Markets behave in certain reliable ways. When the supply of a good increases, we can expect the price to fall. For example, when a new technology like fracking increases the supply of oil in the marketplace, we know that oil prices will tend to fall if other factors are held constant.

We observe an apparent paradox in local real estate markets in spite of this tried and true rule. Cities that have the largest and densest supply of housing also tend to have the highest housing costs. For example, Manhattan permits the tallest buildings in the United States, but it also has some of the highest housing costs. How can this be?

In places where land is very valuable, we tend to see high building density with office towers and high-rise apartment buildings. Dense building allows more people to share a fixed land area. These densely built areas may also have high prices. But it’s not the density that causes these high prices; rather, density follows high land values. Due to this relationship, when regulations constrain the growth of building supply in these high-value, dense areas, prices will rise.
While Manhattan has perhaps the most liberal zoning in the country -- some neighborhoods are home to tall residential buildings interspersed with adjacent tall office buildings on top of ground floor retail -- New Yorkers still have to pay some of the highest rents in the country for their tiny apartments. This phenomenon is mostly explained by very high demand.

In a free market, developers would build more housing—until prices covered building costs. Today, housing in New York sells for more than twice construction costs.¹ Because land-use rules restrict the supply of housing, residents have to pay more than they would in a world where more housing was allowed, that is, a world with significantly higher density.

Economists refer to the phenomenon of housing costs driven by regulations as the "zoning tax." One estimate finds that in nine cities in the United States, restrictive regulations account for at least 10 percent of the cost of housing.² Edward Glaeser, Joseph Gyourko, and Raven Saks estimate a zoning tax of 33.9

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percent in Los Angeles County. In other words, a home that would cost $500,000 in a less constrained market costs $669,500 because of rules that restrict housing supply.

Land-use regulations can also drive up housing costs because they reduce housing supply elasticity. Supply elasticity refers to the propensity for a market to increase the supply of a good in response to a price increase. When demand for a good increases, its price may remain little changed if supply increases simultaneously. For example, in Houston, housing supply has increased rapidly in response to new people moving to the area. Over the twenty year period from 1996 to 2016, Houston has seen a 127.9 percent increase in house prices and a 54 percent increase in its housing stock.\(^3\) This translates to a supply elasticity of 0.42 percent, well above the national long-term average of 0.17.\(^4\) In contrast, Orange County has had a supply elasticity of just 0.08.\(^5\) Complex zoning rules and a drawn out approval process have prevented developers from responding to an increase in housing prices with new housing construction.

Inelastic housing supply is driven by various rules and approval

\(^4\) Ibid.
\(^5\) Ibid.
processes that create obstacles to housing development. Because of these constraints, developers are not able to respond to increases in house prices by building new housing.

The land-use rules that drive up the cost of housing come in many forms. Minimum lot size requirements are a primary driver of zoning taxes in residential developments. In a suburban area, for example, each home may require a ¼-acre lot when homebuyers might prefer smaller, more affordable lots. In areas where land is expensive, minimum lot size rules can greatly increase housing costs.

Minimum lot size rules are the stereotypical “snob zoning” rule. These rules preserve tony suburbs as high-income enclaves by making it impossible for developers to build inexpensive housing, such as homes on small lots or multifamily apartment buildings. Rules that prevent change within a neighborhood or a city often experience strong support from current residents. The phenomenon of NIMBYism -- “not in my backyard ism’ -- captures the attitude of many homeowners who do not want to see new construction near their homes that could potentially change property values. Urban areas have their own in the form of maximum density rules.

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For example, in Washington, DC, a height limit effectively prevents the construction of any apartment buildings over 130-feet tall. In spite of its height limit, DC has relatively dense residential development with over 10,000 people per square mile. But with high demand for housing in the nation’s capital, a freer market would produce even denser housing at more affordable prices.

In addition to constraints like minimum lot size rules and height limits that directly limit the supply of housing in a market, other regulations also contribute to high housing costs. Economist Donald Shoup has dedicated his career to exposing the role that parking requirements play in driving up real estate costs. In many cities, American drivers are used to finding “free” parking everywhere they go, but of course dedicating land to storage for cars has a cost. Rather than paying for parking directly, the cost of allocating space to parking spots shows up in the higher costs we pay for housing, office space, and retail goods.7

Absent regulations, real estate developers would surely provide

some parking. But Shoup’s research demonstrates that parking requirements lead developers to provide more parking than they would otherwise choose to. In this case, parking requirements drive up housing costs. In his research on Los Angeles, Shoup finds parking requirements can add $104,000 to the construction costs of new apartment units. People would of course demand parking in Los Angeles even without parking requirements. But it is likely that at least some residents would choose to rent less-expensive apartments with fewer parking spaces than the legal minimum if regulations permitted them to do so. When all housing in a market is required to include parking, households that have no cars, or have fewer cars than parking spots required, don’t have the opportunity to save money by paying for less space dedicated to car storage.

In some jurisdictions, rules that require historic preservation for existing buildings contribute to supply restrictions in a manner similar to zoning requirements. Nowhere are the costs of historic preservation more evident than in Manhattan, where more than 27 percent of buildings are landmarked for historic preservation. Some of the island’s most desirable housing is

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9 Real Estate Board of New York, “An Analysis of Landmarked Properties
within historic districts. All of the land on which historic buildings sit is taken out of the supply of land that can be used for the construction of new, denser housing that could accommodate more households than preserved buildings.

Not only do historic districts restrict the potential for increasing the housing supply, they also reduce the filtering effect of housing. In many cases, a neighborhood’s new construction is most desirable and is therefore home to its wealthiest residents. Over time, as these once-new houses age, they become less desirable and thus available to lower-income residents; eventually they have the potential to become affordable, market-rate housing. Filtering is the process through which new construction ultimately creates the conditions in which a city has housing that’s affordable to people across the income spectrum.

All of these regulations that restrict housing supply and drive up costs have benefits as well as costs. For example, historic preservation advocates point out the benefits of saving unique architecture for future generations. Similarly, those in favor of minimum lots sizes might point out that they lead to neighborhood in Manhattan,” June 2013, http://rebny.com/content/dam/rebny/Documents/PDF/News/Research/Policy%20Reports/Research_Analysis_of_Landmarked_Properties_in_Manhattan.pdf.
green space. While land-use regulations have important benefits, the political process tends to overweight these benefits relative to their costs in terms of restricting housing supply and driving up costs. Homeowners tend to vocally support regulations that support the status quo, while people who are barred from moving into a new jurisdiction by high costs have no say in the regulatory process.

Economist William Fischel explains the phenomenon of bias in favor of restrictive regulations as the homevoter hypothesis.\(^{10}\) Because homeowners often have a large portion of their assets invested in their primary residence, they tend to favor policies that maintain the status quo in land-use regulation. Homeowners are more likely to vote relative to renters, and they are more likely to stay in the same jurisdiction over time. These characteristics give homeowners outsize influence in determining the land-use regulation environment. Therefore, regulations that drive housing costs tend to persist, even though they contribute to housing unaffordability and reduce opportunity, particularly for renters and low-income households.

In spite of the political forces that make restrictive land-use

regulations very difficult to reform, academic research on the costs of these regulation is gaining increasing attention. Awareness about the costs of land use restrictions has led to growing support for more housing construction in some high-cost cities. Groups who call themselves YIMBYs -- yes in my backyard -- are countering the voice of NIMBYs in San Francisco, Seattle, and Boulder.

This political support for increased housing supply is influencing policy change. Cities with rising rents including New York, Seattle, Denver, and Portland are all permitting record levels of housing construction.\textsuperscript{11} After holding the dubious title of the highest rental rates in the country, the Bay Area cities of San Francisco, San Jose, and Oakland all saw falling average rents in 2016. Rents in all of these cities still pose substantial affordability challenges. Much more housing construction needs to be allowed to reverse the national problem of immobility.

Just like other markets, the market for housing is ruled by supply and demand. When cities and states restrict the supply of housing with zoning, parking rules, greenspace requirements, and

\textsuperscript{11}Joe Cortright. “Housing Supply Is Catching Up to Demand.” City Observatory. 11 January, 2017. \url{http://cityobservatory.org/housing-supply-is-catching-up-to-demand/}.
historic preservation, an increase in demand will be met with an increase in prices. While homeowners may be understandably averse to change, improvements in housing affordability require reform to land-use regulations that obstruct new supply.