



Groundwater Contamination and Property Values: A Hedonic Price Analysis

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Introduction

About 15% of the United States population (43 million) relies on private domestic wells for their source of potable water (USGS 2019). Within this 43 million, about 2.5 million of these domestic well users live in Florida, which is roughly 12% of Florida’s population (IFAS 2021). This water is not regulated by the Environmental Protection Agency, and as a result, the water in these wells can contain harmful contaminants (e.g., arsenic, nitrates, and nitrites) that go undetected by homeowners unless otherwise tested. This research examines the link between harmful contaminants found in well water and property values.

Background & Data

- Florida’s strong agricultural industry means increased fertilizer usage for produce production. This makes the state more susceptible to contamination (EPA 2024).
- The soil found in Florida is also naturally sandy and extremely low in organic material, resulting in leaching and low nutrient levels, resulting in the increased need for usage of fertilizer, manure, and other forms of nutrient provisions to plants (IFAS 2021).
- Homeowners in Florida can have their wells tested for contamination free of charge through the Florida Department of Health.
- I use a dataset of housing transactions (n=3,908) in the Orlando, Florida Metropolitan Statistical Area to examine the impact of testing well water on the property value at time of sale.
- In Florida, not all homes with wells are tested before sale. I address the possibility of selection bias by using a subsample of homes from this dataset (n=1,566) that had all tested their well water before being sold. Using a hedonic pricing model, I test the impact of a well water test finding a contaminant above the detectable limit on sales price , controlling for housing characteristics, geospatial characteristics, and the date of sale.

Distribution of Full Data Sample

