Two Initiatives to Inject Utility Expense Information into Residential Real Estate Transactions

Philip Henderson, Natural Resources Defense Council

ABSTRACT

For a home buyer to pay a premium for a more energy efficient house, reliable information about energy expenses is essential, and today, the needed information is largely missing from the transaction. A similar dynamic occurs in the rental market – reliable information on expected expenses is often difficult for prospective renters to obtain.

This paper spotlights two initiatives that would inject regular, reliable information into the residential real estate transaction in a systematic way to better inform market participants of expected utility expenses. First, stakeholders should explore the model implemented in Chicago in which utility information is populated into the residential home listing with the Multiple Listings Service. Second, stakeholders should explore providing multifamily building owners with automated delivery of whole-building usage information so that benchmarking scores can be readily obtained, updated, and made available at low cost.

The information delivered by the two initiatives could have particular value to lenders that make loans secured by single and multi-family properties because the information can be tied to property value.

Addressing the process for utilities and other participants to verify customer permission is important to making the information sharing practices feasible at scale.

These two initiatives are not novel or particularly innovative, but they are also not widely used today. If adopted more widely, the practices could add value to the market for energy efficiency, enabling the market to better account for the value of energy efficiency. Initiatives to implement the two mechanisms could be led by utilities.

Introduction

Financial institutions were leaders in "big data" long before the phrase became popular, mining stores of information to understand different subsets of customers and make better decisions about credit risk, property risk, new products, and more.[1] Lenders have increased the information they gather and use at an astonishing rate in recent years, and the cost of doing so has steadily decreased. Credit reporting agencies have for years delivered to lenders rich information, compiled from multiple sources, about customers, and more recently firms have developed automated appraisal products for lenders to obtain rich information about properties.

Yet, when it comes to information about utility expenses in homes and buildings that secure their mortgage loans and that their borrowers endure, mortgage lenders have astonishingly little information.

[1] For a description of early uses of data mining by lenders, see Ruediger Adolf, Stacey Grant-Thompson, Wendy Harrington, and Marc Singer, "What leading banks are learning about big databases and marketing," The McKinsey Quarterly, number 3 (1997); and, Kenneth Collier, et al. "A Perspective on Data Mining," Center for Data Insight, (Ariz. State Univ: July 1998).

The problem has a self-reinforcing quality because the key parties in residential transactions rely on each other for valuation signals. There is a tight interplay between the information in the home listing, the appraiser's estimate of market value, the mortgage lender's approved loan terms, and the buyer's offer – these functions are based on information that typically excludes any meaningful consideration of expected utility expenses in any systematic or regular way.

In this paper, I explore how lenders typically view information about property, and why property value is central. I then describe two specific measures that would deliver information into the transaction to help market participants to assess and value efficiency in a more rigorous, regular way. Importantly, both measures explored are ones that electric and gas utilities could lead in order to support greater energy efficiency in the residential building sector. Both initiatives are measures that would provide value not only to buyers and sellers and renters, but also to lenders.

Lender View: Property Value is Primary

Cost-effectiveness is a touchstone concept for many in the utility and energy efficiency industry, but not for lenders. Cost effectiveness is typically framed as the cost of an efficiency measure (say, installing extra insulation in a house) relative to the amount of savings expected from reduced utility bills over a defined period due to the measure.[2] Professionals in the efficiency community are accustomed to thinking and talking in terms of cost-effective efficiency measures.

For mortgage lenders, property value is the primary consideration. Property value is known to be a key determinant of mortgage loan performance, and some argue it is the dominant determinant because foreclosure should be very rare if the house or building can be sold for more than the loan balance.[3] At loan origination, loan-to-value metrics attempt to reveal the lender's cushion in property value – conventional residential mortgage loans commonly use 80% as a guide, meaning values could decline 20% and the loan would still be paid-off by the proceed of sale. But the actual or true loan to value measure of a loan will vary over time as market value of the property changes and the loan balance changes.[4]

Borrower expenses are an important consideration for conventional mortgage lenders, but expenses are measured in very coarse fashion. For a residential borrower, lenders commonly require a new loan payment (plus certain itemized expenses) to be 40% of borrower's total income or less.[5] The lender implicitly assumes the residual 60% of income is sufficient to cover all other, un-itemized borrower expenses. Typically a mortgage lender makes no attempt to

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[2] Cost-effectiveness is key to many policy discussions, such as when adopting energy codes and identifying customer efficiency projects for utilities to support See, e.g., Todd Taylor, Nick Fernandez, and Robert Lucas, "Methodology for Evaluating Cost-Effectiveness of Residential Energy Code Changes," prepared for the US Dept. of Energy (Richland, Washington: Pacific Northwest National Labs, April 2012).

[3] See John Y. Campbell and Joao F. Cocco, "A Model of Mortgage Default." NBER Working Paper No. w17516 (NBER, October 2011).

[4] For an interesting analysis of how LTV intersects with other factors, including FICO score and DTI, see Ken Lam, Robert M. Dunsky, Austin Kelly, "Impacts of Down Payment Underwriting Standards on Loan Performance Evidence from the GSEs and FHA portfolios," Fed. Housing Finance Admn., Working Paper 13-3 (Washington, DC, Dec. 2013).

[5] The metric known as "total back-end DTI" includes taxes, insurance and other required debts that appear on the applicant's credit report, such as student loan payments and car loans.

measure these other expenses in any regular fashion, including utility expenses.[6] Lenders making loans secured by multifamily properties use different metrics, and utility expenses are included to the extent they are expenses for the owner.

A conventional construction or home improvement loan scenario illustrates the different approaches. A borrower seeking funds to make improvements typically would be required to substantiate, through an appraisal, that he or she has sufficient equity in the house to support additional cash out. If the homeowner did not have sufficient home equity, many lenders would accept a "subject to" appraisal that estimates what the value of the house is likely to be after the improvement work. In this scenario, the lender would manage the flow of funds to the contractor to assure the added value was realized. In contrast, an energy efficiency program (including loan programs that help to finance efficiency improvements) would likely focus on the expected utility expenses after the improvements.

Of course, property value should include or reflect energy expenses in some fashion. That is, the value of a property with lower operating expenses should be higher, all other things equal, and assuming participants have good information and ideal conditions. This is a principal of property valuation that underlies real estate appraisal theory. In fact, to explain why they need not track energy expenses in houses that secure their mortgages, many lenders will cite the assumption that buyers and sellers and renters will negotiate price to include or reflect the value of efficiency.

Yet in the market as we find it in reality, the information necessary to make adjustments for energy efficiency is typically missing from the transaction. Information about utility expenses is difficult to obtain for home buyers and renters, or it assumed to be de minimis, when infact it might not be, or it is assumed to be irrelevant because it depends too much on prior resident behavior, when in fact it might be predictive.

This fact serves to spotlight an opportunity to obtain greater energy efficiency in the residential real estate sector. Below, I describe two realistic initiatives that could inject better information into the residential real estate transaction. The information at stake should enable buyers, seller, and renters to account for expected energy expenses better than they can do today without ready access to this information. Both initiatives provide information that ultimately would related to property value, and it therefore should be of interest and value to lenders.

Two Model Initiatives Utilities Could Lead

The two measures described below would make available information about expected utility expenses to participants in the mortgage transaction -- not only for the prospective buyer or renter, but also for financing, by determining the amount a buyer could pay to purchase and available equity to support financing for improvements.

[6] There are certain exceptions to this generalization, in particular lenders that participate in energy efficiency laon programs.

Automatically Populate Utility Usage and Expenses into the Local MLS System (with customer permission, of course)

The Multiple Listings Service (MLS) is a central feature of the single family real estate transaction. It's primary use is for local real estate brokers to list houses for sale so that other real estate brokers (and shopping homebuyers) can find houses for sale, but it is also used by appraisers and others to examine comparables as the basis for pricing a house, by lenders to check property value and features, and for other research related to housing, lending, and more.

Although it is frequently referred to as if it were a singular national "system," it is not. Most MLS systems in the U.S. are operated locally, with a few larger regional systems. There are reportedly over 800 MLS systems serving local brokers. There is a fairly high degree of uniformity, however, as the systems are run for brokers that have common transactional needs, and it is under the organizing influence of the trade association, the National Association of Realtors. Other systems have evolved that can pull certain information from the many MLSs and can potentially aggregate certain information fields, such as automated appraisal tools.

MLS listings are the obvious venue to provide information about utility usage or costs to market participants in the real estate transaction. Other commentators have similarly focused on the importance of including better information in the MLS in order for buyers and sellers to properly value energy efficiency in single family houses. (See Adams, Valuing Energy Efficiency in the Real Estate Community.)

A model program has recently been implemented in Chicago. The major regional MLS in Chicago, Midwest Real Estate Data, has implemented an integration to the major electric utility, Commonwealth Edison, and the major natural gas utility, People's Gas. It is innovative and meaningful, and provides a blueprint for other cities interested in low cost ways to obtain greater energy efficiency.

Here's how it works: when a real estate broker enters a home listing into the MLS in Chicago with certain selections, the system can automatically call the utility system with address, and the utility will send in return the average usage information for the address calculated according to a standard methodology. A broker must select to include utility information in the listing.[7] The usage and expense information is then automatically delivered from the utility to the MLS, is stored in the MLS listing, and is made available as part of the listing for certain users.

Providing actual prior utility usage and expense information could have very real value to market participants, and step one is to pave a path for the information. It is a major improvement over prior efforts at a "Green MLS," which mainly included offering brokers a range of fields related to property features.[8] While these fields might be useful, delivery of utility expense information -- dollars per month or year – has several important merits.

One advantage of actual utility usage and expense information is that it is available for all houses – that is, the system for delivery is likely to have information on the subject house and comparables so that agents and appraisers can make adjustments for the differences. In contrast,

[7] There is risk related to real estate broker and agent adoption. A recent report suggested about 10% of listings in the first half of 2014 were selected to include the utility usage data.

[8] See Green MLS Implementation Guide, National Association of Realtors, 2014, located online at http://greenresourcecouncil.org/sites/default/files/2014%20NAR%20Green%20MLS%20Implementation%20Guide.pdf.

it could take substantial time to reach a point where ratings for both the subject house and for comparables, using similar methodologies, are available.

A second advantage is that the information is delivered from auditable utility systems, providing confidence and reliability, which is critical if the information is to be used by lenders. In the highly-regulated mortgage transaction, lenders and appraisers are hesitant to make adjustments without data inputs that are substantiated and proven reliable.

Some might argue that utility expenses are an imperfect metric to use for this purpose. Home energy usage and expenses can possibly vary in a material amount between occupants of a given house based on factors such as number of occupants, time of use, cooling and heating preferences, and more. This is an important point, and it might persuade some home buyers to discount the information for the purpose of predicting future utility expenses. For two reasons, this concept should not impair the value of injecting this information into the MLS. First, the data at scale is needed to make determinations about this very point and to do the necessary research to better understand exactly how much usage varies between occupants in certain kinds of houses. Second, many users (home buyers, appraisers, and others) might find the information does have predictive value, especially when it is used in concert with other factors, such as square footage, number of occupants, and others. The information will allow these preferences to be expressed in the market.

Some might also argue that a home rating is a preferable metric to include in MLS listings, such as a rating using the Home Energy Rating System (HERS) index or a Home Energy Score from the Department of Energy's tool.[9] Enabling an MLS listings to automatically populate with utility expense information program does not displace a home-seller (or his or her broker) from also providing information in the listing such as a rating if one has been obtained.

An important aspect of the Chicago implementation is that it assists real estate brokers with a compliance obligation, and this aspect was meaningful to the support needed to implement the project at the MLS.[10] Chicago city code requires home sellers provide home buyers with certain information on utility expenses at the time of home sale.[11] Few cities have similar requirements today, although New York State has a related requirement in the "Truth in Heating Act."[12] It is possible that implementing an automated solution, where the MLS system populates the fields automatically, without any expense in the transaction or added effort for the home owner or the real estate broker, could make implementing such disclosure requirements more politically feasible.

Automatically Deliver Benchmarking Information for Multifamily Buildings

Tenants with reliable information about expected utility expenses should be willing to pay higher nominal rent to be in a building with lower utility costs. If this occurs, then higher rents and higher occupancy should translate into stronger incentives for building owners to invest

[9] For information about HERS, see various materials located on theRESNET website at www.resnet.us/hers-index. For more information about Home Energy Score, see the materials on the DOE website at http://energy.gov/eere/buildings/home-energy-score.

[10] See Article in Inman News, "MRED helping Chicago Sellers meet utility disclosure requirement." July 2013. www.inman.com/wire/mred-helping-chicago-sellers-meet-utility-disclosure-requirement/

[11] Chicago Municipal Code 5-16-50.

[12] See 9 NYCRR § 7835.1(b).

in efficiency repairs and improvements.[13] Moreover, these values directly determine property value for purposes of financing.

Reliable information about expected utility expenses is essential for nominal rents to adjust to reflect utility expenses. Many cities have adopted benchmarking and disclosure policies,[14] yet in many cities, owners face challenges and expense obtaining accurate and reliable information.

Framing the question as how to enable owners and tenants to have the information needed to negotiate to pay a premium for a more energy efficient apartment points to action that can help prospective renters to account for information about expected utility expenses.

Utilities are in a position to help cure the information gap that currently exists by automating the process of delivering to multi-family building owners a monthly total for usage in the entire building so that they can "benchmark" the building using tools such as EPA's Portfolio Manager. In a multi-tenant building with separately metered units, this means aggregating usage for all units and delivering the results automatically into tools such as Portfolio Manager.[15]

Delivering benchmarking data to the owner does not assure that prospective tenants will be made aware of it, but it is an essential and fundamental step toward that end. Once the information is available at low or no cost to the owner, further steps are feasible to make it available to prospective tenants.

Customer Permission: Focus on Process

To implement the mechanisms described above to share energy use information at scale – delivering home energy expenses to the MLS and delivering benchmarking information to a multifamily building owner – covered utilities will likely require guidance on the role of customer permission and the process to follow to verify permission and to deliver information.

For real estate brokers, the standard listing agreement is likely to emerge as an obvious place for the customer to convey permission to obtain utility usage information from the utility and to include it in the listing.

For multifamily building owners seeking to benchmark their buildings, the standard lease agreement could contain a standard clause conveying permission to obtain whole-building usage data or an individual tenant's usage information, and many owners may obtain a separate form of permission until the time of lease renewal. Many multifamily building owners will not require customer permission in many instances due to the fact that whole-building information sufficiently aggregates usage data so that customer permission is not required.[16]

The point I wish to emphasize in this paper is the importance of providing the utility and other participants guidance on the process to follow, and the value in a process that is widely used in the lending industry.

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[13] It is worth emphasis that there are reasons why more energy efficiency apartments might not immediately garner higher rents: it is often difficult for owners to raise rents to account for efficiency, and doing so can take time. A plan to raise rent is attended by uncertainty about market acceptance of higher rent for any given building. Not all tenants will make decisions with expected utility bills in mind.

[14] See e.g., NYC LL84 (2012) and "PlaNYC", located at www.nyc.gov/html/planyc2030/html/about/ggbp.shtml.

[15] The US Environmental Protection Agency maintains the industry-standard system, known as Portfolio Manager, which is the basis for the Energy Star for Buildings program. Moreover, lenders maintain systems that can interface with Portfolio Manager and obtain results that can be used to evaluate properties.

[16] I do not fully address here the important exemption for aggregated information that should apply to many instances where an owner is obtaining whole building information.

Stakeholders should consider and explore a process that allows the utility to rely on a licensed real estate broker's and a verified real estate owner's affirmation that he or she has obtained the required customer permission in standard documentation, such as a lease agreement or a listing agreement. Such a process could be dependent on terms and conditions, such as the owner or brokerage being "registered" and approved and verifying the standard document.

Allowing this process would greatly ease the regulatory costs to implement the information exchange – avoiding the utility and the requesting entity delivering and reviewing permission documentation for every request. This process appears unlikely to add substantial risk to customer privacy interests, assuming other terms and conditions such as a quality assurance process and verification of the requestor's identity through credentials, and similar measures. Licensed real estate brokers are already entrusted with substantial amounts of customer information and subject to both industry self-regulatory enforcement and state licensing laws.

A model may be found in the consumer lending sector, where a similar mechanism in the Fair Credit Reporting Act allows credit reporting agencies to rely upon the assurance of pre-cleared requestors that they have obtain a customer's permission.[17]

Mortgage lenders typically obtain very broad customer permission in the conventional borrower loan application for the lender to obtain credit information, tax information, and much more. This permission is relied upon by regulated lenders and tax authorities and more without a review of each document in each instance.

A Note on Automation

Where information is available in an automated form, mortgage lenders can use it as inputs to loan decisions, even if only to support or adjust other factors. For instance, when considering property taxes, the information comes automated from information vendors connected to county tax records. Increasingly, lenders obtain automated valuation estimates to adjust or check appraisals that are delivered from a site visit.

Implementing utility programs to deliver information to MLSs, as described above, will lay a foundation for lenders to potentially obtain and use the energy expense information at low cost and at scale. Lenders could simply retrieve the information from the MLS listing, subject to lender arrangements with MLSs for data use (or through a vendor) and subject to data retention practices. Institutions such as Fannie Mae, Freddie Mac, and FHA, have in recent years initiated projects to automate certain appraisal data fields, this would provide the opportunity to combine the data sets to provide new insights into millions of houses.[18] Once implemented, the data sources offers the potential for lenders to engage in research on large loan portfolios.

Multifamily mortgage lenders could also potentially make use of benchmarking data to better understand properties in their portfolios, risk, as well as in underwriting new loans. Fannie Mae has, to date, provided important leadership on this subject.[19] Having the information in a reliable and automated format will greatly reduce the cost to the lender of making use of it. In

[17] 15 USC 1681, et seq.

[18] Fannie Mae and Freddie Mac have developed a uniform set of appraisal data fields to obtain on loans. See *Fannie Mae and Freddie Mac Uniform Appraisal Dataset Specification*, located on the Fannie Mae website at www.fanniemae.com/singlefamily/uniform-appraisal-dataset.

[19] For a description of energy metrics collected on multifamily properties, See www.fanniemae.com/content/faq/multifamily-asset-management-portal-faqs.pdf

this instance, the data could be delivered automatically on a monthly basis from the utility to portfolio manager, then the lender and appraiser could establish links to Portfolio Manager.

Although lenders today may not use utility expense information today, a standard protocol for obtaining it and an uncomplicated automated process should allow lenders to begin for the purpose of research, and potentially to use of the data in decisions.

Conclusion

Improving the efficiency levels of residential housing in the US would deliver multiple values—occupants' utility expenses are reduced, the owner obtains a more valuable building, the lender's loan is secured by more valuable property, the utility obtains valuable efficiency resources, and the public avoids toxic pollution from wasted energy in housing.

There is a strong basis to believe that injecting better information about utility expenses into the residential real estate transaction will enable market participants to better value efficiency, which should translate into stronger incentives to invest in efficiency improvements. The information should also enable lenders to make more informed loan decisions, and thereby improve risk management as well further affordable housing goals. But change in this sector does not come easily or quickly. Better information about energy use has been difficult to make regular and available at scale.

The practices I propose in this paper would allow key participants in the transaction to make use of the information in systematic and regular ways. A large element of the opportunity derives from the fact that utilities are in a position to lead the effort.

Philip Henderson is a senior financial policy specialist for the Natural Resources Defense Council in Washington, D.C.

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