



Does Low-density Zoning Impact Rural Land Value?

Do zoning regulations rob rural landowners' equity – i.e. decreasing their land values without compensation? Do these land use controls affect different types of land in the same way or in different ways? How far-reaching is the effect? Dr. Lori Lynch at the University of Maryland takes a look at several down-zoning counties on the Eastern Shore of Maryland to find out.

AT A GLANCE

- Unlike voluntary programs, low-density zoning regulations can be used to conserve large blocks of land and prevent the negative effects that nearby housing development, e.g. littering, trespassing, noise, complaints, might have on profitable and efficient farm operations.
- Economic theory suggest zoning regulations that lower the number of houses landowners can build on their property will decrease land values causing these owners to lose land equity; i.e. the sales price will decrease. However, down-zoning also may improve the quality of life for current and future residential owners if they value a

Glance continued on page 2



PHOTO: EDWIN REMSBERG

Local governments are concerned about the impact of housing development on the Chesapeake Bay and other water bodies. Down-zoning regulations sought to affect the pace and pattern of housing development.

Down-zoning decreases the number of houses permitted on land used for agriculture or forestry, which can make it less profitable to convert land out of an agricultural or forest use, thus slowing the conversion to a residential use. Counties can use this type of land control to prevent resource land from being converted into high density

housing. However, landowners claim that the down-zoning decreases land value, removing the equity that constitutes a large percentage of their wealth. The alternative approach, voluntary land preservation programs, costs a lot more. In addition, these voluntary programs are less effective at preserving large open spaces due to limited budgets, and have a tendency

Glance continued from page 1

landscape with fewer houses, more open space, and less traffic and as such increase land values. Or the regulations could have no impact on the value of the land – i.e. no one wanted to buy the land for the higher density uses anyway.

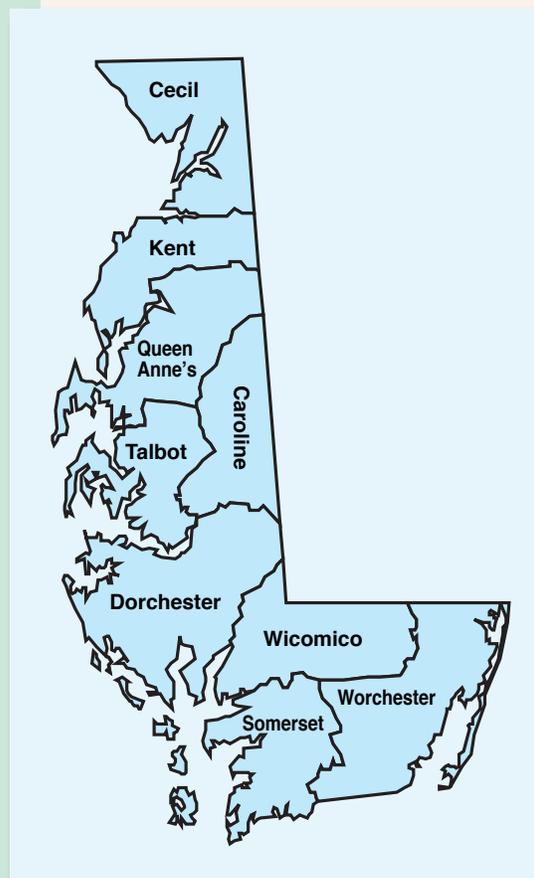
- Six of the nine Eastern Shore counties in Maryland enacted down-zoning regulation in the 1990s and early 2000s.
- Examining almost 5,000 arms length sales transactions between 1990 and 2005, Liu and Lynch find that agricultural and forest parcels enrolled in the use-value property tax program were not affected by the down-zoning legislation. However, other parcels did see their market value decrease by 20%-50%.

to preserve land in smaller patches or a scattergun fashion. Because large contiguous blocks of land offer more benefits, the results from down-zoning regulations can be higher benefits to society.

Down-zoning limits the number of houses on each parcels of land and as such may decrease the profit of converting agricultural and forest land into residential use; however, it's not clear that low-density zoning hurts landowners. Open space is appealing to homeowners, so housing prices near open spaces are higher than they would

be in high-density areas with limited open space. Low-density housing also means less litter, trespassing, complaints and general disruptions from non-farming neighbors. Hence, down-zoning can actually benefit farmers and their ability to use the most profitable agricultural production techniques. And if the best use for the land is agriculture or forestry, then the zoning regulations will not affect the land value because the land is being used efficiently. Dr. Lori Lynch of the University of Maryland explores the effect of a change to low-density zoning in six rural Eastern Shore counties in Maryland with her co-author, Dr. Xiangping Liu.

Figure 1: Eastern Shore



All nine Eastern Shore counties are included in the down-zoning study. Six counties down-zoned their more rural parcels in the 1990s and early 2000s.

Six of the nine counties enacted zoning regulation in the 1990s and early 2000s, which resulted in the housing density decreasing from 0.5-2.5 houses per acre to one house per 20 or more acres.

Drs. Liu and Lynch focused on nine counties in Maryland's Eastern Shore, i.e., the area east of the Chesapeake Bay. The population in the Eastern Shore has been rising since the 1950's, which has resulted in farmland loss. Around 1990, several well-known and visible farms were converted into residential property, including some of the highest-quality agricultural land. Out of concern for farmland loss and the environmental impact on the Chesapeake Bay, six of the nine counties enacted zoning regulation in the 1990s and early 2000s, which resulted in the housing density decreasing from 0.5-2.5 houses per acre to one house per 20 or more acres.

The implementation of down-zoning regulations may not be random in the

sense of a scientific experiment. It's affected by the political power of the local communities and the amount of open space that already exists in the area. For example, the probability of down-zoning is higher when there is a large amount of open space to protect and when farmers do not have much political power.

Because zoning policies do not require that the land be used for agriculture or forestry, the land may still be converted to residential use. Rather than creating high-density housing, the land will be turned into expensive estates. Therefore, the regulation may encourage rather than discourage development, but in a way that increases the value of the land.

More importantly, the feasibility of implementation is also affected by land values themselves; if Lynch and Liu try to estimate the impact that zoning regulation has on land value without taking this into account, the role that land value plays in the regulation is going to be included in the estimated impact on land value. Clearly, that's not quite what they're looking for. To correct for this, they compare the land value of down-zoned land parcels to parcels that are very similar except that they are not down-zoned. If both parcels have similar value, they can conclude that it is something that these parcels have in common and not the zoning regulation that is responsible for that value.



PHOTO: EDWIN REMSBERG

Agriculture and forestry are the major industries in the Eastern Shore of Maryland. In 1956, Maryland began a use-value property tax programs. Under this program, if land is being used for agriculture or forestry, it's property tax is based on its use-value (the profits earned for agriculture or forestry) rather than its fair market value. This slows the conversion of resource lands.

Why is this a difficult question to answer? Lynch and Liu want to know the effect that zoning regulations have on land value; this effect is measured as the land value if there is a down-zoning policy minus the land value if there is not such a policy. They know if a property is down-zoned, and they know what the land value of the property is, but they do not have any way of knowing what the land value would be without the regulation. They cannot just compare the land value of properties with the regulation to the value of properties without down-zoning because there may be specific reasons that some locations have this low-density zoning.

For example, properties that are facing high development pressure are more likely to be down-zoned, but they are also more likely to have high land values. Comparing the properties that have been down-zoned to properties that have not

and that start out with lower land values would make it look like down-zoning increases the land value when really the properties have different values for reasons unrelated to the regulation. Therefore it is important to compare properties that are similar to get at the real effect of the regulation.

Ideally, Liu and Lynch want to compare properties that are identical in all other ways except for the presence of down-zoning regulation but this is impossible. One alternative way is to compare properties that have the same propensity of being down-zoned. In other words, instead of matching properties based on all possible property characteristics, they only need to match properties based on characteristics that affect land value and whether the property is down-zoned. Liu and Lynch use demand for housing or developmental pressure and returns to resources to



PHOTO: EDWIN REMSBERG

Wetlands are valued by local governments for their environmental amenities; properties with wetlands and habitats for species of special state concern are more likely to be down-zoned.

match properties. They compare properties that have the same levels of these characteristics and conclude that a difference in land value is caused by the presence of a down-zoning policy.

Zoning regulations can be used on agricultural and forested land to conserve large plots of open space; on the Eastern Shore in Maryland, the down-zoning did not negatively affect land value for parcels in the use-value taxation program when compared to similar parcels that were not down-zoned.

It's well known that location plays a role in land value (location, location, location), but it can also have an effect on the impact that down-zoning has on land value. For example, some studies have shown that low-density zoning regulations have a negative impact on small properties near employment centers, while they have a positive impact on large properties in rural areas. Therefore, the effect of location is also an important factor to include in the analysis of zoning regulation.

Drs. Liu and Lynch compare the land values of properties that are close to each other which are most likely to be similar; they compare the land values of the down-zoned parcels to the land values of non-down-zoned parcels within a small radius of a down-zoned parcel.

In addition, Lynch and Liu look separately at resource land and non-resource land. They define resource land as land that receives preferential taxation from the Maryland

Department of Assessments and Taxation; only agricultural and forested land qualifies for this special treatment. People who may be ready to sell their land for housing construction might have withdrawn their land from the use-value property tax program.

Just to be sure of the results, Liu and Lynch also answer the question with a completely different approach, to see if they get the same estimates. Rather than comparing similar properties, they include variables that are closely related to the existence of zoning regulation but do not directly affect land values. For example, the political power of the community affects the chance of a down-zoning policy being put into place, but it does not affect a property's market value. So if they find that political power has an effect on land values, it must be the

A Snapshot of the Situation

- Down-zoned land parcels have a lower average price per acre, larger acreage, lower population density, higher average household income, a slightly lower percentage of owner occupied housing units, and are farther from Washington DC and Baltimore than non-down-zoned parcels.
- Down-zoned and non-down-zoned parcels had similar land uses when measuring the percent of cropland or forest on each type of parcel.
- Down-zoned parcels have more wetlands and habitats for species of special state concern.
- Large parcels with more forest land and without public water are more likely to be down-zoned.
- A higher percentage of soils were characterized as having high permeability and high runoff potential on down-zoned property.
- They are less likely to be down-zoned if there is high population density and more senior citizen residents.



Dr. Lori Lynch



PHOTO: EDWIN REMSBERG

Down-zoning decreases the number of houses permitted on land used for agriculture or forestry, which can make it less profitable to convert land out of an agricultural or forest use.

case that zoning regulations have that affect on land values. Lynch and Liu include the percentage of long-term residents as a measure of community political power, the percentage of wetlands and relatively flat land as measures of ecological and agricultural value, the percentage of the property in low-density residential use as a measure of developmental pressure, and development capacity.

They find that down-zoning has no impact on the land value of resource parcels, but it decreases the value of non-resource land by 20%-50%. The down-zoned non-resource parcels are more negatively affected when they are near down-zoned resource parcels. For resource land, the benefits may outweigh the costs. Limited negative side-effects of non-farm neighbors

maintain the viability of agricultural use on the land. Maintaining the land as it is or at least limiting the number of houses that can be built on it also creates open space benefits for the surrounding properties. If the land is developed after being down-zoned, it is more likely to be developed into upscale estate homes. Because the value is unaffected, zoning regulations can be used on agricultural and forested land to conserve large plots of open space without negatively affecting landowners' equity. ■

For more information about this research, contact Dr. Lori Lynch at 301-405-1264 or llynch@arec.umd.edu.



**University of Maryland
Department of Agricultural
and Resource Economics**

Symons Hall, Room 2119
College Park, MD 20742
www.arec.umd.edu
(301) 405-1293