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New Urban Economics and Residential Location

R Arnott, University of California, Riverside, CA, USA

Glossary

Agglomeration economies Economic forces that encourage the spatial concentration of economic activity.

Agricultural bid rent (at location *x* in use *i*) The maximum amount a farmer is able to pay in land rent per unit area at location *x*, conditional on farming it in use *i*.

Closed city A city with a fixed population, with no in- or out-migration.

Muth rule A class of formulae expressing that the difference in rent (housing or land) between two locations reflects the difference in their accessibilities.

Open city A city in which households migrate freely in and out, so as to equalise the utility between the city and the rest of the world.

Residential bid rent (at location *x* by group *i* conditional on *u*) The maximum amount a household in group *i* is able to pay in land rent per unit area at location *x*, conditional on receiving utility *u*.

Von Thünen rings Rings of different agricultural land uses surrounding a central market, reflecting differences by land use in the costs of transporting a unit area's output to market.

Introduction

What determines the pattern of land use within a city? How is the city divided spatially between residential and nonresidential land uses? And what determines the residential locations of different income-demographic groups? These are the basic questions of the new urban economics. (Note that throughout the article, 'city' denotes the entire metropolitan area.)

The 1950s and 1960s saw a general equilibrium revolution in applied microeconomics. Prior to that, most applied microeconomics was partial equilibrium analysis – the single market, diagrammatic analysis encountered in today's economic principles courses. General equilibrium analysis, in contrast, focuses on the interrelation between different markets. The (now not so) new urban economics is the manifestation of this general equilibrium revolution in the context of urban economics. Prior to the 1960s, urban economics was largely discursive, demonstrating considerable accumulated wisdom but containing little systematic theory. The new urban economics was born in the 1960s, came of age in the 1970s, and reached maturity in the 1980s. Even though there has been little theoretical development since then, the new urban economic theory remains the foundation of modern urban economics.

The method of modern applied microeconomics puzzles many noneconomists. The method is model-based. A naively simple model is constructed that focuses on the behaviour of rational and typically self-interested economic agents in a particular economic context, and that elucidates some basic economic principles. That model is then gradually extended in the direction of realism in many different ways, and is added to the kitbag of models that the applied microeconomist employs in his policy analysis. The naively simple model that provides the foundation of the new urban economics is the basic monocentric (city) model, which describes the equilibrium of residential land use around a point central business district (CBD), where all nonresidential activity occurs. The basic principle it elucidates is how land rents at different locations adjust to offset differences in transport costs. Thus, the basic monocentric model links the land market and the transport market. Augmenting the basic monocentric city model to include production, labour, housing, and local public services financed by taxes yields a self-contained urban economy, in which all its markets are interrelated.

In Europe, location theory, housing economics, transport economics, and local public finance are separate fields with separate specialists. In North America, those parts of these fields that apply to cities have been integrated under the umbrella of urban economics. This integration has been achieved through the new urban economics, with its conception of a self-contained urban economy with interrelated markets.

Intellectual Antecedents

Historically, Anglo-Saxon economics deemphasised space, and its agricultural land rent theory followed David Ricardo in focusing on differences in fertility in explaining differences in land rent and land use. Continental economics, in contrast, paid considerable attention to space, and focused on differences in accessibility in explaining differences in land rent. Almost all the major contributors to spatial economic theory were trained in the German economic tradition, and the spatial economic theory taught today in English-language universities was introduced to Britain and the United States by German émigré economists.

Johannes von Thünen is the giant among spatial economic theorists. In *The Isolated State*, he developed a general equilibrium model of an agricultural economy organised around a central marketplace. Since his work provides the foundation of residential location theory, a simplified version of his model is now presented.

Imagine a large homogeneous plain (there are no mountains or rivers, and the fertility of land and the climate are the same everywhere) populated by farmers. The plain is divided up into market areas. Each of these market areas is self-sufficient, and contains a central marketplace, perhaps a town, surrounded by agricultural land. To sell his produce, a farmer has to transport it to the closest marketplace. A farmer whose land is located closer to the central marketplace incurs less in transport costs, and is therefore willing to pay more in land rent. To start with, consider a very simple agricultural economy with a single crop and a classical technology, in which a unit of land requires a fixed number of labourers to plant and harvest the crop. The following notation is employed:

p price per unit of agricultural output
θ yield per unit area
w the agricultural wage
n the number of labourers required per unit area of land
x distance to the closest central market
e cost of transporting one unit of the agricultural good a unit distance
$\pi(x)$ economic profit per unit area of land at x
$R(x)$ agricultural land rent per unit area at x

The economic profit per unit area of land at a distance x away from the central market is

$$\pi(x) = p\theta - wn - \theta xe - R(x). \qquad (1)$$

The farmer receives $p\theta$ in revenue per unit area of land from the sale of his produce. He incurs three costs per unit area of land: labour costs (the wage rate times the number of labourers per unit area of land, wn); transport costs (output per unit area of land times the distance shipped times the cost of transporting a unit of output a unit distance, θxe); and land rent ($R(x)$). His profit per unit area of land equals his revenue minus his costs.

The market for land is assumed to be competitive. As a result, farmers bid up the rent on land at each location until the profit from farming a unit area of land at that location equals zero. Thus,

$$\pi(x) = 0 \text{ for all } x. \qquad (2)$$

Combining [1] and [2] yields the equilibrium land rent at x:

$$R(x) = p\theta - wn - xe. \qquad (3)$$

Thus, the land rent per unit area of land at x equals the revenue it generates minus the nonrent costs incurred in farming it, the labour costs, and the costs of transporting the output to the central market. Land rent is therefore determined as a residual.

Figure 1 displays the determination of land rent per unit area at x graphically.

Examine [3]. Suppose that the price of the agricultural good increases by one unit, all else being equal. The farmer's revenue per unit area of land increases by θ, so he is willing to bid θ more to farm a unit area of land. Suppose that the agricultural wage increases by one unit. The farmer's costs per unit area of land increase by n, so he is willing to bid n less to farm the unit area of land. Suppose that the cost of transporting a unit of output a unit distance increases by one unit. As, for every unit area of land, the farmer has to transport θ units of output of land x units of distance, the transport costs he incurs per unit area of land increase by θx, so he is willing to pay θx less to farm a unit area of land at that location.

Now extend the model by considering the same economy but with two agricultural goods, wheat (W) and tomatoes (T). Tomatoes are more perishable and so their transport costs per unit distance are higher. To deal with this extension, a new concept is introduced that is used extensively in land rent theory.

Define the bid rent on land at location x in use i, $b^i(x)$, to be the maximum amount that a farmer at location x is willing to pay in rent per unit area of land to farm the land in use i. The graph of the function is called a bid-rent curve in use i.

The maximum amount a farmer is willing to pay in rent per unit area of land to farm the land in a particular use is that amount which drives his profit down to zero. Thus,

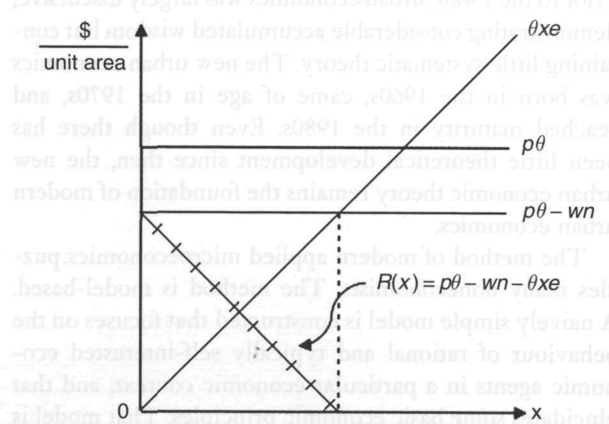

Figure 1 Determination of land rent per unit area at x.

$$b^i(x) = p^i\theta^i - wn^i - \theta^i xe^i, \quad i = \text{W, T}. \qquad (4)$$

The absolute value of the slope of the bid-rent curve for product i is $\theta^i e^i$. This is how much a farmer would save in transport costs on product i per unit area of land if he were located a unit distance closer to the central market, and therefore the premium he would be willing to bid for a unit area of land in that use at the closer location.

Figure 2 plots the two bid-rent curves. The bid-rent curve for tomatoes is drawn as steeper than that for wheat as tomato production is more intensive than wheat production and as tomatoes are more easily damaged or spoiled in transportation.

The stage is now set to determine the equilibrium pattern of land use. The guiding principle is

Principle 1: Land goes to that use which bids the most for it.

In **Figure 2**, tomato farmers bid more for land between the central market and x' than wheat farmers, and therefore the land goes to tomato farmers. Between x' and x'', wheat farmers bid a positive amount, and more than tomato farmers, so that the land goes to wheat farmers. Beyond x'', neither wheat nor tomato farmers are willing to bid a positive amount to rent the land, so the land there is unfarmed. Viewed from the air, the land planted in tomatoes is a circle of radius x' and the land planted in wheat is a ring (or annulus) with inner radius x' and outer radius x''; hence, the term von Thünen rings.

Land rent as a function of distance to the central market is determined by another principle

Principle 2: The land rent at some location equals the maximum of the bid rents at that location and zero.

Geometrically, the rent curve is obtained as the upper envelope of the bid-rent curves and the zero line. Suppose that the cost of shipping tomatoes falls. This has no effect on the amount a tomato farmer at the central market is willing to pay in rent and reduces the premium tomato farmers are willing to pay for a more central location. Thus, the bid-rent

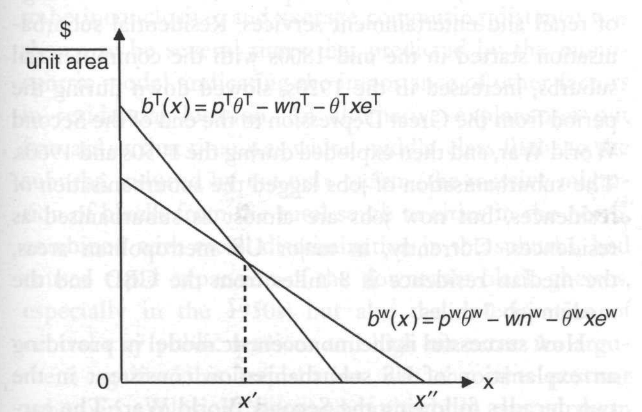

Figure 2 Two agricultural bid-rent curves.

curve for tomatoes pivots counterclockwise around the initial tomato bid rent at the central market. Tomato farming becomes more profitable, so that some land that was previously planted in wheat is planted in tomatoes. It is straightforward to determine the effects of other changes on the equilibrium pattern of land use and rent.

Residential Location Theory

In the 1960s, the von Thünen theory of agricultural land use and land rent was adapted to develop an accessibility-based theory of urban residential location and rent – residential location theory. A point CBD, where all nonresidential activity takes place, replaces the central market; residential land takes the place of agricultural land; different household groups take the place of different agricultural goods; and commuting costs take the place of agricultural goods' shipping costs to the central market. The adaptation of the von Thünen model to develop a theory of residential location involves more than a relabelling of variables, however. The von Thünen model derives the agricultural bid rents from the assumption that farmers bid up rents to the point where zero profit is made in equilibrium. But this condition does not apply to household choice of residential location, and needs to be replaced by some other condition.

Two types of cities are distinguished. In an open city, households migrate freely between the city and the rest of the world, so that in equilibrium each household is indifferent between living in the city and living in the rest of the world. The population of the various household groups adjusts so that this condition is satisfied. In a closed city, in contrast, the population of the various household groups is fixed, and the residential rent function adjusts such that the supply of land equals the demand for land at all locations. Open city analysis is typically more relevant in examining the long-run effects of a change in a particular city, and closed city analysis is more relevant for examining either the short-run (before migration has occurred) effects of a change in a particular city or the effects of a change that occurs in all cities together.

Let us start with the simplest case of an open city and a single household group. To further simplify, assume that lot size is fixed at T. Households derive utility from lot size and other goods, whose price is set equal to 1. As lot size is fixed, a household's utility can be measured by the quantity of other goods it consumes, C. Now consider a household that lives a distance x away from the CBD. It faces the budget constraint

$$Y = C + R(x)T + ex, \qquad (5)$$

where Y is the household's income, which is fixed, $R(x)$ is the equilibrium land rent per unit area at x, and e is the commuting cost per unit distance, so that ex is the commuting cost incurred by the household. Thus, the budget constraint specifies that the household spends its income on other goods, lot rent ($R(x)T$), and commuting costs. Let C^* be the quantity of other goods that the household can consume if it lives in the rest of the world. If the quantity of other goods a household can consume if it lives in the city is higher (lower) than this, households migrate into (out of) the city. Equilibrium is achieved only when the maximum level of other goods a household can consume – that amount that exhausts its budget – if it lives in the city is the same that it would obtain in the rest of the world. Thus, solving [5] with $C = C^*$ yields the equilibrium rent function:

$$R(x) = \frac{(Y - C^* - ex)}{T}. \qquad (6)$$

As a household saves e in commuting costs if it lives a unit distance closer to the CBD, it is willing to pay e more in lot rent. And as lot size is T, it is willing to pay a premium of e/T in land rent per unit area. Thus, the absolute value of the slope of the rent function is

$$|R'(x)| = \frac{e}{T}. \qquad (7)$$

This is the Muth rule, in this context. Now determine the equilibrium population. As a landowner is willing to rent out his land at a positive rent but not at a negative rent, land rent is zero at the boundary of the city, x^*. Thus, $x^* = (Y - C^*)/e$. As the city is on a homogeneous plain, the residential area is circular. Thus, the area of the city is $\pi(x^*)^2$, and as all the city's area is used for residences, and as lot size is T, the equilibrium population is $N^* = \pi(Y - C^*)^2/(e^2 T)$. How the equilibrium changes as parameters change can easily be calculated. Suppose, for example, that income increases. Lot rent rises by the full amount of the income increase, so that the city boundary shifts out and population increases.

Now consider a closed city with a single household group. As the population is fixed at N, the residential area is NT. As the city is circular, the radius of the city is $x^* = (NT/\pi)^{1/2}$. As rent at the urban boundary is zero and as the Muth rule continues to apply,

$$R(x) = \left(\frac{e}{T}\right)(x^* - x). \qquad (8)$$

The equilibrium of the closed city responds differently to parameter changes than the equilibrium of an open city. For example, in the closed city, an increase in income has no effect on the rent function.

The closed city analysis is now generalised to two household groups, using **Figure 3**. Each group has an equilibrium bid-rent curve, which indicates how much households in that group are willing to pay per unit area of land as a function of x in order to achieve the equilibrium level of utility for that group. Each group's equilibrium bid-rent curve satisfies the Muth rule for that group. In equilibrium, the group that is willing to pay the higher premium per unit area of land to live closer to the city centre lives closer to the city centre. For purposes of illustration, suppose that the two groups are rich (R) and poor (P), with N^R rich households and N^P poor households, and that the equilibrium bid-rent curve of the poor is steeper than that of the rich: $e^P/T^P > e^R/T^R$. Then the poor live in a circle of area $N^P T^P$ around the city centre and the rich in a ring of area $N^R T^R$ surrounding them. The rent function is the upper envelope of the equilibrium bid-rent curves. At the urban boundary, the equilibrium bid rent of the rich equals zero, and at the boundary between rich and poor, the equilibrium bid rents of the rich and poor are equal.

The above analysis presented an especially simple variant of the model. The standard model treats variable lot size and housing.

Application to Suburbanisation

With the development of geographical information systems (GIS), vast increases in computing power, and the increased availability of spatial microdata, urban economics has become increasingly empirical. The United States has been in the vanguard of this development, as a result of which American cities have been studied considerably more intensively than cities in other countries.

One of the most studied applications of the monocentric model is suburbanisation in the United States. In the late nineteenth century, US cities were CBD-oriented. The CBD was the dominant employment and commercial centre, and was connected to residential areas by radial transit lines. By the end of the twentieth century, the average US city had grown considerably in population and even more in area, and the CBD had lost its dominance as an employment centre (though still remaining the most important centre), except in the FIRE (finance, insurance, and real estate) industries, and provided a narrower range of retail and entertainment services. Residential suburbanisation started in the mid-1800s with the commuter rail suburbs, increased in the 1920s, slowed down during the period from the Great Depression to the end of the Second World War, and then exploded during the 1950s and 1960s. The suburbanisation of jobs lagged the suburbanisation of residences, but now jobs are almost as suburbanised as residences. Currently, in major US metropolitan areas, the median residence is 8 miles from the CBD and the median job 7 miles.

How successful is the monocentric model in providing an explanation of US suburbanisation consistent in the two decades following the Second World War? The earliest explanation that gained currency was that, in the 1950s and 1960s, the poor lived downtown and the rich in the suburbs because the income elasticity of marginal commuting costs (the cost of travelling an extra unit distance) was less than the income elasticity of lot size, which would imply that the equilibrium bid-rent curve of the poor was steeper than that of the rich. In the late 1970s, this explanation was shown to be empirically weak. The relative size of the two income elasticities was found to be inconclusive, and average commuting distance was shown to be several times that predicted by the monocentric model, indicating the importance of other factors in residential location. An alternative explanation put forward at that time was white, middle-class flight to the suburbs, induced by not only racism (the massive migration of blacks from the rural south to cities in the north, combined with racial discrimination in the suburbs, had caused rapid expansion of the downtown black ghettos, especially in the 1950s) but also the deterioration of central city public services and high tax rates. An argument against this explanation was that the postwar suburban explosion happened not only in the northern US cities but also in Canadian cities, which had only small black populations. The next explanation that gained currency was the motorisation of commuting. As travel by car is considerably faster than travel by mass transit and as the time costs of commuting dominate the money costs, marginal auto commuting costs are considerably lower than marginal mass transit commuting costs. In terms of the model, the bid-rent curve of auto commuters is flatter than that of transit commuters. Car-owning households chose to live in the suburbs, while non-car-owning households downtown. The improvement of urban highways, especially in the 1960s, strengthens this explanation. The current view is that the motorisation of commuting was the primary cause of residential suburbanisation but that other factors were important too.

Suburbanisation has been occurring in cities around the world, though it started later and has proceeded less rapidly than in the United States. Reasons include car ownership and gasoline being more heavily taxed, urban highway and freeway systems being less developed, suburban land-use controls being stricter, and urban mass transit travel exhibiting greater service frequency, density, and reliability.

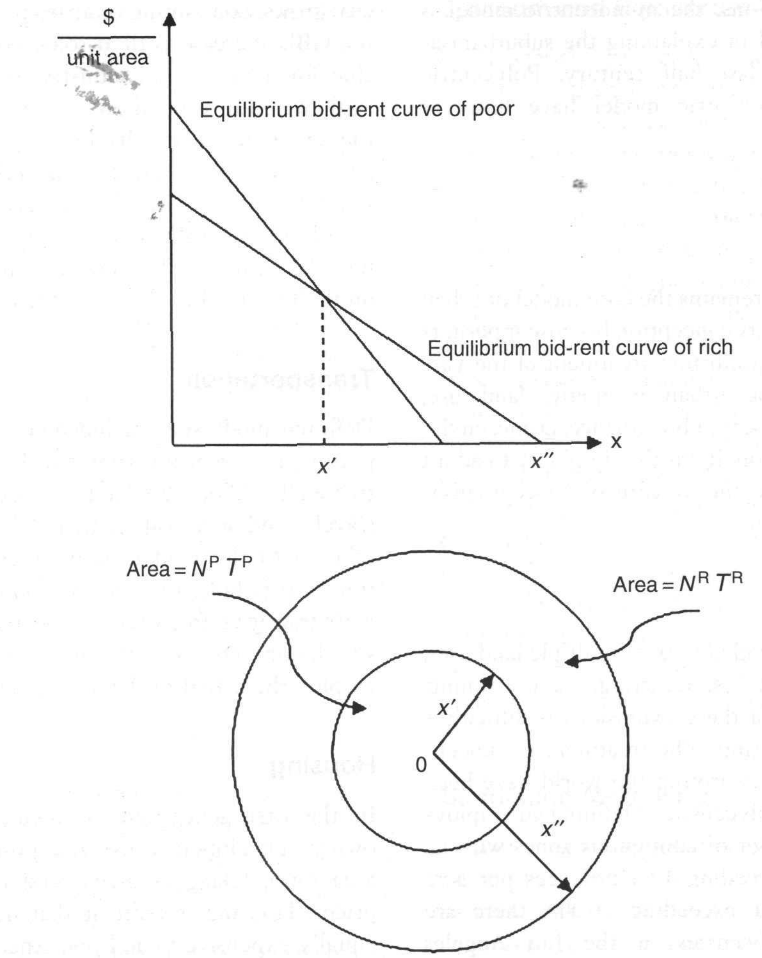

Figure 3 Residential land use equilibrium with two household groups.

Through its assumptions, the monocentric model is intrinsically unsuccessful in explaining the suburbanisation of jobs over the last half century. Polycentric extensions of the monocentric model have however been successful.

Extensions

The monocentric model remains the core model of urban economics 50 years after its conception because it permits an integrated, general equilibrium treatment of the various components of the urban economy: land use, transportation, housing, local public finance, crime, environmental quality, and so on. It has the simplicity to admit numerous extensions and the breadth of conceptualisation to accommodate them.

Land Use

The theory has been extended to treat multiple land uses, employment dispersion, subcentring, and zoning. Conceptually only one of these extensions is difficult – the treatment of subcentring. The treatment of subcentring is important as cities around the world have been becoming increasingly polycentric. (Defining an employment subcentre to be a set of contiguous zones with an employment density exceeding 10 employees per acre and overall employment exceeding 10 000, there are now well over 20 subcentres in the Los Angeles Metropolitan Area.) The monocentric model can readily be extended to treat exogenous subcentres. The difficulty arises in extending the model to treat endogenous subcentres, as it is then necessary to determine the simultaneous locational equilibrium of firms and households.

Extended to treat exogenous subcentres, the monocentric model solves for the locational equilibrium of households, given the location of firms. To solve for the simultaneous locational equilibrium of firms and households, an additional set of equations is needed that describes the locational equilibrium of firms, given the location of households. In the theory, the trade-off a firm faces in deciding where to locate within a metropolitan area is between wages and factor productivity. Due to agglomeration economies, a firm is more productive when it is closer to other firms in the same and related industries. A firm may choose to locate right next to its workers; it can then pay them less as they do not incur commuting costs. Or it can locate close to other firms, which increases its workers' productivity, but it then has to pay its workers more. In a small city, the commuting cost of a worker travelling from the urban boundary to the CBD is modest; with even mild agglomeration economies, a monocentric urban structure is an equilibrium. As the city grows, commuting costs from the urban boundary to the CBD increase until at some point it becomes profitable for a firm in an industry that benefits little from agglomeration economies to relocate from the CBD to the urban boundary. Its location there makes it more attractive to other firms in the CBD to relocate to the urban boundary. Thus the process of subcentring begins. There are typically multiple equilibrium location patterns of firms and households, which occurs depending on the historical evolution of the city's spatial structure.

Transportation

Defining mode-specific bid-rent curves, multiple transport modes can be incorporated. Traffic congestion can be treated by allocating land to roads and assuming that travel speed on a road segment depends on traffic volume relative to the road capacity there, and the effects of transport policies (e.g., congestion pricing, investment in mass transit vs. freeways) can be analysed. Current urban simulation models built on the new urban economics employ the actual road and mass transit networks.

Housing

In the first generation of monocentric models, landowners/developers chose the profit-maximising floor–area ratio, taking as given land rent and other factor prices. Housing is built at that density such that it is equally expensive to add floor space horizontally as it is vertically. The next generation of models treated the durability of housing and other structures. As a city grows, development typically proceeds from the city centre outwards, and, when rents have grown sufficiently, downtown redevelopment becomes profitable, initiating a wave of redevelopment from the city centre outwards. The durability of structures is clearly important, creating a history-dependent spatial structure that is evident in all but new cities. Treating durable housing in a sound way is analytically difficult as a developer's choice of floor–area ratio depends on her expectations concerning the future growth rate of rents, which makes the model essentially intertemporal. As a result of these analytical difficulties, simulation models (models that are solved numerically rather than analytically) are needed to solve for equilibria in realistic cities. Land and property values are the present values of net rents.

Local Public Finance

The monocentric city model can be extended straightforwardly to include taxes and public services. An important feature of US cities especially is that different jurisdictions within the city offer different tax/public service packages. Household sorting across jurisdictions on this basis is the focus of the literature on the Tiebout hypothesis. The Tiebout and monocentric literatures have not yet been well integrated.

Environmental Quality

Emissions come from point sources and mobile sources. Point sources include power plants, factories, ports, as well as the heating and air conditioning of buildings. Mobile sources include cars, trucks, and mass transit vehicles. Urban spatial structure determines the pattern of travel and hence the spatial pattern of emissions. Then, based on topological and meteorological conditions, the spatial pattern of emissions maps into a spatial pattern of concentrations. In recent years, there has been considerable policy discussion of the potential environmental benefits of altering urban spatial structure in various ways – reducing sprawl, mixing land uses, and densifying – as well as of introducing greener technologies.

Dynamics

Apart from the work on the dynamics of urban spatial structure in a monocentric city with durable housing, disappointingly little work on urban dynamics has evolved from the new urban economics. In contrast, dynamics are central to work in the new economic geography, which looks at the evolution of urban structure at a regional, national, or international scale. Some work has been done aimed at synthesising the new urban economics and the new economic geography, but the literature is in its infancy.

Examining average commuting time across metropolitan areas provides an interesting perspective on the dynamics of urban spatial structure. One empirical regularity is that the elasticity of average commuting time with respect to metropolitan population is low. Another is that average commuting times are several times longer than would be the case if workers were matched with jobs to minimise aggregate commuting time, which indicates that factors other than accessibility to jobs are important in household residential location decisions. As no model has been developed that fully explains these empirical regularities, it is hard to say whether the population of metropolitan areas can just keep increasing.

Uncertainty

Some work has been done extending the monocentric model to treat uncertainty but the literature is underdeveloped.

Optimum and Equilibrium City Size

Urban spatial structure is determined by a balancing of dispersive and agglomerative forces. The primary dispersive force is people transport costs (if people transport cost were prohibitive, people would live and work at the same location and economic activity would be uniformly distributed over space). Agglomerative forces include agglomeration economies in production, and the greater variety of consumer goods, entertainment, and social interaction that larger cities provide. The Henry George theorem indicates that the first-best optimal distribution of population within and across cities can be decentralised under marginal cost pricing, with aggregate land rents covering the losses incurred by increasing returns to scale activities. But in reality there are important externalities, both positive (e.g., external economies of scale in production) and negative (e.g., unpriced congestion and crime), as well as the exercise of market power and failures in collective decision-making. The interaction between these market failures is complex, so that no generalisations can be made about how the equilibrium and optimal distributions of population differ within and across cities.

Simulation Modelling

Urban economic simulation modelling – simulation modelling that builds on the new urban economics – is discussed at some length in see article Simulation Models for Urban Economies. Because of its importance, however, a brief discussion is provided here. The power of the monocentric city model lies in its simplicity without triviality, which permits numerous extensions. Analytically, however, only one or two of these extensions can be treated simultaneously. Any variant of the model that attempts to capture real cities rather than to illustrate basic principles is sufficiently complex that it needs to be solved numerically – via an urban economic simulation model. With the huge increases in computing power, the development of geographic information systems, and the increase in publicly available spatial microdata, it is now possible to develop and solve urban simulation models, with fine spatial resolution and considerable disaggregation by household and industry group, that nevertheless are solidly grounded in new urban economic and more generally microeconomic theory. A state-of-the-art urban simulation model of the Los Angeles Metropolitan Area is under development that solves for the perfect foresight (by assumption agents know the future) intertemporal general equilibrium of the economy, with durable structures, a detailed production structure with multiple factors of production and multiple industries, the actual transport networks and zoning regulations, and a sophisticated treatment of pollution emissions and concentrations, which combines data from over a hundred sources. Such simulation models can forecast the effects of policy changes in considerable detail, and are likely the wave of the future in urban land use, transport, and environmental policy analysis.

No simulation model, however detailed, can fully capture the complexity of the real world. Being solidly based in the theory of competitive general equilibrium, urban economic simulation models assume away most sources of macroeconomic instability evident in the recent financial crisis, the exercise of market power, and the frictions that give rise to unemployment. At least in their current form, they take future population and incomes as exogenous. They also pay no attention to the politics of public policy. Finally, there is the problem of validation. If an urban economic simulation model produces an inaccurate forecast, it is all too easy to ascribe the inaccuracy to changes in the macroeconomic environment, which the model ignores. These problems notwithstanding, urban economic/simulation models are potentially very valuable tools in policy analysis, as they quantify the importance of the various channels through which a policy operates and provide conceptual structure to the policy debate.

Omissions

Each urban specialty has it own, and perhaps many different, perspectives on the city. Urban economics naturally focuses on the economic aspects of cities, and pays little attention to urban politics, urban aesthetics, community development, and so on.

The new urban economics looks at the city from a general equilibrium economic perspective. Its approach is unapologetically neoclassical, individualistic, microeconomic, and market-based; the equilibria it describes are the outcome of atomistic individuals' self-interested behaviour, taking prices as given. It also looks at cities at the spatial resolution of the metropolitan area. Specialists from some other disciplines look at the city at a finer level – the neighbourhood or even the individual block. New economic geographers and regional economists look at the city as part of a system of cities or as part of one of many regions.

The most egregious oversights in the new urban economics derive from its particular perspective. But even within its narrow perspective, there have been some curious omissions in what it has studied. It has paid little attention to urban growth, perhaps because many of the determinants of a particular city's growth are external to the city; it has virtually ignored cyclical fluctuations, both internal dynamics (such as local real estate cycles) and the response of the urban economy to external shocks; its tools, while eminently suitable, have been little applied to the study of urban history; and, perhaps principally because of poor data, it has paid little attention to inter-city trade and specialisation. Also, looking at cities through the lens of the monocentric city model has biased perspective. New urban economists were late in recognising the polycentricity of the modern city and in investigating the sources of agglomerative economies of scale. Finally, the central model's assumption that sites differ only in accessibility has resulted in insufficient attention being paid to Ricardian determinants of land use, such as microclimate and geology.

Concluding Remarks

The world is bewilderingly complex. To make some sense of it requires a conceptualisation that provides structure to some of what we see and filters out the rest. The new urban economics looks at the city from the perspective of competitive general equilibrium theory, adapted to incorporate urban space. Its signal success has been in providing a conceptualisation of the city that integrates its various economic components, which is needed for examining such issues as how the construction of a new transit line will affect housing prices in different neighbourhoods. It has a single core economic model, the monocentric model. The monocentric model has generated important and robust insights into the effects of accessibility on urban spatial structure, and its simplicity has admitted numerous extensions. While the perspective it provides is narrowly economic, its success is indicated by its having remained the central model in urban economics for almost 50 years and by the wealth of literature that draws on it.

See also: Economic Approaches to Housing Research; Economics of Housing Choice; Housing and Sustainable Transport; Simulation Models for Urban Economies; Spatial Economics.

Further Reading

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