



## Are preserved farms actively engaged in agriculture and conservation?



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### ABSTRACT

This study addresses the question of whether farms enrolled in land preservation programs are actively engaged in agricultural or conservation activities. Data are drawn from an original survey administered to preserved farm owners in the states of New Jersey, Maryland, and Delaware in 2011. “Actively engaged” is defined as investment in conservation projects, buildings, equipment, or irrigation since the land was preserved. Affirmative answers to the survey’s investment questions range from a low of 19% for irrigation to a high of 69% for equipment. Special attention was paid to differences between lifestyle farmers and small and large commercial farmers, which are classified using the USDA typology developed in 2000. Regression analysis estimates differences in investment behavior across these groups as well as farm tenure categories, controlling for farm size, program/state location, and demographic variables. Only owners who employ tenants or managers exclusively on their land were found to invest significantly less than the largest professional farmers, and they did so across all four types of investment.

This study’s findings support preservation goals articulated by legislators and program administrators, because (1) agricultural and land stewardship investments appear to be widespread on preserved farms, partly due to administrators’ preference for larger parcels, (2) there is no evidence that “hobby farmers” are disproportionately attracted to farmland preservation programs – in fact the opposite seems to be true – while those that exist in our sample behave similarly to the largest commercial farmers, (3) although tenant farming is associated in the sample with lower rates of investment, it is less common on preserved farms than on all farms in the three study states. The matter of land tenure, highlighted in this as in other studies, has not yet become a primary focus of either farm-behavioral research or state agricultural policy.

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### Introduction

In countries throughout the world, the preservation of prime farmland in the face of urbanization remains a high priority goal, albeit one that is difficult to achieve (Alterman, 1997; Nelson, 1990;

Bengston et al., 2004; Prokop et al., 2011; Lichtenberg and Ding, 2008; Verzandvoort et al., 2009). Because North Americans are especially protective of the development rights traditionally held by landowners, they have pioneered voluntary farmland preservation programs, including some that involve a significant outlay of public funds. Twenty-seven U.S. states have state-level farmland preservation programs in which the government purchases either land or its development rights in the form of conservation easements (American Farmland Trust, 2013). In both of these cases, the state legally prevents development. When only the development rights are sold, the landowner and all subsequent owners have a contractual restriction on development written into the deed

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of ownership. This is the most common approach to permanent preservation taken by states in the U.S. (Daniels and Bowers, 1997).<sup>1</sup>

Understandably, U.S. states with rapidly growing megalopolis-scale development are at the forefront of farmland preservation. The present paper will evaluate farmland preservation programs in three of these states: New Jersey, Delaware, and Maryland. These states lie on the busy northeast transportation corridor that connects New York City to Washington, D.C. In this paper, we evaluate farmland preservation programs not on the number of acres they preserve, but rather on the nature of activities taking place on the land after preservation. To this end, we report original survey data on investment activities. These include investments related to the environment, like soil conservation, and those related to agricultural production, like irrigation and the construction of farm buildings. These post-preservation investment activities have significant environmental, landscape, and economic effects. They should be of considerable interest to both farmland policy makers and land use planners, although they are little studied.

Post-preservation investment activity will also be evaluated through the lens of a standard U.S. federal farmer typology that includes categories such as full-time farmer, lifestyle farmer, and retired farmer, as well as scale of operation (Hoppe et al., 2000). A large literature exists on the relationship between on-farm business decisions and farm or farmer characteristics that include all of these traits, as well as tenancy/absentee ownership (Soule et al., 2000; Lambert et al., 2007; Wilson et al., 2013). A significant subset of this literature is concerned primarily with conservation or environmental practices (Clearfield and Osgood, 1986; Tavernier and Tolomeo, 2004; Soule, 2001; Sassenrath et al., 2010; Petrzela et al., 2013). In fact, most studies in agricultural economics that focus on traditional capital investments like equipment and buildings are designed to test hypotheses about financial decision-making or federal farm policies. This makes them less useful as background for an analysis of farming and stewardship behavior across operator types (see, e.g., Weersink and Tauer, 1989; Gustafson et al., 1988; Feder et al., 1992; Elhorst, 1993).

A separate literature explores the political determinants of farmland preservation programs, as well as their impacts (Daniels, 1999; Nickerson and Hellerstein, 2003; Kline and Wichelns, 1996; Heimlich, 2001; Duke and Ilvento, 2004a; Sokolow, 2006; Towe et al., 2008; Lynch and Musser, 2001; Lynch and Liu, 2007; Liu and Lynch, 2011). The bulk of this literature, however, evaluates farmland preservation programs on the basis of land preservation alone, rather than on post-preservation activities by owners or tenants. A rare exception to this rule is Lynch (2007).

One obvious topic of study within this literature is the ability of a preservation program to reduce rural-urban spatial fragmentation and contribute to farmland 'critical mass' (Daniels, 1999; Daniels and Nelson, 1986; Brabec and Smith, 2002; Nickerson and Hellerstein, 2003; Lynch and Carpenter, 2003; Sokolow, 2006). Researchers have also looked at the impact of deed restriction on post-preservation land prices, reasoning that significantly lower prices could induce a new generation of farmers to buy and farm land (Nickerson and Lynch, 2001; Lynch et al., 2007; Anderson and Weinhold, 2008; Stobbe et al., 2009; Schilling et al., 2013). Finally, a few authors have looked at parcel and landowner characteristics that affect the likelihood of participating in preservation programs

(Duke, 2004; Lynch and Lovell, 2003; Duke and Ilvento, 2004b). For example, Lynch and Lovell (2003) found that the likelihood of participation increases with farm size, growing crops, if a child plans to continue farming, and the share of income from farming.

All but missing in the farmland preservation literature is the question of whether today's post-preservation owners are actively engaged in farming or environmental stewardship activities. Such activities are encouraged, but are not generally required, by the deeds of easement and by the programs' founding statutes. Furthermore, if some owners of preserved farms are actively farming (or conserving) and others are not, we have little idea what kind of farmer/owner falls into these two groups. This kind of information could help policy makers target preservation activities to particular types of landowners in the future.

This gap in the agricultural economics and land use policy literatures is surprising in light of the fact that: (1) state level conservation easement programs have protected more than 2.37 million acres nationwide, (2) as much as 28% of all farmland in a heavily urbanized state like New Jersey is currently subject to permanent deed restriction, and (3) active agriculture and the continuing supply of local food is an important goal of the legislation that set up state farmland preservation programs in the first place. As public budgets have gotten tighter since the 2008 recession, and residential construction has slowed, it is only natural that farmland policy makers turn at least some of their attention away from land acquisition and toward issues of post-preservation stewardship and production.

This article bridges the literatures on the policy impacts of farmland preservation programs and the agricultural investment behavior of different types of farmers. With the help of a customized survey dataset, its goal will be to address the increasingly important issue of stewardship – whether for ecosystem services or for local food production – on permanently preserved farms.

## Theoretical predictions

A major theoretical prediction is that farmland preservation will increase land-oriented investment by eliminating the so-called "impermanence syndrome" that causes landowners to stop making investments on land that is expected to develop within a short time horizon (Heimlich and Anderson, 1987; Adelaja et al., 2011; Lopez et al., 1988). In theory, permanent deed restriction could cause a farmer who had previously intended to stop investing to begin doing so.<sup>2</sup> In practice, farmers who enter preservation programs know very well that their time horizons in agriculture will be extended. They are either already comfortable with this fact (Lynch and Lovell, 2003; Duke and Ilvento, 2004b); or they may plan to exit agriculture and sell the restricted parcel to somebody who is intentionally buying permanence. From the policy makers' point of view, it does not matter much whether the owners of preserved farms assume a long investment horizon before they enter the program, or afterwards. In either case, the theoretical prediction is for greater agricultural investment on preserved farms than on unpreserved farms when both are located in rapidly urbanizing areas.

A second theoretical prediction runs in the opposite direction and is based almost entirely on a selection rather than a treatment effect. It could be that so-called hobby or lifestyle farmers are disproportionately attracted to farmland preservation programs because they have a strong preference for rural landscape preservation rather than production (Layton, 1978; Primdahl, 1999; Gill et al., 2010; Lynch and Lovell, 2003). Full-time farmers, focused more on profitability, may lack this strong preference. This is not

<sup>1</sup> In contrast to most European countries, the U.S. federal government pays little attention to farmland preservation, largely because farmland is not regarded as especially scarce at the national level (Fischel, 1982; Tweeten, 1998; Eitel, 2003). The Farm and Ranch Lands Protection Program of the Natural Resources Conservation Service (Eitel, 2003) does provide some funding to programs run by states or sub-state agencies. States take the lead, however, and being as large as some European countries, they are proper units for inter-continental comparison.

<sup>2</sup> See also Towe et al. (2008), who found that merely having the option to put a farm into preservation may delay development.

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