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Land-use Change, Resource Competition, and Conflict: Discussion

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While it probably is not possible to cover comprehensively all the major resources issues in the South as we more into the 21st century, these three papers, taken together, give us a fairly good glimpse at some of the resource issues likely to dominate discussion in the next decade.

I propose to take them up one at a time and then to close by trying to consider them altogether.

Land Change and Competition in the South

John Reynolds' paper gives us an overview of a set of issues that concerns a great many people—loss of agricultural land and sprawl in the wake of the South's urbanization.

It may well be that the most important change in the South in the second half of the 20th century has been urbanization. The region that so long was rural has changed fundamentally. That in itself would have brought about major land-use changes. Yet the South could have accommodated increased population without the major land-use changes that Reynolds documents in this paper under a different sort of urban population growth. Something else has been going on that economists understand.

So without meaning to be critical of Reynolds' paper, I want to elaborate upon something that he has not discussed yet that needs attention. What has been driving land-use change in the South as much as population growth has been a transportation system that allows urban workers to live at considerable distance from their urban work sites.

Put in the Thunen framework, what we have been seeing in the last 50 years is not only an increase in the premium on being located in the urban center which pushes up the point where the rent gradient intersects the vertical axis. We also have seen a decline in transport costs which reduces the slope of the rent gradient curve. That causes the influence of urban factors on land prices and land use to be felt farther and farther from the urban core.

Based on some of the last research I did before retiring, the result has been that in many states from Virginia down to Florida and around to Alabama the price of land has been big up to the level that it is not possible with existing production technology to anticipate as much as a 4-percent return on land in most traditional row crops (Hite, Terrell, and Lu, 1999) . Not a single county is left in Virginia where such returns seem probable based on average land costs. There are only a few in extreme eastern North Carolina and four in South Carolina. The influence of Atlanta on land prices reaches down almost to Macon, and, suprisingly, at least to me, there are also very few counties left that seem likely to allow a 4-percent return in Alabama. Only in the Mississippi Valley where yields are high and urban influences minimal are substantial areas left where land prices are low enough to make production of cotton, corn, and soybeans yield a 4-percent return on land.

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This is a result not solely of urbanization, but also of falling real commodity prices. With higher cotton, corn, and soybean prices, some land that now does not appear profitable for traditional row crops would become so. Nor does it mean that the production of traditional row crops will cease immediately on land that is not priced too high for profitable production. Asset fixity will serve to keep some of that land in production for some time.

Production agriculture will not disappear from the areas with higher land prices. Yet the type of production agriculture which survives will need to be high-value enterprises that can yield high returns per unit of land. It probably will also require a new type of producer who is entrepreneurial and nimble and astute at niche marketing, hence implications for the kind of education we offer to the next generation of agricultural students.

Natural Capital and Regional Landscapes

Many of us who were in graduate school a long time ago were cautioned that capital was not homogeneous and then the matter was dropped. In recent years we have seem a number of attempts to attack that problem by defining various classes of capital. Thus we have had human capital, social capital, civic capital, and now John Bergstrom introduces the concept of natural capital.

Actually, the concept of natural capital is not completely new. There is an implicit recognition of its existence in the work of John Stuart Mill. Bergstrom reviews the emerging literature on the concept and gives us a good summary of where that work stands.

It seems fair to say that the concept of natural capital, like that of some of the other types of capital, is still fairly fuzzy. If it is to be as useful as the concept of human capital has proven to be, there will be a need to define it in a way that lends itself to measurement.

Nevertheless, the concept of natural capital, even in its present form, has some usefulness. It is particularly interesting to those of us concerned with rural development because natural capital clearly is what many rural areas have in relative abundance and which might be an important asset in their economic futures.

Bergstrom begins to point in that direction with his discussion of natural capital values and the quality of life in different landscapes. I found the examples used here to be very helpful in illustrating the significance and possible analytical usefulness of the concept. It is a good use of classical economic concepts to point the way toward what might be very fruitful research.

Another useful concept developed in the Bergstrom paper is the role of natural capital both in commodity production and in providing amenities. I will return to this point in my closing because I think it cuts across all three papers.

If I have a criticism of Bergstom's paper, it would be in what I think is an over-emphasis upon the non-rival, non-exclusive nature of the beast. To be sure, much natural capital is non-rival and non-exclusive. Yet that fact may not always be relevant. Natural capital such as climate or scenery is tied to places, or regions, and can be purchased in the market by moving or visiting those places. That opens the door to analysis of revealed preferences of tradeoffs implicit in migration and tourism data, and may, at least in some instances, provide a means for beginning to measure natural capital in monetary terms. In fact, a basic methodology for doing just that has already been largely worked out (Greenwood, Hunt, Rickman and Treyz, 1991).

The agenda now is to figure out how to refine the concept of natural capital and use it in our research. What can we do with it? I have no doubt that eager and ambitious graduate students will begin to provide us some answers to that question in the next few years, and I look forward to seeing what they come up with.

Resource Valuation and Reservoir Management

Hatch and Hanson offer us what is a very different paper from the other two, yet still one that fits in well in the overall picture of the

changing nature of resource conflicts in the South.

The Hatch and Hanson paper is a report of empirical research using fairly sophisticated tools of valuation to examine the growing conflicts over how reservoirs are to be managed. As they note, many of the larger reservoirs in the region were built initially for flood control, hydroelectric power generation, and perhaps navigation. But as time has passed, these reservoirs have become meccas for retirement development and recreational uses. Again, the shift has been from using reservoirs as inputs into further production to using them as amenities. As that shift has occurred, it has become increasingly apparent that the traditional uses can come into conflict with the newer amenity uses.

Hatch and Hanson have shown us how economists can play a role in providing information needed to deal with these conflicts. Theirs is a virtuoso performance of what it is that good resource economists now know how to do in estimating non-market values. It is applied research at its best.

Yet Hatch and Hanson also warn us not to be naïve. While the information that such research can produce is useful and valuable, the resolution of conflicts over reservoir management involves more than objective economics and becomes a battle of interests.

Since economics has often been accused of being an imperialistic science, I see no reason why applied economists should not also begin a systematic analysis of that battle of interests using the tools of public choice theory. That, too, is an agenda item for bright and ambitious graduate students to pursue in the next few years.

Concluding Comments

Let me conclude by observing that all three papers really deal with the changing nature of conflicts over resource use in the South as the region grows richer and urbanizes. At the risk of some over-simplification, it is, in essence, a conflict over the use of resources as commodities in production processes versus their use to satisfy the demands for amenities that are consumed directly.

These conflicts are likely to grow. They are likely to grow because the income elasticity for commodities is probably less than the income elasticity for amenities. They are likely to grow because in a global economy, particular locations are less dependent for survival upon use of local resources as commodities. And they are likely to grow because an urban population has no reason to understand as completely as it might the trade offs that continue to exist between use of resources for things such as energy production and the quality of their lives.

For that reason, these three papers, all well done, are indicators of the general flow in the agenda of issues that resource economists in the South, and in other regions, will need to address in the coming years. There are many other similar issues—conflicts between agriculture and wildlife, the continuing battles over stream quality and agricultural run-off, clear cutting in National Forests—that all have elements of this conflict between resources as commodities and resources as amenities.

For non-resource economists these three papers are indicators of the type of work that their colleagues in resource economics are likely to be consumed with in the next few years. Aside from the intrinsic value of the substantive content of the papers, therefore, they are valuable as harbingers of where the field of applied resource economics appears to be headed.

References

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