Barriers to Shared Growth: The Case of Land Use Regulation and Economic Rents

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I am pleased to be at the Urban Institute today to discuss how conditions in the housing market relate to broader trends in inequality, productivity, and mobility, with a particular focus on the impact of land use regulations.

Before I turn to longer-term structural trends, let me highlight that the housing recovery has been strong in recent years, aided by a wide range of countercyclical policies from the Administration and general improvement in the economy. Residential investment rose solidly at a 4.6 percent annual rate in the last two years, reflecting further increases in housing construction, which has surpassed an average pace of 1 million units per year. In addition, household formation, which had been depressed since the recession, has begun to pick up and points to additional demand for housing. A solid recovery in house prices has boosted home equity and strengthened household balance sheets, such that the share of homeowners underwater today is now less than half of what it was in 2010 and 2011. Rising housing wealth has also supported consumer spending, a bright spot in the economy. And with financial and mortgage market reforms in place to prevent a repeat of earlier market excesses, access to mortgage credit continues to expand, although at a pace that is still too gradual; including the fact that gains in mortgage credit have been slow to reach minority and lower-income households.

The fact that this cyclical recovery in the housing market is well underway makes it a good time to step back and examine broader trends and features of the housing market. For one, expanding affordable and fair housing—giving families the ability to live in economically thriving communities and housing choices free from discrimination—remains an ongoing concern and focus for the Administration. As researchers right here at the Urban Institute pointed out this past June, not one county in the country has a large enough stock of affordable housing for renters with extremely low incomes (Leopold et al., 2015).

In today's remarks, I will focus on how excessive or unnecessary land use or zoning regulations have consequences that go beyond the housing market to impede mobility and thus contribute to rising inequality and declining productivity growth.

While land use regulations sometimes serve reasonable and legitimate purposes, they can also give extranormal returns to entrenched interests at the expense of everyone else. As such, land

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use regulations are an example of a broader range of situations that may give rise to economic rents. By this I do not mean the check you write to your landlord every month, but a situation in which any factor of production—in this case, land—is paid more than is needed to put it in production. Economic rents can take many other forms, such as in excessively high profits for certain firms, and I explored rents more generally in a recent paper with Peter Orszag (Furman and Orszag 2015). One reason to study economic rents more carefully is that policy to address rents or rent-seeking behavior could make the economy more competitive by removing artificial barriers, thus improving both the distribution of income and the productive capacity of the economy.

I want to be clear from the outset, some land use regulations can be beneficial to communities and the overall economy. There can be compelling environmental reasons in some localities to limit high-density or multi-use development. Similarly, health and safety concerns—such as an area's air traffic patterns, viability of its water supply, or its geologic stability—may merit height and lot size restrictions. But in other cases, zoning regulations and other local barriers to housing development allow a small number of individuals to capture the economic benefits of living in a community, thus limiting diversity and mobility. The artificial upward pressure that zoning places on house prices—primarily by functioning as a supply constraint—also may undermine the market forces that would otherwise determine how much housing to build, where to build, and what type to build, leading to a mismatch between the types of housing that households want, what they can afford, and what is available to buy or rent.

The tradeoffs inherent in land use regulations are well known and have been of concern to policymakers and academics for decades, since at least 1961, when Jane Jacobs wrote *The Death and Life of Great American Cities*. In it, she argued that limits on density and mixed-use development, as well as an imbalance between preservation and new construction, can reduce housing affordability, socioeconomic diversity, and economic activity. In today's discussion I will point to a broader set of ramifications as well.

The Rise of Inequality, Decline of Productivity, and the Link to Reduced Mobility

Understanding the connections among zoning, affordability, mobility, and income inequality is important because of the substantial rise in overall inequality observed over the last several decades. In 1973, the bottom 90 percent received 68 percent of the income, a share that fell to 52 percent of income in 2013. The narrowing slice of the pie going to most American households has been compounded by the fact that the pie is growing more slowly, with labor productivity growing at an average 1.8 percent annual rate between 1973 and 2014, as opposed to the average 2.8 percent annual rate at which it grew in the quarter century before 1973.

Reduced labor mobility may be a contributing factor to both increased inequality and lower productivity growth in the United States. This reduction in mobility has manifested itself in a wide variety of ways, including the fact that individuals are less likely to change jobs, to switch occupations or industries, or to move within States or across State lines. Businesses are creating and destroying jobs at a lower rate and fewer new businesses are being formed, both of which could be causes or consequences of a decline in labor mobility.

Some of the trends in fluidity may be good for the economy or reflect positive developments. For example, if matching in the labor market has become more successful, then people will be less likely to move between jobs, and retaining workers will increase productivity and wages. But to the degree that the reduced fluidity is caused by economic barriers, it can interfere with productivity growth by reducing the reallocation of labor to where it has the highest return and can increase inequality by reducing one of the channels through which workers get a raise, specifically moving from job to job.

We do not fully understand what is causing these reductions in fluidity in the U.S. economy and absent an understanding of these causes, one cannot be completely confident about assessing the consequences of these changes. But if specific and unjustified barriers to mobility have grown over time, it follows that the decline in fluidity is a public policy problem that potentially reduces efficiency and increases inequality.

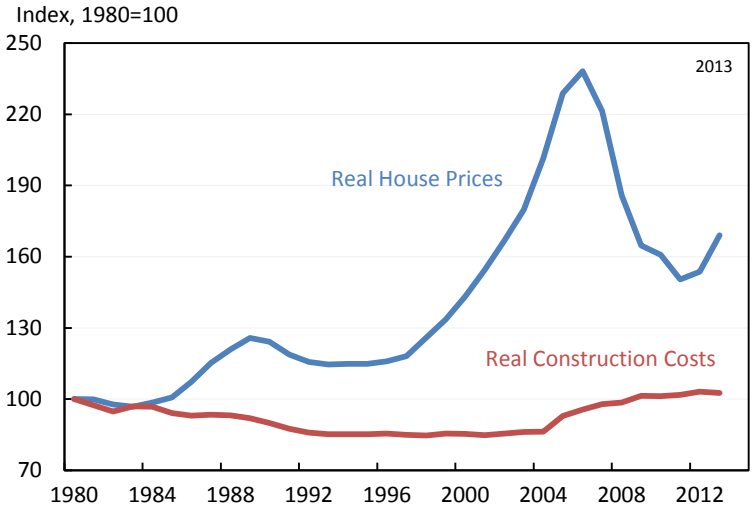
One such barrier that is plausibly playing a role in reduced fluidity is zoning. Zoning and other land use regulations, by restricting the supply of housing and so increasing its cost, may make it difficult for individuals to move to areas with better-paying jobs and higher-quality schools. Barriers to geographic mobility reduce the productive use of our resources and entrench economic inequality. Zoning is not the only or even necessarily the main factor in the broad-based reductions in fluidity we have witnessed. Another barrier I have explored elsewhere is the fact that the percentage of jobs that require a State license has grown from 5 percent in the 1950s to 25 percent in 2008, a trend that—like zoning—may reflect a combination of sound reasons but adverse outcomes.

The Rise of Zoning and Other Land Use Restrictions

A time series of land use regulations for the country as a whole does not exist, because it is a complex task to collect, summarize, and then track over time the wide range of local regulations. But a range of observations, circumstantial evidence, and specific case studies suggest they have become more restrictive in recent decades, particularly in cities with growing demand for housing. An indirect way to gauge the impact of land use restrictions and other supply constraints for buildable land, including the local topography, is to compare the sales price of houses to the cost of materials and labor to build the structure. When construction markets are relatively competitive, the gap between house prices and construction costs should largely reflect the cost of buying land—a cost that increases with tighter land use restrictions. As Figure 1 from Gyourko and Molloy (2015) shows, the gap between real house prices and construction costs has grown over time, even if we exclude the period of rapid house price increases in the mid-2000s. Real house prices in 2010 to 2013 were 56 percent above real construction costs, a 23 percentage point increase over the average gap during the 1990s.

Figure 1

Real Construction Costs and House Prices Over Time



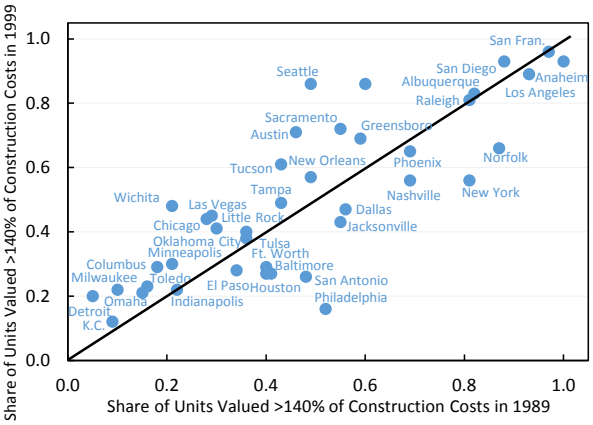
Consistent with these data, Glaeser, Gyourko, and Saks (2005) found that while house prices have been rising since 1950, construction costs and quality improvements in housing stock drove this appreciation between roughly 1950 and 1970. The authors conclude that after around 1970, more stringent regulations played a much bigger role proportionally, implying that relaxing zoning constraints could bring house prices more in line with construction costs and reduce the economic rents accruing to landowners.

Several studies with direct measures in specific cities of the change in land regulations are consistent with the indirect national measures. In the Greater Boston area, Glaeser and Ward (2009) find that three forms of regulatory barriers related to wetlands, septic systems, and subdivision requirements, as well as cluster zoning have all increased dramatically since the mid-1970s. In addition, Been et al. (2014) find that the growth of historic preservation designations in New York City neighborhoods have brought about house price appreciation both in these neighborhoods as well as in those surrounding it.

Cross-sectional evidence also provides a similar picture. Figure 2 below, reproduced from Glaeser and Gyourko (2003), plots cities on a graph based on the share of their homes in 1989 and in 1999 with prices at least 40 percent higher than construction costs. We can observe that some of the largest U.S. cities with both restrictive zoning rules and desirable public goods tended to have persistently high housing prices relative to the cost of construction. Moreover, more cities saw an increase in these price markups than saw a decrease during the 1990s (i.e., more dots are in the upper left hand part of the figure), consistent with the stylized fact that economic rents in the overall housing market have been on the rise in recent decades.

Figure 2

Ratio of House Prices to Construction Costs: 1989 vs. 1999



This timing of tighter land use regulations may not have been a coincidence. After a turbulent decade of the 1960s in the United States that saw racial tensions flare, with rioting in many urban areas around the country that damaged or destroyed both residential and commercial structures, thousands of high income, predominantly white families moved out of many cities, spurring the continued rise of racially and socioeconomically homogenous communities. These communities were also strictly zoned, a choice which may very well have been part of a conscious or unconscious attempt to maintain this homogeneity through the affordability channel.

Zoning Gives Rise to Rents by Restricting Supply

Zoning restrictions—be they in the form of minimum lot sizes, off-street parking requirements, height limits, prohibitions on multifamily housing, or lengthy permitting processes—are supply constraints.[2] Basic economic theory predicts—and many empirical studies confirm—that housing markets in which supply cannot keep up with demand will see housing prices rise. Mayer and Somerville (2000) conclude that land use regulation and levels of new housing construction are inversely correlated, with the ability of housing supply to expand to meet greater demand being much lower in the most heavily regulated metro areas. Quigley and Raphael (2005) show that new construction is not as prevalent in areas characterized by growth restrictions. Glaeser and Ward (2009) found that an increase of one acre in a Greater Boston town's average minimum lot size is associated with about 40 percent fewer new permits.[3]

Land use restrictions themselves are endogenous and at least partly the result of active rent seeking behavior by homeowners. In his 2001 book *The Homevoter Hypothesis*, William Fischel asserts that homeowners propose and vote for zoning policies to mitigate housing market-specific risks faced in their investment portfolios. Homeowners whose homes have the highest

[2] Quigley and Raphael (2004) highlight another, more esoteric form of regulation that they term "fiscal zoning," by which municipalities create community development plans that set aside large tracts of undeveloped land for revenue-positive commercial uses only, since without residents, these areas will at the same time not require substantial outlays on public goods provision such as education.

[3] Glaeser and Ward (2009) also show that over the past few decades, the prevalence of such zoning restrictions in Massachusetts in on the rise.

property values are both most invested and most likely to support stringent zoning policies (Fennell, 2002). This behavior fits the definition of rent-seeking, as it suggests people are trying to raise the value of their properties at the expense of greater building. The homeowners are not acting out of some nefarious intent—they are trying to safeguard an asset, but the net effect can be to choke off housing supply and mobility.

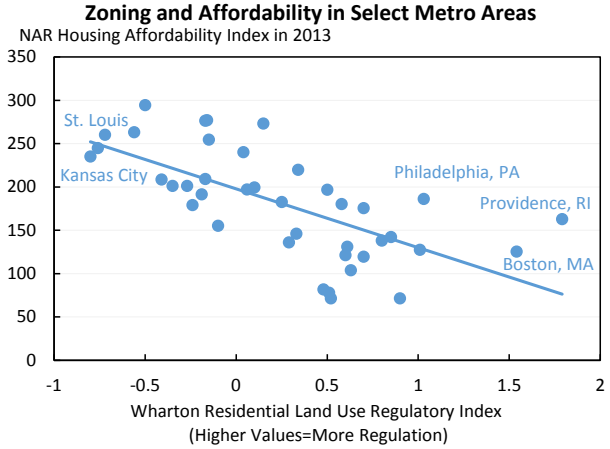
Moreover, this rent seeking behavior is often framed as serving some meritorious purpose, complicating the community's ability to determine whether a particular proposed regulation is merited or misguided.[4] With high house prices and further hedges against property value depreciation in local regulations, some individuals are priced out of the market entirely, and homes in highly zoned areas also become even more attractive to wealthy buyers. Thus, in addition to constraining supply, zoning shifts demand outward, exerting further upward pressure on prices and thus also, economic rents (Quigley and Raphael, 2004).

Supply Restrictions Reduce Affordability

Restricted supply leads to higher prices and less affordability. We see the association in the relationship between land use regulations and affordability in several dozen U.S. metro areas (Figure 3).[5] As just discussed, this could both reflect land use restrictions leading to higher prices or higher prices leading people to seek more land use restrictions or other factors. This house price appreciation experienced especially in those cities towards the right of the figure presents affordability challenges for nearly all, but they can hit the poorest Americans the hardest.[6]

Figure 3

Zoning and Affordability in Select Metro Areas



[4] So-called Not-In-My-Backyard (NIMBY) activists tend to fit this description. They may approve of a particular development project in the abstract but simply do not want to risk its effects on the quality of life in their immediate communities. This situation can in some instances be thought of as a specific case of the free-rider problem.

[5] To measure housing affordability, we rely on the National Association of Realtor's index measure, which essentially compares median incomes with median home prices, while for a regulatory stringency variable, we make use of Gyourko, Saiz, and Summers' (2008) Wharton Residential Land Use Regulatory Index.

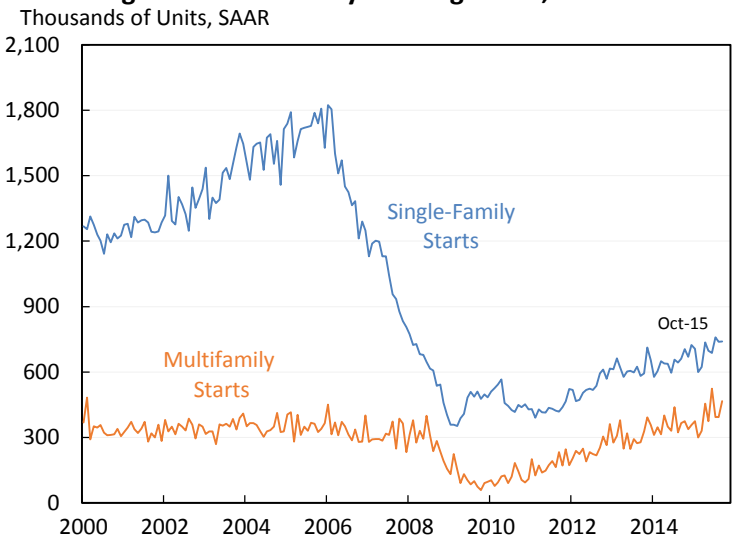
[6] Ten years ago, the Department of Housing and Urban Development summarized the literature then available on regulatory barriers to affordable housing. Sundig and Swoboda (2004) found that housing regulations depressed housing market supply and increased prices by as much as $40,000. Similarly, Malpezzi (1996) concludes that home values in tight regulatory environments are more than 50 percent higher than in lax ones. Luger and Temkin (2000) find similar results in New Jersey, where excessive regulation can raise new home prices by up to 35 percent.

As the figure makes clear, the affordability challenge is not evenly distributed across the country. There is considerable variation across the United States in zoning policies and associated markup of prices above construction costs, both geographically and in different types of construction. As a result of zoning as well as differences in labor markets, housing demand, and natural supply constraints resulting from land itself, economic rents and thus housing affordability vary substantially across the country's states and metro areas. Moreover, this dispersion appears to have grown over time. Gyourko et al. (2013) shows how the real home price distribution has widened over the last several decades, coinciding with increased variation in land use restrictions as some communities have added them and others have not.

The Shift Towards Multifamily Housing and Other Trends Exacerbate the Problems Associated With Land Use Restrictions

A variety of changes—some due to the Great Recession and so likely temporary and others more structural—have led to growing demand for multifamily, rental, shared occupancy, and home modifications. Multifamily housing starts have risen back up to where they were prior to the crisis, while the single-family category still has yet to recover fully (Figure 4). Much of the recovery in multifamily, however, may be the result of shifting preferences, with Americans desiring greater density, as evidenced by the growing share of people choosing to live in urban areas. Accordingly, these preferences may necessitate an even higher steady-state level for multifamily housing than there had been prior to the Great Recession.

Figure 4
Single and Multifamily Housing Starts, 2000-2015



The looming problem, though, is that multi-family housing units are the form of housing supply that is most often the target of regulation, thus restricting the potential for sustained long-run growth in this category (Quigley and Raphael, 2005). This undesirable possibility shows more broadly how economic rents and rent-seeking can often not only provide for an unequal

distribution of wealth and income but also can be welfare-reducing for all prospective market participants.

The Urban Institute's report on headship and homeownership (Goodman et al., 2015) highlighted several other demographic-driven areas of the housing market that are potentially impeded by the supply constraints that result from zoning. As the Baby Boomer generation ages into retirement, many more elderly Americans will require modifications to the homes they currently live in or may opt for shared occupancy with another family, often their own. Both of these practices would benefit from changes in zoning policies in some areas of the country so as to make home modification and shared occupancy feasible for a larger number of seniors. The report also notes that the size and demographic composition of the Millennial generation imply that demand for rental construction is likely to pick up in the coming decade and a half as well. As a result, certain housing markets may benefit from a relaxation of zoning restrictions so that such construction can be more rapidly increased to meet demand. Otherwise, implied demand increases accompanied by an inelastic supply would likely result in larger sized economic rents, manifesting as rapid price appreciation, worsening affordability, and downward pressure on household formation, particularly among the millennial generation.

Zoning Impacts Labor Markets, Productivity, and Inequality

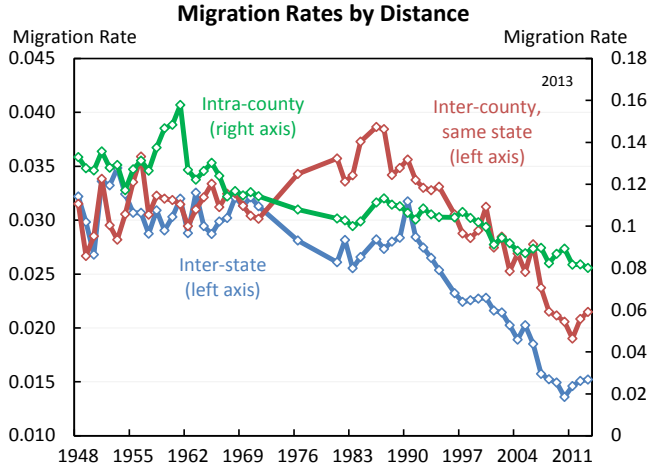
The topics I have covered so far are not just issues for housing markets—these issues directly affect the broader economy. Zoning can reinforce divergence across labor markets by impeding market forces that would otherwise help reduce income inequality and boost productivity. High-productivity cities—like Boston and San Francisco—have higher-income jobs relative to low-productivity cities. Normally, these higher wages would encourage workers to move to these high-productivity cities—a dynamic that brings more resources to productive areas of the country, allows workers in low-productivity areas to earn more, improves job matches and competes away any above-market wages (another type of economic rents) in the high-productivity cities. But when zoning restricts the supply of housing and renders housing more expensive—even relative to the higher wages in the high productivity cities—then workers are less able to move, particularly those who are low income to begin with and who would benefit most from moving. As a result, existing income inequality across cities remains entrenched and may even be exacerbated, while productivity does not grow as fast it normally would.[7] This last result—from a paper out this past year by Chang-Tai Hsieh and Enrico Moretti—frames excessively restrictive zoning policies as hindrances to productivity growth. More on this in a moment. [8]

[7] High-productivity cities would often have higher house prices relative to low-productivity cities. Productivity growth leads to higher wages and higher wages are then capitalized in house prices (Rosen, 1979; Roback, 1982). Yet, affordability measures are relative to wages in an area not levels of house prices across cities.

[8] The reasons for the growing gap in productivity across cities are not fully understood—this is what Enrico Moretti of UC Berkeley termed the "Great Divergence" in his 2012 book, *the New Geography of Jobs*. The Tiebout Hypothesis may play a role (Fischel, 2001). Economist Charles Tiebout's 1956 model of "sorting" posits that people select communities based on where they maximize their subjective well-being, including through public goods and government regulations. Sorting is especially relevant in the zoning context because it offers a concise explanation of why zoning can beget demographic disparities, and thus why high-productivity, high-skill people may choose to live in areas with strict zoning laws or support strict zoning laws once they are already there; Zoning may protect

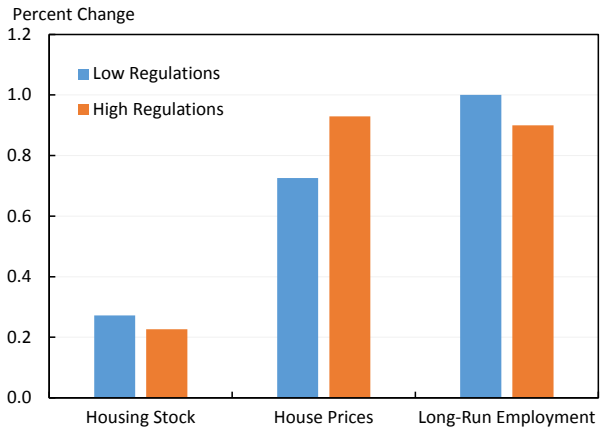
Over the same time period that the prevalence and intensity of zoning regulations have increased—since the 1970s—Figure 5 illustrates how migration rates across the country have been declining (Molloy, Smith, and Wozniak, 2014). Although this trend reflects many causes, housing supply restrictions and the resultant reductions in housing affordability lower the benefits of moving to higher-paying jobs and so likely play some role in these migration trends.

Figure 5
Migration Rates by Distance



Additional suggestive evidence on this relationship between land use constraints and the labor market can be found in Saks (2008), which shows that an increase in labor demand in high regulation cities leads to a smaller increase in the housing stock, greater house price appreciation, and lower employment growth than in low regulation cities (Figure 6).

Figure 6
Effects of One-Percent Higher Labor Demand



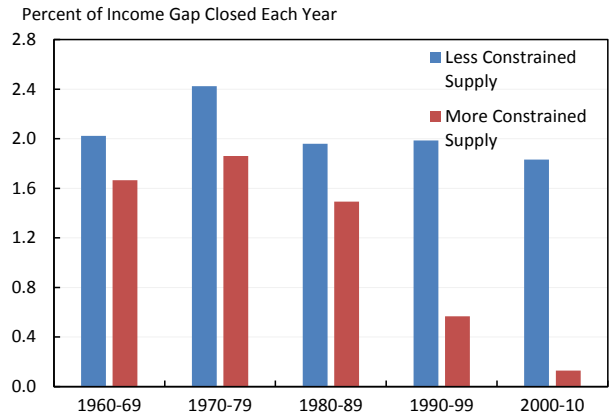
Another area in which to see the impact of stricter land use regulation on inequality is in the slowing convergence of income across states. Ganong and Shoag (2015) find that States with less constrained supply of housing (including from looser land use regulations) experienced a

both their wages and home prices from the depreciation that would occur if zoning constraints were relaxed and it were easier for lower income workers to move into their communities.

more consistent and substantial pace of income convergence over the last fifty years, closing about 2 percent of the across-state income gap on average per year (Figure 7). In contrast, States with more constrained supply of housing (including from tighter land use regulations) have experienced a substantial decline in the speed of income convergence. In fact, over the last twenty years, incomes across States with more constrained supply of housing have hardly converged at all. One story for this lack of any convergence is that only high-income workers can afford to relocate to the high-productivity cities that have tight land use regulations, which reinforces existing inequality.

Figure 7

Speed of Income Convergence Across States by Housing Supply



The costs of zoning, in the context of this decline in labor mobility, are quite substantial. The Hsieh and Moretti paper I mentioned above documents that from 1964 to 2009, wage dispersion across cities has increased by a factor of two (Hsieh and Moretti, 2015). If workers and capital had moved over time to keep the relative wage distribution at its 1964 level, these researchers estimate that output would be more than 10 percent higher in 2009. Much of this "lost" output is attributed to zoning regulations that restricted the supply of housing, although this output estimate is tentative and would imply counterfactual employment increases absent housing restrictions in some cities of quite a large magnitude. Nevertheless, the logic of their calculation is helpful: output is lost when the supply of workers to high-productivity cities is restrained. Over time, this effect from the unrealized productivity gains of agglomeration can be large enough to reduce the country's overall output noticeably. Of course, foregone economic output via less efficient labor markets is only one possible effect on living standards of reduced housing supply. There can also be some welfare costs from greater population density.

Zoning can also reduce intergenerational mobility. We know from the work on geographic variation in economic mobility by Chetty et al. (2014) that some areas are demonstrably high mobility and others less so. Moreover, moving from a low to a high mobility area confers lifelong socio-economic benefits on the children whose families move (Chetty at al., 2015). Yet the limited mobility brought about by zoning can contribute to putting these high-opportunity areas outside the reach of the families whose children would benefit most, although Chetty et al. do note that a number of high mobility areas do have low rents suggesting that some arbitrage opportunities still exist.

The constraints that zoning creates on mobility are exacerbated by the fact that zoning restrictions are not distributed randomly but instead tend to be more prevalent in high-income communities for the reasons I discussed earlier. This fact, coupled with the income gains for the rich over the past four decades, have worked toward pricing middle- and lower-income families out of the communities with the best schools. Studies by Watson (2009) and Reardon and Bischoff (2011) establish that higher income inequality leads to higher levels of residential segregation by income, and particularly allows affluent households to self-segregate within metropolitan areas. Thus, within the broader context of declining migration rates, divergence across labor markets, and worsening housing affordability, pursuing more prudent zoning policies could also reduce inequality that is entrenched across generations.

Other Consequences of Land Use Restrictions

I have described what I see to be the consequences of zoning regulation for housing markets, affordability, labor productivity, and inequality. But the consequences of zoning are much broader and include:

- *Greater environmental damage*: when strict zoning policies cap a city's density, they ensure that the city's residents must on average occupy more land than they otherwise would and travel greater distances to and from work as well, both of which increase carbon production, all else equal (Glaeser, 2011).

- *Worsening of house price bubbles*: tighter land use regulations may exacerbate house price bubbles. Gyourko, Glaeser, and Saiz (2008) demonstrate that cities with more restrictive zoning and thus a more inelastic housing supply have historically been more likely to experience house price bubbles and that these episodes of elevated prices tend to last longer.

- *Reduced public good provision*: zoning that restricts multi-use may also prevent the expansion of public goods provision. New retail, commercial, or industrial tenants may bring not only increased tax revenue but also may necessitate public or private investment in infrastructure to facilitate the flow of goods and people from their locations.

The Administration's Agenda

Before concluding, I want to describe in some more detail the policies that the Administration is pursuing to support affordable and fair housing. Land use regulations are largely, and legitimately, in the jurisdiction of State and local governments. But we can provide information, incentives, and expanded access to credit that can lead to increased pressure to reform and reverse the most problematic land use restrictions.

First, the Department of Housing and Urban Development (HUD) instituted substantially greater transparency through its Affirmatively Furthering Fair Housing (AFFH) rule, which was finalized this past summer. The Fair Housing Act of 1968 required any group receiving federal housing funds, as well as federal agencies overseeing such programs, to actively work toward increasing fair housing and equal opportunity. After many decades of progress, the new HUD rule, finalized this year, will give communities new tools to quantify the remaining inequities in local housing markets and achieve greater clarity in setting goals for the future. As a central part of this initiative, HUD will provide publicly open data and mapping tools to community members and local leaders, so that they can assess conditions in their housing markets. These data—alongside the ability to compare a locality with other nearby localities—should make it easier to identify disparities in access to opportunity, including those that may be entrenched due to land use policies and protection of economic rents. The goal is to provide easy-to-use and broad-based information on communities, on par with the data used in recent academic studies on economic mobility. Communities will use these detailed data to determine the reasons for any current imbalances and to establish specific goals and timelines to increase fair housing. Depending on the circumstances, this could mean changes in land use regulations and increasing the overall supply of housing in a community.

Second, the President proposed $300 million in incentive funding through Local Housing Policy Grants in his FY 2016 Budget. These grants are designed to provide an incentive to encourage more relaxed land use regulations and increase the overall supply of housing. These grants would be provided specifically to those localities and regional coalitions that supported new zoning and land use regulations to create an expanded, more flexible, and diverse housing supply.

Third, land use regulations are not the only potential barrier to an increase in the supply of housing and reduction in the quantity of economic rents in a community's housing market. The limited supply of credit, particularly for multi-family developments at the lower end of the market, can also restrain an increase in affordable housing. The Multifamily Risk-Sharing Mortgage program, a partnership between HUD and the Treasury, reduces financing costs and channels capital into previously underserved housing markets, with financing provided by the Federal Financing Bank. The first transaction of this program was completed last fall with the New York City Housing Development Corporation and the program is expected to grow to at least $250 million in FY 2016. Extensions of this program also seek to include smaller properties, which are a critical component of the multifamily rental housing stock but often face difficult financing terms.

These are only three examples of the wide ranging policies to support and improve housing markets undertaken by the Administration. Broadly speaking, we remain committed to helping communities identify barriers to opportunity and to providing the assistance necessary to reduce those barriers.

Notes to Figures

Figure 1
Source: Gyourko and Molloy (2015).

Figure 2
Source: Glaeser and Gyourko (2003).

Figure 3
Source: National Association of Realtors, Housing Affordability Index (2013); Wharton Residential Land Use Regulatory Index (Gyourko, Saiz, and Summers, 2008); CEA calculations.

Figure 4
Source: U.S. Census Bureau.

Figure 5
Source: Molloy, Smith, and Wozniak (2014).

Figure 6
Source: Saks (2008); CEA calculations.

Figure 7
Source: Ganong and Shoag (2015); CEA calculations.

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