,183.83	451,812.45	388,816.17
352	9/1/2035	12.000%	3,056.74	261.84	2,794.90	23,388.93	452,074.29	391,611.07
353	10/1/2035	12.000%	3,056.74	233.89	2,822.85	20,566.08	452,308.18	394,433.92
354	11/1/2035	12.000%	3,056.74	205.66	2,851.08	17,715.00	452,513.84	397,285.00
355	12/1/2035	12.000%	3,056.74	177.15	2,879.59	14,835.41	452,690.99	400,164.59
356	1/1/2036	12.000%	3,056.74	148.35	2,908.39	11,927.02	452,839.34	403,072.98
357	2/1/2036	12.000%	3,056.74	119.27	2,937.47	8,989.55	452,958.61	406,010.45
358	3/1/2036	12.000%	3,056.74	89.90	2,966.84	6,022.71	453,048.51	408,977.29
359	4/1/2036	12.000%	3,056.74	60.23	2,996.51	3,026.20	453,108.74	411,973.80
360	5/1/2036	12.000%	3,056.46	30.26	3,026.20	0.00	453,139.00	415,000.00

## Appendix C. Federal Home Equity Assistance Bank (FHEAB)

### What is it?

- A new government-sponsored entity created under the Homeowner Affordability and Stability Plan to assist distressed homeowners facing foreclosure

### How does it provide assistance?

- FHEAB will provide a network of representatives that distressed homeowners can contact to seek assistance. FHEAB will work primarily through the representatives of the Hope for Homeowners Program.
- If a distressed homeowner chooses to accept the terms of assistance, FHEAB will make a nonamortizing Home Equity Assistance Loan (HEAL) to the homeowner. The HEAL will be used to prepay principal on the troubled mortgage so that the monthly payments over the remaining life of the mortgage are affordable as determined by FHEAB. By reducing the principal and monthly payment the homeowner will be saved from foreclosure.
- If a distressed homeowner decides that foreclosure would be the best option, FHEAB will provide counsel and assistance to the homeowner so that they are guided through a safe foreclosure process. This will prevent the vulnerable homeowner from being taken advantage of by unscrupulous parties in the foreclosure process.

- When a homeowner sells a home subject to a HEAL, FHEAB will facilitate the process of rolling over a portion of the assistance balance from the prior home to a new home so that the homeowner can continue to build equity through homeownership. FHEAB will monitor terms of the new mortgage to insure that it meets the affordability criteria for the homeowner.

### What are other key responsibilities of FHEAB?

- To initiate and manage a loan insurance program designed to protect U.S. taxpayers from default losses if private insurers will not cover these loans.
- To report to Congress on the status of assistance efforts, loan balances, repayments and ongoing losses.
- To pursue litigation for mortgage fraud perpetrated by dishonest lenders. The FHEAB online system is a centralized database for gathering information about troubled mortgages in addition to originating HEALs. Information can be gathered about brokers and lenders associated with troubled mortgages. With this information FHEAB can conduct litigation to punish dishonest persons and recover punitive damages.

## Appendix D. Home Equity Assistance Loan (HEAL)

### What is it?

- It is a nonamortizing, no-interest loan from the Federal Home Equity Assistance Bank to pay down the principal on a first mortgage and any junior mortgages outstanding that could go into default. Prepaying mortgage principal enables a lender to reduce the monthly payment owed by a distressed homeowner thereby preventing default. The recalculated monthly payment on the first mortgage will be more affordable because it amortizes the reduced balance over the remaining life of the mortgage. Funding the principal reduction with cash will save bank equity and restore the confidence of investors in MBS values.

### How does it solve the second lien snafu?

- Many distressed homeowners in need of assistance also have a second mortgage. Any assistance program that forces a principal reduction creates a conflict between first and second mortgage holders with respect to sharing losses. This conflict causes gridlock. The proceeds of the HEAL will be used first to retire the second mortgage so that the conflict is removed. The remaining balance of the HEAL will be used to reduce the first mortgage principal to an amount that will result in an affordable monthly payment over the remaining life of the mortgage. Then the HEAL will become a second lien on the home, superior to all other unsecured debt.

### Who qualifies?

- Distressed homeowners who meet one of the following criteria:
  - The monthly mortgage payment is greater than the FHEAB-determined affordable amount (31 percent to 38 percent depending on geography) based on the homeowner's 2008 tax return.
  - The homeowner can provide verifiable evidence that they recently (after Sept. 15, 2008) experienced a significant reduction in income due to loss of employment or business bankruptcy that caused their monthly mortgage payment to become unaffordable.
- Homeowners who are current on their mortgage could also qualify provided that they can demonstrate that their payment is unaffordable by FHEAB standards. There is value to helping individuals who are current on their mortgage but struggling under a high mortgage payment because they lack adequate equity in their home. Providing assistance will enable the homeowner to maintain a normal level of consumption rather than making significant cutbacks that might contribute to the economic slowdown.
- A homeowner who falsified stated income on the original mortgage could qualify for a HEAL. If actual income is lower than the falsified stated income but the homeowner is willing to commit to the long-term repayment of the HEAL and the conditions of the loan, then there is value in providing assistance to the homeowner. The benefit is prevention of another foreclosure and prevention of loss to the lender or MBS investor.

### What are the conditions for getting a HEAL?

- The homeowner is not permitted to borrow against the new "equity" created by the HEAL.
- The HEAL is a loan with recourse. It is secured by all income and assets of the borrower. A second lien will be placed on the home to protect the FHEAB's economic interest.
- The borrower is required to purchase insurance to protect the principal of the HEAL.
- If the homeowner sells the existing home and purchases a new home while the loan is outstanding, the new mortgage may not have a monthly payment greater than 31 percent of gross income. The FHEAB will assist the homeowner in rolling over a portion of the HEAL balance into a 20 percent down payment on the new home. The amount of the down payment may not exceed 50 percent of the original balance of the HEAL. The HEAL will then be established as a second lien against the new home.
- The term of assistance is 30 years. The entire balance must be repaid on or before the end of the term.

### Might homeowners who are current on their mortgage be motivated to take advantage of this program by stopping payments and becoming delinquent?

- Being delinquent on a mortgage is not the criteria for participation. See the criteria listed above.
- Homeowners who seek assistance in this program should understand the long-term commitment they are making. They will be required to submit to future supervision by FHEAB when buying or selling a home. The impact will be:
  - o FHEAB will place a second lien against the distressed homeowner's residence for the amount of the HEAL.
  - o When the home is sold, all funds in excess of the repayment of the first mortgage plus sale costs will be sent to FHEAB
  - o When a new home is purchased the homeowner must coordinate the following with FHEAB:
    - Contact FHEAB to request disbursement of funds for a down payment on the new home. The down payment will not exceed 50 percent of the initial balance of the HEAL.
    - Homeowner must demonstrate to FHEAB that with the down payment the monthly mortgage payment will not exceed the approved affordable amount of gross income. This ensures that the homeowner maintains an affordable payment on future homes so that they are able to earn home equity that will eventually be used to pay back the remaining balance of the HEAL.

### How is the loan amount determined?

- A Hope for Homeowners representative evaluates the current position of a distressed homeowner and calculates a loan principal amount that would produce a payment that

is affordable for the homeowner. The amount of the HEAL is the difference between the current mortgage principal and the affordable mortgage principal.

### **What is the term of the loan?**

- 30 years.

### **How is the loan initiated?**

- A distressed homeowner contacts a Hope for Homeowners representative to get counseling regarding the loan.
- The funds for the loan are disbursed through an FHEAB-approved processing institution.
- Funding for HEALs is provided by the U.S. Treasury and Federal Reserve.

### **What is the collateral?**

- The loan is collateralized by three things:
  - o The homeowner's principal residence (second mortgage position behind first mortgage).
  - o All income and assets of the homeowner (full recourse).
  - o An insurance policy paid by the homeowner.
- By accepting a second lien position, the program enables a homeowner to secure a first mortgage for the purchase of a home.

### **When does it have to be repaid?**

- At any time during the 30-year term.
- Full repayment must be received by the 30-year maturity date.

### **How is it repaid?**

- There are no monthly payments for a HEAL. It is nonamortizing.
- The goal of the HEAL is to assist homeowners in rebuilding equity in their homes so that the loan can be repaid through equity gains over a long period. The growth in equity can be refinanced to raise the funds to repay the HEAL.

### **What impact will bankruptcy have on a HEAL?**

- The HEAL will survive bankruptcy.
- U.S. taxpayers are funding the loan that helps a homeowner avoid foreclosure so it is expected that the homeowner will make a good faith effort to repay the loan in full.

### **How does HEAL create equity?**

- In three ways:
  - o Reducing the principal on the original mortgage enables more of the monthly payment to go toward reducing principal. Reducing the principal increases equity faster and reduces the amount of total interest paid over the life of the first mortgage.
  - o Enables homeowners to remain in their homes and experience the benefit of long-term appreciation in home values.
  - o The roll-over provision enables homeowners to use a portion of the HEAL as a down payment on a new home when they decide to sell their existing homes. Establishing "equity" through a HEAL and ensuring that the homeowner always has an affordable mortgage payment will enable the homeowner to build the equity required to repay the HEAL.

# Appendix E. Payment Schedule after Principal Prepayment from HEAL Proceeds

## Adjustable Rate Mortgage (ARM) Calculator

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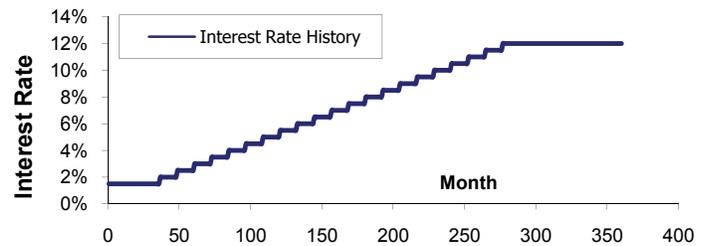
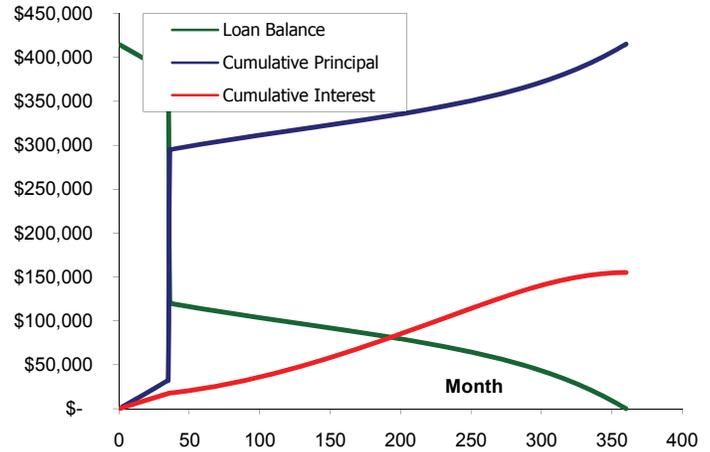
<http://www.vertex42.com/ExcelTemplates/arm-calculator.html>

### Loan Information

Loan amount	\$ 415,000
Term (years)	30
Starting interest rate	1.500%
First payment date	6/1/2006
Starting monthly payment	<b>\$1,432.25</b>

### Rate Adjustments

Rate remains fixed for	3	years
Months between adjustments	12	
Expected adjustment	0.500%	
Interest rate cap	12.000%	
Est. Max rate	12.00%	
Est. Max monthly payment	<b>\$1,432.25</b>	
Total payments	\$570,048.88	
Total interest	\$155,048.88	
Internal Rate of Return	-1.84%	



No.	Payment Date	Interest Rate	Payment Due	Additional Payment	Interest	Principal	Balance	Cumulative Interest	Cumulative Principal
			\$ (415,000)				\$ 415,000		
1	6/1/2006	1.500%	1,432.25	0.00	518.75	913.50	414,086.50	518.75	913.50
2	7/1/2006	1.500%	1,432.25		517.61	914.64	413,171.86	1,036.36	1,828.14
3	8/1/2006	1.500%	1,432.25		516.46	915.79	412,256.07	1,552.82	2,743.93
4	9/1/2006	1.500%	1,432.25		515.32	916.93	411,339.14	2,068.14	3,660.86
5	10/1/2006	1.500%	1,432.25		514.17	918.08	410,421.06	2,582.31	4,578.94
6	11/1/2006	1.500%	1,432.25		513.03	919.22	409,501.84	3,095.34	5,498.16
7	12/1/2006	1.500%	1,432.25		511.88	920.37	408,581.47	3,607.22	6,418.53
8	1/1/2007	1.500%	1,432.25		510.73	921.52	407,659.95	4,117.95	7,340.05
9	2/1/2007	1.500%	1,432.25		509.57	922.68	406,737.27	4,627.52	8,262.73
10	3/1/2007	1.500%	1,432.25		508.42	923.83	405,813.44	5,135.94	9,186.56
11	4/1/2007	1.500%	1,432.25		507.27	924.98	404,888.46	5,643.21	10,111.54
12	5/1/2007	1.500%	1,432.25		506.11	926.14	403,962.32	6,149.32	11,037.68
13	6/1/2007	1.500%	1,432.25		504.95	927.30	403,035.02	6,654.27	11,964.98
14	7/1/2007	1.500%	1,432.25		503.79	928.46	402,106.56	7,158.06	12,893.44
15	8/1/2007	1.500%	1,432.25		502.63	929.62	401,176.94	7,660.69	13,823.06
16	9/1/2007	1.500%	1,432.25		501.47	930.78	400,246.16	8,162.16	14,753.84
17	10/1/2007	1.500%	1,432.25		500.31	931.94	399,314.22	8,662.47	15,685.78
18	11/1/2007	1.500%	1,432.25		499.14	933.11	398,381.11	9,161.61	16,618.89
19	12/1/2007	1.500%	1,432.25		497.98	934.27	397,446.84	9,659.59	17,553.16
20	1/1/2008	1.500%	1,432.25		496.81	935.44	396,511.40	10,156.40	18,488.60
21	2/1/2008	1.500%	1,432.25		495.64	936.61	395,574.79	10,652.04	19,425.21
22	3/1/2008	1.500%	1,432.25		494.47	937.78	394,637.01	11,146.51	20,362.99
23	4/1/2008	1.500%	1,432.25		493.30	938.95	393,698.06	11,639.81	21,301.94

## Appendix E. Payment Schedule after Principal Prepayment from HEAL Proceeds

### Adjustable Rate Mortgage (ARM) Calculator

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24	5/1/2008	1.500%	1,432.25		492.12	940.13	392,757.93	12,131.93	22,242.07
25	6/1/2008	1.500%	1,432.25		490.95	941.30	391,816.63	12,622.88	23,183.37
26	7/1/2008	1.500%	1,432.25		489.77	942.48	390,874.15	13,112.65	24,125.85
27	8/1/2008	1.500%	1,432.25		488.59	943.66	389,930.49	13,601.24	25,069.51
28	9/1/2008	1.500%	1,432.25		487.41	944.84	388,985.65	14,088.65	26,014.35
29	10/1/2008	1.500%	1,432.25		486.23	946.02	388,039.63	14,574.88	26,960.37
30	11/1/2008	1.500%	1,432.25		485.05	947.20	387,092.43	15,059.93	27,907.57
31	12/1/2008	1.500%	1,432.25		483.87	948.38	386,144.05	15,543.80	28,855.95
32	1/1/2009	1.500%	1,432.25		482.68	949.57	385,194.48	16,026.48	29,805.52
33	2/1/2009	1.500%	1,432.25		481.49	950.76	384,243.72	16,507.97	30,756.28
34	3/1/2009	1.500%	1,432.25		480.30	951.95	383,291.77	16,988.27	31,708.23
35	4/1/2009	1.500%	1,432.25		479.11	953.14	382,338.63	17,467.38	32,661.37
36	5/1/2009	1.500%	1,432.25	261,233.00	477.92	262,187.33	120,151.30	17,945.30	294,848.70
37	6/1/2009	2.000%	480.23		200.25	279.98	119,871.32	18,145.55	295,128.68
38	7/1/2009	2.000%	480.23		199.79	280.44	119,590.88	18,345.34	295,409.12
39	8/1/2009	2.000%	480.23		199.32	280.91	119,309.97	18,544.66	295,690.03
40	9/1/2009	2.000%	480.23		198.85	281.38	119,028.59	18,743.51	295,971.41
41	10/1/2009	2.000%	480.23		198.38	281.85	118,746.74	18,941.89	296,253.26
42	11/1/2009	2.000%	480.23		197.91	282.32	118,464.42	19,139.80	296,535.58
43	12/1/2009	2.000%	480.23		197.44	282.79	118,181.63	19,337.24	296,818.37
44	1/1/2010	2.000%	480.23		196.97	283.26	117,898.37	19,534.21	297,101.63
45	2/1/2010	2.000%	480.23		196.50	283.73	117,614.64	19,730.71	297,385.36
46	3/1/2010	2.000%	480.23		196.02	284.21	117,330.43	19,926.73	297,669.57
47	4/1/2010	2.000%	480.23		195.55	284.68	117,045.75	20,122.28	297,954.25
48	5/1/2010	2.000%	480.23		195.08	285.15	116,760.60	20,317.36	298,239.40
49	6/1/2010	2.500%	509.32		243.25	266.07	116,494.53	20,560.61	298,505.47
50	7/1/2010	2.500%	509.32		242.70	266.62	116,227.91	20,803.31	298,772.09
51	8/1/2010	2.500%	509.32		242.14	267.18	115,960.73	21,045.45	299,039.27
52	9/1/2010	2.500%	509.32		241.58	267.74	115,692.99	21,287.03	299,307.01
53	10/1/2010	2.500%	509.32		241.03	268.29	115,424.70	21,528.06	299,575.30
54	11/1/2010	2.500%	509.32		240.47	268.85	115,155.85	21,768.53	299,844.15
55	12/1/2010	2.500%	509.32		239.91	269.41	114,886.44	22,008.44	300,113.56
56	1/1/2011	2.500%	509.32		239.35	269.97	114,616.47	22,247.79	300,383.53
57	2/1/2011	2.500%	509.32		238.78	270.54	114,345.93	22,486.57	300,654.07
58	3/1/2011	2.500%	509.32		238.22	271.10	114,074.83	22,724.79	300,925.17
59	4/1/2011	2.500%	509.32		237.66	271.66	113,803.17	22,962.45	301,196.83
60	5/1/2011	2.500%	509.32		237.09	272.23	113,530.94	23,199.54	301,469.06
61	6/1/2011	3.000%	538.38		283.83	254.55	113,276.39	23,483.37	301,723.61
62	7/1/2011	3.000%	538.38		283.19	255.19	113,021.20	23,766.56	301,978.80
63	8/1/2011	3.000%	538.38		282.55	255.83	112,765.37	24,049.11	302,234.63
64	9/1/2011	3.000%	538.38		281.91	256.47	112,508.90	24,331.02	302,491.10
65	10/1/2011	3.000%	538.38		281.27	257.11	112,251.79	24,612.29	302,748.21
66	11/1/2011	3.000%	538.38		280.63	257.75	111,994.04	24,892.92	303,005.96
67	12/1/2011	3.000%	538.38		279.99	258.39	111,735.65	25,172.91	303,264.35
68	1/1/2012	3.000%	538.38		279.34	259.04	111,476.61	25,452.25	303,523.39
69	2/1/2012	3.000%	538.38		278.69	259.69	111,216.92	25,730.94	303,783.08
70	3/1/2012	3.000%	538.38		278.04	260.34	110,956.58	26,008.98	304,043.42
71	4/1/2012	3.000%	538.38		277.39	260.99	110,695.59	26,286.37	304,304.41
72	5/1/2012	3.000%	538.38		276.74	261.64	110,433.95	26,563.11	304,566.05
73	6/1/2012	3.500%	567.31		322.10	245.21	110,188.74	26,885.21	304,811.26
74	7/1/2012	3.500%	567.31		321.38	245.93	109,942.81	27,206.59	305,057.19

## Appendix E. Payment Schedule after Principal Prepayment from HEAL Proceeds

### Adjustable Rate Mortgage (ARM) Calculator

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75	8/1/2012	3.500%	567.31	320.67	246.64	109,696.17	27,527.26	305,303.83
76	9/1/2012	3.500%	567.31	319.95	247.36	109,448.81	27,847.21	305,551.19
77	10/1/2012	3.500%	567.31	319.23	248.08	109,200.73	28,166.44	305,799.27
78	11/1/2012	3.500%	567.31	318.50	248.81	108,951.92	28,484.94	306,048.08
79	12/1/2012	3.500%	567.31	317.78	249.53	108,702.39	28,802.72	306,297.61
80	1/1/2013	3.500%	567.31	317.05	250.26	108,452.13	29,119.77	306,547.87
81	2/1/2013	3.500%	567.31	316.32	250.99	108,201.14	29,436.09	306,798.86
82	3/1/2013	3.500%	567.31	315.59	251.72	107,949.42	29,751.68	307,050.58
83	4/1/2013	3.500%	567.31	314.85	252.46	107,696.96	30,066.53	307,303.04
84	5/1/2013	3.500%	567.31	314.12	253.19	107,443.77	30,380.65	307,556.23
85	6/1/2013	4.000%	596.04	358.15	237.89	107,205.88	30,738.80	307,794.12
86	7/1/2013	4.000%	596.04	357.35	238.69	106,967.19	31,096.15	308,032.81
87	8/1/2013	4.000%	596.04	356.56	239.48	106,727.71	31,452.71	308,272.29
88	9/1/2013	4.000%	596.04	355.76	240.28	106,487.43	31,808.47	308,512.57
89	10/1/2013	4.000%	596.04	354.96	241.08	106,246.35	32,163.43	308,753.65
90	11/1/2013	4.000%	596.04	354.15	241.89	106,004.46	32,517.58	308,995.54
91	12/1/2013	4.000%	596.04	353.35	242.69	105,761.77	32,870.93	309,238.23
92	1/1/2014	4.000%	596.04	352.54	243.50	105,518.27	33,223.47	309,481.73
93	2/1/2014	4.000%	596.04	351.73	244.31	105,273.96	33,575.20	309,726.04
94	3/1/2014	4.000%	596.04	350.91	245.13	105,028.83	33,926.11	309,971.17
95	4/1/2014	4.000%	596.04	350.10	245.94	104,782.89	34,276.21	310,217.11
96	5/1/2014	4.000%	596.04	349.28	246.76	104,536.13	34,625.49	310,463.87
97	6/1/2014	4.500%	624.48	392.01	232.47	104,303.66	35,017.50	310,696.34
98	7/1/2014	4.500%	624.48	391.14	233.34	104,070.32	35,408.64	310,929.68
99	8/1/2014	4.500%	624.48	390.26	234.22	103,836.10	35,798.90	311,163.90
100	9/1/2014	4.500%	624.48	389.39	235.09	103,601.01	36,188.29	311,398.99
101	10/1/2014	4.500%	624.48	388.50	235.98	103,365.03	36,576.79	311,634.97
102	11/1/2014	4.500%	624.48	387.62	236.86	103,128.17	36,964.41	311,871.83
103	12/1/2014	4.500%	624.48	386.73	237.75	102,890.42	37,351.14	312,109.58
104	1/1/2015	4.500%	624.48	385.84	238.64	102,651.78	37,736.98	312,348.22
105	2/1/2015	4.500%	624.48	384.94	239.54	102,412.24	38,121.92	312,587.76
106	3/1/2015	4.500%	624.48	384.05	240.43	102,171.81	38,505.97	312,828.19
107	4/1/2015	4.500%	624.48	383.14	241.34	101,930.47	38,889.11	313,069.53
108	5/1/2015	4.500%	624.48	382.24	242.24	101,688.23	39,271.35	313,311.77
109	6/1/2015	5.000%	652.55	423.70	228.85	101,459.38	39,695.05	313,540.62
110	7/1/2015	5.000%	652.55	422.75	229.80	101,229.58	40,117.80	313,770.42
111	8/1/2015	5.000%	652.55	421.79	230.76	100,998.82	40,539.59	314,001.18
112	9/1/2015	5.000%	652.55	420.83	231.72	100,767.10	40,960.42	314,232.90
113	10/1/2015	5.000%	652.55	419.86	232.69	100,534.41	41,380.28	314,465.59
114	11/1/2015	5.000%	652.55	418.89	233.66	100,300.75	41,799.17	314,699.25
115	12/1/2015	5.000%	652.55	417.92	234.63	100,066.12	42,217.09	314,933.88
116	1/1/2016	5.000%	652.55	416.94	235.61	99,830.51	42,634.03	315,169.49
117	2/1/2016	5.000%	652.55	415.96	236.59	99,593.92	43,049.99	315,406.08
118	3/1/2016	5.000%	652.55	414.97	237.58	99,356.34	43,464.96	315,643.66
119	4/1/2016	5.000%	652.55	413.98	238.57	99,117.77	43,878.94	315,882.23
120	5/1/2016	5.000%	652.55	412.99	239.56	98,878.21	44,291.93	316,121.79
121	6/1/2016	5.500%	680.17	453.19	226.98	98,651.23	44,745.12	316,348.77
122	7/1/2016	5.500%	680.17	452.15	228.02	98,423.21	45,197.27	316,576.79
123	8/1/2016	5.500%	680.17	451.11	229.06	98,194.15	45,648.38	316,805.85
124	9/1/2016	5.500%	680.17	450.06	230.11	97,964.04	46,098.44	317,035.96
125	10/1/2016	5.500%	680.17	449.00	231.17	97,732.87	46,547.44	317,267.13

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### Adjustable Rate Mortgage (ARM) Calculator

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126	11/1/2016	5.500%	680.17	447.94	232.23	97,500.64	46,995.38	317,499.36
127	12/1/2016	5.500%	680.17	446.88	233.29	97,267.35	47,442.26	317,732.65
128	1/1/2017	5.500%	680.17	445.81	234.36	97,032.99	47,888.07	317,967.01
129	2/1/2017	5.500%	680.17	444.73	235.44	96,797.55	48,332.80	318,202.45
130	3/1/2017	5.500%	680.17	443.66	236.51	96,561.04	48,776.46	318,438.96
131	4/1/2017	5.500%	680.17	442.57	237.60	96,323.44	49,219.03	318,676.56
132	5/1/2017	5.500%	680.17	441.48	238.69	96,084.75	49,660.51	318,915.25
133	6/1/2017	6.000%	707.26	480.42	226.84	95,857.91	50,140.93	319,142.09
134	7/1/2017	6.000%	707.26	479.29	227.97	95,629.94	50,620.22	319,370.06
135	8/1/2017	6.000%	707.26	478.15	229.11	95,400.83	51,098.37	319,599.17
136	9/1/2017	6.000%	707.26	477.00	230.26	95,170.57	51,575.37	319,829.43
137	10/1/2017	6.000%	707.26	475.85	231.41	94,939.16	52,051.22	320,060.84
138	11/1/2017	6.000%	707.26	474.70	232.56	94,706.60	52,525.92	320,293.40
139	12/1/2017	6.000%	707.26	473.53	233.73	94,472.87	52,999.45	320,527.13
140	1/1/2018	6.000%	707.26	472.36	234.90	94,237.97	53,471.81	320,762.03
141	2/1/2018	6.000%	707.26	471.19	236.07	94,001.90	53,943.00	320,998.10
142	3/1/2018	6.000%	707.26	470.01	237.25	93,764.65	54,413.01	321,235.35
143	4/1/2018	6.000%	707.26	468.82	238.44	93,526.21	54,881.83	321,473.79
144	5/1/2018	6.000%	707.26	467.63	239.63	93,286.58	55,349.46	321,713.42
145	6/1/2018	6.500%	733.76	505.30	228.46	93,058.12	55,854.76	321,941.88
146	7/1/2018	6.500%	733.76	504.06	229.70	92,828.42	56,358.82	322,171.58
147	8/1/2018	6.500%	733.76	502.82	230.94	92,597.48	56,861.64	322,402.52
148	9/1/2018	6.500%	733.76	501.57	232.19	92,365.29	57,363.21	322,634.71
149	10/1/2018	6.500%	733.76	500.31	233.45	92,131.84	57,863.52	322,868.16
150	11/1/2018	6.500%	733.76	499.05	234.71	91,897.13	58,362.57	323,102.87
151	12/1/2018	6.500%	733.76	497.78	235.98	91,661.15	58,860.35	323,338.85
152	1/1/2019	6.500%	733.76	496.50	237.26	91,423.89	59,356.85	323,576.11
153	2/1/2019	6.500%	733.76	495.21	238.55	91,185.34	59,852.06	323,814.66
154	3/1/2019	6.500%	733.76	493.92	239.84	90,945.50	60,345.98	324,054.50
155	4/1/2019	6.500%	733.76	492.62	241.14	90,704.36	60,838.60	324,295.64
156	5/1/2019	6.500%	733.76	491.32	242.44	90,461.92	61,329.92	324,538.08
157	6/1/2019	7.000%	759.57	527.69	231.88	90,230.04	61,857.61	324,769.96
158	7/1/2019	7.000%	759.57	526.34	233.23	89,996.81	62,383.95	325,003.19
159	8/1/2019	7.000%	759.57	524.98	234.59	89,762.22	62,908.93	325,237.78
160	9/1/2019	7.000%	759.57	523.61	235.96	89,526.26	63,432.54	325,473.74
161	10/1/2019	7.000%	759.57	522.24	237.33	89,288.93	63,954.78	325,711.07
162	11/1/2019	7.000%	759.57	520.85	238.72	89,050.21	64,475.63	325,949.79
163	12/1/2019	7.000%	759.57	519.46	240.11	88,810.10	64,995.09	326,189.90
164	1/1/2020	7.000%	759.57	518.06	241.51	88,568.59	65,513.15	326,431.41
165	2/1/2020	7.000%	759.57	516.65	242.92	88,325.67	66,029.80	326,674.33
166	3/1/2020	7.000%	759.57	515.23	244.34	88,081.33	66,545.03	326,918.67
167	4/1/2020	7.000%	759.57	513.81	245.76	87,835.57	67,058.84	327,164.43
168	5/1/2020	7.000%	759.57	512.37	247.20	87,588.37	67,571.21	327,411.63
169	6/1/2020	7.500%	784.64	547.43	237.21	87,351.16	68,118.64	327,648.84
170	7/1/2020	7.500%	784.64	545.94	238.70	87,112.46	68,664.58	327,887.54
171	8/1/2020	7.500%	784.64	544.45	240.19	86,872.27	69,209.03	328,127.73
172	9/1/2020	7.500%	784.64	542.95	241.69	86,630.58	69,751.98	328,369.42
173	10/1/2020	7.500%	784.64	541.44	243.20	86,387.38	70,293.42	328,612.62
174	11/1/2020	7.500%	784.64	539.92	244.72	86,142.66	70,833.34	328,857.34
175	12/1/2020	7.500%	784.64	538.39	246.25	85,896.41	71,371.73	329,103.59
176	1/1/2021	7.500%	784.64	536.85	247.79	85,648.62	71,908.58	329,351.38

## Appendix E. Payment Schedule after Principal Prepayment from HEAL Proceeds

### Adjustable Rate Mortgage (ARM) Calculator

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177	2/1/2021	7.500%	784.64	535.30	249.34	85,399.28	72,443.88	329,600.72
178	3/1/2021	7.500%	784.64	533.75	250.89	85,148.39	72,977.63	329,851.61
179	4/1/2021	7.500%	784.64	532.18	252.46	84,895.93	73,509.81	330,104.07
180	5/1/2021	7.500%	784.64	530.60	254.04	84,641.89	74,040.41	330,358.11
181	6/1/2021	8.000%	808.88	564.28	244.60	84,397.29	74,604.69	330,602.71
182	7/1/2021	8.000%	808.88	562.65	246.23	84,151.06	75,167.34	330,848.94
183	8/1/2021	8.000%	808.88	561.01	247.87	83,903.19	75,728.35	331,096.81
184	9/1/2021	8.000%	808.88	559.35	249.53	83,653.66	76,287.70	331,346.34
185	10/1/2021	8.000%	808.88	557.69	251.19	83,402.47	76,845.39	331,597.53
186	11/1/2021	8.000%	808.88	556.02	252.86	83,149.61	77,401.41	331,850.39
187	12/1/2021	8.000%	808.88	554.33	254.55	82,895.06	77,955.74	332,104.94
188	1/1/2022	8.000%	808.88	552.63	256.25	82,638.81	78,508.37	332,361.19
189	2/1/2022	8.000%	808.88	550.93	257.95	82,380.86	79,059.30	332,619.14
190	3/1/2022	8.000%	808.88	549.21	259.67	82,121.19	79,608.51	332,878.81
191	4/1/2022	8.000%	808.88	547.47	261.41	81,859.78	80,155.98	333,140.22
192	5/1/2022	8.000%	808.88	545.73	263.15	81,596.63	80,701.71	333,403.37
193	6/1/2022	8.500%	832.22	577.98	254.24	81,342.39	81,279.69	333,657.61
194	7/1/2022	8.500%	832.22	576.18	256.04	81,086.35	81,855.87	333,913.65
195	8/1/2022	8.500%	832.22	574.36	257.86	80,828.49	82,430.23	334,171.51
196	9/1/2022	8.500%	832.22	572.54	259.68	80,568.81	83,002.77	334,431.19
197	10/1/2022	8.500%	832.22	570.70	261.52	80,307.29	83,573.47	334,692.71
198	11/1/2022	8.500%	832.22	568.84	263.38	80,043.91	84,142.31	334,956.09
199	12/1/2022	8.500%	832.22	566.98	265.24	79,778.67	84,709.29	335,221.33
200	1/1/2023	8.500%	832.22	565.10	267.12	79,511.55	85,274.39	335,488.45
201	2/1/2023	8.500%	832.22	563.21	269.01	79,242.54	85,837.60	335,757.46
202	3/1/2023	8.500%	832.22	561.30	270.92	78,971.62	86,398.90	336,028.38
203	4/1/2023	8.500%	832.22	559.38	272.84	78,698.78	86,958.28	336,301.22
204	5/1/2023	8.500%	832.22	557.45	274.77	78,424.01	87,515.73	336,575.99
205	6/1/2023	9.000%	854.57	588.18	266.39	78,157.62	88,103.91	336,842.38
206	7/1/2023	9.000%	854.57	586.18	268.39	77,889.23	88,690.09	337,110.77
207	8/1/2023	9.000%	854.57	584.17	270.40	77,618.83	89,274.26	337,381.17
208	9/1/2023	9.000%	854.57	582.14	272.43	77,346.40	89,856.40	337,653.60
209	10/1/2023	9.000%	854.57	580.10	274.47	77,071.93	90,436.50	337,928.07
210	11/1/2023	9.000%	854.57	578.04	276.53	76,795.40	91,014.54	338,204.60
211	12/1/2023	9.000%	854.57	575.97	278.60	76,516.80	91,590.51	338,483.20
212	1/1/2024	9.000%	854.57	573.88	280.69	76,236.11	92,164.39	338,763.89
213	2/1/2024	9.000%	854.57	571.77	282.80	75,953.31	92,736.16	339,046.69
214	3/1/2024	9.000%	854.57	569.65	284.92	75,668.39	93,305.81	339,331.61
215	4/1/2024	9.000%	854.57	567.51	287.06	75,381.33	93,873.32	339,618.67
216	5/1/2024	9.000%	854.57	565.36	289.21	75,092.12	94,438.68	339,907.88
217	6/1/2024	9.500%	875.85	594.48	281.37	74,810.75	95,033.16	340,189.25
218	7/1/2024	9.500%	875.85	592.25	283.60	74,527.15	95,625.41	340,472.85
219	8/1/2024	9.500%	875.85	590.01	285.84	74,241.31	96,215.42	340,758.69
220	9/1/2024	9.500%	875.85	587.74	288.11	73,953.20	96,803.16	341,046.80
221	10/1/2024	9.500%	875.85	585.46	290.39	73,662.81	97,388.62	341,337.19
222	11/1/2024	9.500%	875.85	583.16	292.69	73,370.12	97,971.78	341,629.88
223	12/1/2024	9.500%	875.85	580.85	295.00	73,075.12	98,552.63	341,924.88
224	1/1/2025	9.500%	875.85	578.51	297.34	72,777.78	99,131.14	342,222.22
225	2/1/2025	9.500%	875.85	576.16	299.69	72,478.09	99,707.30	342,521.91
226	3/1/2025	9.500%	875.85	573.78	302.07	72,176.02	100,281.08	342,823.98
227	4/1/2025	9.500%	875.85	571.39	304.46	71,871.56	100,852.47	343,128.44

## Appendix E. Payment Schedule after Principal Prepayment from HEAL Proceeds

### Adjustable Rate Mortgage (ARM) Calculator

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228	5/1/2025	9.500%	875.85	568.98	306.87	71,564.69	101,421.45	343,435.31
229	6/1/2025	10.000%	895.98	596.37	299.61	71,265.08	102,017.82	343,734.92
230	7/1/2025	10.000%	895.98	593.88	302.10	70,962.98	102,611.70	344,037.02
231	8/1/2025	10.000%	895.98	591.36	304.62	70,658.36	103,203.06	344,341.64
232	9/1/2025	10.000%	895.98	588.82	307.16	70,351.20	103,791.88	344,648.80
233	10/1/2025	10.000%	895.98	586.26	309.72	70,041.48	104,378.14	344,958.52
234	11/1/2025	10.000%	895.98	583.68	312.30	69,729.18	104,961.82	345,270.82
235	12/1/2025	10.000%	895.98	581.08	314.90	69,414.28	105,542.90	345,585.72
236	1/1/2026	10.000%	895.98	578.45	317.53	69,096.75	106,121.35	345,903.25
237	2/1/2026	10.000%	895.98	575.81	320.17	68,776.58	106,697.16	346,223.42
238	3/1/2026	10.000%	895.98	573.14	322.84	68,453.74	107,270.30	346,546.26
239	4/1/2026	10.000%	895.98	570.45	325.53	68,128.21	107,840.75	346,871.79
240	5/1/2026	10.000%	895.98	567.74	328.24	67,799.97	108,408.49	347,200.03
241	6/1/2026	10.500%	914.86	593.25	321.61	67,478.36	109,001.74	347,521.64
242	7/1/2026	10.500%	914.86	590.44	324.42	67,153.94	109,592.18	347,846.06
243	8/1/2026	10.500%	914.86	587.60	327.26	66,826.68	110,179.78	348,173.32
244	9/1/2026	10.500%	914.86	584.73	330.13	66,496.55	110,764.51	348,503.45
245	10/1/2026	10.500%	914.86	581.84	333.02	66,163.53	111,346.35	348,836.47
246	11/1/2026	10.500%	914.86	578.93	335.93	65,827.60	111,925.28	349,172.40
247	12/1/2026	10.500%	914.86	575.99	338.87	65,488.73	112,501.27	349,511.27
248	1/1/2027	10.500%	914.86	573.03	341.83	65,146.90	113,074.30	349,853.10
249	2/1/2027	10.500%	914.86	570.04	344.82	64,802.08	113,644.34	350,197.92
250	3/1/2027	10.500%	914.86	567.02	347.84	64,454.24	114,211.36	350,545.76
251	4/1/2027	10.500%	914.86	563.97	350.89	64,103.35	114,775.33	350,896.65
252	5/1/2027	10.500%	914.86	560.90	353.96	63,749.39	115,336.23	351,250.61
253	6/1/2027	11.000%	932.39	584.37	348.02	63,401.37	115,920.60	351,598.63
254	7/1/2027	11.000%	932.39	581.18	351.21	63,050.16	116,501.78	351,949.84
255	8/1/2027	11.000%	932.39	577.96	354.43	62,695.73	117,079.74	352,304.27
256	9/1/2027	11.000%	932.39	574.71	357.68	62,338.05	117,654.45	352,661.95
257	10/1/2027	11.000%	932.39	571.43	360.96	61,977.09	118,225.88	353,022.91
258	11/1/2027	11.000%	932.39	568.12	364.27	61,612.82	118,794.00	353,387.18
259	12/1/2027	11.000%	932.39	564.78	367.61	61,245.21	119,358.78	353,754.79
260	1/1/2028	11.000%	932.39	561.41	370.98	60,874.23	119,920.19	354,125.77
261	2/1/2028	11.000%	932.39	558.01	374.38	60,499.85	120,478.20	354,500.15
262	3/1/2028	11.000%	932.39	554.58	377.81	60,122.04	121,032.78	354,877.96
263	4/1/2028	11.000%	932.39	551.12	381.27	59,740.77	121,583.90	355,259.23
264	5/1/2028	11.000%	932.39	547.62	384.77	59,356.00	122,131.52	355,644.00
265	6/1/2028	11.500%	948.47	568.83	379.64	58,976.36	122,700.35	356,023.64
266	7/1/2028	11.500%	948.47	565.19	383.28	58,593.08	123,265.54	356,406.92
267	8/1/2028	11.500%	948.47	561.52	386.95	58,206.13	123,827.06	356,793.87
268	9/1/2028	11.500%	948.47	557.81	390.66	57,815.47	124,384.87	357,184.53
269	10/1/2028	11.500%	948.47	554.06	394.41	57,421.06	124,938.93	357,578.94
270	11/1/2028	11.500%	948.47	550.29	398.18	57,022.88	125,489.22	357,977.12
271	12/1/2028	11.500%	948.47	546.47	402.00	56,620.88	126,035.69	358,379.12
272	1/1/2029	11.500%	948.47	542.62	405.85	56,215.03	126,578.31	358,784.97
273	2/1/2029	11.500%	948.47	538.73	409.74	55,805.29	127,117.04	359,194.71
274	3/1/2029	11.500%	948.47	534.80	413.67	55,391.62	127,651.84	359,608.38
275	4/1/2029	11.500%	948.47	530.84	417.63	54,973.99	128,182.68	360,026.01
276	5/1/2029	11.500%	948.47	526.83	421.64	54,552.35	128,709.51	360,447.65
277	6/1/2029	12.000%	963.00	545.52	417.48	54,134.87	129,255.03	360,865.13
278	7/1/2029	12.000%	963.00	541.35	421.65	53,713.22	129,796.38	361,286.78

## Appendix E. Payment Schedule after Principal Prepayment from HEAL Proceeds

### Adjustable Rate Mortgage (ARM) Calculator

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279	8/1/2029	12.000%	963.00	537.13	425.87	53,287.35	130,333.51	361,712.65
280	9/1/2029	12.000%	963.00	532.87	430.13	52,857.22	130,866.38	362,142.78
281	10/1/2029	12.000%	963.00	528.57	434.43	52,422.79	131,394.95	362,577.21
282	11/1/2029	12.000%	963.00	524.23	438.77	51,984.02	131,919.18	363,015.98
283	12/1/2029	12.000%	963.00	519.84	443.16	51,540.86	132,439.02	363,459.14
284	1/1/2030	12.000%	963.00	515.41	447.59	51,093.27	132,954.43	363,906.73
285	2/1/2030	12.000%	963.00	510.93	452.07	50,641.20	133,465.36	364,358.80
286	3/1/2030	12.000%	963.00	506.41	456.59	50,184.61	133,971.77	364,815.39
287	4/1/2030	12.000%	963.00	501.85	461.15	49,723.46	134,473.62	365,276.54
288	5/1/2030	12.000%	963.00	497.23	465.77	49,257.69	134,970.85	365,742.31
289	6/1/2030	12.000%	963.00	492.58	470.42	48,787.27	135,463.43	366,212.73
290	7/1/2030	12.000%	963.00	487.87	475.13	48,312.14	135,951.30	366,687.86
291	8/1/2030	12.000%	963.00	483.12	479.88	47,832.26	136,434.42	367,167.74
292	9/1/2030	12.000%	963.00	478.32	484.68	47,347.58	136,912.74	367,652.42
293	10/1/2030	12.000%	963.00	473.48	489.52	46,858.06	137,386.22	368,141.94
294	11/1/2030	12.000%	963.00	468.58	494.42	46,363.64	137,854.80	368,636.36
295	12/1/2030	12.000%	963.00	463.64	499.36	45,864.28	138,318.44	369,135.72
296	1/1/2031	12.000%	963.00	458.64	504.36	45,359.92	138,777.08	369,640.08
297	2/1/2031	12.000%	963.00	453.60	509.40	44,850.52	139,230.68	370,149.48
298	3/1/2031	12.000%	963.00	448.51	514.49	44,336.03	139,679.19	370,663.97
299	4/1/2031	12.000%	963.00	443.36	519.64	43,816.39	140,122.55	371,183.61
300	5/1/2031	12.000%	963.00	438.16	524.84	43,291.55	140,560.71	371,708.45
301	6/1/2031	12.000%	963.00	432.92	530.08	42,761.47	140,993.63	372,238.53
302	7/1/2031	12.000%	963.00	427.61	535.39	42,226.08	141,421.24	372,773.92
303	8/1/2031	12.000%	963.00	422.26	540.74	41,685.34	141,843.50	373,314.66
304	9/1/2031	12.000%	963.00	416.85	546.15	41,139.19	142,260.35	373,860.81
305	10/1/2031	12.000%	963.00	411.39	551.61	40,587.58	142,671.74	374,412.42
306	11/1/2031	12.000%	963.00	405.88	557.12	40,030.46	143,077.62	374,969.54
307	12/1/2031	12.000%	963.00	400.30	562.70	39,467.76	143,477.92	375,532.24
308	1/1/2032	12.000%	963.00	394.68	568.32	38,899.44	143,872.60	376,100.56
309	2/1/2032	12.000%	963.00	388.99	574.01	38,325.43	144,261.59	376,674.57
310	3/1/2032	12.000%	963.00	383.25	579.75	37,745.68	144,644.84	377,254.32
311	4/1/2032	12.000%	963.00	377.46	585.54	37,160.14	145,022.30	377,839.86
312	5/1/2032	12.000%	963.00	371.60	591.40	36,568.74	145,393.90	378,431.26
313	6/1/2032	12.000%	963.00	365.69	597.31	35,971.43	145,759.59	379,028.57
314	7/1/2032	12.000%	963.00	359.71	603.29	35,368.14	146,119.30	379,631.86
315	8/1/2032	12.000%	963.00	353.68	609.32	34,758.82	146,472.98	380,241.18
316	9/1/2032	12.000%	963.00	347.59	615.41	34,143.41	146,820.57	380,856.59
317	10/1/2032	12.000%	963.00	341.43	621.57	33,521.84	147,162.00	381,478.16
318	11/1/2032	12.000%	963.00	335.22	627.78	32,894.06	147,497.22	382,105.94
319	12/1/2032	12.000%	963.00	328.94	634.06	32,260.00	147,826.16	382,740.00
320	1/1/2033	12.000%	963.00	322.60	640.40	31,619.60	148,148.76	383,380.40
321	2/1/2033	12.000%	963.00	316.20	646.80	30,972.80	148,464.96	384,027.20
322	3/1/2033	12.000%	963.00	309.73	653.27	30,319.53	148,774.69	384,680.47
323	4/1/2033	12.000%	963.00	303.20	659.80	29,659.73	149,077.89	385,340.27
324	5/1/2033	12.000%	963.00	296.60	666.40	28,993.33	149,374.49	386,006.67
325	6/1/2033	12.000%	963.00	289.93	673.07	28,320.26	149,664.42	386,679.74
326	7/1/2033	12.000%	963.00	283.20	679.80	27,640.46	149,947.62	387,359.54
327	8/1/2033	12.000%	963.00	276.40	686.60	26,953.86	150,224.02	388,046.14
328	9/1/2033	12.000%	963.00	269.54	693.46	26,260.40	150,493.56	388,739.60
329	10/1/2033	12.000%	963.00	262.60	700.40	25,560.00	150,756.16	389,440.00

## Appendix E. Payment Schedule after Principal Prepayment from HEAL Proceeds

### Adjustable Rate Mortgage (ARM) Calculator

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<http://www.vertex42.com/ExcelTemplates/arm-calculator.html>

330	11/1/2033	12.000%	963.00		255.60	707.40	24,852.60	151,011.76	390,147.40
331	12/1/2033	12.000%	963.00		248.53	714.47	24,138.13	151,260.29	390,861.87
332	1/1/2034	12.000%	963.00		241.38	721.62	23,416.51	151,501.67	391,583.49
333	2/1/2034	12.000%	963.00		234.17	728.83	22,687.68	151,735.84	392,312.32
334	3/1/2034	12.000%	963.00		226.88	736.12	21,951.56	151,962.72	393,048.44
335	4/1/2034	12.000%	963.00		219.52	743.48	21,208.08	152,182.24	393,791.92
336	5/1/2034	12.000%	963.00		212.08	750.92	20,457.16	152,394.32	394,542.84
337	6/1/2034	12.000%	963.00		204.57	758.43	19,698.73	152,598.89	395,301.27
338	7/1/2034	12.000%	963.00		196.99	766.01	18,932.72	152,795.88	396,067.28
339	8/1/2034	12.000%	963.00		189.33	773.67	18,159.05	152,985.21	396,840.95
340	9/1/2034	12.000%	963.00		181.59	781.41	17,377.64	153,166.80	397,622.36
341	10/1/2034	12.000%	963.00		173.78	789.22	16,588.42	153,340.58	398,411.58
342	11/1/2034	12.000%	963.00		165.88	797.12	15,791.30	153,506.46	399,208.70
343	12/1/2034	12.000%	963.00		157.91	805.09	14,986.21	153,664.37	400,013.79
344	1/1/2035	12.000%	963.00		149.86	813.14	14,173.07	153,814.23	400,826.93
345	2/1/2035	12.000%	963.00		141.73	821.27	13,351.80	153,955.96	401,648.20
346	3/1/2035	12.000%	963.00		133.52	829.48	12,522.32	154,089.48	402,477.68
347	4/1/2035	12.000%	963.00		125.22	837.78	11,684.54	154,214.70	403,315.46
348	5/1/2035	12.000%	963.00		116.85	846.15	10,838.39	154,331.55	404,161.61
349	6/1/2035	12.000%	963.00		108.38	854.62	9,983.77	154,439.93	405,016.23
350	7/1/2035	12.000%	963.00		99.84	863.16	9,120.61	154,539.77	405,879.39
351	8/1/2035	12.000%	963.00		91.21	871.79	8,248.82	154,630.98	406,751.18
352	9/1/2035	12.000%	963.00		82.49	880.51	7,368.31	154,713.47	407,631.69
353	10/1/2035	12.000%	963.00		73.68	889.32	6,478.99	154,787.15	408,521.01
354	11/1/2035	12.000%	963.00		64.79	898.21	5,580.78	154,851.94	409,419.22
355	12/1/2035	12.000%	963.00		55.81	907.19	4,673.59	154,907.75	410,326.41
356	1/1/2036	12.000%	963.00		46.74	916.26	3,757.33	154,954.49	411,242.67
357	2/1/2036	12.000%	963.00		37.57	925.43	2,831.90	154,992.06	412,168.10
358	3/1/2036	12.000%	963.00		28.32	934.68	1,897.22	155,020.38	413,102.78
359	4/1/2036	12.000%	963.00		18.97	944.03	953.19	155,039.35	414,046.81
360	5/1/2036	12.000%	962.72		9.53	953.19	0.00	155,048.88	415,000.00

## Appendix F. Home Equity Growth Schedule

Calendar Year	HEAL Term Year	Home Value	First Mortgage Balance	Homeowner Equity	HEAL Loan Balance
2009	0	\$ 290,000.00	\$ 120,151.30	\$ 169,848.70	\$ 261,233.00
2010	1	\$ 282,750.00	\$ 116,760.60	\$ 165,989.40	\$ 261,233.00
2011	2	\$ 275,500.00	\$ 113,530.94	\$ 161,969.06	\$ 261,233.00
2012	3	\$ 281,010.00	\$ 110,433.95	\$ 170,576.05	\$ 261,233.00
2013	4	\$ 286,630.20	\$ 107,443.77	\$ 179,186.43	\$ 261,233.00
2014	5	\$ 292,362.80	\$ 104,536.13	\$ 187,826.67	\$ 261,233.00
2015	6	\$ 298,210.06	\$ 102,412.24	\$ 195,797.82	\$ 261,233.00
<b>Home Sale</b>		\$ (298,210.06)	\$ (102,412.24)		\$ (121,857.82)
<b>Home Purchase</b>		\$ 325,000.00	\$ 260,000.00	\$ 65,000.00	\$ 139,375.18
2016	7	\$ 331,500.00	\$ 256,532.39	\$ 74,967.61	\$ 139,375.18
2017	8	\$ 338,130.00	\$ 253,125.70	\$ 85,004.30	\$ 139,375.18
2018	9	\$ 344,892.60	\$ 249,508.88	\$ 95,383.72	\$ 139,375.18
2019	10	\$ 351,790.45	\$ 245,668.98	\$ 106,121.47	\$ 139,375.18
2020	11	\$ 358,826.26	\$ 241,592.25	\$ 117,234.01	\$ 139,375.18
2021	12	\$ 366,002.79	\$ 237,264.08	\$ 128,738.71	\$ 139,375.18
<b>2022</b>	<b>13</b>	<b>\$ 373,322.84</b>	<b>\$ 232,668.96</b>	<b>\$ 140,653.88</b>	<b>\$ 139,375.18</b>
					<b>Breakeven Equity</b>
2023	14	\$ 380,789.30	\$ 227,790.43	\$ 152,998.87	\$ 139,375.18
2024	15	\$ 388,405.08	\$ 222,610.99	\$ 165,794.09	\$ 139,375.18
2025	16	\$ 396,173.19	\$ 217,112.11	\$ 179,061.08	\$ 139,375.18
2026	17	\$ 404,096.65	\$ 211,274.07	\$ 192,822.58	\$ 139,375.18
2027	18	\$ 412,178.58	\$ 205,075.95	\$ 207,102.63	\$ 139,375.18
2028	19	\$ 420,422.15	\$ 198,495.54	\$ 221,926.61	\$ 139,375.18
2029	20	\$ 428,830.60	\$ 191,509.28	\$ 237,321.32	\$ 139,375.18
2030	21	\$ 437,407.21	\$ 184,092.11	\$ 253,315.10	\$ 139,375.18
2031	22	\$ 446,155.35	\$ 176,217.46	\$ 269,937.89	\$ 139,375.18
2032	23	\$ 455,078.46	\$ 167,857.13	\$ 287,221.33	\$ 139,375.18
2033	24	\$ 464,180.03	\$ 158,981.17	\$ 305,198.86	\$ 139,375.18
2034	25	\$ 473,463.63	\$ 149,557.74	\$ 323,905.89	\$ 139,375.18
2035	26	\$ 482,932.90	\$ 139,553.08	\$ 343,379.82	\$ 139,375.18
2036	27	\$ 492,591.56	\$ 128,931.34	\$ 363,660.22	\$ 139,375.18
2037	28	\$ 502,443.39	\$ 117,654.52	\$ 384,788.87	\$ 139,375.18
2038	29	\$ 512,492.26	\$ 105,682.14	\$ 406,810.12	\$ 139,375.18
2039	30	\$ 522,742.11	\$ 92,971.34	\$ 429,770.77	\$ 139,375.18
<b>HEAL Repayment</b>		\$ 533,196.95	\$ 232,346.52	\$ 300,850.43	\$ (139,375.18)

**Key Assumptions:**

1. Home prices fall 5% from 2009 to 2011
2. Home prices rise 2% per year from 2012 to 2039



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