

What Makes a Community (Un) Affordable? Evidence from Florida

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Introduction

Housing markets in the United States have historically been quite robust, but the opening years of the new millennium ushered in an era of unprecedented price appreciation in many American real estate markets. The repeat sales index published by the Office of Federal Housing Enterprise Oversight (OFHEO) indicates that nationally, the price of a constant-quality home increased 87 percent between the first quarter of 1999 and fourth quarter of 2006. The growth in working class wages over the same period, however, has been much less impressive; data reported in the Occupational Employment Statistics (OES) of the Bureau of Labor Statistics between 1999 and 2006 suggests that nominal wages for workers in the educational, protective service, and community and social services occupations grew by roughly 25 percent over the period. Thus, while incumbent homeowners undoubtedly welcomed the surge in non-financial asset wealth generated through skyrocketing home values, middle and low-income households aspiring to purchase their own home saw rampant appreciation threaten the financial feasibility of homeownership.

Workers unwilling to spend exorbitant portions of their income on housing have begun to locate farther from their place of employment, choosing to substitute lower housing costs for longer commutes. In a 2006 study of housing affordability issues in 28 metropolitan areas, the Center for Housing Policy found that "in their search for lower cost housing, working families often locate far from their place of work, dramatically increasing their transportation costs and commute times. Indeed, for many such families, their transportation costs exceed their housing costs."¹ Commonly referred to as "the workforce housing problem," the inability of certain communities to provide low-cost housing is jeopardizing the well-being of workers essential to the economic vitality of the community, exacerbating congestion problems, and contracting the pool of labor available to local employers. Popular interest in the issue notwithstanding, most studies of the workforce housing problem have been

solely descriptive. In a recent DeVoe Moore Center research project, I went beyond descriptive statistics and anecdotes by asking the question: Why do some communities have more affordable housing than others? Breaking with previous research that has been almost entirely cross-sectional in nature, I document the evolution of the affordable housing stock in municipalities throughout Florida using a municipal-level panel from 1995-2006. Estimation results from empirical models suggest that rapidly rising land values and construction costs reduce the stock of affordable housing. Evidence that stringent land use regulations may substantially reduce affordability is also advanced.

Data, Methods and Empirical Results

I derive my measure of Florida's affordable housing stock using the Florida Department of Revenue's (DOR) county tax rolls from 1995 through 2006. Summarizing the stock of affordable housing requires the adoption of a definition of affordability. I adopt four different definitions of the affordable housing stock. For three of the definitions, I define a home as being affordable if, after a 20 percent down payment, annual payments on principal and interest do not exceed thirty percent of the benchmark annual wage.² For each of these three definitions, I adopt a different benchmark wage. For the first measure, labeled *affstock* below, I use the countywide average salary for a teacher with a bachelor's degree as reported by the Florida Department of Education. For the second measure, labeled *affstock2wage*, I adopt twice the average teacher salary described above. This measure can roughly be interpreted as the stock of housing that a household with two moderate-wage workers could afford to purchase in the community. My third measure of the affordable housing stock, labeled *affstock100k*, adopts a flat benchmark wage of \$100,000 for all counties in the state throughout the duration of the panel.

For my fourth and final measure of the affordable housing stock, in addition to estimating the expected payments on principal and interest, I also

¹Colton (2006) "A Heavy Load: The Combined Housing and Transportation Burdens of Working Families", Center for Housing Policy.

²Principal and interest payments are calculated using the assessed value of a parcel assuming a twenty percent down payment using the fixed mortgage rates as reported by the Federal Reserve.

estimate the annual property taxes that would be paid on each parcel utilizing millage rate data from the Florida Department of Revenue. When applying this final affordability definition, a home is classified as affordable if the payments on principal, interest and property taxes do not exceed thirty percent of income for a household earning \$100,000 per year. This final measure is labeled *affstockTax*. After classifying a home as affordable or unaffordable, each home is assigned to a jurisdiction using the DOR digitized parcel map. For 1995-2006, the count of affordable single-family units within a municipality's boundaries is used as the measure of that jurisdiction's affordable housing stock.³

Economic theory suggests that the stock of affordable housing is a function of variables affecting the supply and demand of housing such as construction and land costs, regulatory constraints, the availability of substitutes for single-family housing, population and income. To control for demand-side factors, I include in my empirical models estimates of municipality and county population, countywide per capita income, the multi-family housing stock and the mobile home stock. On the supply side, I control for changes in construction costs using indices for the cost of undeveloped land and construction materials. Finally, I measure regulatory and physical supply constraints using estimates of the minimum allowable lot size and the aggregate amount of developable land in the jurisdiction. After constructing this data set, I estimate a number of panel data models in which each of the four measures of the affordable housing stock is modeled as a linear function of the variables listed above.

Regardless of the empirical specification or definition of the affordable housing stock, higher land prices and more undeveloped land are associated with smaller stocks of affordable housing. As expected, increasing construction costs also reduce the stock of affordable housing. In contrast, a larger city population and a larger stock of mobile homes are associated with larger stocks of affordable single-family units across all of the specifications. The coefficients on the measures of county population, the availability of multi-family housing and county-level per capita income are mixed across the model specifications and generally statistically insignificant.

Perhaps the most interesting results are the estimated effects of the local regulatory environment. For each of the four affordability definitions, the estimated effects of regulatory stringency indicate that

jurisdictions with lower allowable densities have fewer affordable units, with each of the parameter estimates statistically significant. The magnitude of these coefficients suggests that the role of land use regulations on the stock of affordable housing is also economically significant.

Across the four affordability definitions, even small changes in the regulatory environment appear to result in non-trivial changes in the stock of affordable housing. Increasing the minimum lot size variable by only one-tenth of an acre is estimated to reduce the stock of affordable housing by between 2 and 4 percent. More drastic changes in allowable density can lead to much more dramatic shifts in affordability. Increasing the minimum lot size variable from one unit per half-acre to one unit per acre, for instance, is estimated to reduce the affordable housing stock by between 9 and 18 percent.

Conclusion and Policy Implications

Ensuring an adequate supply of affordable housing has long been a concern of policymakers. The recent combination of incredible home price appreciation and stagnant wages for middle-income workers, however, has further piqued interest in housing affordability, particularly in communities where an inadequate stock of affordable units is believed to be endangering the health of labor markets and subsequently, the local economy. The results from my research on the supply of affordable housing in Florida square with both economic theory as well as intuition: rising construction and land costs are estimated to reduce the stock of affordable housing, and the affordable housing stocks are estimated to grow with a jurisdiction's population. From a policy perspective, perhaps the most important conclusion to be drawn from this project is that local land use regulations can influence the stock of affordable housing, as reductions in the allowable density of development are estimated to reduce the stock of affordable housing substantially. Whereas land values and the cost of raw materials cannot be controlled by community leaders, land use regulations can be altered. The results of this research suggest that instead of attempting to make housing more affordable either through direct intervention in the housing market or income subsidies, local policymakers may first want to revisit local land use policy.

³Though multi-family units are undoubtedly an important component of the total housing stock, data limitations do not allow for the classification of multi-family units as affordable or unaffordable. Subsequently, my analysis focuses on the provision of affordable single-family units.

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