

## **Evaluation of Agricultural Land Preservation Programs (23)**

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Since the late 1970's, farmland preservation programs have existed throughout the United States. More than 124 governmental entities in the United States have implemented farmland preservation programs and over 1.67 million acres are now in preserved status. The main goal of these programs is to slow the conversion of agricultural lands to other uses. The programs result in an easement becoming attached to the agricultural land that restricts the right to convert the land to residential, commercial, and industrial uses. The landowner is provided with a cash payment and/or tax benefits for participation.

While some evidence exists that these programs provide net benefits to society, including open space provision and associated ecosystem services, little evaluation has been conducted on their impact on farmland prices or on farmland retention. Economic theory predicts that agricultural easement will reduce the sales price of a farm. Therefore, it was surprising when Nickerson and Lynch (2001), using sales data for 223 farms (20 with easements) in Maryland during 1994-1997, found little evidence that easement restrictions affect sales price. Their results suggest that the program is not having the desired effects of making farms more affordable for beginning farmers while not over-paying for development rights.

In a recent paper (Lynch, Gray and Geoghegan, 2007), we use an expanded dataset of 3554 agricultural land transactions (243 with easements) in Maryland over 1997-2003 to re-examine the impact of agricultural easements on sales prices. Unlike Nickerson and Lynch, we find the expected result when we used a standard set of explanatory variables in a hedonic model – easements do decrease agricultural land values. These results persist, even in a quasi-experimental design approach using propensity scores to explicitly match treatment properties (those participating in the agricultural easement program) with non-treatment properties (non-participants).

However, further examination revealed a spatial disparity - nearly all the easement properties are close to at least one other easement property, while most non-easement agricultural properties are more than a mile from any easement property. This is not surprising, as one of the criteria for selection into the program is nearness to other preserved parcels: the contiguity of preserved land has the potential of increasing social benefits more than a fragmented pattern, as there could be agglomeration effects in both agricultural viability as well as ecosystem services provision. Controlling for the presence of easements on nearby agricultural land, the difference in sales price between easement and non-easement properties disappears. The non-easement properties with the highest sales prices tend not to have any easement properties nearby, suggesting that

easements are only being sought for those properties that are not in immediate risk of development.

However, these initial results are only suggestive of the importance of the role of the spatial pattern of land uses for determining sales prices in the region. In this paper, we propose to calculate and include in the econometric models other spatial measures of land uses such as fragmentation and diversity of land uses (Geoghegan, Wainger and Bockstael, 1997), in addition to distance to nearest preserved parcel, to better control for these spatial effects. We will also investigate the extent to which the programs are successful in their stated goal of preserving contiguous parcels of agricultural land.

#### References:

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