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Summer 1979

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OVERURBANIZATION AND ITS RELATION TO ECONOMIC GROWTH FOR LESS DEVELOPED COUNTRIES

By Philip E. Graves and Robert Louis Sexton*

Introduction

Two recurrent, but essentially separable, questions are pervasive in much of the literature on urbanization and economic growth as they relate to the less developed countries (hereafter LDCs). First, the relationship between urbanization and economic growth has been extensively discussed in papers which are in the main descriptive. There is little indication in these papers of an underlying theory which ties urbanization and economic growth together.

Second, the issue of "overurbanization" is raised repeatedly in discussions which take the basic meaning of the word for granted, a notable exception being Sovani [7]. In fact, careful definition of cases where the term "overurbanization" is appropriately applied renders much of this literature suspect. In the second section the interrelations among industrialization, urbanization, and economic growth are described, stressing scale economies and income elasticities of demand as explanatory variables in a causal model. Section three reiterates Sovani's criticisms of overurbanization definitions involving spatial and occupational indices, but goes further by proposing a definition involving net external effects which should have wide appeal among economists.

Industrialization, Urbanization and Economic Growth

Considering first the interplay between industrialization, urbanization and economic growth, one finds little indication of causal direction in relating these phenomena. Does industrialization lead to urbanization which leads to economic growth or does economic growth lead to urbanization which, in turn, leads to industrialization? Papers advocating virtually every permutation of these three processes could no doubt be found. In fact, the discussion is often verbal and/or analytically

*University of Colorado, and Pepperdine University, respectively. The authors would like to acknowledge the helpful suggestions of K. Baer, Robert Clower, George Tooley, and G. M. Walton while absolving them from any errors which may remain.
speculative, dealing with correlations rather than theoretically compelling causations.

The principal fact to be explained by the theory outlined below is depicted in Figure 1. Urbanization and development proceed according to an ogive (S-shaped) curve. This has been found to hold cross-sectionally for many countries, as illustrated in the study by Davis and Golden [1], and over time within individual countries. The highest rate of growth of urbanization occurs over the range of $100 to $1,000 (U.S. dollars) in real per capita income, although the time taken to cover this range varies markedly among countries as discussed below.

![Figure 1](image)

A plausible economic explanation of this ogive relation runs as follows: assume that the primary agglomeration benefits of a city are captured by manufacturing industries, less so in services (and of course agriculture). This is a reasonable assumption in view of the substantial interplant transportation and communication economies which are obtained with industrial clustering in an urban area.

Then the observed S-shaped pattern of Figure 1 can be explained by income elasticities of demand for consumption goods as they vary during the development process. At low levels of income (less than $100 per capita), large proportions of income are spent on food, clothing, and shelter—none of these having pronounced agglomeration economies. As incomes rise further (in the $100-$1,000 real per capita income range), the high income elasticities of demand for manufactured items result in rapidly growing portions of income being spent for manufactured goods. Since production of these goods is subject to scale economies (both internal and external agglomerative), one observes both industrialization and rapid urbanization. At still later phases in development (incomes greater than $1,000 per capita), as services begin to become more important in the consumption bundle, the rate of urbanization is the lower rural outmigration due to rises in agricultural productivity with the small population remaining in agriculture.
These assumed elasticities are plausible and must surely go a long way toward explaining why urbanization, industrialization, and economic growth (viewed as rising incomes) are theoretically connected.

Indeed, exceptions to the process described above can be interpreted within the framework laid out. For example, countries such as Denmark and New Zealand, which are highly developed but not highly urbanized, are predominantly open economies whose comparative advantages lie in the production of goods for export which are not subject to pronounced scale economies. These export goods are then traded for the manufactured goods produced in urban areas of other countries, obviating the urbanization and industrialization which is concomitant with economic growth in closed economies. Hence, even those countries which experience economic growth without either industrialization or pervasive urbanization exhibit a developmental process which can be understood in a framework common to countries developing more traditionally.

Given this sort of theoretical view, the tests of the development-urbanization-industrialization relationship commonly seen in the literature seem inappropriate. Specifically, data on the make-up of GNP (not just its level) are necessary in relating GNP to urbanization. The logical approach suggested by the causal structure presented here would be to examine the agglomeration economies of important industries. Combining this information with predictions of the demand for the output of these industries would lead to an explicitly defined theoretical prediction of urbanization. In this way a positive analysis of future expected urbanization as opposed to explanations of past urbanization may proceed.

Overurbanization and Underdeveloped Countries

The literature on overurbanization in less developed countries is similarly, perhaps more importantly from a policy perspective, flawed by the lack of a sound microfoundation. The difficulty in this case stems from definitions, often implicit, of overurbanization which, although understandable, are importantly in error.

The first definition, dissected critically in Sovani’s contribution, flows from the notion that modern urbanization is associated with industrialization. As a consequence of this view, two indices—one a spatial index, the other an occupational index—are related to one another in an attempt to establish the presence of “overurbanization.” For example, a cross-sectional regression analysis of the following general sort is undertaken:

\[ U = a + b \, (UO) \]

where \( U \) = percent of total population in cities greater than 100,000 (or sometimes 20,000) population and,

\[ UO = \text{percent of active males in “urban occupations.”} \]
Those countries lying above the regression line, having a larger percentage urban than “merited” by the percentage in urban occupations, such as Egypt, are taken to be overurbanized. The irrelevance of such cross-country comparisons, as well as historical analogies (see [10]), which compare “normal” time paths with those of particular countries, was noted by Sovani: “It is surely unnecessary to further labor the obvious—that the definitions of ‘overurbanization’ developed so far are chimerical and so unusable” [7; 117]. The analytical discussion of Sovani found empirical support in the work of Kamerschen:

Through the use of economic analysis, multivariate statistical techniques, and appropriate cross-sectional data, two general conclusions are reached: (1) there is no invariant (positive) correlation between rural pressure and overurbanization; and (2) there is no significantly closer (positive) relationship between industrialization and urbanization in all countries, or more especially developed countries, than in the underdeveloped countries. Both of these conclusions are at odds with the usual formulation of the overurbanization hypothesis [4; 242].

However, neither of these authors provide an alternative definition of overurbanization.

Other authors consider overurbanization to be present, without explicitly defining it, when very high rates of unemployment, pervasive poverty, slums, and overburdened public services are observed in an urban area. This definition is deceptively appealing; on closer examination many of these characteristics actually suggest quite the opposite conclusion: too little capital stock is present in cities so characterized. The important thing to note here is that people voluntarily move to the already over-crowded cities—in their private decision-making calculus the benefits must exceed the costs. This view, as applied to observed urban immigration in the presence of high rates of urban unemployment, has been modeled formally by Todaro [8]. If benefits are greater than costs for society as a whole, as well as for the individuals composing it, then real national product is increased by movement to the crowded city—there is nothing to suggest “overurbanization.”

This implies that a proper definition of overurbanization would involve the presence of negative net external effects for the city size in question. That is, as small cities get larger there are generally positive external social benefits initially—the agglomeration economies already discussed, consumer benefits from a greater variety of goods available for choice, lower per capita costs of provision of sewers, trash collection, and so on. But there are also negative externalities associated with city size. As an individual enters a city he does not consider the congestion, pollution, noise, blight, and other negative effects his presence confers on others. If these latter effects come to dominate the former, as they

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1 See [1].
eventually are likely to, the city may be said to be overurbanized. Interestingly, if all externalities were internalized, the city would be optimally sized regardless of the level of poverty, unemployment, poor housing, and the like that are observed on the urban scene. This definition of overurbanization (and underurbanization), which involves net external effects, has been applied to the United States by Tolley, Graves, and Gardner [9]. However, the empirical tests of overurbanization in the development literature described briefly above do not yet address the net effects of positive and negative externalities.

With this view of overurbanization, the fact that currently developing countries are urbanizing much more rapidly than was the case historically says nothing about overurbanization per se. This is merely a manifestation of a changed dynamic process resulting from readily transferable recent communication and transportation technology. These processes are noncomparable from the view of one wishing to understand overurbanization, except insofar as externalities are affected.

Summary and Conclusions

In this paper, the analytical foundations for two fruitful redirections for future empirical research into the urbanization process in LDCs have been proposed. In consideration of the economic growth-industrialization-urbanization triad, it is argued that insights flow from analysis of the changing composition of expenditures as per capita income rises. The pervasive observation is that expenditure shares vary as income varies and this, combined with the scale economies prevalent for certain types of goods, explains the logistic urbanization pattern commonly experienced.

Regarding questions of when the urbanization patterns observed represent overurbanization, a void in the development literature was created when Sovani noted the irrelevance of the then-prevalent approach. This void resulted in authors skirting the issue by addressing "symptoms" of overurbanization: housing shortages, high unemployment, and over-extended public services. However, with the definition of overurbanization presented here—a definition involving net positive or negative external effects associated with city size—many policy conclusions for developing countries are reversed, while others become modified. Most notable is the fact that a city, in spite of the presence of widespread poverty and urban ills, may be either too large or too small from a social standpoint, the answer depending on whether net external effects are negative or positive.
References


