

Market forces and urban expansion

Panel Contribution to the PERN Cyberseminar on Urban Spatial Expansion by Elena Irwin, Department of Agricultural, Environmental and Development Economics, Ohio State University, Email: irwin.78 @osu.edu

Economic growth and urbanization are inextricably linked. Economic growth often implies the conversion of rural land to urban uses (residential, commercial and industrial) as regional economies transition from an agrarian-based economy to an urban economy based on industry and services. This process occurs in urban areas of developing countries undergoing structural economic changes as well as in exurban (or peri-urban) regions of developed countries that are impacted by economic growth of proximate urban areas.

On a global scale, changes in information, production and transportation technologies have had profound effects on urbanization. To the extent that these changes substitute for geographic proximity, they have vastly reduced the need for face-to-face communications and have greatly increased the mobility of goods, services, labor, technology and capital throughout the world. This marked increase in the pace of globalization has spurred rapid economic growth in many developing countries. Institutional changes, including the transition of socialist regimes to more market-based economies, have also fostered rapid economic development in these countries.

Massive inflows of capital and foreign direct investment (FDI) have transformed urban and rural areas in many developing countries. For example, FDI in the Pearl River Delta region of China has resulted in the transformation of a rural-based economy into an industry-based export economy that is characterized by labor-intensive production processes that consume large tracts of land and that has spurred substantial rural-urban migration. Spatially, this production has favored smaller urban places and their proximate rural regions and thus the predominant growth pattern has been a more equal level of urbanization across the region coupled with a declining importance of the primate regional city (Sit and Yang, 1997). Other determinants of growth in peri-urban areas of China include the rising incomes of a growing class of suburban professionals that seek to escape urban congestion as well as the economic reforms that have allowed rural residents to be more responsive to market forces when making land use decisions (Leaf, 2002). The extension of cities into larger exurban regions has been documented in other parts of Asia as well (e.g., McGee and Robinson, 1995). The trend in the growth of smaller urban centers and the emergence of a polycentric urban structure is typical of urbanization patterns in many Latin American regions (Gilbert, 1993). Other empirical evidence of globalization effects on urbanization include the increasing economic segregation among households (e.g., Calderia, 2000 in Sao Paulo, Brazil) and the increasing spatial differentiation of land uses (e.g., Leaf, 2002 in peri-urban areas of China and Vietnam).

Globalization has spurred urban economies in developed countries to become increasingly service-based with an emphasis on knowledge creation. Former urban

industrial centers as well as rural manufacturing-based economies have faced tough transitions as transnational corporations have relocated production and capital investments to developing countries. Some rural areas have established themselves as recreation-based, amenity-rich economies in which high value environmental amenities serve as an attractor of new population growth and economic development (e.g., Shumway and Otterstron, 2001). Examples in the U.S. include Taos, New Mexico and Aspen, Colorado. Given their emphasis on maintaining high valued environmental amenities, the resulting urbanization of these areas presents a challenge for sustainable economic development.

Although increased globalization has clearly had very different effects on urbanization patterns in developed vs. developing countries, the regional effects of some of the main underlying factors (advances in telecommunications, transportation and production technologies) are similar. In both developed and developing countries, there is much evidence to suggest that substantial decentralization of urban areas has occurred (Mieszkowski and Mills, 1993; Irwin and Bockstael, 2004). The benefits of agglomeration have been substantially eroded by information technologies that provide a substitute for face-to-face interactions and by transportation networks that make outlying areas easily accessible. Such changes have also fostered economies of scale in production and distribution networks, which favor large facilities that consume large tracts of land. All of these factors have resulted in a deconcentration of firms away from the central city. Households have also taken advantage of lower transportation costs by moving outward and consuming more land in outer suburban and exurban areas. In addition, urban ills (such as declining schools and public services and rising crime rates) have pushed higher-income households away from central cities into more homogeneous outer suburban and exurban locales, resulting in increased economic segregation and higher rates of per capita urban land consumption. In the U.S., the system of local public financing, which is based on local property taxes, has greatly exacerbated this pattern of household sorting and suburbanization (Brueckner, 2000).

While urbanization is very often the result of economic growth, it also occurs in the absence of economic growth. For example, many metropolitan areas of the U.S. are still urbanizing land despite little or no population growth in recent decades (Fulton, et al. 2001). This is largely the result of the same urban deconcentration forces discussed above, many of which can occur independent of regional economic growth. In the developing world context, some scholars have suggested that sub-Saharan Africa is a country in which urbanization has occurred to a large extent independent of economic development. For example, some evidence indicates that urbanization in sub-Saharan African cities occurs largely in peri-urban regions, is mainly residential rather than production-based and is driven by domestic investment and migrant's remittances (Briggs and Yeboah, 2001).

It is interesting to note the common urbanization trends that have been documented in many developed and developing countries, including urban deconcentration, peri-urban development and the emergence of a polycentric urban spatial structure. Of course, these processes are also differentiated by their institutional settings and a myriad of policies

that cause urbanization patterns to differ from country to country and region to region. Nonetheless, it is clear that the same underlying forces that have accelerated the pace of globalization (in particular, information technologies and transportation changes) are also contributing to fundamental changes in urban spatial structure at regional levels within many countries, both developed and developing. In addition, some similarities among household location decisions are apparent: as incomes rise, households often move outward to escape congested urban areas and to consume larger tracts of land. There is some evidence to suggest that these processes have led to increased economic segregation within metropolitan areas in both developed and developing countries while simultaneously leading to a greater integration of urban and rural areas.

These new forms of urban spatial structure that are typified by lower densities, polycentric cities and, in some cases, “leapfrog” patterns of development have substantial impacts on local public finances, environmental goods and social structures. Studies from the U.S. on the “costs of sprawl” provide evidence that the public service costs associated with current sprawl patterns of development vs. more compact development patterns are substantially more (e.g., up to 250% of the costs associated with more compact forms). In addition to higher rates of natural and rural land conversion, low density, non-contiguous development patterns can erode local economies of scale in rural economic activities, e.g., agriculture, and have negative impacts on many (although not all) wildlife habitats. Counterarguments in support of sprawl point out that lower density development promotes more affordable housing and that low density, polycentric urban structures have allowed for the growth of urban areas without significant increases in commuting times.

Finally, it is interesting to note that urbanization patterns also influence economic growth. While a variety of factors influence economic growth, a commonly held view is that it results from productivity gains due to technological innovations and investments in human capital. Endogenous growth theory (e.g., Romer, 1986; Lucas, 1988) argues that the accumulation of knowledge is the key determinant of economic growth and that knowledge spillovers, e.g., in the form of information exchange among firms, create positive externalities that generate growth among all firms. Because such spillovers (or more generally, agglomeration economies) are often a function of spatial proximity, the geographic distribution of firms influences economic growth. Likewise, negative spillovers from urbanization, including congestion and high land rents, may deter firms from locating in larger cities and thus have a dampening effect on economic growth in these places.

References

Briggs, J. and I. Yeboah (2001). Structural adjustment and the contemporary sub-Saharan African city. *Area* 33(1): 18-26.

Bruecker, Jan. 2000 “Urban Sprawl: Diagnosis and Remedies,” *International Regional Science Review*, 23(2): 160-171.

Calderia, T (2000). *City of walls: crime, segregation and citizenship in Sao Paulo*. Berkeley: University of California Press.

Fulton, W., Pendall, R., Nguyen, M. and Harrison, A. (2001) *Who sprawls the most? How growth patterns differ across the U.S.*, Brookings Institute, Center on Urban and Metropolitan Policy, Washington DC.

Gilbert, P. (1993). Third world cities: the changing national settlement system. *Urban Studies* 30: 721-40.

Irwin, E. and N. Bockstael (2004). *The Spatial Pattern of Land Use in the U.S.* Forthcoming in *A Companion to Urban Economics*, R. Arnott and D. McMillen, eds. Blackwell Publishers.

Leaf, M. (2002). A tale of two villages: Globalization and peri-urban change in China and Vietnam. *Cities* 19(1): 23-31.

Lucas, R. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 12: 3-42.

McGee, T and I Robinson (1995). *The mega-urban regions of Southeast Asia*. Vancouver, Canada: UBC Press.

Mieszkowski, P. and E. Mills, 1993. "The Causes of Metropolitan Suburbanization," *Journal of Economic Perspectives*, 7(3), pp. 135-47. pp.139-144.

Romer, P. (1986). Increasing returns and long-term growth. *Journal of Political Economy*, 94(5): 1002-37.

Shumway, J. and S. Otterstron (2001). Spatial Patterns of Migration and Income Change in the Mountain West: The Dominance of Service-Based, Amenity-Rich Counties. *Professional Geographer*, 53(4): 492-502.

Sit and Yang (1997). Foreign-investment-induced Exo-urbanization in the Pearl River Delta, China. *Urban Studies* 34(4): 647-77.