

Urban Economics

An Introduction

Alan W. Evans

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Preface

Urban economics seems sometimes to be all embracing. To judge from lecture courses and other texts it can include, at least, the economics of race, poverty, crime, pollution and the environment, and housing. Moreover, the subject can be approached in various ways from the highly mathematical and theoretical to the descriptive. So if all the topics which are sometimes regarded as part of urban economics were covered in this book it would be two or three times the length that it is. It follows also that many readers will feel that some topics have not been covered which should have been.

In order to limit the size of the book I had to follow certain principles in defining the topics I wished to cover and the way that I covered them. Since these principles were in accord with my own views of the nature of urban economics doing so did not present any great problem.

The first principle I have followed is to regard a topic as part of urban economics to the extent that discussion of it relates to location and land use in towns. For example, I have touched on aspects of housing, in chapter 2 where it relates to residential location, and in chapter 9 where it relates to the land market, but there is no chapter on housing as such because much of the discussion of the economics of housing is non-spatial and therefore, in my view, not part of urban economics. Of course in an urban society most houses are in towns but if this were the criterion urban economics really would include almost everything.

The second principle I have followed is to write the book as a coherent whole in which the parts tie together and which is meant to be read starting at the beginning and finishing at the end. Though I am aware that few students will read the book in this way, since the

order followed in the book may not be the order in which topics are dealt with in a lecture course, I can still hope that any interested reader who does actually start at the beginning and read through to the end is rewarded with an overall view of the economy of cities. The attempt to present a coherent overall view does mean, however, that there is less of a tendency than in some texts to present all the available views (and all the available references) on a subject and let the readers work it out for themselves. Doubtless students who use the text will be referred to the relevant alternative views by their lecturers so that I have few qualms about this, feeling that the gain in coherence outweighs any loss of comprehensiveness.

It is customary in a preface to a book of this kind to acknowledge one's intellectual debts. I find this almost impossible to do. My views of urban economics have been shaped in discussions and conversations over many years with very many people at the University of Glasgow, the Centre for Environmental Studies, the London School of Economics, and the University of Reading, where I have worked, and at the University College London, the University of Kent at Canterbury, and the University of Melbourne, where I have been a visiting lecturer, and at conferences, both national and international. My greatest debt is, however, to my immediate colleagues at the University of Reading, Paul Cheshire, Graham Crampton, Geoff Keogh, George Norman and Mike Stabler, with whom I have discussed ideas as I was writing this book.

The debts acknowledged above are diffuse and non-specific as I have indicated. I have one specific debt to acknowledge, however, and that is to Beryl Jones who not only typed the whole manuscript with her usual accuracy and speed but also caused considerable stylistic improvements through her comments on the resultant typescript.

Needless to say, all errors and remaining infelicities of style are my responsibility.

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Introduction

Lady Bracknell: Ignorance is like a delicate exotic fruit; touch it and the bloom is gone.

The Importance of Being Earnest Act I

Urban economics is one of the most recently developed branches of economics. Indeed it is only within the last 20 years that the term 'urban economics' has been used, and serious research in the field began only in the late 1950s.

Why has urban economics been so late in developing? After all, one might have thought that some understanding of the way in which an urban economy operated would have been seen as essential to town planners, so that urban economics would have developed alongside town planning earlier in the century. This did not happen, however, with the single, notable, exception of a study by R. M. Haig in 1926 for the New York Regional Plan Association.

The major stimulus to the analytical and empirical study of the urban economy seems to have been, not town planning, but traffic congestion. This also is the reason why urban economics developed initially in America. As car ownership grew it became necessary to try to solve the problems of congestion in American towns and cities. These problems proved relatively easy to solve where the congestion occurred in small towns and villages along major routes between cities; these minor settlements could be by-passed and the existing road upgraded, or if upgrading was not enough, completely new freeways, turnpikes, or motorways could be built. The only recurring problem was a tendency to underestimate the amount of additional traffic which might be generated by the existence of the new road, so that most of the early freeways and turnpikes reached their design capacity very quickly.

The problem of congestion proved less easy to solve where it occurred within large cities. The construction of urban freeways and even the improvement of existing roads seemed merely to generate so much new traffic that congestion remained as bad as before. Moreover, it was found that new roads and other transport improvements caused a relocation of land uses which in turn led to a realignment or reorganization of the transport movements which the new transport system had originally been designed to serve.

It therefore seemed necessary to attempt to predict the traffic movements which would occur as a result of any transport improvement in order to ensure that its design capacity was adequate. It was shown that there was a relationship between the patterns of land use and traffic flows and that the traffic generated at a site could be predicted if the nature and intensity of land use at the site were known (Mitchell and Rapkin, 1954). Large-scale statistical transport models of traffic flows in cities were developed, based on surveys, the most well known being the Chicago Area Transport Study (1959), which aimed to model, and hence to predict, traffic movements within a city given the future pattern of land use, to allocate these trips to routes and hence to enable the construction of an optimal transport network.

It was at this stage that urban economics came into existence as researchers attempted to explain, using economic analysis, the determination of patterns of location given the transport system, and so to use their analysis to predict the effects on the pattern of land use of the construction and improvement of transport routes. The two major publications virtually coincided, Wingo's (1961) *Transportation and Urban Land* and Alonso's (1964a) *Location and Land Use*, which, although published in 1964, derived most of its information from his 1960 doctoral thesis.

In the event the contribution of urban economic theory to the solution of the urban transport problem was less than the early researchers might have hoped. By the early 1970s the construction of large-scale transport models had fallen into disrepute (Lee, 1973), and growing political opposition brought to a halt the construction of new freeways in urban areas (Hall, 1980). However, by this time urban economics had progressed sufficiently to develop independently. In small part this was because the theoretical analysis of a city with all its employment at a single centre, the original model used, was mathematically tractable and allowed the application of several

high-powered pieces of economic theory to its analysis, a process which attracted several economists more widely known for their contributions in other branches of economics. (On this see Richardson, 1977, *The New Urban Economics*). This 'laying on of hands' certainly made urban economics academically respectable as a branch of economics, though one may doubt whether the results derived from these exercises justified the intellectual expertise used in their solution.

More importantly, so far as the independence, development, and usefulness of urban economics was concerned, it became apparent that even if, in the end, its contribution to solving the urban transport problem was relatively small, it could make important contributions to the more traditional disciplines dealing with the study of the city – town planning and land or real estate management – and to the analysis of government policies for dealing with urban problems.

LAND-USE PLANNING

As we have already suggested, one would have thought that the relevance of an economic analysis of urban areas to town planning would have been obvious. Indeed a stimulus to the development of urban economics parallel to that given by transport problems was the commissioning by the Regional Plan Association of detailed studies of the New York region. Unlike the work of Haig which they had commissioned some 30 years earlier, these studies did not remain as isolated pieces of work. In looking at all aspects of the economy of a large city they showed the way in which urban economics could be an applied and empirical study rather than purely theoretical (see for example Vernon, 1960; Hoover and Vernon, 1959; Lichtenberg, 1960).

These studies were, however, commissioned by an independent body, not by local government, and were not necessarily used in practice by those responsible for planning in the New York Metropolitan Area. In the United Kingdom even less progress had been made in this field, despite the fact that British planners have had considerably more control over what does or does not happen in the area they plan.

The reason for this lack of interest appears to be the past antipathy of British town planners to economics and economists. British town

planning grew out of a concern with the physical environment and public health. In the 1930s most town planners had originally trained as architects and engineers. If town planning is seen as civic design (for example Nash's creation of Regent's Park, Regent Street, and St. James's Park) so that the aim of planning is that the result should be aesthetically pleasing, then there is no need to concern oneself with economics, or indeed with sociology or any other social science. Nor, indeed, is there any need to concern oneself with these disciplines if the aim of, say, enforcing lower densities is the prevention of disease.

Perhaps, taking the most favourable interpretation, this is what lies behind the view expressed by Sir Patrick Abercrombie, the leading British planner at the time of the Town and Country Planning Act, 1947, that the economist is a 'muddler who will talk about the Law of Supply and Demand and the liberty of the individual' (Abercrombie, 1959, p. 27). Yes, economists (whether muddled or not) do tend to concern themselves with market forces and so with what people want or are able to do at a given cost, and, in the 1940s, this was certainly at odds with the views of the planning profession. Two quotations from a 1944 conference on the new planning illustrate the mode of thought of those more junior than Abercrombie but later perhaps involved in the implementation of the planning process of which Abercrombie was the godfather.

Discussing the question, Can we induce people to move?, the Borough Surveyor of Tottenham said: 'It seems that the most difficult hurdle to surmount will be the wishes of the people of Tottenham' (Bliss, 1945, p. 35). A contributor to the discussion at the conference took an even more totalitarian view saying: 'Planning means control – you have got to put people out, tell them where to live and if somebody wants to build a factory, you have got to tell them "nothing doing in Tottenham – you must build a factory in so and so". Russia, Germany and Italy all had planned systems' (Bliss, 1945, p. 40).

How did this view change, as change it did? Why did planners become more favourably disposed towards economics and the social sciences? Primarily, I think, because although planners could lay down the controls which prevented people from doing some things, it became obvious, first, that these controls had unforeseen effects, and secondly, that it was difficult if not impossible to make people do other things which planners wanted them to do.

One response was a demand for greater powers, powers of positive planning as well as powers of negative planning. The other response was an attempt to find why planning controls were circumvented, and to find out using economic analysis what the secondary effects of planning controls would be, since these can be as important as their primary effects. The point is this. The planner can lay down, for example, that the land round a city should be designated as a green belt and should not be developed. Now if the land remains undeveloped then, in one sense, the planner has been successful. But market forces may result in responses to his successful green-belt policy which he may not have wanted at all. If the town becomes prosperous and employment there continues to grow, the demand for space in the town, the supply of which is restricted by the green belt, will cause prices to rise, and some people, who are unable to find accommodation in the city, will be forced to commute across the green belt. The planner wanted neither long journeys to work nor high housing costs but got them as a consequence of achieving his original objective, a constraint on urban sprawl. Although the planner might respond by seeking powers to control more effectively the growth of employment in the city, even if he does, he is also likely to realize that all aspects of the urban economy are interrelated, indeed that the city is an economic (and social) entity and not just a physical structure to be designed.

Since the planning controls imposed after 1947 did have unforeseen consequences because of market forces, the result was that greater attention began to be paid to the social sciences by planners; indeed town planning itself became more akin to applied social science than anything deriving from architecture or engineering. In Britain town plans themselves have changed from being mainly concerned with the physical structure described in town maps, and have become more akin to the sort of documents produced by a regional or national economic planning directorate.

The primary contribution of urban economics to town planning is, therefore, at present anyway, an understanding of the ways in which the parts of the urban economic system interact – the study of positive urban economics. A second contribution, but one which is not yet regarded as important, is an analysis of what planners ought to do – normative urban economics. There is also a third area, as yet virtually undeveloped, the analysis of what planners do and the reasons why they do what they do – the economics of town

planning. Since one legacy of the 'civic design' and 'public health' origins of planning is a tendency to lay down rules as to what constitutes good planning practice the analysis of this kind of problem is important. The contribution of urban economics to town planning is discussed further in chapter 12.

LAND MANAGEMENT

One field in which the contribution of urban economics is only just beginning to be developed but where, in my view, future progress will affect both disciplines considerably in the future is land or real-estate management. In one sense there has been some economic input for many years since those studying land management have usually studied land economics, but in its earlier years land economics meant the institutional, descriptive, study of land, with little analysis and almost no theory.

The development of urban economics, and the parallel development of regional economics and of environmental economics, have radically changed the nature and subject matter of land economics, and significant changes are still to occur. This is because the interests of the real-estate developer and valuer are slightly different to those of the planner. The realtor, to use the American expression, is primarily interested in land and property values, both now and in the future: the planner is more interested in the location of activities. Of course, both location and land values are in principle determined simultaneously – the level of demand at a given location determines its value, its price determines what can afford to locate there. As we indicated earlier, in practice the primary interest of urban economics has, in the past, been in location, because of its development in relation to transport and planning problems. The determination of land and property values has been regarded as of secondary importance. But future development is more likely to be concerned with land values, or, for example, with the impact of taxes, planning controls, or financing methods on property values. The foundation of the American Real Estate and Urban Economics Association and of its associated journal in 1973 is an indication of development in this direction. The land market and the impact of taxation is discussed explicitly in chapter 8 though land values are referred to throughout the book.

GOVERNMENT POLICY

Urban economics is also making an increasing contribution to the analysis and development of government policy towards towns and regions. Regional economics developed at the same time as urban economics, but its development resulted from a different stimulus. In the post-war period of prosperity it appeared that the application of Keynesian economic policies had resulted in full employment at a national level, but some regions still suffered from high levels of unemployment. So economic analysis directed at the regional level was developed to try to solve this kind of problem. Thus, just as urban economics developed primarily out of the interest of some microeconomists in transport problems, so regional economics developed primarily out of the interest of some macroeconomists in localized unemployment problems, what we would now call 'fine tuning' the economy.

Since then regional policy, at least in Britain, has become more spatially oriented and the application of urban economic theory has become more important. So whilst the application of controls to encourage industrial firms to move to the less-prosperous regions in the 1940s and 1950s could be analysed using the tools of regional analysis, study of the application of controls on office development in the mid-1960s involved an aspect of urban economics, since administrative and professional offices tend to locate in, or in relation to, cities, rather than choosing a location within a wider region. In the mid-1970s the spatial concentration of unemployment in the inner areas of the large cities, and the apparent decline of these cities, had clearly to be interpreted using urban economic analysis, and further stimulated the development of the analysis of urban labour markets (see chapter 7). The latest initiative in urban economic policy is the creation of Enterprise Zones – smaller areas in which property development is freed from controls and taxes – and their expected effects can only be analysed using many aspects of urban economics – land markets, manufacturing and commercial location, even local government finance, since one feature of the zones is that firms pay no rates.

The main problem is that urban economics has been primarily used to analyse and criticize policies after they have been put into effect, only rarely has it been used beforehand. The question dealt with has not been, What will be the effect of this policy?, but, What

were the effects of this policy and why? This lag in its application is probably an indication of its early stage of development, and so we can expect it to change in the future. In the meantime we should note that research into these policy problems has stimulated the development of the appropriate theoretical analyses, although this has probably meant that other areas which are not yet policy relevant have been neglected in consequence.

URBAN ECONOMICS IN OUTLINE

It is described above how urban economics began as the theoretical analysis of the pattern of residential location in a large city. In chapter 2 we also begin with the analysis of residential location, not only for historical reasons, but because housing actually occupies most of the developed land in any city. For this reason the overall demand for space can be treated as being mainly determined by the demand for housing space, and so it is permissible, at this introductory level anyway, to analyse the pattern of land and property values which result from the actions of households, taking the other demands for space as given.

The results of this analysis can then be used to shed light on the relative costs of different urban locations, through differences in the cost of space and the cost of labour. These costs have to be borne by the manufacturing and commercial firms which provide the jobs to which the households commute. In chapters 3 and 4 we analyse the reasons why the firms owning manufacturing plants or offices are willing to bear these costs by locating their activities in cities, particularly in or near the city centre where these costs are highest – what benefits they gain, what 'external economies' make these locations profitable.

However, all cities are not the same. The most obvious differences are in terms of size. In all national economies there exists an urban hierarchy with very few very large cities, a larger number of smaller cities, and very many small towns. The interaction between the costs and the benefits of location in cities of various sizes which we have analyzed in chapters 2, 3, and 4, allow us to examine, in chapters 5 and 6, the reasons why such an urban hierarchy exists, and to analyse its characteristics.

Chapter 7 deals with urban change. The prediction of the effects of changes in transport costs was, after all, the original stimulus to the

development of urban economics. Having shown the progress that has been made in the analysis of the economic structure of cities in the earlier chapters, in chapter 7 we use this to show how improvements in transport and telecommunications cause changes to occur in the economic structure of cities, and so demonstrate, we hope, that some progress has been made in providing answers to the original problems.

However, urban change puts a strain on the operation of the urban economy, and in the succeeding four chapters we examine the economics of the urban labour market (chapter 8), the land market (chapter 9), the system of local government finance (chapter 10), and the urban transport system (chapter 11). Each of these responds to changes in the urban economy of which it is a part, and these responses may create further problems; the reader will not need to be reminded of recent controversies over inner-city unemployment, derelict land and property, local government expenditure and its control, and the subsidization of public transport.

In chapter 12 we discuss the economics of planning the urban system – the objectives of town planning, the choice of methods, and the effects of the planning controls used.

In the book we have almost exclusively discussed the economy of cities in developed Western economies. In the final chapter (chapter 13) we evaluate the relevance of our analyses to cities in the less-developed world, discussing particularly the features which distinguish these cities from those we have dealt with in the rest of the book.

One question has still to be dealt with in this introductory chapter before we can begin the analysis of the economy of cities and that is, Why do cities exist?

WHY CITIES EXIST

There is one necessary condition for some form of urban place to exist. There must be some agricultural surplus. If this condition is fulfilled then towns may exist for other reasons – economies of scale in production, the uneven distribution of resources, the needs of government.

If the population working on the land do not produce a surplus over and above what is required to maintain them at subsistence level, then there is nothing left over to support those who are not

engaged in agriculture. This surplus may be extracted by force or custom to support a warrior or priest class (Mumford, 1961). But if towns exist for economic rather than military reasons the surplus must be traded by the farmers for goods or services produced in the towns. This is most likely if there are some economies of scale in production. After all, if there were not, the farmers and peasants could either eat better or use part of their time in producing manufactured goods and they could produce them as cheaply as any town worker. To some extent, of course, this is what has happened. But if a person, or group of people, in other words a firm of some kind, can produce the goods in markedly less time than the peasant or his family, then the peasant will find it worth his while to import the good from the town and trade surplus agricultural produce for it.

These economies of scale may arise within the firm. The 'internal economies' may be due to the division of labour and the resultant increase in productivity due to specialization in particular tasks. Adam Smith, the founder of modern economics, ascribed economic growth mainly to the economies gained through the division of labour, pointing out also that the division of labour is limited by the extent of the market so that 'there are some sorts of industry, even of the lower kind, which can be carried on nowhere but in a great town' (Smith, 1776, p. 15).

The economies of scale are also likely to occur within the firm because of the use of specialized machinery, machinery which is too expensive and too specialized for each peasant to purchase for himself, but which allows the firm to produce the good more quickly and more cheaply than each individual farmer when it is manufacturing a large quantity. In practice, of course, since specialized machinery usually requires skilled labour, the two kinds of internal economy may be difficult to distinguish.

The economies of scale may also arise outside the firm. The 'external economies' occur when the grouping together of firms in a particular place allows them, for example, to use common services and suppliers, to create a market, to share the cost of training labour. These external economies are a particular feature of large diversified cities, as the various firms gain advantages from their concentration together in one place.

Although economies of scale are the primary reason for the growth of cities, they may also come into existence at particular locations because of the uneven distribution of resources. Most

obviously the geographical concentration of mineral resources encourages the growth of mining towns and villages, which as in the American West or in Australia may grow quickly with a boom, and, as quickly, disappear or become ghost towns when the ore is worked out. A natural harbour or a crossing point on a river may also be the reason for a settlement, as Sydney has grown up because of its fine natural harbour. But note that the settlement cannot exist solely for that reason, there must also be some reason for trade through the port or across the river; the trade must include either some part of the agricultural surplus or goods manufactured elsewhere because of economies of scale of some kind or the minerals extracted in some other part of the country. So the settlement of Sydney could grow and develop initially only with the trade of New South Wales with the rest of the world.

Another reason for the growth and existence of cities is their role as centres of government. Until recently this used to be relatively unimportant, but it became more important towards the end of the middle ages when it became possible, with more efficient tax systems, for king and court to settle down at a single place rather than travelling from place to place being supported by the host area. In more recent times it has become feasible to create administrative capitals functioning almost solely as government centres, such as Washington, Canberra or Brasilia.

In the case of most major cities the various reasons for urban location and growth tend to be naturally reinforcing. London, for example, was located at a point on the River Thames where ships trading with Europe could be brought upstream, and where it was also possible to maintain a river crossing, at first a ford or ferry but later a bridge. This favourable location encouraged its growth as a commercial centre trading with Europe and its growth was assisted by the eventual location of the seat of government at Westminster just upstream, from the City of London. The presence of the court, and the existence of the port, encouraged the growth of trades specializing in the manufacture of imported goods, particularly luxuries for sale to the court and its ladies.

So not only was London the major trading and manufacturing centre for South-east England, it was also a major port and also the centre of government, and these three functions combined caused it to become a specialized manufacturing centre. Moreover, the concentration of commercial and trading functions eventually encour-