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"The Economic Analysis of Urbanization and Development Moving Beyond The Constraints of Prevailing Defitions and Approaches."

By

Dr. Eliezer B. Ayal

THE ECONOMIC ANALYSIS OF URBANIZATION AND DEVELOPMENT-MOVING BEYOND THE CONSTRAINTS OF PREVAILING DEFINITIONS AND APPROACHES

Eliezer B. Ayal

Studies in market economies show that there has been an almost universal positive relationship between the growth of urbanization and of industrialization as well as of per capita income. In fact, it can be stated categorically that never has there been a significant economic growth in any country without an urban structure. The causal relationship is not fully established, however.

The question of how urbanization is related to economic growth is only beginning to attract systematic research. Until recently the treatment of the subject has been confined to generalized statements such as the following :

> Schumpeter: "Modern economic processes are to a great extent contingent upon agglomerations of population in the cities."

> Kingsley Davis: "Urban growth is an excellent indicator to measure the economic and social development of a region." [1]

A World Bank panel, after reporting that the percentage of the populations of Asia, Africa, and Latin America living in cities grew from 5 % around 1900 to 15 % in 1950 and to 36% in 1975, stated:

> "This increased urbanization of the developing world is a natural step in the process of economic development and one followed previously by the presently developed economies."[2]

These statements differ in the underlying assumed lines of causation. In Schumpeter, urbanization is a major cause of economic growth. In Davis it is more of a symptom. The World Bank panel is

non-commital with regard to causation (while taking for granted that history repeats itself).

Edmundo Flores sums up the causal sequence in what he regards as the "classical argument" as follows: "Urban growth produced substantial external economies and externalities, and the fast spread of cities, in turn, triggered far-reaching changes in the subsistence pattern of land utilization."[3] This leaves unexplained such questions as: Why some cities did not have this influence on surrounding areas ? What gave rise to the emergence of cities in the first place? (Flores himself, incidentally, objects to this "Classical" view because he believes that the growth of cities in the LDC was "unnatural" in that it did not arise from "integral internal needs " but rather external needs such as serving as entrepot for colonial powers.)

A very strong believer in the central importance of cities in the whole process of economic development is Jane Jacobs. Already in her first book, published in 1969, she maintained that all organized production, agriculture expressly included, originated in cities and then spread to the countryside, rather than the other way around, as was widely believed. She has continued to develop her ideas, and in her 1984 book she maintains that only areas possessing vibrant cities which replace "imports" from other areas can sustain continuous economic progress.[4]

An inductive theory, which has been around for some time although not originally intended as an explanation for urbanization as such, is "Structural change." It maintains that in the course

of economic development the structure of production first shifts

from primary products (mostly food and other agriculture) to

secondary products (mostly manufacturing) and then to tertiary

products (mostly services). This change is attributed primarily

to the income elasticity of demand which is high for secondary

and, at still higher incomes, high for tertiary products. Some

writers, notably Kuznets, pointed to some changes on the supply

side as well. Sundrum developed a model combining both the supply

side (the ratio of sectoral productivity growth) and the demand

side (the ratio of the sectoral income elasticities of demand).[5]

When the analysis is confined to the demand explanation the

implication is that urbanization is primarily a result of economic

progress. But when the supply side is included, then, if it could

be shown that urbanization contributes to productivity growth,

urbanization is a cause of economic development.

During the 1950's and 1960's a number of scholars made

empirical studies to confirm or deny the existence of "over-urbani-

zation" in the LDC. Although the theoretical underpining, if any,

was not spelled out, the notion pursued seemed to be that there

should be equivalence between the degree of urba ization vis-a-vis

industrialization and/or the level of per capita income. Those

claiming "over-urbanization" implied that, primarily because of some

interferences with the economies of some LDC, the urbanization process

was too fast in relation to per capita income or to the degree of

industrialization. Here again urbanization is viewed as a symptom or

a dependent variable; a reason for concern rather than as a contributor

to growth.

Another line of investigation, mostly by urban economists, has been the work done on economics of city size and agglomeration. Although the theoretical work in this area is more developed and systematic, it is still at the beginning stages. Moreover, the focus is on size economies occurring inside the cities and only incidentally on the impact on the aggregate economy. The few do refer to such possible impact associate it with the characteristics of the spatial and size distribution of cities. The implication is that if there is spill-over of agglomeration economies from the metropolitan to the surrounding areas it is confined to a certain range. Therefore, smaller cities should be within that range to benefit from it. Metropolitan areas, on the other hand, should not be too close to each other.

Problems with Difinitions and Data

An important reason for the slow progress in the formulation of rigorous economic theories is that neither urbanization not city size are strictly economic variables. The usual definitions are given mostly in terms of population and its concentration. The following would be a fair composite definition of urban areas combining elements from various definitions encountered in the literature: "Urban areas are places where a certain minimum number of people live in close proximity with the majority engaged in non-agricultural occupations." The occupational aspect of this definition is, however, seldom captured by censuses, and data on urbanization are usually presented only in terms of population size or according to administrative criteria. Since different countries

have different definitions as to what minimum population size
constitutes a city, and since some provide data by metropolitan
areas while others by jurisdictional units, confusion abound in
comparative studies. Such data constraints cause obvious problems
for the analysts (although there is good reason to expect continuing
improvement in data availability). Moreover, the definition itself
is much too narrow in that it does not reflect the economic impact
of cities on the surrounding areas in particular and the overall
economy in general.

Even a resolution of the data problems will not remove the
doubts whether city size (let alone urbanization) is a truly independent
variable. Richardson suggests, for example, that in at least some
cases city size may be "an intervening variable that forms a
statistical link between one variable and another and may stand as
a surrogate for one of them but is not the real independent variable
itself."[6] This raises obvious problems of specification in empirical
studies. There are also identification problems as, for example,
in cases where a certain finding, such as higher income in a large
city, might be caused by economic structure due to factors such as
advantageous location, and not due directly to city size, e.g., the
city might have become large because its economy was successful.

The "Over-Urbanization" Controversy

Although the over-urbanization controversy mentioned above
has largely subsided, it is worth summing up the main findings and
the lessons learned from that episode. Overall it is a good example
for how in the absence of a comprehensive theory to guide and interpret

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the findings, the researchers are forced to nibble at the subject under pressure of events or of the concern of policy-makers.

There were basically two hypotheses which were tested and later challenged :

1) That countries that deviate from a cross country correlation or regression line relating the degree of urbanization to industrialization and/or per capita income, demonstrate "over-urbanization."

2) That those LDC whose degree of urbanization was higher than that which has prevailed in the now developed countries when they were at the same level of development exhibit "over-urbanization."

The article that started the controversy was the one written in 1954 by Kingsley Davis and Hilda (Hertz) Golden. They ran a cross section correlation analysis for a large number of countries, with data circa 1950, between the percentage of active males engaged in non-agricultural activities and the percentage of population residing in cities with 100,000 and above. They reported a zero-order Pearsorian product-moment correlation coefficient of + .86. When the relationship was represented in the form of a regression line they found that Egypt, Greece, Korea, and perhaps Lebanon were significantly off the line, suggesting overurbanization in these countries.[7]

There are problems with this study, a couple of which were raised by N.V. Sovani. He shows that the assumption that the pyramid

of cities by size is similar among countries (which would have
made valid their use only of cities of 100,000 and above for
comparative purposes) is not supported by available evidence. He
also points out that if one considers the countries on one side
of the regression as overurbanized one should consider those lying
on the other side as underurbanized, which is equally "abnormal."[8]

While in the cross country study above the regression line
represented the norm, in the following historical analogy the norm
was the ratios which prevailed in the U.S., France, Germany and
Canada when these developed countries had the same level of urbani-
zation as the LDC. A UNESCO seminar (with Phillip M. Hauser as
rapporteur) came up with the following results when comparing
Asian countries in the early 1950's to the above norm. While
historically the developed countries had about 55% of their labor
force in non-agricultural occupations when 1/12 of their populations
lived in cities, the Asian countries had only 33% in such occupations
at the same levels of urbanization. Therefore Asia was deemed to
be "comparatively over-urbanized in relation to its degree of
economic development."[9]

There are problems with this study too. An obvious question
is whether the norm is an appropriate one for comparison. One
could argue, as does Sovani, with equal justification, that the
developed countries were over-industrialized or under-urbanized.
An example he brings up, and one which will be useful for our
argument later, is that of Switzerland. In 1888, 60% of its labor
force was in non-agricultural occupations while there was not a
single city with a population of 100,000 or more in the entire

country at that time.[10] He also points out that the two criteria--
The Davis Golden one and the UNESCO one--were in conflict in that
some countries would be judged as being over-urbanized by one
criterion but not by the other.

Sovani himself did some empirical testing of his own using
the same classifications. For his cross section analysis he took
41 countries which had data for urbanization (with cities of 100,000
or more) and occupational distribution for the same year in the period
from 1946 to 1951. The simple correlation coefficient was $r = 0.70$.
For the 17 developed countries in the group he got $r = 0.395$ and
for the remaining 24 he had $r - 0.85$. Repeating this analysis for
13 developed countries with 1891 data he got $r = 0.84$ (which would
have been even high if females were excluded as was the case with
the recent data). These results indicated to him that the correlation
is stronger during the early stages of industrialization than "when
both processes have gone much further.[11] We will return to this idea
that different stages of industrialization are associated with
different rates of urbanization.

He then tried to test his ideas with time-series data for
England and Wales, the U.S., Canada, France and Sweden. Although
he maintains that his exercise "gave significant results" he does
not provide details of the methods used except for the following:
"When the two variables are plotted for each country separately and
compared over periods varying from 80 to 100 years the two curves
are found to be broadly of similar shape but to differ considerably
with regard to the distance between them at different times, as well

as in the way they develop or grow with time."[12] He concludes from this that correlations such as that of Davis and Golden would vary at different stages of industrialization and would not be stable over time.

We now turn to studies which explicitly introduce per-capita income. One of the earliest was the study by Leo F. Schnore.[13] He derived Spearman Rank-correlation coefficients (r_s) on cross-sectional data circa 1950-1955 for 54 countries. Results :

The correlation coefficient between per-capita income (in 1949 U.S. dollars) and the percentage of the population in cities of more than 20,000 was—r_s = +.69. When repeated with the percentage of population in metropolitan areas the r_s was + .74. When he related "industrialization"—the percentage of active male population in non-agricultural activities—to each of the two indices of urbanization used above, this time with 69 countries, he got r_s = + .77 and r_s = +.87, respectively.

Schnore did much more in that paper, however. In part it was to relate urbanization to a number of conceptually separable aspects of "modernization" (such as energy consumption and literacy level) as well as to rank-correlate the various variables and, through factor analysis, determine that all these variables behave as if they reflected a common "fundamental structure." This, he said, might be called "modernization." Inasmuch as it is related to urbanization he believed the following statement to be warranted by the then available evidence (being fully aware of the methodological reservations one might have about the statistical techniques used):

"Agglomeration of population is stimulated by industrial transformati.
...and by technological changes in the direction of more efficient
energy conversion. But, in addition, massing in cities permits a
higher degree of specialization; external economies, economies of
scale, etc. Indeed, increasing agglomeration of population in large
units would seem to be an intrinsic part of general economic
advancement."[14]

When summarizing his results he added: "We have demonstrated
that the common identifications of urbanization and industrialization
is woefully incomplete; variations in industrial structure do not
tell the whole story of population concentration. In fact, the
evidence would support equally strongly the view that massing in
cities can be attributed to technological progress—in the sense
of expansion of the energy base, improvements in transportation and
communication, etc.— or to any of a host of other variables."[15]

Tee latest article by an economist in that controversy was
Kamerschen's.[16] His study is more involved, in that it has more
variables and more countries than the earlier studies (except for
Schnore's if we count the non-economic variables). He also reports
the results and procedures more fully, some of which we proceed to
summarize. A sample of 80 countries with data (or "guesstimates")
for 1955 and 1956 was further subdivided into developed (18) and
underdeveloped (62), the latter being those countries having a per
capita income less than one-quarter of the United States. Of the
eight variables, four were designed to test the thesis that "Over-
urbanization" is a result of rural population pressure (population

density, density per hectare of cultivated land, farmers per hectare of cultivated land, and percentage of land area cultivated). None were found to have significant positive relationships with urbanization. He did not, however, test for agricultural productivity which has to be an important factor in any rural push thesis. Table 1 present his results for the other variables.

Kamerschen takes these results to imply "that the pace of urbanization is much more closely dependent on the pace of industrialization in U (underdeveloped) than in D (developed) countries. This, he says, is contrary to "the usual formulation of the overt urbanization thesis."[17] He also ran numerous cross-sectional multiple regressions with the same series of data leading to similar conclusions.

The empirical work encouraged by this controversy yielded some useful results. The most interesting for our purpose are those of Sovani and Kamerschen which show that the strength of the relationship between urbanization and economic growth differs according to the level of development. Similarly, Schnore's results and conclusions are very interesting although less manageable. He implies a feedback model where urban population is a function of "industrial transformation" and technological change and some other variables. The massing of people in cities, in turn, facilitates specialization, economies of scale etc. which increase productivity and further transformation.

The S Shaped Curve.

One of the important implications of the findings of Sovani and Kamerschen is that the association between urbanization and non-agricultural occupations is stronger at low than at high

levels of per-capita income. Work done in more recent years helped

bring the relationship into sharper focus. In a book published in

1971 two scholars suggested that "urbanization follows

Table 1

SIMPLE CORRELATION COEFFICIENT MATRICES

Variables		X_1	X_2	X_3	X_4
All countries (N = 80)					
	X_1	1.00	-.13	.79 (7.0620)	.65 (5.811)
	X_2		1.00	-.14	-.19
	X_3			1.00	.78
	X_8				1.00
Developed Countries (N = 18)					
	X_1	1.00	-.19	.59 (2.5016)	.19 (0.8056)
	X_2		1.00	-.21	-.26
	X_3			1.00	.46
	X_8				1.00
Undeveloped Countries (N = 62)					
	X_1	1.00	-.02	.67 (5.2729)	.51 (4.0137)
	X_2		1.00	.10	.10
	X_3			1.00	.63
	X_8				1.00

where X_1 = % of population in cities with 20,000 and more

X_2 = of the population in the four largest cities residing in the largest city

X_3 = % of active population in non-agricultural occupations

X_8 = per capita income in U.S. dollars

Source: Kamerschen 1969, 113. T test values added.

a rising S-curve from a level of 10 percent or less urbanization
to levels of 80 percent or more urbanization..."[18] Interestingly
enough, they arrived at this idea through reasoning of the "structural
change" variety..... "The urbanization curve" they say at the end
of the sentence quoted above, "closely follows the tertiary sector
curve."

A World Bank study in 1972 related the "percent of total
population living in urban centers" (where different definitions
of "urban" had to be used according to the practices in the different
countries) with GNP per capita (1969 U.S. $). They found the best
fitting curve to be of the type: $H = \dfrac{1}{1 + b_e - (\log GNP)^c}$ When
plotted on a semi-logarithmic paper it has an S shape, the slope
of which tapers off about $1,000 per capita.[19]

No further details are provided there, but the scatter
diagram shows substantial variance on both sides of the fitted curve.

The more recent World Bank study, by Chenery and Syrquin,
used the following semilog formulations (prepared for more general
purposes) for estimating the relationship.

Equation (1.1) $X = \alpha + \beta_1 \ln Y + \beta_2 (\ln Y)^2 + \gamma_1 \ln N + \gamma_2 (\ln N)^2 +$
$$+ \delta_1 T_1 + \delta_2 T_2 + \delta_3 T_3$$

Equation (1.2)   The same as (1.1) plus ϵF

where X = urban % of total population

   Y = GNP per capita in 1964 U.S. dollars

   N = population in millions

   F = net resource inflow as a share of GNP

T_1 = 1 for time period 1950-1954

T_2 = 1 for time period 1955-1959

T_3 = 1 for time period 1960-1964

The regression results are to be found in Table 2.

They found no confirmation "to the popular impression that migration to the cities has accumulated recently." Their regression shows no significant time trend. The basic shape of the fitted curve is again approximately S shaped.

It should be noted, however, that both here and in the World Bank 1972 study a considerable number of coun-ries were substantially off the regression line on both sides. Chenery-Syrquin maintain that those countries which were more urbanized than "predicted" tended to be those having development patterns which they classified as either "industry oriented" or "import substitution." The less urbanized than "predicted" tended to be those classified as either "primary oriented" or "balanced." And then there were Switzerland and Portugal which, although being "under-urbanized," were still "industry oriented."

Lingering doubts due to such differences and exceptions, and questions about the suitability of these equations for our purposes, do not detract from the further support this study lends to the evidence that the broad line of urbanization is S shaped when related to per capita income.[20]

The Necessary Rupture in the Correlation

The S curve implies that the pace of urbanization slows
down at higher levels of development which means that the correla-
tions reported above are bound to weaken at those levels. In fact,
given the way urbanization is measured--the percentage of the total
population residing in urban areas--urbanization is self-limiting.
There is no known reason to assume that there is a similar limit on
economic growth. Furthermore, there are already countries that have
reached very close to 100 % urbanization. The obvious examples are
Hong Kong and Singapore. Even some more substantial countries, such
as the United Kingdom, have come very close to the upper limits of
urbanization. The economies of these countries continue to grow
without a parallel growth in urbanization.

How can this be reconciled with the many studies, including
those mentioned above, establishing significant correlation between
the two ? Some apparently sensible explanations offered by other
are not entirely satisfactory. For example, it has been maintained
that urbanization was a statistical surrogate for industrialization
and manufacturing. Since most such activities tend to be located
in urban areas they are obviously correlated with urbanization.
Were this the case it could be claimed that once an economy transcended
the secondary occupations there was no longer a reason for the
above-mentioned correlation to continue. Such arguments cannot provide
the explanation sought here. For one thing, the activities beyond
manufacturing are mostly services which also tend to be located in
urban areas. For another, the very vigorous growth in Hong Kong and

Table 2

Equation	Constant	lnY	$(lnY)^2$	lnN	$(lnN)^2$	F	T_1	T_2	T_3	R^2	SEE	Y mean/ Range	No. of Observations
(1.1)	-1.154 (4.854)	.365 (4.475)	-.016 (2.308)	.019 (1.003)	-.002 (.487)		-.017 (.203)	-.019 (.368)	-.066 (.306)	.666	.127	494 34/3201	317
(1.2)	-1.155 (4.863)	.563 (4.454)	-.016 (2.291)	.023 (1.217)	0.002 (.663)	.122 (1.311)	-.013 (.624)	-.018 (.000)	-.006 (.325)	.668	.127	494 34/3201	317

Source: Chenery-Syrquin 1975, 49.

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Singapore has been associated, to a large extent, with manufacturing in these already fully-urbanized states.

Unless one assumes that urbanization as such plays no role in economic development, and what is known on the subject would preclude this, one has to seek to specify in what ways urbanization has contributed to economic development. The objective for such an exercise in the present context is to find what I call "the functional equivalents of urbanization" in countries which cannot or will not urbanize further. In other words, the benefits that in the past were attributable to the broad category of "urbanization" should be broken down so that it would be possible to investigate whether similar benefits could be derived, or have been derived, by avenues other than demographic urbanization.

Definitional and Conceptual Problems

The difficulties in making this transition conceptually derive from the fact that the definitions of urban areas are primarily demographic and geographic rather than economic. There has been a general recognition, of course, that once there is a city, however defined, it functioned differently from the rural areas. This includes set of products; different social organization, etc. Regional cities were said to provide services to the surrounding areas, often including the market place, etc. These and other functions of cities made a decisive contribution to the growth of the macro economy although this aggregate impact has scarcely been examined in the literature. The cities were in turn often "dependent" on the rural for food and raw materials.

But we have glaring exceptions that force us to pinpoint in what ways was urbanization as such a contributor to development. Besides the city states already mentioned, we have the case of the Soviet-type economies. There, their development proceeded with hardly a rise in urbanization.[21]

Even though the slow urbanization in the Soviet-type economies is a result of planning and control, as opposed to the freedom of movement of human and other factors in market economies, it is still instructive to study their record. Among the measures taken by these command-economies are the use of very capital-intensive techniques in manufacturing while discouraging workers from moving to town and encouraging more labor participation by those already in town (such as housewives). Because of housing shortages in towns many of the industrial workers commute to work. This was called "underurbanization."[22]

Although this is contrived by the authorities, the fact remains that they accomplish development without equivalent urbanization whether or not this is efficient in the long-run for continued growth of the economy is not easy to say. In the short run they save a lot in not having to expand urban infrastructure and services and in avoiding construction costs are actually not avoided but shifted to outlying areas).

An equivalent situation could be found in market economies where there are commuters and circular migrants. In production they are part of the urban economy but they enjoy only a partial use of the city services. If, as I believe to be the case, the main

contribution of the urban areas to the general economy is their high
productivity and inter-urban trade, the economy benefits from circular
migration in a manner similar to what would have occured if urbaniza-
tion look place.

In order to understand why these are largely functional
equivalents of urbanization we have to analyze why and in what ways
would urbanization contribute to economic growth. Continuing with
familier terminology, there are two means by which the urban areas
can raise aggregate per capita income. One is the economies of
agglomeration that are alleged to occur in cities. Since urbanization
growth involves more and bigger cities, the higher income usually
found there raises the measured aggregate and per capita income.
The other is the intersectoral economic relations through which these
benefits can spread to the rest of the country, both in the form of
diffusion of technology, investment etc., and as a result of the
gains from intersectoral trade. A very important subset of such
interactions is the trade and information flows among cities. The
more active and intense such interactions the more developed would
be the economy, and vice-versa.

Economic Urbanization

I am trying to promote here a less conventional way of
approaching this question for reasons which will become clearer as
we proceed. In order to do that we have to free ourselves from the
shackles of the prevailing definitions and measurements of urbanization.
Up to now the determination as to what is considered urban has been
done on the basis of the number of people in proximity areas. Both

the minimum numbers of people and the delineation of the areas are
arbitrarily determined and differ among countries and often even
between periods in the same country. Besides creating confusion
and inconsistencies, these prevailing methods of determining and
measuring urban areas, their size, and the overall urbanization,
reveal the absence of any clear, let along rigorous definition.

However, thanks .to the prodigious work of urban economists
we are becoming more and more familiar with the factors, processes
and conditions which contribute to the statistically verified claims
that productivity and efficiency and economies of scale are higher
in cities than in the non-urban areas. What I am trying to do here
is to isolate and identify these contributing factors. Together
they constitute what I will call economic urbanization," as distinct
from "demographic urbanization" and "geographic urbanization."

The distinction is important not only because it narrows
down the focus on those elements which have economic significance,
but also because a central hypothesis of mine is that economic
urbanization can develop even when no further demographic or
geographic urbanization takes place. (Incidentally, I am not implying
that there are no economic reasons or consequences to these aspects
of urbanization, only that they are not economic concepts) To be
more specific, while historically, and still today in less affluent
societies, all three kinds of urbanization progressed together, this
association breaks down at higher levels of per capita income.

We have already noted that, by definition, no country can be
more than 100 % urbanized in the demographic sense. It is doubtful
that even this limit can ever be reached even in city states such

as Hong Kong and Singapore. Yet the proclaimed economies of agglomeration presumably continue to contribute to economic growth and there is no known upper limit to per capita income. In other words "economic urbanization" continues to grow irrespective of the demographic limits. It is important to point out here that this is not an arbitrary extension of the term urbanization. We are focusing here on the unique contribution of city economies, such as agglomeration, as distinct from standard determinants of growth such as capital accumulation. Economic urbanization is a productive process which generates externalities and similar economies. Even if one views urbanization as a mere catalyst of capital accumulation and technological progress, it still provides a unique contribution which will not cease with the abatement of demographic urbanization. As already noted, historically no development has ever taken place in the absence of cities.

A look at agriculture will help furthe our understanding of economic urbanization. The statistical evidence shows that with increased urbanization agricultural productivity increases as well, in many cases even faster than urban productivity (although in absolute terms per capita income is generally still higher in urban areas). The conventional wisdom has been that such increased agricultural productivity occurred prior to urbanization. Namely, agriculture produced a "surplus" which enabled the creation of cities. One can make a forceful argument in the opposite direction. The major contributing factors to higher agricultural productivity are of city origin, the results of research, new machines, storage

facilities, refrigeration, chemical fertilizers, organization of
production and marketing, etc. The more developed the country, the
more "urbanized" is its agriculture. The methods of producing eggs
in the U.S. for example, are indistinguishable from stream-lined
manufacturing-- in organization of production, intensity of land
use, management of input and output, and the benefits of proximity
to the market.

If one views urbanization merely as a symptom of the
"transitional period" then the upper bend of the S curve need not
create apprehensions. Growth may continue, although it is not
clear what would be the dynamic forces assuring such growth. If,
however, one takes the position that urbanization was a contributor
to growth, then there is the distinct theoretical possibility of the
leveling off of per capita income and an accompanying economic
stagnation with the leveling of the rate of urbanization. There
might be a grace period during which there will be further metropo-
litanization. But this process is also self limiting.

Recent data from the U.S. (and even India) have shown that
the trend toward further metropolitanization seems to have slowed
down and even reversed. This must mean that diseconomies begin to
outweight economies of agglomeration in very large urban units,
and/or that the non-metropolitan areas have acquired attributes which
make them relatively more attractive. There is no clear evidence that
the constraints on metropolitan size have slowed-down economic growth.
In other words, "economic urbanization" has not stopped.

By the term "economic urbanization" I am trying to capture the contributions to economic growth which were historically ascribed to urbanization, such as agglomeration economies. For our purposes it is important to separate between those economies ascribable to the size of urban population and those which, although historically they might have been associated with the size of urban population, can continue to be effective without further urbanization. Put differently, a highly developed economy is "urban" in the economic sense whether or not people live in large urban areas. Switzerland introduced direct dialing system throughout the country long before it was introduced in major cities elsewhere, some of which have larger populations than in the whole of Switzerland. In more traditional terms, what is crucial is the size of the market and this is determined not merely by population size but largely by the per capita income and by efficient low cost transportation and communication. It may take less time and cost to deliver goods between two small Swiss towns than between points in New York City.

Agglomeration Economies

At this stage we have to digress in order to view more closely the concept of economies of agglomeration. The higher productivity in the urban areas (at least in the way we measure productivity) is often ascribed to such economies. It is also important for the understanding of my concept of "economic urbanization," as well as for any hypothesis which views urbanization as a contributor or even a generator or growth.

There is prima facie evidence that cities have attributes,
by virtue of being cities, which convey economic benefits. Many
industries in market economies prefer to locate in urban areas.
Since this is done freely by profit-seeking firms and individuals
one is led to conclude that such benefits exist. But when one
attempts to find out what brings about those benefits, it turns out
to be a more onerous task than one would have wished. The main
reason for this is that, like the benefits accruing from specialization
and division of labor first proclaimed by Adam Smith, such benefits
are usually ascribed to factors other than the familiar economic
variables, or else are not amenable to measurement.

A short summary of three empirical studies will provide a
proper perspective.

Mera's main objective in his well known article is to
counter arguments that the higher income in larger cities, which was
found to exist in many countries, is due to higher social overhead
investment in such cities. His data, primarily from Japan but also
from other countries, appear to sustain his claim. He even maintains
that social overhead per capita actually declines as density increases.
At one point he makes a statement which is directly pertinent to our
subject: "urban concentration is a necessary condition for economic
development in an early state."[23]

Sveikaukas' main finding, with U.S. data, is that doubling
of city size is typically associated with about 6% increase in labor
productivity. This appears to be due primarily to Hicks-neutral
technological improvement and only partly to higher K/L ratio. Tests

to find whether this is due to higher average city size, or larger industry size, or greater volume of economic activity proved inconclusive. He suspects, but does not test, that such higher productivity is brought about by specialization, division of labor and the innovativeness of city people.[24]

In the third significant article in this vein, Segal reports that the return to factors in SMSA's (in the U.S.) with more than two million inhabitants were 8% higher than in the other SMSA's. Since he finds constant returns to scale, he concludes that there is evidently an "agglomeration effect"--a change in the connstant term causing a shift in the production function.[25] When it comes to identifying the factors responsible for it he says that "apparently" there are economies in transport and communications in the very largest cities. But this was not directly tested.

We are thus left to conclude that city size is associated with higher income and productivity but we do not know why it is so.

At the risk of being tedious, I am going to present here a comprehensive list of the elements that are supposed to constitute the agglomeration economies that have been mentioned in the literature. The purpose is to see what common denominators, if any, can be gleaned from that list. These elements may be sub-classified as follows:

I) Those Which Are Ascribable to Economies of Scale

These seem to be applicable almost exclusively to public services or utilities such as water and sewage. I am not sure we can include electricity, gas, and telephone since these are usually

provided from outside the city and the scale of operation usually
covers wider areas than the city.

Other possible scale economies may occur to some industries
if their clientelle in the city is large enough for optimum size
while the sales costs would outweigh the benefits if they had to
distribute and sell further away.

II) Ascribable to External Economies

II a: To Firms

The availability of a pool of potential employees at all
levels of skill. The supply of such skilled labor is supposed to
be more plentiful, more elastic, and easier to recruit in sizable
cities.

The same applies to a variety of business services the
firms might require, such as outside consulting, legal, accounting
and computing services, access to banks and companies handling new
issues of stocks and bonds, etc.

Opportunities for specialization. Because the market is
so large, a company can concentrate on the production of only one
item which presumably will allow high proficiency, lower cost and
efficient size,

Face to face communication and information is claimed to
be superior and is facilitated by the proximity within the city.

All the above benefit from saving on the transport costs
to and from other locations. Also, presumably most improvements in
transportation facilities benefit the city. In this connection the

literature usuaellyassumes that proximity to airports and, in general, technical improvements in transportation benefit the cities more than the countryside.

II.b : To Individuals and Families

Because it contains many businesses the city has a variety of jobs and opportunities for higher income.

Complementing these are the wide variety of consumer goods and services as well as entertainment. Also important are the educational facilities for the children which are usually more extensive than in the rural areas.

III : Generalizations

A number of generalizations could be made about these externalities:

1) It is very difficult, if not possible, to measure these economies.

2) It is not clear whether these are a function of city size. In fact, there is reason to believe that, for some of these, a relatively small size would be sufficient for realizing such economies. Namely they have a low "threshold."

3) What might be external economies for individual units might have cost society substantially in the form or building the infrastructure. Similarly, the people constituting the "pools" of skilled workers and managers were trained at a cost to either the government or previous employers. Nonetheless, these facts do not preclude additional agglomeration economies in urban areas. These

are claimed to be demonstrated by the higher returns to investment
(both social and private) as well as lower search costs in the cities.

4) On the other side of the ledger there are the external
diseconomies. A good example is traffic jams which cause substantial
losses in terms of time lost (opportunity cost) and fuel waste.

5) Almost all of these economies are affected by transpor-
tation and communication costs.

All This can probably be best summerized by what Richardson
called "the multiple functions of agglomeration economies" which are the
following:

"to boost the rate of innovation and productivity, to
improve the efficiency of spacial structure, to attract
industry and capital, and to attract (or retain) households."[26]

Based on all that was discussed so far I have arrived at
the following tentative definition of my concept of Economic Urbanization.
It is :

the extension of the size of the market, specialization
and exchange; the increase in the speed of interaction
between economic units; the initiation and distribution
of innovations and the lowering of the cost of transpor-
tation and communication relative to other cost.

These processes have been historically associated in many
countries with demographic and geographic urbanization. But the
degree of association with these related phenomena is a function of
technological progress, especially in transportation and communication.
We are now entering into an era in which this association will progressively

weaken. Namely, there will be progressively less need for further demographic urbanization for development to proceed. This explains the upper bend in the S shaped curve which shows continuing growth in per capita income without further demographic urbanization.

One example of the advantages of this approach is that we are no longer confined to arbitrarily delineated "urban areas," but can investigate whole regions and whole states. Also, we are no longer tied to the rather unconvincing presumption that the mere congregation of many people in a small area necessarily increases productivity.

Systems of Cities

Ours is, of course, not the first attempt to think in functional terms about the urban phenomenon. It would be useful, therefore, to try to benefit from such earlier work. Ever since the pioneering work of Christaller, those concerned with regional and urban study had to establish the economic functions of urban areas. This was particularly important for those concerned with analytical schemes such as the central-place approach. But this turned out to be a very involved procedure because of the multiplicity and variability of functions found in different cities, including small ones. A commonly used method, originated by Davis, is the formula : $C = \frac{t}{T}$ 100 where C = the location coefficient of functions t; t = one outlet of function t; and T - total number of such outlets in the area studied. The larger the number of outlets in an area the higher the concentration indicator for function t. This can be

repeated with other functions. From summing up these centrality

values we can derive a functional index. What has been observed,

however, is that the value of individual indicators keep changing

and are either replaced by new functions or, sometimes, even disappear.

There seems to be some consensus that the more numerous and complex

the functions performed by an urban area the more important the city

is as a contributor to surrounding areas. There is no consensus as

to whether the multiplicity of functions grows with the size of the

city; although a town cannot be very small if it is to contain many

functioning units.

Such studies of functions are obviously very important

but they are not sufficient to address the issue before us. The

composition of functions differs among cities, as one would expect,

given the diversity in natural resource distribution, closeness or

distance of other urban centers, etc. Also, it turns out that very

few such functions can be clearly identified with city size. This

leads us to the essential role of systems of cities.

Cities by themselves do not necessarily enhance development.

It is the interactions they have with the surrounding areas, and,

most importantly, with other cities which determines their contribution

to economic development. Another way of putting it is that what

is crucial is that there is a system of cities. One author even so

far as to say : "when the concept (of urban system) is developed

more fully, the urban system can embrace the totality of activities

in a nation, account for the observed relationship among regions,

and provide a model for the analysis of spatial variations of growth

and change in the system."[27]

Some writers suggested methods for the classifications of city systems which could be useful for the analysis of their impact on economic development. For example, Vapnarsky classified systems of cities by what he called "internal interaction or interdependence" and by "closure." The latter referring to relations which the outside world. He had four groups. One of them, entitled: "low internal interaction, or interdependence, and low closure" refers to such situations as the main port cities in former colonies. They are alleged to have little interactions with the rest of the country, but having substantial trade internationally, especially with the former colonial masters.

The main contribution of his classification is that it focuses attention on (1) the interactions and interdependence among cities which bring out the information of whether the urban areas could be judged as being a city system; and (2) the degree of interaction with the outside world, "closure" meaning little interaction, what economists would call autarky.

For the sake of greater generality and comprehensiveness it is useful to arrange the systems of cities in a somewhat different manner. Namely, taking into account the various theories about the size distribution of cities, as well as relating the city systems to the stage of growth of the economy. To my knowledge Carter came closest to classifying city systems in such a way. Therefore, the following breakdown is based on his.

1. Separation. Here there are no relations between the cities. A good example is the early history of Australia where Perth in the west was effectively separated from the east coast, having little if any interaction.

A related situation is that of "convexity:" where, on a graph relating the log of the population against the log of the rank in the city hierarchy, the urban settlements are distributed not on a straight line. Such a distribution often reflects low "integration" in the wider system. This portrays the situation in the first colonies in North America, for example.

2. Primacy. A situation where one very large city predominates over all others. But no universal rigid definition exists for primary. The origin of this phenomenon is not clear, although it appears to be connected with absolute leaders or colonial control. Historically it has been more prevalent at lower income countries than in developed ones.

3. Hierarchy. This is postulated by central place theory. Settlements occur in a series of well marked size steps; the number in each lower step being greater. In the purest interpretation there is a direct relationship between the number of town in each of these steps, (or "ranks," or "grades" the terms more frequently used) and their population size. The hierarchical arrangement is often considered to be a consequence of the interaction and competition between centers and can only occur under conditions of active trade and easy movement.

4. <u>Continuum</u>. This is known as the rank size rule.
It will register a straight line on a logarithmic paper : the size
of any city multiplied by its rank would be equal to the size of
the largest city. This was first proposed by Zipf. This supposedly
comes about because of two sets of opposed tendencies:

(a) Many communities benefiting from proximity to raw
material sources (minimizing transportation costs) moved toward
diversificaton.

(b) Few large communities (minimizing costs of movements
of finished goods to consumers) move toward unification.

The emerging balance of these opposing forces is the
rank-size rule.

5. <u>Disorder or disarray</u>. The basic premise here is
complete randomness. This is based on the physical science concept
of entropy, but requires a closed system, which is very unlikely
for urban systems.

Some view these five structures as <u>stages</u> in the evoluation
of city systems and implying that they demonstrate some equivalence
to the "stages of growth" scheme proposed by Rostow. To be more
usable for development analysis these structures have to be filled
with more functional economic content, especially evidence of economic
interactions among the cities comprising the assumed "system." Moreover,
the same doubts expressed about Roslow's scheme apply here too. In
particular, it is not sure whether one can view these as necessarily
sequential. Until these issues are resolved, it would be advisable
to have a pragmatic tentative conceptualization. Since countries

with similar per-capita income and rates of urbanization have differing city hierarchies, we might assume that every country has the city system that either reflects or is the cause of the state of that country's economy.

Before proceeding further we should remind ourselves that urbanization and urban growth are separate phenomena, albeit related. The same applies to the distinction between urbanization and urban concentration. A recent study indicates that these "are to some extent separable components of the development process, each likely to have its own social consequences and, by implication, to call for a different policy."[28]

Since almost all modern activities take place in cities it is not surprising that scholars from different disciplines have maintained that economic development and, in fact, almost anything else of importance socially and culturally takes place in and among the urban areas. This highlights the importance of the totality of the systems of cities. In this sense the ultimate urban system is the city-state. Unfortunately, very little empirical work has been done on economic relationships among cities in LDCs. Because of generally poor transportation facilities it is fair to assume that such interactions are not very pervasive. Moreover, even where transportation is relatively efficient the large distances between major urban centers would indicate that many of the urban functions are duplicative and therefore spatially competitive.

One interesting possible consequence of this is that cities that don't have other large cities close-by would tend to get very

large. Since this is a common situation in many LDC's it is
undoubtedly a contributing factor to primacy. An important implication
is that the optimum size of primate cities would be larger than
would have been the case were there competing cities in relatively
close proximity. By the same token, the larger the primate city
the smaller are the chances for contending large cities to emerge.
The limits to the growth of existing large cities would be caused
by the kind of factors mentioned in the latest publications of
Kelly and Williamson.[29] These are mostly the rising costs of living
in large urban centers, especially rent due to the limited and inelastic
supply of urban land at the centers of such cities. However, it is
not easy to predict when such limits could be expected in specific
cities.

Application To Thailand

The "economic urbanization" way of viewing the development
of Thailand is through the interaction of Bangkok with the rest of the
country and with abroad. In terms of the above classification of
city systems, TThailand would fall into category (2) with some
remaining elements of (1). Many good works were written on the
reasons for and the history of the growth of Bangkok. An excellent
example is the volume Thailand-Is it Bangkok ? published in Thai
by Thammasat University, Faculty of Economics in 1983. Much of the
focus of these articles was on the policy biases which favored
Bangkok over the rest of the country. This is in keeping with
the worldwide concern about equity in development between urban
and rural areas, as well as apprehensions about primacy.

In almost every area of activity the researchers showed that Bangkok benefited more from government policy measures than other parts of the country, both absolutely and in per capita terms. This includes such diverse areas as the provision of utilities, subsidized public transportation, financial services, education, etc. The implication is that such favoritism is partly responsible for the higher per capita income in Bangkok, both as expressed in nominal wages and salaries as well as in the partly external benefits of greater exposure to cultural and entertainment facilities.

This benefit-differential in favor of Bangkok is substantially responsible for the constant, and apparently accelerating stream of migrants to Bangkok from throughout the country. Unlike the prediction of the Todaro model, almost all migrants find employment very soon after or even before their move.[30] Almost all of them work in the private sector, which means that they are producing sellable products or services.[31]

Subsidized or not, Bangkok is an economically functioning city. This is not a blase attitude toward the social justice and the distributional implications of "city bias." Rather, our concern is to analyze the impact of the urban system of Thailand on its development. An example will illustrate this point. Public transportation is subsidized in Bangkok. This means that a bus trip is cheaper than in most other places in the country. This is clearly a "pro Bangkok" bias. However, there has been an ongoing debate, in the USA and elsewhere, whether public transportation should not be free altogether. Those favoring the idea maintain that easy

access contributes to the economic viability of downtown business;
allows poor workers to live in lower cost housing in the outskirts
of the city;it makes the relative cost of driving to work higher and
therefore discouraged, thereby saving the nation fuel cost, reduce
air pollution in downtown, reduce the allocation of scarce urban land
for parking lots, etc. Without debating the merits of this issue,
it serves as an example that there are many facets to an apparently
straight-forward issue.

The history of urbanization in Thailand is almost exclusively
the history of the growth of Bangkok which, in turn, is inseparable
from the economic growth of the country. According to Dr.Chira
(in an article in the volume Thailand-Is it Bangkok ? mentioned
above) the population of Bangkok barely increased between 1900
(600,000) and 1936 (650,000). This is interesting for at least two
reasons. One is that Bangkok was already a sizable city at the
beginning of the century, although there was barely any manufacturing
taking place. The other is that when industrialization was picking
up speed, the Bangkok population also increased at a fast rate. This
is seen most dramatically in the period 1960-1980 when the average
annual growth rate of migration to Bangkok was 7 %. This rate grew
even further to 9% between 1975-1981. Dr.Chira also noted that, with
improved transportation the geographical origin of the largest group
among the migrants shifted from the Central region (which is close to
Bangkok) to the Northeast (which is further away).

Although the attraction of Bangkok to migrants was substan-
tially influenced by the various policies favoring Bangkok, we reemphasize

that the fact that the vast majority of the migrants were employed
by the private sector points to the existence of a viable economy
in Bangkok. The question which remains is how does this economic
activity affect the rest of the economy. Most of the writers in
the volume "Thailand-is it Bangkok ? imply that there is no such
spread effect.

The article by Willaywan Wannithikul, "The Industrial
Sector and the Issue of 'Bangkok is Thailand'" in the same volume
addresses this problem directly. After enumerating the various
objective and policy reasons for the concentration of industries
in Bangkok he maintains that it is an "absorptive" (or even
"parasitic") rather than a "generative" city. He maintains that
it is not a "growth pole." Neither does it play a "distributive"
role for reasons such as the lack of linkages of the consumer
industries which are the most prevalent ones. But, significantly,
he also mentions the primacy of Bangkok and the absence in Thailand
of a hierarchical system of cities as relevant factors.

As I have already indicated above, whatever the history of
resource transfers to Bangkok, it is now a viable city. Moreover,
while I have no grounds to argue about the empirical evidence in
the articles just mentioned, I can argue against their framework
and relevance for the economic development of Thailand. The implied
theory in these articles is that the various areas of the country,
especially the cities (all of which are small) would have developed
were it not for the draining of their resources to Bangkok. There
is no precedent or a prior reason to accept such an assumption.

Our tentative theory is that modern development is largely
dependent on urbanization in general and on a functionally modern
city in particular. According to this approach the chances of the
small cities and the rest of the country to develop hinges on the
intensity and persistence of what some urbanists called "pulses"
which are transmitted from the modern urban center.

This leads directly to our main theme here which is that
what is required is the "Bangkokization" of Thailand. By this I
mean that the "urban" attributes, so far demonstrated only in Bangkok,
should be spread further. But unlike most recommendations proposed
so far about building cities as alternatives to Bangkok my approach
emphasizes -the need for the development of a system of cities which
are within a range of intensive interaction with Bangkok, thereby
expanding its range of economic activities. Building alternative
centers to Bangkok is neigher achievable nor desirable and would
be prohibitively expensive. Instead, the new or renewed urban centers
should be built within a range that would allow the development of
active trade relations with Bangkok, benefit from the "spillovers"
from Bangkok, and complement its economy.[32]

A recent major government-initiated development, the Eastern
Seaboard project, could provide a good opportunity for employing and
testing some of the ideas developed in this papaer. The area of the
project is close enough to Bangkok to benefit from the "spillovers,"
yet it has the potential of developing a solid economic base of its
own. Although it would provide an "alternative" to Bangkok in
attracting migrants and public resources, it would mostly complement it.

The better and faster the transportation between these two centers,
the more active and fruitful would be the interaction.

Once well established, the Eastern Seaboard would,
undoubtedly, be generating innovations and spillovers which would
"urbanize" areas further away from Bangkok. So in a way it would
become what in countries like Taiwan was termed a "secondary" city
while at the same time being an intimate partner with Bangkok.
This is an example for the more general model for the "Bangkokization"
of Thailand. The closest term I have encountered in the literature
would be the concept of "corridors." Namely, "rays" spreading out
of Bangkok, specializing in the exploitation of the resources in
each specific direction. To some extent this is already happening
spontaneously around major arteries, with plantations and industries
processing the agricultural products. The major point here is that
the effettiveness of the economic activities in such "corridors"
depends on how much they benefit from "growth impulses" originating
from Bangkok's more advanced technology.

Some might argue that this is not really a new idea in that
it compares with the evolution of suburbs in the developed free
market economies. It would not be disturbing at all were this to
be the case. Most U.S. suburbs evolved naturally from the economic
requirements of the area. There is no planning in the U.S. in the
common meaning of the term. Therefore, the evolution of suburbs
must reflect rational economic decisions. Most LDC's, on the other
hand, have centralized planning and have to make deliberate spatial
decisions. One way of viewing may proposals then is that they

advocate policies which would mimic what market forces would have
done were they allowed to operate freely. Since they are not so
allowed, due to both governmental restrictions as well as socio-
cultural factors, there is a need to guide policy-makers in that
direction. Moreover, one intended result of such desired policies
is to encourage the expansion and functioning of the modern markets
of the big city into the surrounding areas.

The advantages of this approach include the following:
The high rents prevailing in the center of Bangkok would be substantially
avoided due to the additional supply of land in the "rays." Similarly,
these rays would benefit from some of the agglomeration economies
of Bangkok and would have to build only extensions of the infras-
tructure, instead of having to build everything from scratch. There
might be some compelling political reasons for expanding remote
towns, such as Chieng Mai. However, it is difficult to expect much
of an impact of such expansion on the economic progress of Thailand.

Footnotes

[1] Both quotations are from Raanan Weitz (editor) Urbanization and the Developing Countries, Report of the Sixth Rehovot Conference (New York : Praeger Publishers, 1973) p. 21. Emphasis added.

[2] World Bank, "The Tasks Ahead for the Cities of the Developing Countries," (Washington, D.C., Staff Paper No. 209, July 1975), p. i.

[3] See Weitz, Op.cit., (footnote 1).

[4] The original book of Jane Jacobs was The Economy of Cities (New York : Random House, 1969). Her latest is : Cities and the Wealth of Nations, also by Random, House, 1984.

[5] Sundrum, R. M., Development Economics, (Chichester : John Wiley and Sons, 1983), pp. 132-136.

[6] H. W. Richardson, The Economics of Urban Size (Lexington : Saxon House and Lexington Books, 1973), p. 8, Original Italics.

[7] Kinglsey Davis and Hilda (Hertz) Golden, "Urbanization and the Development of Pre-Industrial Areas," Economic Development and Cultural Change, vol. 3, No. 1, (October 1954).

[8] M. V. Sovani, Urbanization and Urban India (New York : Asia Publishing House, 1966), pp. 2-3.

[9] UNESCO (Phillip M. Hauser, Rap.), Urbanization in Asia and the Far East, Proceding of the joint UN/UNESCO Seminar on Urbanization in the ECAFE RCgion, Bangkok, 8-18 August, 1956, (Calcutta : UNESCO Research Center on the Social Implications of Industrialization in Southern Asia, 1957), p. 133.

[10] Sovani, Op.cit., p. 6.

[11] Ibid., pp. 4-5.

[12] Ibid., p. 5.

[13] Leo F. Schnore, "The Statistical Measure of Urbanization and Economic Development," Land Economics, vol. 37, no. 3 (August 1961), pp. 229-245.

[14] Ibid., p. 238.

[15] Ibid., p. 242.

[16]David R. Kamerschen, "Further Analysis of Overurbanization," Economic Development and Cultural Change, Vol. 17 (January 1969), pp. 235-253. Reprinted in W.L. Johnson and D. F. Kamerschen (eds.), Readings in Economic Development (Cincinnati : South Western Pub ishing Company (1972), pp. 108-125. (Our page references are from the reprint.) In spite of its title, Josef Gugler's article, "Overurbanization Reconsidered," (Economic Development and Cultural Change, 1982) is not a part of that controversy.

[17]Kamerschen, Op.cit., p. 116.

[18]L.Jakobson and V. Prakash (eds), Urbanization and National Development (Beverly Hills, California : Sage Publication, 1971), p. 26.

[19]World Bank Urbanization, Section Working Paper, (Washington, D.C. : World Bank Group, June 1972), p. 73.

[20]Hollis Chenery and Moises Syrquin, Patterns of Development 1950-1970, (London : Oxford University Press, 1975 for the World Bank). A book that appeared at the time of writing reconfirms the S shape phenomenon. See Allan C. Kelley and Jeffrey J. Williamson, What Drives Third World City Growth, (Princeton, N.J., Princeton University Press, 1984).

[21]Gur Ofer, "Industrial Structure, Urbanization, and the Growth Strategy of Socialist Countries," Quarterly Journal of Economics, 1976, pp. 219-244.

[22]Gyorgy Konrad and Ivan Szelenyi, "Social Coefficients of Underurbanization," in Urban and Social Economics in Market and Planned Economies: Policy Planning and Development, Alan A. Brown, Joseph A. Licaro, and Egon Neuberger (eds) (New York : Praeger Publishers, 1974).

[23]Koichi Mera, "On Urban Agglomeration and Economic Efficiency" Economic Development and Cultural Change, vol. 21, No. 2 (January 1973), p. 320.

[24]Leo Sveikaukas, "The Productivity of Cities," Quarterly Journal of Economics, vol. 89, No. 3(August 1975), pp. 393-413.

[25]David Segal, "Are There Returns to Scale in City Size"? Review of Economics and Statistics, vol. 58, No. 3 (August 1976), pp. 339-350.

[26]Richardson, Op.cit., p.45.

[27]James W. Simmons, "The Organization of the Urban System," in L.S. Nourne and J.W. Simmons (eds), Systems of Cities (New York : Oxford University Press, 1978), p.61.

[28]Lee De Cola, "Statistical Determinants of the Population of a Nation's Largest City," Economic Development and Cultural Change, 33, 1, October 1984, p. 91.

[29]Kelly and Williamson, Op.cit., Footnote 20.

[30]See, for example, Pawadee Tongudai, Women, Migration and Employment, A Study of Migrant Workers in Bangkok, Unpublished Ph.D. thesis, (New York University, February 1982), and a number of other recent studies.

[31]The often heard argument that those who earn their income in the "informal sector" are not engaged in productive activity does not make economic sense. The implications for the labor market structure is not our concern here.

[32]What I do not mean by the "Bangkokization" of Thailand i is the further extention of the centralized and departmentalized method currently employed by the government. Many reports, most notably by the World Bank, dealt at length with the choking effect of these procedures on the development of the country. It does not lie within my competence to make proposals on how this can be corrected. But I do feel that authority should be delegated to coordinating units in developing areas to run their regional affairs within only rather general guidelines from the central government.