Impact of onsite wastewater treatment on communities and the rural economy

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Mark Partridge
Swank Chair in Rural-Urban Policy
Dept. of Agricultural, Environmental, and Development Economics
Partridge.27@osu.edu
http://aede.osu.edu/programs/Swank/
Outline: I am aware of no study of this issue—but economics is helpful

1. Motivate the reasons to be worried about OH economic development and competitiveness
2. How should regulations be set?
3. What is community development?
4. How will proposed regulations affect rural OH’s economy?

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Ohio's underperformance is well known, but changing this picture is paramount to improving our incomes, jobs, retaining jobs, AND attracting investment.
Ohio in purple. In mid '50s, OH was almost 10% above U.S. average—today, OH is almost 10% below the U.S. average.
OH compared to U.S. and our Great Lake State peers (Rust Belt). Great Lake States all have a manufacturing history, settlement history and weather that drives Sunbelt migration. So doing worse than them is particularly alarming for Ohio’s future.
Nonmetro OH's performance is not so bad since 1990 compared to the U.S. and GL state averages. Metro OH is where OH's recent problems are concentrated.
Summary of OH conditions

- Popular stories for OH’s lagging performance are insufficient.
- Ohio lags Great Lakes—i.e., not just manufacturing; not climate; not location.
- What about taxes, regulations, education, government, quality of life?
  - The reason for my talk
Within Ohio rural trends.

◊ A key feature is proximity to the core of one of Ohio’s largest 5 cities or its many urban areas.
  ➞ Commuting patterns show this pattern.
  ➞ Growth does not respect county borders.
This map further illustrates the rural-urban interdependence in terms of our livelihood. We can't separate rural from urban Ohio. Also, this overlooks all of the commuting from urban area to urban area and rural area to rural area—that further suggests linkages.

Notes
The above map shows commuter flows to any urban area.
Definitions:

“High” commuting: More than 30% of the residents living in the census tract commute to any urban area for work.

“Low” commuting: Less than 30% (more than 10%) of the residents living in the census tract commute to any urban area for work.

“Extremely Low” commuting: Less than 10% of the residents living in the census tract commute to any urban area for work.
Conclusion: Economic Development is a concern

- Regulations need to consider this.
- Rural OH is increasingly the home to residents who commute and work elsewhere.
- Regulations that affect the cost of homes and quality of life may affect this dynamic.
I am not a scientist, so I cannot “professionally” state whether the proposed septic regulations meet this criteria. But, this is how regulations should be determined. In my environmental economics class, I teach how gov’t should measure these costs and benefits.

For more details, see:

What is community development

◊ People vote with their feet.
  ➤ Population/employment growth is a good sign that new residents find a location desirable—most popular indicator
  ➤ Wage and income growth
  ➤ Low poverty rates
  ➤ Quality of Life
  ➤ Sustainable development—usually recognized in high/rising land values.
How would septic regulations affect the rural OH economy?

- For a community, there are some implicit economic growth benefits of a cleaner environment aside from health benefits.
- More people may want to move to those communities—increasing labor availability.
  - Amenity or Quality of Life driven growth (about one-half the cause of differential U.S. regional population growth).
  - All else constant, this would (somewhat) increase the value of homes and land.

Property taxes reduce suburban housing values unless (say) they greatly increase the value or quality of local schools.
How much are regulations capitalized:

- Land price is such where the marginal return on the land = marginal costs.
- MC includes the “costs” of taxes and regulations
  - i.e., new net “costs” in terms of regulations (or taxes) would be exactly offset by reduction in land value.
  - This would be offset by any benefits of the regulation or tax—e.g., better schools
For a septic regulation, the economic effect would be an immediate drop in land values equal to the cost of the regulation, offset by any environmental benefit received by the owner or potential owner.

- If a lot or potential lot was worth $50K and it costs $10K to put in a septic system, the land’s value would fall to $40K unless there is any offsetting environ. benefits.
- A new owner would still have $50K to develop the lot or $40K + $10K
How does this affect future growth.

Because it should be capitalized into current land values, new septic regs should not greatly affect future growth.

- Why? The gross cost of land does not change for a NEW buyer, it does not affect new residents/businesses’ willingness to live in the community or purchase land.

- If it eliminates an unsustainable environmental situation, such regulations may even be necessary for future growth.

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Again, in reading the slides, note that I cannot assess whether the current proposed regulations are optimal.
Moral:

- Regulations that primarily affect land values have much less impacts on future growth.
- Different story if this was a regulation that directly affected capital investment.
  - Ex: an air pollution regulation that affected a factory may induce the owners to locate elsewhere.
  - You can’t move land.
Who loses from septic regulations?

- Many (Most?) current affected land owners would lose.
  - Especially owners of land at the margin of commercial and residential development in the foreseeable future.
- They lose to the extent that they do not realize environmental benefits that would offset the cost of the new septic system.
- The community will suffer losses if the regulation is either too lax or too strict.

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Other effects

These regulations could reduce community growth in some less likely cases.

- E.g., a farmer who would now rather ‘farm’ than receive the lower land price and develop the land commercially or residentially— “marginal” case(?)
- I am ignoring greenspace or sprawl issues
- E.g., the regulations are viewed as a signal of additional future regulatory takings.
Summary

- Ohio is economically struggling and needs to weigh growth carefully.
- Septic regulations should be designed by weighing their costs and benefits.
- Winners would include those who gain from a cleaner environment.
- Losers would include current landowners who do not greatly benefit from a cleaner environment.
- Growth is unlikely to be affected

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Thank you

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