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Paper Abstracts

PERSONAL BANKRUPTCY EXEMPTIONS AND MORTGAGE DEFAULT

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Abstract

This paper models the effect of bankruptcy exemptions on the incidence of mortgage default. Our model predicts that the likelihood of mortgage default should be reduced when homestead exemptions are high and, by contrast, is increased by high property exemptions. We then test our hypothesis on the mortgage portfolio of a large financial institution and find statistically significant support for both of its predictions.

The dramatic rise in personal bankruptcy filings over the past twenty years—since the passage of the Bankruptcy Reform Act of 1978—has motivated research into the effect of bankruptcy laws on consumer credit markets. Particular attention has been devoted to the effect of the bankruptcy exemptions, which differ quite broadly across states, and vocal lobbies have developed which propose reforming these laws and making them more uniform. It is by now well established that a higher exemption makes borrowers more likely to file for bankruptcy (see for example Fay, Hurst and White, 2001). Furthermore, Gropp, Scholz and White (1997) have shown that this increase in the bankruptcy rate also makes it more difficult for consumers to obtain credit. This research has been done in the context of unsecured credit, where bankruptcy exemptions can be reasonably hypothesized to have a significant effect on the default decision. By contrast, the effect of these exemptions on secured credit, and in particular home mortgages (the most common such form) is much less clear.

The first to attempt to address this issue were Berkowitz and Hynes (1999). They argued that since mortgages are secured, they should, at worst, be unaffected by exemption levels. Moreover, they suggest that, in fact, higher exemptions may actually *reduce* the incidence of mortgage default, since they leave the borrower with more wealth when he is in financial distress, which allows him to continue paying down the mortgage. They are particularly interested in the effect this has on the *return* to mortgage lenders and hereby on the likelihood of a borrower being denied a mortgage; for homestead exemptions this 'wealth effect' is always positive, because of the reduced incidence of default, whereas for personal property exemptions the sign may vary, because the positive wealth effect is counterbalanced by a negative effect due to increased protection for assets from deficiency judgments. They then examine the HMDA data and find support for the hypothesis that higher homestead exemptions lead to less restrictive terms on mortgage loans—i.e. a lower likelihood of being denied a mortgage. They also find that personal property exemptions do not have a significant effect of the likelihood of being denied a mortgage.

By contrast, Lin and White (2001) develop a model, which leads them to the opposite conclusion, viz. that higher exemptions result in a tightening of credit. The thrust of their argument is, first of all, to observe, as we discussed above, that higher exemptions make *bankruptcy* more likely. They then suggest that when a foreclosure occurs in conjunction with a bankruptcy filing it is more costly (for the lender) since it is likely to involve additional delay[1] (because the bankruptcy trustee must approve the foreclosure). The key to their result, however, is that the exemptions should not have an effect of the likelihood of mortgage default; that is, their model does not feature a 'wealth effect' like that of Berkowitz and Hynes. As a result, they conclude that higher exemptions should lead to *more* rationing in the mortgage market. They then test their hypothesis on the HMDA data (the same dataset used by Berkowitz and Hynes) and find evidence to support their hypothesis. In our paper we propose a fresh perspective on this issue. First of all, we focus attention on the decision to default on the mortgage itself, which is a key point of contention between the two papers. This allows us to disentangle the two effects of bankruptcy laws—that on the decision to default on the mortgage, as opposed to the effect they have on the return to the lender, conditional upon default. We believe that this approach is of

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[1] See Springer and Waller (1993) for some empirical evidence.

interest not only to academics and policy makers, but also to the participants in the mortgage markets themselves—lenders, insurers, and investors.

In our model, the homeowner acts strategically to protect his wealth. When homestead exemptions are high this leads him to save more in the form of home equity, whereas when property exemptions are relatively high, he holds more in the form of liquid assets and less home equity.[2] The net result is that our model predicts the likelihood of mortgage default should be reduced when homestead exemptions are high and is increased by high property exemptions.

Finally, we test our hypothesis by using data on the mortgage portfolio of a large financial institution. We use a proportional hazard model to examine the relationship between bankruptcy exemptions and the incidence of mortgage default and find that, after controlling for loan-level characteristics and state laws governing foreclosures,[3] high homestead exemptions do indeed reduce the likelihood of mortgage default, whereas property exemptions raise them.

IS REAL ESTATE BECOMING IMPORTANT AGAIN?

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Abstract

Classical economists believed that land rent as a share of total income would increase with economic growth. Land rents as a share of national income declined for most of the 20th century, but increased during the 1990's. In this paper, we develop a model of the classical theory of land rent which allows rent to increase or decrease as a share of national income, depending on several parameters. It seems likely that the long decline in

and rent is over, and that land rent will continue to increase as a share of national income.

THE DYNAMICS OF RACE, INCOME AND HOMEOWNERSHIP

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Abstract

For the first time, this paper empirically models family housing choice across the housing hierarchy. The model developed in this paper augments and extends the continuous time model developed in a series of works by James Heckman and others. Specifically, we extend the accounting of the model to state transitions where the sample space is truncated by nature of the transition. In so doing, we are able to provide insights on the inter-temporal dynamics of family housing choice and the implications for wealth accumulation. The approach allows us to consider why the literature has presented mixed views on these issues.

A SEMI PARAMETRIC METHOD FOR ESTIMATING LOCAL HOUSE PRICE INDICES

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Abstract

Spatial autoregressive hedonic models utilize house prices lagged in space and time (Pace, 1997; Pace *et al*., 1998). These models are capable of producing local house price indices: I.e., a family of different but related house price indices, one for each point in space.

This paper develops a semiparametric approach, the Local Regression Model (LRM) designed to use large databases to produce neighborhood price indices. LRM is shown to provide estimates of a surface of constant-quality-house values as a function of time. Thus, a constant-quality house price index over time can be estimated at any point in space. This paper focuses on the time dimension.

The LRM is fitted to 49,511 Sales from 1972Q1 - 1991Q2 in Fairfax County, Virginia. The LRM produces plausible and significant variations in price indices over space whereas older technology produces much more simplistic neighborhood price

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[2] There is some empirical support for the hypothesis that individuals respond strategically to exemptions in their asset allocation decisions. For example, Repetto (1998) finds that households living in states with high homestead exemptions tend to hold more home equity. Also, Lehnert and Maki (2002) find that households living in states with high exemptions are likelier to maintain balances on their credit cards while simultaneously holding cash. Also see Elul and Subramanian (2001), who find evidence that individuals take exemptions into account in their *moving* decisions.

[3] Although our focus is on the impact of bankruptcy laws of mortgage default, our findings on foreclosure laws are consistent with the previous literature, such as Clauretie and Herzog (1990), Elmer (1997) and Pence (2002).

indices. The LRM price indices in selected neighborhoods are shown to differ significantly from those in some other neighborhoods. On average, LRM indices are the same as a simple OLS price index for the entire county. Out-of-sample prediction errors demonstrate that LRM is superior to OLS.

CASTLES AND COTTAGES:
HOUSING INEQUALITY IN THE UNITED STATES

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Abstract

I t is well known, and well documented by academic research that income inequality has been increasing in the United States during the past 25 years. Less well known is that the spread between the top and bottom of the housing cost pyramid has also been increasing. Specifically, during the same time period, housing cost inequality increased much faster than income inequality. This is a concern because Americans have long held as a normative value the importance of social integration of housing and income groups. Growing differences between the highest and lowest income groups in the amount spent on housing as well as differences in home values is contrary to our values of upward mobility and equality of opportunity. It implies not only the persistence of an upper class and lower class in this country, but economic and spatial segregation.

Increasing inequality of housing costs and home values is also troubling since homeownership is one of the chief ways in which lower income households can amass wealth, and "climb" into the middle class. Recent research (Quigley, Case & Shiller, 2002) has underscored the importance of homeownership compared to stock market investment. The widening gap between the top and the bottom of housing values, may be the harbinger of increasing wealth differences potentially more difficult to overcome. However, unlike the huge literature devoted to explaining the increase in income inequality, there is little, which explores the level of housing value and expenditure inequality.

Previous research (Landis, Elmer and Zook, 2001) examined the relationship between housing inequality and the New Economy. This research found that increases in the inequality of housing expenditure, housing value, and rent from 1985 to 1995 at the metropolitan level were not associated

with the degree of high tech in the area. Housing values were more equally distributed in high tech economies, but did not grow more unequal during the study time frame. Instead, housing value inequality increased more in metropolitan areas with higher income and housing values. Total housing expenditure inequality did not vary with the degree of high tech, but was affected instead by income and job growth. Housing expenditures were more equally distributed in wealthier markets, or those adding jobs at a faster rate. Rents were more equal in high tech areas.

However, the question remains, what is the relationship between growth, income and the distribution of housing values, and expenditures within a housing market. What causes the differences in the inequality from one metropolitan area to another and what causes changes in the level of inequality?

This research uses the American Housing Survey data from 1989 and 1999 to calculate gini coefficients, and other measures of inequality, for the 59 largest metro areas in the country. This data is combined with other metropolitan data describing the industrial base and demographic characteristics of these areas. Descriptive information is provided, and regression models are calculated to attempt to explain levels as well as changes in housing cost ginis across MSA's. Four questions are posed:

1. What is the simple relationship between differences in inequality at the metropolitan level for housing expenditures, housing values and rents?

2. How well does the inertia factor (situation in 1989) explain the distribution of housing expenditures, values and rents at the metropolitan level in 1999? And the change?

3. How closely does the explanation for the distribution of rents, values and housing expenditures in metropolitan areas in 1999, and its change from 1989, compare to that which explains the distribution of household incomes?

4. What is the expanded model (synthesis) which explains the distribution of housing expenditures, values and rents in 1999, and its change from 1989?

CREDIT SCORING AND DISPARATE IMPACT

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Abstract

We analyze the problem of disparate impact in credit scoring and evaluate three approaches to identifying and correcting the problem, namely: 1) post-development univariate test with variable elimination, 2) postdevelopment multivariate test with variable elimination, 3) control variable approach with coefficient adjustment. The third approach is a new innovation developed by the authors. Results are illustrated with simulation data calibrated to actual distributions of typical variables used in score development. Results show that controlling disparate impact by eliminating variables may have unintended and undesirable consequences.

THE TRANSMISSION OF MONETARY POLICY THROUGH THE HOUSING AND MORTGAGE MARKETS

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Abstract

Housing investment long has been acknowledged as an important factor in macroeconomic models, and has been widely used as a leading indicator of future economic conditions, e.g., the Conference Board includes housing permits among its leading economic indicators. Housing investment also is highly sensitive to monetary policy movements. This paper quantifies the importance of the housing and mortgage markets for the transmission of monetary policy by closely examining housing market variables in terms of their impact on the rest of the economy through the use of VAR models.

We find that while housing investment and housing prices capture important attributes of the housing market, the level of home sales and mortgage rates (particularly the term and credit premia implicit in these rates) also play an important role in forecasting future economic conditions. These findings are consistent with recent research concerning the predictive ability of various interest rate spreads, and

HOUSING AFFORDABILITY IN THE UNITED STATES: TRENDS, INTERPRETATIONS, AND OUTLOOK

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Abstract

Housing affordability ranks among the most pervasive and persistent of national issues. Housing is one of the biggest expense items in the budgets of most families and individuals. For this reason, and because of government's many influences on housing affordability, it has long been prominent on the agendas of policy makers at all levels of government.

The definition, measurement, and interpretation of housing affordability are ultimately subjective. There is no single correct answer to the question of how much households of different incomes can "afford" to spend on housing, how spending or income should be measured, or on the housing quality standard that should be set. Nonetheless, for purposes of housing program design and implementation, it has been necessary to adopt specific definitions that are quantifiable with data available for local areas nationwide.

This paper does not attempt to resolve these long-standing issues regarding affordability measurement and interpretation. Instead, the paper addresses easier questions: Has housing been getting more or less affordable? For whom? And why? Even those who do not agree on the definition and assessment of housing affordability may be able to agree on whether affordability is increasing or decreasing and on the reasons for those changes.

The analysis looks at changes in housing costs and incomes between 1985 and 1999, a period long enough to minimize the effects of short term market fluctuations and data errors on the estimated trends. Renters and owners are examined separately, because of the many differences between these two markets. The focus is on lower income households.

Renter Affordability Trends

As measured by the ratio of housing costs (rent plus utilities) to income, housing affordability for the typical renter did not change appreciably between 1985 and 1999. The median ratio of cost to income

for renters nationwide was 0.27 in both years. Utilities expenses rose less rapidly than did contract rent over this period and held down the ratio. Rents increased only slightly more than did the Consumer Price Index's rent component, suggesting that the average quality of rental housing was little changed over this period.

The similarity in rental housing affordability in 1985 and 1999 among renters overall masks an increase in the cost to income ratio among renters in the lowest 20 percent of the renter income distribution. The increase in their ratio resulted from both above-average increases in housing expenses and below-average income growth. Their below-average income growth appears largely a result of a siphoning of some low-income renters—but not the poorest of the poor—into home ownership.

The increased housing expense of low-income renters results in part from a shift in occupancy between 1985 and 1999. In 1999, these households were more likely than in 1985 to occupy units higher in the rent distribution. Higher income households, in turn, were more likely in 1999 than in 1985 to occupy units near the bottom of the rental distribution. Abstracting from issues of occupancy, the distribution of the stock of rental housing by inflation-adjusted monthly housing costs did not change much between 1985 and 1999, suggesting that low-cost units were not more likely than others to drop out of the stock or "filter" into a higher rent range. This pattern depends, however, on the definition of housing costs: Excluding utilities expenses, low-rent units were less prevalent in the stock in 1999 than in 1985.

Owner Affordability Trends

The costs of homeownership are more difficult to measure and interpret than are the costs of renting, because the tax and investment elements of homeownership weaken the relationship between ongoing cash outlays and housing expense in a true economic sense. Nonetheless, appropriately interpreted, various measures of homeownership expenses can shed some light on changes in affordability.

House price increases between 1985 and 1999 exceeded the increases in both prices overall and household incomes. The ratio of house prices to incomes rose among all owners and also among recent home buyers. Despite the increase in this ratio, cash flow affordability – which measures the

mortgage payments on a typical house relative to the income of a typical home buyer – improved between 1985 and 1999 due to reductions in mortgage interest rates.

Unlike in the rental market, low-income homeowners do not seem to have been on a substantially less favorable affordability path than higher income owners. Income and house value growth show no large and consistent differences by income group, and changes in cash flow affordability for first-time (and presumably lower average income) home buyers have generally paralleled those of higher income home owners. Perhaps the strongest indicator of steady or improved home ownership affordability for low-income households is the rising home ownership rate among households in the bottom 20 percent of the income distribution.

More generally, homeownership affordability in each income group may have been increasing relative to rental affordability, judging from the rising homeownership rates. But this interpretation cannot be definitive, because the ownership rate depends on factors other than the relative cost of owning and renting.

Reasons For Changes in Affordability

Housing affordability is a measure of housing costs relative to incomes. The causes of changes in affordability therefore are the same as the causes of changes in housing costs and incomes.

Housing costs are determined in a market setting, but one that is subject to various government influences. Some government incentives and restrictions promote affordability, and others deter it. But all of these government influences ultimately affect housing affordability by altering housing demand, housing supply, or both.

Housing demand has increased for the nation overall and in most locales and market segments since 1985, putting upward pressure on housing costs. The income gains that have contributed to these rising costs have at the same time improved households' ability to pay for housing. Governments' influence on housing demand and demand related cost pressures has not changed much over the past 15 years: The number of assisted renter households has increased more rapidly than the rental market overall, but assisted rental units remain a small percentage of the overall rental housing stock. By far the biggest government demand-side subsidy

continues to be the tax advantages bestowed upon upper-income owner-occupied housing. Regarding housing supply influences on affordability, since 1985 the input factors for production and operation of housing have, with the possible exception of land costs, been supportive of housing affordability, in the sense that these costs have generally risen less than the overall rate of inflation. The government's influence is more mixed. Major federal assistance programs for producing rental housing have expanded (as measured by assisted households) more rapidly than the overall rental housing market, although the proportion of households assisted remains low. Local governments' direct supportive role through their own and their sponsored non-profits' housing assistance programs may have been more than offset by local governments' land use and tax policies.

These demand and supply, market and government, influences have together resulted in the observed changes in housing affordability since 1985. Of all the income and tenure groups examined, low-income renters are the only group whose affordability problems have clearly worsened. Their above-average increase in housing expenditures by this group seems unlikely to have been discretionary, given their already high allocation of income to housing in 1985. The more likely explanation is increased competition for low-rent units from higher income households, combined with land use and building code constraints on the amount of lower quality housing that can be built and retained in the stock.

New Construction and Affordability

Some analysts and commentators have alluded to the "low" level of multifamily construction during the 1990s as a contributor to rising rental housing costs. But from a market perspective the volume of multifamily housing production during the 1990s was at a level consistent with long run demographic growth in multifamily demand and the need to replace units demolished or otherwise lost from the multifamily rental stock.

It is intuitive to think of new construction as a tool for increasing the stock of housing affordable to low- and moderate-income households. In practice, however, market realities and government restrictions make it extremely unlikely that for-profit development will occur at "affordable" rents absent incentives or requirements from government, as

illustrated by a model of production of affordable housing developed in an appendix to the paper.

Outlook

The past offers some clues about the outlook for housing affordability. On the demand side, aggregate growth in the number of households and gradual long-run increases in average real incomes seem highly likely, bringing increased purchasing power but also pressures on housing prices faced by both renters and owners. These effects will continue to vary enormously by location. Home ownership affordability is unlikely to gain from reductions in mortgage rates as it has in the past, if only because interest rates can go only so low. Regarding government influence on housing demand, the baseline assumption of continuation of current levels of cash assistance to renters implies a declining proportional impact on low-income rental demand, while unchanged tax policy will bring an increasing annual subsidy to homeowners, especially those of higher incomes.

On the supply side, land seems likely to increase in real price, if only because it is fixed in supply. But the other input factors to housing production and operation will continue to increase in cost at rates averaging no greater than economy-wide inflation, if history is any guide.

Regarding government influences on housing supply, production subsidy programs will continue to play a role in promoting affordability. But a larger influence will be that of local governments, which through land use regulations and building codes have a controlling influence over both assisted and market rate housing. Additionally, though "smart growth' has many dimensions, housing affordability seems unlikely to be enhanced by new initiatives to control land use.

Overall, under a baseline scenario, it seems likely that the future will see both changes and some constants. Renters overall seem most likely to show little change, but those at the low end likely face constraints on housing supply that will boost their housing costs and force them to consume more housing than they would prefer, given their incomes. Among owners, further gains in cash flow affordability from reduced financing costs seem unlikely, and the responsibility will fall on improved income growth or lower house price inflation if cash flow affordability is to improve much more.

Alternative Futures

Several market and government variables are significant swing factors in the outlook for housing costs and affordability. Among demand influences, the volume and composition of immigration from abroad will have considerable impacts on housing demand and pricing in the metro areas and neighborhoods where immigrants first cluster. More generally, any shifts in migration and local mobility patterns are likely to increase housing costs in the places where population begins to grow more rapidly, and reduce housing cost hikes (at least initially) in places where population growth decelerates or turns negative. For prospective home buyers, spikes in mortgage interest rates would have large and immediate influences on the cash flow affordability of home purchase; this interest rate effect would likely be only partially offset by resulting reductions in house prices. Compared to demand variables, private market supply determinants of housing costs seem less likely to offer future surprises, although breakthroughs in building technology or large changes in utilities costs would have significant effects on housing costs. Direct government influences on affordability through subsidy programs seem confined by politics and fiscal realities to a fairly narrow band around current levels, at least in the near-term future. The same probably can be said about the federal tax treatment of owner-occupied housing.

Perhaps the most important near-term changes in government influences on housing affordability, especially among low-income renters, can occur at the state and local level. The higher property tax rate typically applied to multifamily rental housing compared to single-family housing is not widely known but has a major influence on the rents that must be charged for apartments to remain in the housing stock. More generally, the land use and building code practices and policies of state and local governments have direct effects on what housing can be built and retained in the stock and the rents that must be charged to cover construction and operating costs. For local government to change its practices there must be a push from the citizenry, which in many jurisdictions are predominantly single-family home owners. Changing those citizen attitudes may be the biggest challenge of all.

THE EFFECTS OF HOUSING ASSISTANCE ON WORK AND WELFARE

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Abstract

A central concern for low-income housing policy is whether housing assistance helps or hinders its recipients advancing in the job market. Detractors of housing assistance argue that it reduces work incentives and fosters dependency, while advocates maintain that stable, affordable housing provides a necessary foundation for successful participation in the labor force. Because the limited research findings are inconsistent, both sides can marshal some evidence to support their claims. Resolving this issue had become more important under welfare reform, because housing programs are increasingly likely to be judged for whether or not they are consistent broader societal goals of moving families towards self-sufficiency, not simply whether they provide adequate shelter.

This paper uses the Panel Study of Income Dynamics-Assisted Housing Database to examine the effects of housing assistance on earnings, employment, and welfare receipt. Adults with children are followed from the two years just before to the two years just after they moved into assisted housing, and changes in their earnings, employment, and welfare receipt are compared with those of a matched sample of adults who did not move into assisted housing. Public housing and privately owned housing built or renovated with government subsidies are analyzed separately. Both standard regression models and, to correct for unmeasured variables bias, first-difference models that use data from the five years prior to the move into assisted housing are estimated. Samples of women and men are examined separately.

Women who move into either type of assisted housing are found to be a third more likely to begin or continue to receive cash welfare than similar women who do not receive housing assistance. They also experience smaller employment and earnings gains. Moving into public housing reduces men's earnings growth, primarily by affecting their wages. The earnings impact in both cases is large—roughly

a 25 percent reduction in what they would have earned if unassisted. Moving into privately owned subsidized housing has no effect on men's outcomes.

DO RISKIER BORROWERS BORROW MORE?

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Abstract

Conventional wisdom in the mortgage industry holds that loan-to-value (LTV) ratios are positively correlated with mortgage default rates. However, not all empirical studies of mortgage loan performance support this view. This paper offers a theoretical model of why the correlation between LTV ratios and default risk is contingent upon the default costs of the borrower. Specifically, the model proposes that when default costs are high there exists a separating equilibrium in which risky borrowers will self-select into lower LTV loans to reduce the probability of facing a costly default, while safe borrowers will self-select into higher LTV loans as a signal of their enhanced creditworthiness. This adverse selection process gives rise to the possibility of higher default probabilities for lower LTV loans. Conversely, when default costs are low the conventional result, in which risky borrowers select higher LTV loans than safe borrowers, is obtained. Empirical results, based on a sample of 1,003 single family residential mortgage loans drawn from the portfolio of a national mortgage lender, are consistent with the separating equilibria predicted by the model.

THE IMPACT OF NEIGHBORHOOD HOMEOWNERSHIP RATES ON SOCIAL AND ECONOMIC OUTCOMES

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Abstract

Interest in measuring the impact of neighborhood homeownership rates on the residents of the neighborhood and on surrounding neighborhoods is increasing. This topic is part of the growing literature in the social sciences that discusses the theory and measurement of how neighborhoods affect individuals. In this review, we report on the conceptual categorization of the types of neighborhood effects, we review the social science literature that presents theories of how neighborhoods affect the residents or surrounding areas, and we review the empirical literature that measures the size of neighborhood effects.

Throughout, we highlight the impact that differences in neighborhood homeownership rates may have on the economic and social outcomes of the residents. We find numerous theories that, when applied to neighborhood homeownership rates, have rich sets of testable predictions. In contrast, we find few empirical studies of the impact of neighborhood homeownership rates. We conclude that little is known about the impact of cross-sectional or intertemporal variations in neighborhood ownership rates and a substantial amount of additional research is needed.

We show that understanding the way in which neighborhood homeownership rates impact behaviors and outcomes is very important to measuring the impact of public policies targeting homeownership. We discuss the conceptual differences between direct and feedback effects of public policies that affect homeownership rates. We discuss the appropriate empirical methods that should be used to test for the size of outcomes of policies that affect neighborhood homeownership rates. Also, knowing whether neighborhood homeownership effects have a nonlinear impact is important when deciding whether public policy should encourage clusters of homeowners or whether it should be dispersed.
We also report preliminary results of testing for the impact of neighborhood homeownership rates on child outcomes. This study complements a number of recent studies that have shown that homeownership at the household level leads to improved child cognition and improved behavior.

NEIGHBORHOOD EXTERNALITY RISK AND THE HOMEOWNERSHIP STATUS OF PROPERTIES

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Abstract

An important missing piece in the urban economics and real estate literature is an analysis of the impact of neighborhood specific risk—that is, the uncertainty about property values due to expected future variation in neighborhood

characteristics—on potential homebuyers. In fact, neighborhood specific risk may provide an alternative explanation—one that does not rely on housing affordability, income, or liquidity constraints—for why homeownership rates are so low in many urban areas.

The major goal of this paper is to advance the understanding of the relationship between neighborhood specific risk measures and homeownership. Specifically, the goal is to examine the causal effects of four neighborhood externality risk variables—directly measured as the variation of four neighborhood externalities over a time period of 14 years—on the probability that a specific housing is owner-occupied. The proposed methodology also sets the foundation for future research that may have major policy implications with respect to discrimination and "redlining".

NON-PROFIT MORTGAGE BANKERS: CHALLENGES AND OPPORTUNITIES

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Abstract

In the last decade, private mortgage markets have made strides in meeting the mortgage finance needs of underserved populations and communities. Obviously, sustained performance of the economy laid the foundation for success. Many also attribute this progress to the influence of advocacy efforts and federal requirements such as the Community Reinvestment Act (CRA), the Home Mortgage Disclosure Act (HMDA), and affordable housing goals now mandated for Fannie Mae and Freddie Mac.

A balanced assessment of this progress must also recognize the role of market innovation. Lenders and their secondary market partners have attacked the downpayment barrier to homeownership with an amazing array of mortgage products requiring very little to no equity from borrowers. Technological progress in mortgage finance, particularly in automated underwriting (AU), has also opened many new doors. Better pricing models and the need to expand lending volume have also led to a vast increase in subprime lending, bringing in many borrowers previously shut out from mortgage finance. Innovative partnerships with nonprofit actors, particularly those doing homeowner education and counseling, have also demonstrably

increased market penetration into these market segments.

Yet clearly vast gaps still remain in many communities and populations. While many HMDA studies remain methodologically flawed, quality research, combined with extensive practical experience, continues to demonstrate the systematic lack of mainstream financial institutional presence in many low-income, minority, and recent immigrant communities. A key picture consistently emerges of either a lack of adequate mortgage finance or of overpriced predatory lending.

The nonprofit community has demonstrated an ability to combat these market imperfections by using their access to many of these underserved populations and communities. Nonprofit providers of homeownership counseling and education have, for instance, helped lenders begin to penetrate these markets. In the absence of empirical data demonstrating improved mortgage performance, researchers have speculated that lenders have invested in nonprofit education and counseling organizations because they reduce lenders' outreach, marketing, and screening costs. Nonprofits deliver borrowers that are mortgage-ready and credit-worthy, helping lenders better penetrate markets representing new business that also helps meet regulatory requirements.

Thus, nonprofits already perform some functions characteristic of mortgage brokers. In essence, nonprofits extend the reach of the private mortgage market by reaching into communities and populations not effectively reached by private lenders and brokers. Furthermore, with AU drastically reducing origination costs and creating an adverse incentive to deal with borrowers requiring significant manual underwriting, nonprofits may be absorbing the costs of developing the more difficult borrowers to the point where they can qualify for a loan. A legitimate question, therefore, is what is the breadth and depth of nonprofit mortgage brokerage activity? Furthermore, what are the barriers and opportunities to developing more capacity among nonprofits to complete the mortgage market for these communities and populations?

INTERACTIONS, NEIGHBORHOOD SELECTION, AND HOUSING DEMAND

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Abstract

This paper contributes to the growing literature attempting to identify and measure the impact of social context on individual economic behavior. We extend our previous model of housing demand with neighborhood effects to include neighborhood choice. Modeling the neighborhood choice equation is of fundamental importance in estimating and understanding neighborhood effects. That is, to obtain unbiased estimates of neighborhood effects, it is necessary to control for, non-random, sorting into neighborhoods. Also, the neighborhood effects, themselves, are affected by the individuals that reside in each neighborhood.

Estimation of this model requires a unique data set of household data augmented with contextual information at two different levels ("scales") of aggregation. One is at the neighborhood cluster level, of about ten neighbors, that is a special sample of the American Housing Survey. A second level is the census tract to which these dwelling units belong. Tract-level data are available in the Summary Tape Files of the decennial Censuses. We linked these two data sets by gaining access to confidential data of the U.S. Bureau of the Census.

We first estimate a model of neighborhood choice using nested multinomial logit. These results are used to calculate sample selection bias correction (Heckman) terms that are included in the housing demand equation. The dependent variable for this equation is the log of housing services. Independent variables include the logs of housing price and permanent income, demographic characteristics, and variables that capture the social effects. These include the means of the logs of the neighbors' housing demand (endogenous) and permanent income (contextual). We instrument for the endogenous effect using the means of the neighbors' Heckman terms and structural house characteristics. We estimate the price of housing services separately using a hedonic model of house prices.

Our results for the neighborhood choice model indicate that individuals prefer to live with others like themselves. This can perpetuate income inequality since those with the best opportunities for economic success will cluster together. The results for the housing demand equation provide evidence of significant endogenous and contextual neighborhood effects. In the context of housing demand, the endogenous effect expresses a notion of "keeping up with the Joneses," whereby individuals view their neighbors' decisions about maintenance, repair, renovation, and additions and will strive to keep up by making similar decisions. The contextual effect arises when owners view their neighbors' characteristics, e.g. income, as a signal of their future housing consumption and thus alter their own housing consumption accordingly.

The endogenous effect results in a feedback mechanism whereby neighborhoods with a critical mass of residents who maintain their houses will result in similar decisions by all households that will lead to an increase in neighborhood quality. On the other hand, neighborhoods can display a continual decline in quality if few residents decide to maintain their homes. This process will lead to an increase in the disparity of house prices and hence to an increase in wealth inequality in the metropolitan area.

These results offer one explanation for the dramatic change in affordable housing policy in the U.S. over the past half century. Initially, the federal government owned and operated huge housing complexes that were built in poor parts of cities. More recently, there has been an emphasis on housing vouchers and the requirement in many affluent towns and cities that a certain percentage of new development must be affordable housing. This evolution in housing policy is consistent with the idea that neighborhood effects are important determinants of economic wellbeing. The large affordable housing experiment, Moving To Opportunity, is a specific example of a program that is attempting to move households in poor neighborhoods to more economically advantaged areas. This redistribution can lead to a reduced concentration of poor households in central urban areas where the inevitable downward spiral of neighborhood decay is difficult to overcome.

APPRECIATION IN MANUFACTURED HOUSING: A FRESH LOOK AT THE DEBATE AND THE DATA

Kevin Jewell, Consumers Union

Abstract

Non-profit and government housing agencies are increasingly being encouraged by manufactured home builders to develop low income projects with manufactured housing. Such organizations have called for a more complete understanding of the equity-building opportunities in this type of housing. This paper assesses the financial appreciation of manufactured-housing units, by examining the relative appreciation rates of manufactured housing and site-built housing, as well as factors affecting the appreciation rate of manufactured housing. Using the 1985–1999 American Housing Survey panel, the paper compares owner reported appreciation rates between manufactured and site built housing, and details a hedonic model to facilitate understanding of the factors that can predict the variation among manufactured housing units. Developers and lenders can use information about these factors to increase the equity building opportunities for their clients.

HOUSING PRICE EFFECTS OF THE LOW INCOME HOUSING TAX CREDIT PROGRAM

Jennifer Johnson and Beata Bednarz
The Urban Institute

Abstract

Although the Low-Income Housing Tax Credit (LIHTC) program is the nation's largest supply-side, low-income rental housing program, its effects on area home values remain unexplored. Creating new or rehabilitated affordable, rental housing in a neighborhood can have both positive externalities (e.g. new, high quality building, fulfillment of area housing need), as well as negative (e.g. construction-related upheaval, influx of lower income renters). Single family home sales prices will fluctuate according to how the area market weighs these externalities that arise from LIHTC development.

This analysis estimates the effects of these LIHTC development externalities by examining property sales transactions in Cleveland, Portland, and Seattle that took place between 1989-1999. We specify a pre/interim/post hedonic model to enable a comparison of home prices before, during, and after the development of a LIHTC property in order to observe the patterns of sale transactions. This robust model allows us to estimate unambiguously the LIHTC program's effects by controlling for characteristics of the individual homes that sold; city-wide factors (like the performance of the regional economy and interest rates); and idiosyncratic micro-neighborhood level characteristics (since it was structured as a pre/interim/post experiment). The specified model isolates any effects of LIHTC development on both the *level* and the *trend* of area home prices during construction and after the property was placed in service.

Our findings suggest that local single family property sales are indeed affected by LIHTC development. We observe in Portland and Seattle the LIHTC developments had an unambiguous net positive effect on single-family home sale prices nearby. Cleveland neighborhoods close to LIHTC developments also exhibited a positive price response to LIHTC development, but prices of homes slightly further away fell dramatically during the interim period and did not shift significantly enough after the property was placed in service to overcome the downward price trend. The observed effects in each of the case studies illustrate that not all neighborhood real estate markets react positively to LIHTC development, but some do perceive the increase of affordable rental housing as a positive occurrence in the neighborhood.

LOW INCOME HOMEOWNERSHIP THROUGH TAX CREDITS: A REVIEW OF DESIGN CHOICES

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Austin Kelly, Federal Housing Finance Board
Laura Talle, Abt Associates

Abstract

This paper assesses the strengths and weaknesses of four program models that have been proposed for using tax credits to support homeownership for low-income households.

- A subsidy for the development cost of new or substantially rehabilitated market price housing that is affordable for households below 80 percent of area median income. This is the essence of the Bush Administration Single Family Homeownership Tax Credit.

- A lender-based Mortgage Subsidy Credit for housing selected by the homebuyer, financed through a tax credit allocated to the states. The subsidy could be delivered through a first or second mortgage, or mortgage insurance, at the discretion of the allocating agency.
- A First-Time Buyer Tax Credit taken directly by eligible homebuyers.
- A Flexible Tax Credit allocated to the states, with the states choosing whether to use the Single Family Homeownership Tax Credit, the Mortgage Subsidy Tax Credit, or both. The Millennial Housing Commission has recommended this program design.

We assess each of the program models against the following criteria:

- The extent to which the program can address all of the major barriers to homeownership: income, wealth and credit constraints;
- The risk that the subsidy will go mainly to households who would have become homeowners anyway;
- The risk that a program with place-based objectives will not reach the intended neighborhoods or will have a negative effect on neighborhoods; and
- The size of program inefficiencies, including investor returns, transaction costs, and monitoring costs.

No program dominates on all dimensions. The First Time Buyer Tax Credit is likely to have the smallest transaction costs, followed by the Mortgage Subsidy Tax Credit. But the Flexible Tax Credit may offer the greatest ability to address varying local concerns.

Three of the four program models—the Single Family Homeownership Tax Credit, the Mortgage Subsidy Tax Credit, and the Flexible Tax Credit— would face syndication costs. By far the largest advantage enjoyed by the Mortgage Subsidy Tax Credit is that it is a demand-side program based on existing housing units. Unlike the Single Family Homeownership Tax Credit, it does not have to cover the cost of developing new or substantially rehabilitated units.

In addition, the Mortgage Subsidy Tax Credit would be able to address all of the major barriers to homeownership, while a Single Family Homeownership Tax Credit would not address credit constraints. Furthermore, a program that does not target specific housing units selected by a developer has less risk of negative neighborhood effects.

Any homeownership tax credit would be more successful at reaching households otherwise unlikely to become homeowners if it were designed so that community-based non-profits helped target the subsidy. Their outreach mechanisms and knowledge of local housing markets make community-based non-profits more likely than developers or lenders to reach the most marginal among potential homebuyers. While it would be possible to reduce costs by designing an allocation scheme to ration the credit and to target it to those households most likely to have barriers to becoming homeowners, selection of certain households to receive a direct tax benefit might be particularly vulnerable to an appearance of unfairness.

The Flexible Tax Credit is intended to devolve to the state level the decision on whether to use a Single Family Homeownership Tax Credit or a Mortgage Subsidy Tax Credit. States would have the ability to use a developer-based tax credit in housing market areas that have shortages of affordable units or "appraisal gaps" that make it difficult to build in low-income neighborhoods. However, the weaknesses of a developer-based tax credit would not disappear if the decision to use such a credit were made on the state rather than the federal level.

LOCATION AND ECONOMIES OF SCALE FOR LOW INCOME HOUSING TAX CREDITS PROJECTS

David Ling and Marc Smith
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Abstract

While the Low Income Housing Tax Credit (LIHTC) program has been the primary federal program producing rental housing since 1986 and has played a significant role in rental housing production in that period, there has been relatively little analysis of the impacts of the program. Nationally, the total number of housing units produced using the LIHTC exceeds one million, although the numbers of units produced each year had been declining as the amount of credits allocated per person had remained constant from 1986 until recently while housing costs have steadily risen (Kelly, 2001). LIHTC units comprise about five percent of the national rental housing stock, and in

some years since 1986 have comprised almost one-half of the multi family units built in the United States.

A recent article by Cummings and DiPasquale (1999) examines the first ten years of experience of the Low-Income Housing Tax Credit (LIHTC) program. Among other findings, they discuss the significant variation across metropolitan areas in the location of LIHTC projects. Some twenty-seven percent of the projects in their sample are in Census tracts in which no new rental housing had been built in the preceding five years. In thirteen percent of the tracts in which LIHTC projects had been built, they represented over twenty percent of all rental housing in the tract. Suburban projects represent 24 percent of all projects and 36 percent of metropolitan projects in the sample. Cummings and DiPasquale also examine the financial viability of tax credit projects and the multiple subsidies involved in these projects. Consistent with other research, they find that units built using the LIHTC program vary widely in total development cost, ranging from under $40,000 to over $100,000 per unit. The authors note that LIHTC projects are often dependent on other sources of subsidy to be viable, and that even with additional subsidy they do not reach lower income households.

Additional subsidies come from a variety of federal, state, and local sources (Stegman, 1991). Suburban projects use almost no special financing, while central city projects use extensive special financing. Smaller projects are also more likely to use special financing (below market interest rate or zero percent loans, grants). O'Regan and Quigley (2000) conclude that the LIHTC does not create sufficient subsidy to reach low-income households without being combined with other subsidies. Quercia, Rohe, and Levy (2000) find that on average, a rental development had 4.3 different funding sources. As a result, reporting requirements were burdensome, as was the process of making amendments to management plans.

This paper examines the LIHTC to address two questions. First, does the complexity of the program and the economies of scale is the production of such housing result in a bias against small projects, and therefore against locations without the capacity or concentrated need to build large projects. This question follows on a point made by Cummings and DiPasquale that conventional financing is more difficult to obtain for small projects because of the fee structure and the greater profitability of large loans. Further, some areas may not have nonprofit

capacity, and nonprofits may be the most likely to build smaller projects.

Second, income and rent limits for LIHTC projects are set by the definition of area median incomes. Ling and Smith (1991) found that the LIHTC was not sufficient in itself to produce low income housing in many areas, as the incentive is to build in high median income counties where rents can be maximized. Does there continue to be a bias in the LIHTC against counties with lower income limits, and hence lower allowable rents for an LIHTC project?

The empirical analysis uses data from the state of Florida, where almost 700 LIHTC projects have been built since 1986. These projects are sorted by county location (Florida has 67 counties) and by size. Explanatory variables for location include county and metropolitan population, area median income, households below the qualifying income level, and number of subsidy programs involved in a program. Project size includes the same set of explanatory variables. The paper examines data from a single state, believing that such an approach allows distributional issues to be addressed that may not be apparent in national data examinations.

HOMEOWNERSHIP: VOLATILE HOUSING PRICES AND SLUGGISH LABOR ALLOCATION
François Ortalo-Magné,
London School of Economics and
University of Wisconsin
Sven Rady, University of Munich

Abstract

We develop a dynamic stochastic equilibrium model of a city with two locations where heterogeneous households make joint location and tenure mode decisions. The optimal tenure mode depends on the co-movements of rental prices and household incomes. To investigate the contribution of homeownership to equilibrium prices and allocation, we compare the response to shocks of this model economy to the response of a rental-only version of the model. This comparison yields three results. First, homeownership adds to the volatility of the housing market. Second, homeownership increases the dispersion of households' incomes within each location. Third, one and the same local labor demand shock results in less local employment growth but a greater wage increase in the economy with homeownership. The main contribution of

homeownership is to allow the distribution of wealth to become disconnected to the distribution of earnings or human capital. This may in turn generate inefficiencies if for example, an efficient labor market requires location of workers according to human capital but wealth is key to location in a competitive housing market.

THE PERFORMANCE OF SECOND MORTGAGE LOANS

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University of North Carolina at Chapel Hill

Abstract

Insufficient wealth and income comprise two of the primary barriers to homeownership for low- and moderate-income families. One of the most popular tools for addressing income and wealth gaps is the second, or "piggy-back" mortgage. The second mortgage overcomes wealth gaps by reducing the size of the first mortgage and thus the down payment necessary. It can also reduce monthly payments by enabling the borrower to avoid the need for mortgage insurance. However, we know little about how well these second mortgages perform.

This study examines the performance of affordable second mortgage loans using a sample of loans originated by Chattanooga Neighborhood Enterprise, Inc., during the period between 1993 and 1998. During the study period, these loans exhibited default rates between 1.0 and 1.7, depending on loan type, compared with a default rate of 2.69 for the City of Chattanooga. With regard to individual risk factors, data indicate that for every ten-point decrease in credit score, borrowers are 6.4 percent more likely to default. Moreover, borrowers with credit scores below 620 appear to have a greater incidence of default. The layering of risks by allowing flexibility on other underwriting criteria does not appear to put the lender at greater risk. However, limitations of the data suggest a need for more rigorous data collection practices of non-profit organizations to adequately understand and mitigate risk in affordable second mortgages.

PREDATORY LENDING AND HOUSING DISINVESTMENT

Christopher A. Richardson,
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Abstract

This paper develops a model of predatory lending within the context of refinance mortgages. The primary objective is to determine analytically the extent to which predatory lenders and predatory loans might decrease neighborhood housing stock and mortgage holders' equity in the housing stock. The paper will be one of the first to model predatory lending and its consequences.

I first model an individual borrower's decision to refinance or not refinance (and with whom to refinance). There exist two types of borrowers—prime and subprime; and three types of lenders—legitimate (i.e., non-predatory) prime, legitimate subprime, and predatory (subprime). An important aspect of the borrower's outcome is whether or not the lender is a legitimate conventional mortgage lender or a predatory lender. The model assumes a portion of the population of refinance customers cannot distinguish with certainty a legitimate lender from a predatory lender. Predatory lenders are identifiable from legitimate lenders *ex post* by two characteristics: 1) higher lending costs, and 2) a higher probability of default, conditional on borrower creditworthiness.

By specifying the distributions of borrower and lender types, one can derive the proportion of borrowers experiencing each possible outcome. These estimates are used, in conjunction with actual data on average housing prices and predatory loan fees, in simulations that estimate under different levels of intensity in predatory lending 1) the reduction in borrower equity, and 2) the increase in the foreclosure rate. The simulations facilitate the estimation of the sensitivity of neighborhood housing equity and foreclosure rates to changes in the incidence of predatory lending.

This research project has important policy implications. It provides estimates of the potential social cost of predatory lending. In addition, it provides an analytical framework with which policymakers can evaluate the potential value of borrower education programs designed to educate

homeowners and potential mortgage customers about the perils and pitfalls of predatory lending. A reduction in predatory loans, as I model it, represents a tradeoff: loan costs and the conditional probability of default are lower, but the probability of receiving a loan for less-creditworthy applicants is lower as well. Thus, the model is able to shed some light on the most desirable structure of borrower educations programs: is it sufficient for an education program to aim either to decrease the chance a borrower will unknowingly accept a predatory loan or to increase the creditworthiness of borrowers, or must a successful program do both?

HOUSING IN THE NEW MILLENNIUM: A HOME WITHOUT EQUITY IS JUST A RENTAL WITH DEBT

Josh Rosner, GrahamFisher

Abstract

This report assesses the prospects of the U.S. housing/mortgage sector over the next several years. Based on our analysis, we believe there are elements in place for the housing sector to continue to experience growth well above GDP. However, we believe there are risks that can materially distort the growth prospects of the sector. Specifically, it appears that a large portion of the housing sector's growth in the 1990's came from the easing of the credit underwriting process. Such easing includes:

- The drastic reduction of minimum down payment levels from 20% to 0%
- A focused effort to target the "low income" borrower
- The reduction in private mortgage insurance requirements on high loan to value mortgages
- The increasing use of software to streamline the origination process and modify/recast delinquent loans in order to keep them classified as 'current'.
- Changes in the appraisal process which has led to widespread overappraisal/over-valuation problems

If these trends remain in place, it is likely that the home purchase boom of the past decade will continue unabated. Despite the increasingly more difficult economic environment, it may be possible for lenders to further ease credit standards and more fully exploit less penetrated markets. Recently targeted populations that have historically been

denied homeownership opportunities have offered the mortgage industry novel hurdles to overcome. Industry participants in combination with eased regulatory standards and the support of the GSEs (Government Sponsored Enterprises) have overcome many of them.

If there is an economic disruption that causes a marked rise in unemployment, the negative impact on the housing market could be quite large. These impacts come in several forms. They include a reduction in the demand for homeownership, a decline in real estate prices and increased foreclosure expenses. These impacts would be exacerbated by the increasing debt burden of the U.S. consumer and the reduction of home equity available in the home.

Although we have yet to see any materially negative consequences of the relaxation of credit standards, we believe the risk of credit relaxation and leverage can't be ignored. Importantly, a relatively new method of loan forgiveness can temporarily alter the perception of credit health in the housing sector. In an effort to keep homeowners in the home and reduce foreclosure expenses, holders of mortgage assets are currently recasting or modifying troubled loans. Such policy initiatives may for a time distort the relevancy of delinquency and foreclosure statistics. However, a protracted housing slowdown could eventually cause modifications to become uneconomic and, thus, credit quality statistics would likely become relevant once again. The virtuous circle of increasing homeownership due to greater leverage has the potential to become a vicious cycle of lower home prices due to an accelerating rate of foreclosures.

DOES HOUSING ASSISTANCE PERVERSELY AFFECT SELF-SUFFICIENCY? REVIEW OF EVIDENCE

Mark Shroder, HUD-PD&R

Abstract

This paper is a literature review, with modest amounts of new material, about the indirect economic effects of housing assistance in the United States on the self-sufficiency of assisted families. The primary programs for delivery of this assistance are vouchers, private subsidized projects, and public housing. Outlays for deep subsidies to 4 million households through those programs amount to roughly $21 billion per year.

The primary issue is whether housing assistance perversely undermines the upward mobility of families, once they are assisted. Roughly 2 million of the assisted households contain children, and one would like some assurance that the programs are not only helping to meet the immediate shelter needs but also at least do not hinder the participation of the children and their parents in the society and economy in which they live.

A recurrent element in economic thinking is that *any* means-tested program will have negative consequences, and we begin by applying that thinking to housing assistance. No theory that I am aware of goes beyond short-run impacts on labor supply. I look at the theory and evidence available on short-run labor supply impacts, with particular attention to two special characteristics of the housing programs: their in-kind character and the fact that they are rationed.

I then move to impacts where economic theory is nearly silent, but which are at least as important as short-run labor supply: household composition and human capital accumulation. Finally, I look at the emerging controversy about the impact of neighborhood on social outcomes, and the degree to which some forms of housing assistance, by distorting neighborhood choice, might lead to bad outcomes.

It will be seen that good evidence is hard to come by, and findings to date tend to have mixed messages and limited applicability.

THE EARNED INCOME TAX CREDIT AS AN INSTRUMENT OF HOUSING POLICY

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With severe housing cost burdens having become the dominant affordable housing problem, and with more than 13 million low and moderate income working families spending more than half their income for housing, it is appropriate that we examine the desirability and feasibility of using the Earned Income Tax Credit (EITC) as an instrument of housing policy.

Using the American Housing Survey (national and selected metropolitan files), we model household eligibility for the EITC. Using the EITC-eligible household population, we analyze the incidence of severe housing cost burdens among households of different sizes, tenure and race/ethnicities.

Under current levels of EITC participation (as estimated by GAO), and full participation rates, we simulate the housing cost burden-reduction impacts of the existing credit and several possible policy modifications to it. Among the policy alternatives we explore are increases in the EITC for single, childless workers, families with 3 or more children, FMR-based adjustments to increase the EITC in high-cost housing markets, and targeted state and local EITC supplements.

We assess the impacts, costs, political, and administrative feasibility of each alternative.

HOMEOWNERSHIP AND THE WEALTH ACCUMULATION OF LOW- AND MODERATE-INCOME HOUSEHOLDS

Tracy M. Turner, Kansas State University

Abstract

This paper investigates the extent to which homeownership enables low- and moderate-income households to build assets. Whether or not owning a home generates wealth depends on both the extent to which the home value appreciates during the holding period as well as the household's propensity to consume the equity build up. While homeownership may allow households to save that would have difficulty saving otherwise, a homeowner may spend down increases in home equity either directly, by tapping into the home equity through the various mortgage products offered, or indirectly, by accumulating non-mortgage debt. Because lower income households tend to experience greater income volatility and lower non-housing savings than other groups, these households may rely more heavily on non-mortgage debt financed at high rates of interest to weather temporary shocks to income, particularly if mobility is limited by homeownership.

Using the Panel Study of Income Dynamics (PSID) and the PSID wealth supplements, we examine the homeownership experience of low- and moderate-income households. The sample includes 3,000 renter households in 1980, approximately fifty percent of which have low- or moderate-incomes. By 1999, roughly 40 percent of the low- and moderate-income households experience homeownership. We construct profiles of household non-mortgage debt,

housing equity, non-housing savings, net wealth and ratio of housing costs to income by ownership, income and life-cycle status. In addition, we compare the wealth distributions of low- and moderate-income renters and homeowners, and changes in these distributions over time, investigating the extent to which households who have experienced homeownership have greater wealth mobility than those who have not.

DETERMINANTS OF SECOND MORTGAGES: CONSUMPTION SMOOTHING OR PORTFOLIO REBALANCING?

Takashi Yamashita
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Abstract

The market for home equity loans has grown rapidly during the past two decades. As late as 1990, the estimated amount of home equity debt was $258 billion. At the end of 1997, this amount had grown to $420 billion: traditional home equity loans totaled $267 billion and home equity line of credit $153 billion. Despite this growth, most of the past research on housing debt has been on first mortgages and refinancing activities, and very little analysis has been conducted on the dynamics of household decisions regarding second mortgages. This paper estimates the relative importance of various time-varying covariates on the household's decision to take out a second mortgage, using data from the 1981 to 1993 waves of the Panel Study of Income Dynamics (PSID).

The paper uses the proportionate hazard model to estimate the significance and magnitude of effects of various time-varying covariates. In particular, the paper is mainly concerned with the effects of past house price appreciation, and past and future wage growth of a household head on the probability of the household taking out a second mortgage. Preliminary results suggest that appreciation in house value (past and contemporaneous) has a positive, but statistically insignificant effect on the probability of taking out a second mortgage. While the effect of past growth of labor income is small and statistically insignificant, one-period-ahead labor income growth has a positive and statistically significant effect on the probability of taking out a second mortgage. The coefficients on employment status and other shocks (e.g., illness of a family member) have expected signs. These results suggest that the household utilizes a second mortgage to smooth consumption, in anticipation of future income growth, as well as in response to temporary shocks to income.