

Improve the Accuracy of Mortgage Underwriting by Accounting for Expected Energy Operating Costs

Summary of Proposal

We propose to provide federal mortgage agencies (primarily FHA, Fannie Mae and Freddie Mac) with the tools and direction necessary to improve the accuracy of mortgage underwriting by accounting for the energy costs associated with the house when originating a mortgage loan.

With a better, more granular assessment of whether a homeowner can manage the costs of homeownership, federal mortgage programs will produce better loans, and borrowers will be better informed about the expected energy costs of a given house before making a purchase. This will lead to more efficient homes being built; to better borrowers, as they will be more informed of expected energy costs associated with home ownership; and to reduced risk of mortgage default, as underwriting will more accurately account for whether the borrower can afford the cost of home ownership.

This policy can be implemented in a manner that will not reduce the availability of credit or increase the cost of credit.

Over time, this policy should make energy efficient homes more affordable which will result in increased consumer demand. In turn, investment in home efficiency will increase resulting in the growth of “green jobs” in the residential construction and remodeling sector.

Concurrent with the changes in mortgage underwriting procedures, the appraisal process will also need to be changed to recognize the increased value of energy efficient homes in a consistent and transparent way.

Specific Proposal

Provide support and direction to federal loan agencies to account for the expected energy costs for the house in underwriting a mortgage loan, as follows:

- I. For purposes of the debt to income (DTI) requirement, which tests a borrower's ability to pay the regular monthly payments, include in the back-end DTI a factor for the expected cost of energy.
- II. For purposes of property valuation, ensure that whole-house efficiency will produce regular monthly savings by lowering energy costs that are appropriately valued. Facilitate use of third-party certification of home efficiency by approved energy raters. Provide guidance for valuing energy savings just as an appraiser can include the value of a rental unit or a separate garage.

Background

Loan “underwriting” is shorthand for the process of determining whether a prospective borrower is eligible for a loan associated with a particular house. It has become clear that mortgage lenders and investors, over the past 10 years or so, strayed significantly from sound underwriting principles. The negative effects of this were compounded by the fact that “traditional” underwriting includes blind spots and gaps. A key blind spot, which should be corrected, is the failure to properly account for energy costs of a house – an unavoidable cost of homeownership.

The federal government participates in the U.S. mortgage market primarily through three entities – Fannie Mae, Freddie Mac, and FHA (known as “loan agencies”), but also includes programs at VA, USDA, and others. Fannie Mae and Freddie Mac each buy loans originated by lenders, and FHA may issue a loan guarantee for eligible loans. While each agency has loan programs and origination processes that are somewhat unique, all follow a very similar approach to determining whether a borrower is eligible for a loan program. Each agency publishes to the market its guidelines for originating loans that will be eligible for purchase or guarantee, and each provides systems accessible at the point of sale to facilitate the eligibility decision.

In the mortgage context, underwriting usually involves an assessment of many factors according to rules established by lenders or investors to undertake the risk associated with the loan. Because the federal loan agencies have dominated the mortgage market for many years, the underwriting approach of Fannie Mae and Freddie Mac has become known as the “traditional” approach.

Traditional underwriting is commonly summarized as an assessment of three factors: the prospective borrower's creditworthiness (usually represented by his or her history of paying other accounts on time); an assessment of property value to confirm value in the event of default; and, perhaps most important, an assessment of the borrower's ability to repay – net income and assets that can be called upon to make the monthly payment.

I. Accounting for Energy Costs in Affordability

Current Approach to Affordability

Fannie Mae, Freddie Mac, and FHA loan programs all operate in a similar fashion with regard to assessing the borrower's ability to pay and whether a specific loan will be affordable: each uses the debt to income ratio ("DTI"). This is a simple expression of a borrower's capacity to pay the ongoing monthly debt from regular monthly income.

Traditional mortgages require that borrowers meet two DTI tests. A particular loan program might work as follows. First, a borrower's monthly mortgage payment – principal plus interest payment – may not exceed 30% of his or her gross monthly income. Second, the "back-end" DTI may not exceed 35% of gross monthly income.¹ "Back end DTI" is principal plus interest plus taxes, insurance, child support payments (if any), and other regular loan payments.

The loan guidelines provide significant detail on how to calculate the values and how to treat exceptions.

The Problem

"Traditional underwriting" largely developed and evolved in the 1940s and 1950s as homeownership expanded rapidly and federal agencies' eligibility tests were followed by private lenders. The traditional underwriting principles were largely sound.

The federal agencies, however, had a blind spot for certain costs of homeownership – notably energy, water and transportation costs. This blind spot can be understood as a product of the time. Energy costs were generally very low and steady. Most houses were similarly constructed without investment in efficiency. Most towns did not have distant suburbs requiring lengthy travel to basic needs such as grocery stores.

The traditional approach to underwriting from the 1940s – which is still the **current** approach used by federal agencies – assumes that energy costs of the house are like all other regular personal expenses, such as food, entertainment and child care. The policy assumes energy costs should be managed by the borrower within the residual 70% of income, and if money is tight, the borrower would simply use less to fit within the budget.

This assumption is faulty. While there is some room for homeowners to adjust energy usage, for most families, energy usage can only be reduced so much. Moreover, a family is likely to keep the electricity and heat on in the winter rather than turn it off in order to make a mortgage payment.

A second faulty assumption in the current underwriting policy is that all houses are similar in efficiency – that energy costs for all borrowers should fit within the same residual "bucket" (e.g., 70%) of income for all borrowers. This assumption is out-dated. In fact, due to building codes with efficiency requirements

¹ In some cases a loan program might permit the borrower to exceed the designated thresholds if other compensating factors are present.

that have increased in recent years and homeowner investments in energy efficiency, some homes are much more efficient than others.

A third faulty assumption in the traditional approach is that energy costs of a house are not significant to the borrower's monthly budget. This assumption is a relic of a different era. Energy costs have risen in real terms over the last 40 years and are expected to continue to rise in real terms.² The combined annual energy costs for the average American homeowner in 2005 were \$1994.³ That is about 14% of the annual P&I payments on a \$200,000 loan.⁴

As shown above, the fact that mortgage underwriting today does not account for the energy costs of homeownership is based upon assumptions that no longer hold. As a result of this flawed approach, federal mortgage programs reject the borrower whose DTI is slightly too high for approval, even if he or she is buying a home that will have unusually low energy costs. And, the approach approves the borrower whose DTI is just on the margin, but due to an inefficient house, will have energy bills much higher than usual for the area.

There is an ideological argument that borrowers should be responsible enough to fully account for energy costs when budgeting for homeownership. However, the very purpose of underwriting is to identify factors that could result in a default and ensure that those risks are factored into the underwriting decision. Energy operating costs are a significant cost of homeownership. Fortunately, this cost can be accurately accounted for in the underwriting process with a relatively simple change to underwriting standards.

Correcting the Problem

We propose that the assessment of the borrower's ability to re-pay the loan include an assessment of the expected energy costs associated with the home. This would be accomplished by including in the back-end DTI a factor for energy costs based on averages for the state (described in greater detail below) or on a rigorous third-party rating of the house itself.

Implementation

1. Include in the back-end DTI a new Energy Factor, which will be an estimate of expected energy costs of living in the house. It would be determined as follows:
 - a. The US Department of Energy currently tracks the average energy cost for homes in each region. This data is currently maintained by DOE's Energy Information Administration. This proposal includes funding and direction to DOE to maintain this data in a form that may be integrated with and accessed by lender systems (comparable to flood insurance data, property tax data, etc.), or may be obtained

² US Energy Information Administration 2010 Annual Energy Outlook

³ US Energy Information Administration 2005 Residential Energy Consumption Survey: Energy Consumption and Expenditures [Table US10](#). Average Expenditures by Fuels Used, 2005, Dollars per Household

⁴ Assumes a 6% interest rate.

in printed form. DOE's data should include energy costs per square foot for homes in each state.

- b. For homes for which a rating using a DOE-approved method is submitted, the per-square-foot cost derived from the rating will be used instead. Pending action by DOE, the per-square-foot cost may be derived from a HERS rating.
 - c. Multiply the per square foot rating (either a or b above) by the square footage of the house according to the appraisal. This number is included in the DTI as the Energy Factor.
2. Adjust the DTI thresholds for each loan program to include the Energy Factor for the expected energy costs (e.g., a loan program that currently has a 35% eligibility limit will be adjusted to 35% plus x%). The x% would be determined as follows:
 - a. The amount of the adjustment shall be determined by each federal loan agency in consultation with its own credit policy team and the US Department of Energy.
 - b. This proposal directs the agencies to adjust the DTI thresholds to reflect average energy costs so that, at the time of implementation, there will be no net impact on eligibility of the average American home buyer purchasing the average American home.
3. In consultation with DOE, EPA and federal mortgage agencies, the Department of Housing and Urban Development (HUD) shall study the feasibility of adding water costs and location-based transportation costs to mortgage underwriting calculations. HUD shall report back to Congress within 18 months of enactment. Federal mortgage agencies shall fully cooperate in this analysis.

II. Appraisal Standards. Accounting for lower operational costs in valuation of home.

Background

It is a well-established and widely-used concept that operational costs are relevant to the value of an asset such as a house. In fact, for commercial properties, adjustments to asset value typically directly result from changes to expected future operating costs. For many of the same reasons described above in connection with mortgage underwriting, the mortgage industry traditionally has not examined the energy costs of a house in connection with determining the value of the house. This should be corrected to improve the reliability and integrity of both underwriting and valuation.

Current Approach

Appraisers generally rely on the sales comparison approach to value a house. They first look to comparable homes ("comps") to obtain a market price, looking for houses of similar size and location,

and then make adjustments according to differences that are noted in the available records or that are apparent from a visual exterior inspection of the comps. As part of this process, appraisers typically derive per-square-foot values for the subject property and comps.

Appraisers typically do not attempt to account for energy costs now in the valuation of the home, thereby treating equally two otherwise identical houses even if one has improvements that result in \$100 energy savings per month. Including the (discounted) value of the \$100 monthly savings in the value of the second house would improve valuation.

Correcting the Problem

Direct the federal programs to implement appraisal guidelines for all federal mortgage programs that account for whole-house energy efficiency. Appraisers and underwriters would be empowered to add the net present value of projected energy savings (NPV) to the appraised value of the home for purpose of underwriting a mortgage.

Rather than expect to re-train appraisers to estimate the energy savings associated with any improvements, we propose to simply empower the appraiser to include or attach the report of a certified energy rater.

Implementation

1. Most existing houses at the time of implementation will not have any energy efficiency ratings. For these houses, this proposal would not affect home valuation.
2. For houses with an energy efficiency report that was prepared by a qualified third-party as determined by DOE (or with HERS reports prepared by a third-party HERS rater pending a DOE determination), the appraisal would be adjusted as follows:
 - a. The Efficiency rating may be supplied by the buyer or seller. Such a report shall include an estimate of annual energy costs specific to the house being purchased.
 - b. The net present valuation of the projected energy savings shall be added to the appraised value of the home by the appraiser or the mortgage underwriter. The US Treasury Department in consultation with DOE shall determine a formula for the NPV calculation to be used. The discount rate used in the NPV algorithm shall be updated periodically and be based on average mortgage interest rates at the time. For appraisal purposes, the value of energy savings shall be the sum, for the term of the mortgage, of the estimated annual differences between the default estimate⁵ of annual energy costs and the estimated annual energy cost as determined by an energy efficiency report
 - c. Enhanced energy efficiency appraisal guidelines shall be available for both new and resale homes and for all housing types that would normally qualify for federal insurance.

⁵ In the case of a HERS rating, this would be a HERS index score of 100.

- d. The agencies are directed to slightly edit the Uniform Residential Appraisal Report (URAR) and similar forms to add a box noting whether the appraised value has been adjusted to account for whole-house energy efficiency. Appraisers who check the box would then also append a HERS report, similar documentation or explanation, as required by the agencies. If the appraiser does not check the box, then the mortgage originator would be empowered to follow the same guidelines available to appraisers to add to the appraised valuation the net present value of projected energy savings from a HERS report.
- e. For homes that qualify for enhanced energy efficiency appraisal guidelines, a copy of the energy efficiency report shall be included in the appraisal report or case file.

Conclusion

This proposal is about better underwriting – implementing a more granular approach to account for an important cost of homeownership. It will produce better loans immediately. Over time, it will encourage borrowers to better calibrate their home purchase to their budget by looking at expected energy costs. It will also improve the ability of consumers to afford energy efficient homes with lower monthly energy costs. This change will encourage investment in energy efficiency with attendant green job creation and energy independence benefits.