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Revisiting Location Efficiency: Strategies to Graduate Thinking on Mortgage Policy

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William Riggs, PhD, AICP, LEED AP*

*Department of City and Regional Planning, California Polytechnic State University
San Luis Obispo, United States*

Abstract

In recent mortgage credit has become scarce, especially for low-to-middle income LMI individuals, including the working class and minorities. This has limited the ability for many of these individuals to purchase in sustainable, transportation accessible urban locations. This paper explores location efficient mortgages (LEM), their effectiveness in encouraging home ownership in highly connected urban locations with access to non-motorized transportation, and their viability in urban markets in the US. Cases are evaluated using inferential and descriptive statistics to evaluate potential opportunities for LEMs and building on these cases, additional strategies are suggested and discussed that could increase the efficacy of LEM tools. These included: 1) integration of shared responsibility LEMs; 2) utilizing local tax structures; 3) exploring community-based finance programs. These tools could be useful in allowing LMI buyers purchase in sustainable and high-cost, urban environments.

Keywords: Mortgages, transportation, location efficiency

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In recent mortgage credit has become scarce, especially for low-to-middle income LMI individuals, including the working class and minorities. This has limited the ability for many of these individuals to purchase in sustainable, transportation accessible urban locations. This paper explores location efficient mortgages (LEM), their effectiveness in encouraging home ownership in highly connected urban locations with access to non-motorized transportation, and their viability in urban markets in the US. Cases are evaluated using inferential and descriptive statistics to evaluate potential opportunities for LEMs and building on these cases, additional strategies are suggested and discussed that could increase the efficacy of LEM tools. These included: 1) integration of shared responsibility LEMs; 2) utilizing local tax structures; 3) exploring community-based finance programs. These tools could be useful in allowing LMI buyers purchase in sustainable and high-cost, urban environments.

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Introduction

Since the Great Recession of 2008-2009, the landscape of the mortgage industry has dramatically changed. New restrictions have been placed on who is eligible for loans, how much can be financed, and how this debt can be bought sold and securitized on the secondary market (Dell’Ariccia, Igan, & Laeven, 2012; Streitfeld & Morgenson, 2008; Vong & Lampe, 2010). Some argue that these changes have made the US economy better off (Schwarcz, 2008), less susceptible to fraud and the securitization of insolvent mortgages; however, recent reports underscore fundamental shortcomings in the way current mortgage policy relates to individuals who may want to live in transportation-efficient, high-cost urban centers (Irwin, 2014; Pivo, 2013).

In 2014, former Federal Reserve chair Ben Bernanke was unable to get a home loan (Irwin, 2014). Bernanke had recently changed positions and did not have a history of self-employment. His income was from sources including invited talks, book deals, and consulting appearance fees, which would likely earn him more than what he made during his tenure with the Fed. Nevertheless, none of these income sources counted toward his loan qualification amount. Bernanke fell outside of the formula and was ineligible based on current automated mortgage policy.

Bernanke provides an extreme example. He was stuck in a position where he failed to meet mandatory criteria within the automated mortgage qualification system. Yet this example illustrates an issue that is currently pervasive in the US. Like Bernanke, many who want to get a loan to begin homeownership fall prey to income limitations and an onerously restrictive environment.

This paper focuses on middle class workers who may want to build wealth through housing ownership, but have sacrificed the idea. While some Americans may not want to buy a home, I assume that there are many who still desire owning a home and that there may be methods to meet these demands. Many of these individuals may want to live in transportation-efficient and more ecologically

sustainable, high-cost urban centers but cannot find ways to afford that dream. They may make decent middle class wages and want to buy homes to accumulate wealth that will benefit them for generations, but be unable to secure loans due to high prices, down payment requirements, and restrictive mortgage policies.

For example, in 2014, the *San Francisco Chronicle* reported that the median home price in the San Francisco Bay Area exceeded \$1 million dollars—a price many in the working middle class cannot afford (Pender, 2014).¹ In Los Angeles the median price remains around \$400,000, but according to the LA Times and other sources this is a price that many remains out of the grasp of many given that many individuals, with a median income of only \$55,000, can afford (Josephson, 2015; Kudler, 2013; LA Times Editorial Board, 2015). In locations like this, these individuals include police, firefighters and teachers, as well as young professionals in creative cluster cities who do not have ample income to raise the required high down payments. Minorities falling below rigid debt-to-income ratios are denied entry into the upward ladder of homeownership (Garofoli, 2015).² Immigrants who have come to the US with an education and work ethic may have to give up on the dreams of homeownership. These middle-income groups are priced out of central cities and must move away from the more sustainable and compact urban core to the fringe (Riggs, 2011; Riggs, 2014b; Schafran, 2013).

This article grapples with potential solutions to barriers to homeownership in the city through the lens of finance, providing a background of historic trends in policies and an analysis of the effects of the gradual tightening of mortgage rules—a trend that has helped reduce systematic risk, while preventing low and middle class individuals from acquiring housing in our most desirable urban

¹ Zillow estimated the median prices as \$1,076,500 in San Francisco and \$537,400 in Los Angeles in July 2015.

² In 2013 data showed that 28% of African Americans and 22% of Hispanics were denied mortgages nationally, roughly double of those who are White or Asian.

locations. I argue that there is social value (economic and ecological) in policies that promote housing ownership and spatially equitable choice.

I propose a reemphasis of Location Efficient Mortgage (LEM) tools. The need for such tools is evaluated through a quantitative analysis of national Census data and a regional evaluation of data from the Los Angeles region. Using these illustrations as justification, new methods of implementation are reviewed, including concepts for localization and shared responsibility/equity frameworks. Policies described here have the propensity to increase property values and offer wealth accumulation, while addressing the larger ‘public good,’ particularly in the arena of affordability and emissions reductions.

Background

In the US, one of the biggest traditional sources of wealth accumulation has been homeownership. Homeownership has been encouraged, beginning with structures imposed on the banking and mortgage industries from 1863-1913, with the passing of the National Bank Act of 1863. This act was followed by the 1913 Revenue Act, which created a mortgage interest deduction available for tax purposes. Then, the 1913 Federal Reserve Act was passed, which solidified homeownership as a wealth-creating American value and provided wider market loans for US citizens (Sylla, 1969). Campaigns promoted this new era of popular housing by touting the importance of homeownership for wealth and prosperity, with slogans like 'own a home for your children's sake' (Lebas, Magri, & Topalov, 1991).

Housing construction continued to boom as the US economy transitioned from military operations and production after World War II to a civilian economy (Hall, 1996). This boom resulted in post-war suburbs filled with returning G.I.'s enabled by low interest loans from the 1944 Servicemen's Readjustment Act (Jackson, 1987). Expansion occurred outside of the central cities, in places like Levittown (NY and then PA). These suburban towns depended on private automobiles, whose

purchases were enabled by these new loan tools. Transportation and commute patterns became auto-focused, and the functionality of towns changed. Neighborhoods became more focused on privacy. Thus began bedroom communities.

This suburban framework spawned housing developments with large-lot homes and neighbors spread out from each other. While original suburbs were found to have greater neighborhood involvement than their urban counterparts, they were largely filled with middle-to-upper class, homogenous white populations. Over the generations, these living situations created difficulty in social connectedness (Putnam, 2001). Occupants seeking privacy and safety were more isolated, both physically and emotionally. Consequently, there was a loss of social capital that had been offered by traditional communities. The ease of moving via walking or cycling to destinations such as schools, stores, and work places was limited (Sallis, Frank, Saelens, & Kraft, 2004). Individuals in these suburban areas had greater propensity for obesity (Ewing, Schmid, Killingsworth, Zlot, & Raudenbush, 2003) and were dependent on private automobiles, since they were located away from jobs and transit. While the research is mixed on this relationship between sprawl and obesity, with a number of studies indicating that behavior and decision are more likely the culprits versus the built environment (Brueckner & Largey, 2008; Eid, Overman, Puga, & Turner, 2008; Feng, Glass, Curriero, Stewart, & Schwartz, 2010; Khattak & Rodriguez, 2005), decreases in walking and biking has been linked with reduced physical activity (Cervero & Kockelman, 1997; Frank, Andresen, & Schmid, 2004).

Suburban growth continued as autos and housing became more widely available. On the loan front, Fannie Mae, established in 1970, provided a secondary market for conventional loans, giving more individuals the opportunity for homeownership. Qualified individuals had to be able to overcome the challenges of paperwork and numerous blanket restrictions, and be able to afford the required down payment (Carrozzo, 2005). Though there was general support for programs bringing prosperity to the

American middle class, consumer advocates, such as Ralph Nader, expressed concerns about the changes and the long-term flexibility the new rules would give to those seeking loans. Nader was quoted as saying, “What is now a face-to face relationship between two people in the same locality will become an impersonal relationship through agents between a person and a bulk buyer of investment paper” (as cited in Carrozzo, 2005, 798). Nader’s statement was prophetic. The loan industry became more unavailable to the poor and working class. Minorities could not afford to purchase housing because of predatory lending and insurance practices (Cutler, Glaeser, & Vigdor, 1999). Some studies suggested a housing markup of approximately 7% for African Americans compared to Whites, suggesting an industry pitted against immigrants and minorities (Kain & Quigley, 1972). One example in Boston indicated that a minority individual faced an 8% higher chance of being denied a home mortgage than a white individual with the same characteristics (Munnell, Tootell, Browne, & McEneaney, 1996). This discriminatory practice compounded issues of blight, as many affluent individuals left the central city (Corburn, 2007).

Slowly, the concentration of housing continued to move out of the downtown core of the city to developments that sprawled over vast land areas forming “edgeless cities” (Lang, 2003) that lacked diversity in land use and provided inadequate housing resources near jobs and transit. Studies show that this trend led to ethnic clustering, continued segregation, isolation and limited financial opportunities for individuals who were unable to purchase housing (Cutler et al., 1999; Ellen, 2008). Many such low-to-moderate-income (LMI) populations continued to experience “reduced income and wealth, and lower levels of intergenerational wealth transfers and upward class mobility” (Gyourko, Linneman, & Wachter, 1997).” Research has shown that despite increases in the number of homeowners, ownership is still challenging for many and largely determined by financial position (Gyourko & Linneman, 1993).

In recent years, there have been efforts to increase the equity of homeownership for LMI individuals by using flexible mortgage tools that differentiate and provide equitable distribution of traditional US Housing and Urban Development Government Sponsored Enterprise (GSE)—such as Fannie Mae and Freddie Mac—as well as affordable loans (Listokin, Wyly, Schmitt, & Voicu, 2001). Programs include flexible mortgage instruments and tools like adjustments to interest rates, reduced down payment requirements (as is the case with FHA loans), reduced closing costs, and waivers or reduction of mortgage insurance (PMI).

Between 2004 and 2008, an additional tool to address affordability and equity, alongside urban mobility and sustainability, was developed—Location Efficient Mortgages (LEMs). Location efficient areas are those that reflect optimal transit efficiency, where housing costs can increase because transportation costs are lower (Krizek, 2005; NRDC, 2010). Also called transportation credit mortgages (TCMs), in theory, they can also address prices and issues in markets where there are problems with affordability, and can encourage reduced auto use (Cervero & Duncan, 2003; Chatman, 2007). LEMs “allow lenders to credit reduced transportation costs to household income, or use a relaxed loan-to-income ratio in setting the terms of mortgages, typically based on how close the home is to public transit...” (Chatman, 2007). Despite initial skepticism (Blackman, 2002) before the pilot, in post-evaluation they have been shown to reduce mortgage risk while encouraging ownership in optimal locations (Rauterkus, Thrall, & Hangen, 2010).

In spite of the potential benefits of Location Efficient Mortgages, they have rarely been used since a Fannie-Freddie pilot in 2004-2008. The reason for this are complicated, related to market conditions and tighter mortgage restrictions, complications with local policy, and implementation problems, leading some to call for a dramatic changes if they are to be reconsidered (Chatman & Voorhoeve, 2010). These calls may not take into account the full benefit of the program at reducing

vehicular miles traveled while promoting LMI access (Krizek, 2005) or the damage the pilot LEM program may have suffered as a result of the US economic downturn and recession of 2008-2012. As shown in Table 1, in review of the programs, most had no delinquencies or foreclosures and some showed as much 30% reduction in auto-ownership related to the program. (Note the case of Chicago in Table 1.) No programs were found active and available in the current mortgage marketplace.

Table 1 about here.

More recently, those with high incomes, or families willing to chip in with down payment assistance can still buy, while others experience tightened resources, especially those in high cost markets where the cost of ownership has only softened slightly (Viega & Boak, 2015; Zibel & Light, 2014). This situation does not allow families to begin building the wealth and equity that will benefit them for generations – a factor embedded in US housing policy since the early 1900s. These lending practices seem to be at odds with parallel literature that suggests that urban neighborhoods are more resilient to economic shocks than suburban neighborhoods (Dong, 2015; Gilderbloom, Riggs, & Meares, 2015; Glaeser, 2011; Glaeser & Gyourko, 2005).

All this is not to say that housing choices and preferences are only driven by affordability. There are many other factors that also make up the “bundle” of housing choice such as square footage / housing size, bedroom / bathroom count, and unit type (Henderson & Ioannides, 1983; Kain & Quigley, 1970). Within this bundle also lies the issue of real estate agents, who steer customers to certain neighborhoods while avoiding others (Scott, 2010; Scott & Lizieri, 2011). Furthermore there are many times clustering effects related to ethnicity and school quality that most of the time divide income lines (De Bartolome & Ross, 2003; Kain & Quigley, 1972; Krysan & Farley, 2001; Laouénan & Verdugo, 2015; Meen & Meen, 2003). That said, other work, including many recently published papers on walkability, show the value of proximity (Cervero, Rood, & Appleyard, 1999; Raphael,

1998; Raphael, Stoll, Small, & Winston, 2001), transit accessibility (Duncan, 2010; Holzer, Quigley, & Raphael, 2003), walkability (Gilderbloom et al., 2015; Nathan, Wood, & Giles-Corti, 2013; Riggs, 2011; Riggs, 2014b; Riggs & Gilderbloom, 2015) and bikeability (Cao, 2015).

Recognizing that this work is not only bounded by limitations in the knowledge of residential self-selection (Cao, 2014; Chatman, 2014; Handy, Cao, & Mokhtarian, 2006) but also in the need to address societal issues of sustainability and urban regeneration, then more creative finance tools could meet potential preference issues in a way that help stop the decline of urban neighborhoods (Zwiers et al., 2015). If we assume a continued focus on the right of homeownership as an American cultural value (Green & Wachter, 2005), then perhaps we should revisit or resurrect LEM programs to meet both economic (e.g. encouraging wealth creation through ownership, reducing risk, shoring up property values / tax base, and increasing job accessibility) and environmental goals (e.g. reduced driving and emissions). Both the viability and potential to capture these social gains and implement LEM programs at local, state and federal levels are discussed in the sections that follow.

Evaluating the Need

The success of Location Efficient Mortgages programs between 2004-2008 may make revisiting the policy and important consideration, especially since the pilot extended in to the midst of the mortgage crises. To take a more robust look at the need for LEMs, I examine national 2012 American Community Survey and Economic Census data at the Census Tract level (N=74,001) evaluating the relationship of commute dynamics with housing characteristics using inferential statistics. To do this, I test-constructed several linear regression models to measure sign and significance of independent housing and population variables as they relate to commute distance, one of the multiple factors related to housing choice. The goal of this is to explore and uncover trends that might suggest latent demand for LEM tools. This use of regression is modeled after Akaike's information criterion, allowing for the

study of several different specifications in established models to see whether the observed significance is maintained (Burnham, Anderson, & Huyvaert, 2011; Gilderbloom et al., 2015; Riggs, 2011; Zuur, Ieno, & Elphick, 2010). This offers a hypothesis-generating approach with both insights as well as new questions that can be looked at as a part of follow-on research.

Varying commute buffers (which mirror the case approach presented later in this article) are used as the dependent variable, with the independent variables making up 23 housing and population variables that theory suggests are related to travel dynamics (Cervero, 2002; Frank & Pivo, 1994). Using distance as the dependent variable is consistent with the two-step zone model proposed by Rashidi, Auld, and Mohammadian (2012), where work distance is the primary variable that informs housing choice. Each of the models prove to have relatively high adjusted R squares, with many of the control variables showing significance in the predicted direction. Since the dependent and independent variables do not share the same natural scale, standardized coefficients are reported. This makes it easier to determine the relationship between X and Y values. Additionally, all models have been tested for multicollinearity tolerance scores, with only the best fitting models shown.

As can be seen in Table 2, the results of this analysis show that the sign and direction of significant variables change as the distance from work increases, as read from left to right. Based on the first model, for those living under 10 minutes from their workplace, there is a strong negative relationship with owning and having a mortgage, but a strong positive relationship with walking and biking. Of additional note is the positive relationship with the Gini Index, meaning that there is a strong correlation between increased income inequality and those living less than 10 minutes from work. This differs from subsequent models in that it confirms the imbalance between the cost of housing and the ability to pay for that housing. This also could be because many downtowns remain both diverse and segregated—many times facing the most pressure from urban gentrification.

Stepping to the subsequent models, which represent commute distances further from the workplace, transit emerges as a factor. Model 2 represents a 10-19 minute commute. We see similar mortgage and commute factors with the exception of those spending over 50% of their income on their mortgage. There is a positive association between living in this commute shed and paying at that level – a high price for accessible urban locations. This pattern decreases, moving to Models 3 and 4, where cheaper housing likely results in a negative correlation in relationship to the commute distance. At the same time, the number of those engaging in sustainable, non-emitting commutes decreases, as shown in the negative correlation between the B for walking (.134) and cycling (-.588). Likewise, the population becomes more homogenous, with less poverty and stronger negative correlation with the Gini income inequality index (B = -304).

Table 2 about here.

These differences indicate potential role for LEMs or comparable policies to increase housing affordability, not only in central cities, but more broadly throughout regions. The reality in modern cities, is that jobs become dispersed in a polycentric manner, where this is more than one nuclei, and there a possibility that they provide greater regional affordability, matching jobs with housing even in places where the majority of jobs are no longer located in downtown areas. The models demonstrates that LEMs can be a regional policy related to minimizing the disconnect between housing, transportation, and employment distance. This is explored in greater depth in the case study of Los Angeles that follows.

Los Angeles Case Study

While these nationwide statistics provide a suggestion that LEMs may be useful if adopted more widely, exploring a more local perspective offers an additional lens to explore the potential for them as a tool. This decrease in scale offers a different perspective that can help account for some of the spatial

variations and uncertainty that can occur in ACS estimates in small areas (Folch, Arribas-Bel, Koschinsky, & Spielman, 2014; Spielman, Folch, & Nagle, 2014). To do this, I look at a specific case in a very diverse area, the City of Los Angeles. I focus on Census Tract data for this region, which has wide availability of geospatial data—some of the most accessible in the US. For the analysis I employ a spatial buffer and selection in ArcGIS, using the following GIS data/shapefiles: Los Angeles County Parcel shapefile (obtained from UCLA's Spatial Data Repository); City of Los Angeles Community Plan Area shapefile (obtained from Los Angeles Department of City Planning); Metro Line shapefile (obtained from Los Angeles County GIS Data Portal); Metro Station shapefile (obtained from Los Angeles County GIS Data Portal); 2012 Census Data (obtained from the US Census Bureau using Social Explorer. A half-mile buffer was placed around all existing Metro rail stations in the City of Los Angeles. This radius was used because a half-mile is generally accepted as a reasonable walking distance, and it is the common standard for the planning of transit-oriented developments in the United States (Guerra & Cervero, 2013; Guerra, Cervero, & Tischler, 2012).

Figures 1 about here.

The geographic areas created, as indicated in Figures 1 and 2, are consistent with the Regional Transportation Plan and Sustainable Communities Strategy's Transit Priority Areas or TPAs (Logan, 2013; SCAG, 2012). TPAs are areas within a half-mile of a major existing or planned transit station; in the Los Angeles region, these areas are located within a half-mile of a Metro station. Using these buffered delineations, differences can be compared between locations that are both within and outside of TPAs.

As can be seen in Table 3, while the population is smaller in transportation-efficient areas (N=239), there is slightly more housing in these locations. Most of the locations are owner-based. In short, while there is more housing, there are fewer owners; consequently, there is a lower chance of

achieving the wealth benefit of homeownership. Conversely, more people, on average, use public transit (179), bicycle (5) or walk (36) in location efficient areas. This is as opposed to the much larger number of people (+320) who drive outside of location efficient areas.

Table 1 about here.

In looking at household incomes, location efficient areas appear to have many individuals with lower incomes who are renters. Incomes and ownership rates gradually increase when moving to more distal and less transit-efficient areas. The average median income for LEM areas is \$37,113 compared to \$59,411 outside of location efficient areas, a difference of \$22,299. This is underscored by a higher Gini Index of Income Inequality, and relates closely to the number of units with a mortgage, which is roughly 1/2 of the number outside location efficient areas.

When looking further at these mortgage numbers, it appears there are fewer standard mortgages in location efficient areas (despite the higher number of units) and fewer second mortgages or home equity loans. On average there are 11 loans with a second mortgage or loan in transportation-efficient areas in Los Angeles, as opposed to 28 loans in areas that are not transportation-efficient. This represents a difference of 161%. There are also 81% fewer high-risk loans—those with both a second mortgage and a home equity loan.

These numbers suggest a lower risk profile for prospective lenders, and seem to indicate a latent demand for a loan product that will reach lower income individuals in areas with a better locational advantage from a sustainability and job outlay. However, there may be additional rational for lending policies to target these areas. In the case of this Los Angeles case study location, individuals living in location-efficient areas appear to be the most in-need from a social equity standpoint. There are far fewer whites and substantially more minorities and multi-racial individuals living in these areas. There are also 27% more families living below the poverty level, many with children. Twenty-Eight percent

(28%) of these single parent households are led by women.

Discussion

Based on the brief analysis herein, there is still demand for LEM tools that can allow LMI workers and minorities to stay in or choose to move to central cities. If we assume that homeownership is important and should be encouraged—a cultural value that helps people persons get a ‘leg up’—we should consider ways to advance our thinking on mortgages. This study argues that revisiting LEM tools could offer a strategic way for lenders to reduce payments for those willing to locate in a more transportation-efficient area. Such tools could help achieve economic goals alongside environmental ones, offering greater possibilities to those who have been marginalized by current policy.

As discussed, LEMs suffered in the past. But the desire and understanding of the benefits of living in dense urban environments that are more green and climate sensitive, had not yet taken hold. Why happened to the LEM? Was its demise the result of the economic downturn or limited availability and awareness? Was the problem due to complicated formulas or difficulty of implementation? Speculation is rampant, and the answer is complex, related to each of the questions. Nevertheless, the possibility that lendees could be afforded certain concessions on a mortgage—an interest point or a tolerance for higher debt to income ratios, for example—is an attractive notion. A wider embrace of the LEM program could help get more individuals into homes in expensive urban markets.

I propose three policy strategies that could open up mortgages to more individuals, while serving intermediaries with existing GSE tools and being implementable at multiple levels (federal/state, local, individual). The strategies embrace a wider theme of localization and community building. They are as follows: integration of shared responsibility, shared equity LEMs; utilizing local tax structures; exploring community-based finance programs. The strategies present possibilities to open up LEMs to a wider audience, perhaps where and when they are most needed.

Shared Responsibility, Shared Equity LEMs

Integrating the notion of shared responsibility or shared equity mortgages with LEM could allow for wider dissemination of risk, as well as more readily available loans implemented at multiple levels, be it federal, state or local. The basic tenant of these “shared responsibility” mortgages, is that lenders share in both the losses and gains (Morgan, 2013; Sepinwall, 2013). This makes location an important factor, especially if certain locations that are less walkable, bikeable or transit-accessible are more susceptible to mortgage default (Gilderbloom et al., 2015; Pivo, 2013). The benefits to the lender could come in many different formats—through the removal of the down payment or PMI based on a location of the unit.

Conceptually, this idea would work well with any traditional or GSE sponsored product. The lender would either subsidize a lower mortgage rate or cover PMI, however the lender it would insure PMI because of the optimum nature of the location. When the value of the property rises, consistent with theories of redevelopment and tax-increment financing, it pays for the subsidizing of PMI (Johnson & Man, 2001). This could be for limited term with a balloon payment, for example 5 years, so as not to erode the benefit of ownership and potential for equity buy the resident. The government would assure minimum payment since the loan would be backed by government or Fannie/Freddie.

Local Tax Structures

While the notion of integrating shared responsibility to finance LEMs may continue to involve the mortgage industry, the concept of utilizing local tax structures to incentivize and finance transportation-efficient projects has its roots in avoiding the lending business altogether. And from an implementation standpoint, using local tax structures may provide a more effective method of achieving both affordable housing and location-based sustainability goals in many communities. For

example, working through property tax systems, lenders could take into account both the location and the tax base when qualifying loans.

Specified priority development areas (perhaps similar to Los Angeles' TPAs) could be granted tax holidays for the first five years of their loans. This assumes the property would continue to rise in value; thus, the marginal value to the community would exceed the marginal cost of the lost revenue over the long run, especially once the owner began paying the full local assessment at the end of the tax holiday. The policy could be used in parallel with other GSE mortgage tools, and could be paralleled with a broader local tax policy that assesses higher values to non-transportation-efficient locations, applying the principles of traffic congestion pricing models to housing. This additional policy tool could offset any losses should there be locations that experience limited equity gains or buyers that need further subsidy.

Community-Based Finance

Another potential policy that could increase the availability of LEMs is the use of local funding, through new technological tools, such as crowd-financing, or through a local shared equity framework. Since 2010, there have been many small savings establishments popping up on the Internet, which seek to revitalize and change the thinking about the banking industry (Lieber, 2010; Riggs, 2011). These new lenders are non-traditional, offering things like free coffee and music. Many are community-based and have a strong online presence.

At the same time there are many housing products that are being more widely used as a product of the new shared economy. For example, Ebrahim, Shackleton, and Wojakowski (2011) outline a variety of participating mortgages, such as the shared appreciation mortgage, shared income mortgage, and shared equity mortgage. Also many communities are pursuing the opportunity of community land trusts as a means to provide affordable units with the help of inclusionary zoning citing Chicago, IL and

Irvine, CA as two cities that have begun to use community land trusts to accommodate affordable housing (Mallach, 2011; Miller, 2013). Furthermore, co-housing may continue to offer a tool to provide shared affordability (Garciano, 2011).

It would be a natural progression to see these new tools begin to assist individual sellers with their own sales in exchange for shared equity arrangements. For example, a local government could offer a credit to a seller (financed by a wider tax measure) that could enable a lower down payment or reduced rate for a fixed term. This could promote equity sharing in transportation-efficient areas, both spreading out risk and providing a tool for home buyers in central city locations – communities capitalizing on the private premium of location as well as the social premium of reduced air pollution and congestion.

Conclusions

Each of these strategies offers a concept that could potentially change the thinking on the traditional mortgage framework. Based on the data in this article, the strategies offer potential tools that could increase the use of LEMs as a product. That said, the strategies suggested here are not a panacea. Housing choices are based on a number of complex factors in addition to mortgage terms, and the policies suggested are not without known and unknown effects. There may be unintended consequences or other creative tools available to address the current availability of affordable housing and credit to acquire it for average citizens in the US.

There is also a need for more research in many related areas. Clearly, not enough is known about residential self-selection. More study is needed to understand what factors are more important than others and at what life stages (e.g. proximity, young people looking for jobs, rising incomes, the advent of children, retirement, etc.) As Chatman (2014) explains, until better methods are developed to understand and control for self-selection issues, little can be done to fully develop policy that responds

to housing demand issues. Additionally, more discourse is needed on the actual sustainability benefits of location efficiency. While work by Krizek (2005) suggests that people do avoid additional vehicle purchases and may make more trips, other work may indicate that driving may be more related to other factors, such as the availability and price of parking (Riggs, 2014a, 2015; Tudela-Rivadeneyra, Shirgaokar, Deakin, & Riggs, 2015) warrants more discourse.

Yet, put simply, the extreme example of Bernanke or the myriad of others who are falling behind and out of the middle class, provide an extreme illustration of the nature of affordability issues and a call to action. The federal government, including Fannie and Freddie, needs to explore policies that can free the credit environment for low and middle income buyers who may want to live in the hip, green urban environment that is many times reserved for the more wealthy, creative elite. By staunchly advocating for and partnering in development of financing techniques, policymakers could increase buyer purchasing power while decreasing default risk for banks and consumers. With any luck, policymakers spur on sustainable urban growth in the continued sluggish housing market.

Buyers of all types might have more money to spend on walkable housing, as a commodity, because of savings diverted from fuel and related items. Multi-car families could shed additional vehicles, and walk, bike or take transit. And hopefully, the end result would lead to more individuals capitalizing on the dream of owning, living in a sustainable urban center, and building wealth for future generations through housing ownership.

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