The economics of land use

A scenario

We have two 100 acre farms. One is located in a remote rural area and is valued at $1,000 an acre. The other is located at the urban edge and is valued at $25,000 an acre.

Which one should a farmer be interested in farming?

It would be more profitable to farm the $25,000 an acre land because the farmer can leverage the land value into borrowing or access to credit to buy new technologies or diversify into new crops. The risks of doing so are minimized because this farmer has the fall-back position of the high value of the land.

The farmer at the urban edge gains from the equity protection provided by high land values to engage in riskier decisions with respect to the farm business by operating the $25,000 an acre land.

What is the economic balance sheet of urban growth?

There are several different ways to think about the economic balance sheet of urban growth. What we choose to enter into the ledger sheet depends on how we look at the situation and what we value. To begin, let us consider a strict accounting of the taxes generated and the cost of services provided arising from urban growth. Then we will look at other ways of assessing the economic benefits and costs of growth.

The argument has often been made that residential growth generates new income for the community through higher property taxes. This is true. As land is converted from lower property tax value use (agricultural land) to higher property tax value use (residential, commercial, industrial land), communities do generate more income from property taxes. However, this only looks at one side of the balance sheet.
Property taxes are the primary source of local income to support a host of community services (e.g., police and fire protection, education) and the construction and maintenance of local infrastructure (e.g., roads, water and sewage treatment plants, parks). These represent the expenditure side of the local government balance sheet. So, a fuller assessment of the ratio of taxes generated to the cost of services provided requires examining both the property tax revenues generated by new urban development as well as the expenditures required to support the services and infrastructure required by new development.

There are a growing number of fiscal analyses of the monetary costs and benefits of different types of land uses to local communities. These studies compare the property tax income generated by parcels of land with the costs of delivering a package of community services to the users of these parcels. While the specific dollar values vary, the conclusions of community-based economic studies in Pennsylvania, Massachusetts, Connecticut, New York, Florida, and California are the same: *Residential land uses cost more in government provided or subsidized services than they generate in property tax revenues and service fees, while agricultural land uses generate more in property tax revenues than they cost in services.*

More specifically, these studies indicate that for every one dollar of tax revenue generated by farmland, between 21 and 48 cents of community services must be provided. On the other hand, for every one-dollar of tax revenue generated by new residential land, between $1.05 and $1.36 of community services must be provided. Like agricultural lands, commercial and industrial lands represent a net income flow for local communities, demanding between 18 and 44 cents of services for every one-dollar of generated revenues. Thus, agricultural and commercial/industrial lands have a net positive monetary effect on a community's budget while residential lands have a net negative monetary effect.

What is the basis for this difference? While the new homes have substantially higher value than the farm land they displace, the property taxes and service fees generated by these new homes typically are not sufficient to cover the cost of the government-provided services demanded and expected by the residents of these new homes. Studies indicate that the single largest service cost from residential growth is for the provision of educational services (e.g., transportation, classroom space, faculty and staff), and the next set of service costs are for water and sewage treatment. The cumulative effect of these service needs is what leads to the net monetary costs to a community when farmland is converted to residential uses.

Are there other ways to think about the economic impact of urban growth beyond this simple taxes generated to services provided analysis? Absolutely, and these other economic impacts illustrate why arriving at a firm conclusion on the economic outcomes of urban growth is so complex.

Communities with business license fees and occupational taxes capture additional revenues from commercial and industrial growth on top of the increased value from converting agricultural land to these urban uses. Urban growth also means new construction that pumps considerable dollars into the local economy. Residential growth also brings new consumers to the community, but their impact depends on whether they spend their consumer dollars locally or elsewhere. Finally, there are multiplier effects from the wages paid to local employees of new businesses, consumer dollars spent in the

community, as well as purchases of goods and services within the community by new businesses. These other economic impacts (wages paid and consumer sales) from new commercial and retail businesses may be offset if existing businesses in the community experience losses.

A final issue related to the economic balance sheet for growth and its resulting land use changes is to ask: How do the economic costs and benefits apportion out between the public and private sectors of the community? Only the property taxes, business license fees and occupational taxes come to the public sector, all other economic benefits accrue to the private sector. Indeed, a fiscal analysis of agricultural land conversion in the San Joaquin Valley of California concluded that the economic benefits are short term, as new monies for construction, typically borrowed from outside the community flow in and stimulate multiplier effects within the private sector. However, once construction ends, borrowed monies must be repaid, shifting the flow of these monies out of the community. Then, the new residents arrive and stimulate residential demand for government-provided services. The community is then left with the marginal costs of providing services to the new residents.

Thus, there are several different ways of evaluating the economic impacts of urban growth, each depends on what we choose to emphasize and how we evaluate the outcomes. For example, we might conclude that the public sector is most likely to experience net costs while the private sector is most likely to experience net benefits. Is this necessarily desirable or undesirable? It depends on your point of view. If I work for a local construction firm, I am pleased to have increased opportunities to work. But if I own a local business I may be wondering how I can survive because my customers now go to the new shopping mall. If I am the tax assessor, I am pleased by the increased revenues that come from growth. But if I manage the local water treatment plant, I may be wondering how I am going to meet the demand for more capacity on my current budget. The economic reality of urban growth is that public sector costs can become private sector costs, if to expand the capacity for water treatment we increase user fees. Similarly, private sector gains can become public sector gains, if to meet the demand from new customers the bank opens a new branch and hires new employees who pay occupational taxes.

Is it inevitable that the public sector will experience net economic costs from urban growth and its accompanying land use changes? Not necessarily. Our traditional method of financing community services is through property taxes and to a lesser extent, user fees. This method is based on all property owners and/or users paying for the average costs of the services. However, if urban growth leads to a need to expand capital facilities or service capacity (i.e., add new schools, hire new police officers, build more capacity in water or sewage treatment plants), these marginal costs are shared by all property owners and/or service users, leading to higher average rates. If these marginal costs

were shifted to the residential, commercial, or industrial units whose development necessitated the expansion of facilities or services to compensate for higher demand, then the monetary impact of urban growth on the public sector would be minimized. Development impact fees are one tool local governments can use to recapture some of the public costs of urban growth.

For more information on this topic see:

American Farmland Trust, in particular their cost-of-service studies

The Southern Rural Development Center _in particular:
Land use at the edge: The challenges of urban growth for the South (August, 2000) by Lori Garkovich
Population, employment, and mobility in the rural South (February 2004) by Mitch Renkow