URBAN SWEDEN

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URBAN SWEDEN

Changes in the Distribution of
Population – the 1960s in Focus

For Eva
and
Cecilia

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ACKNOWLEDGEMENTS

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I. INTRODUCTION

The great population redistribution from rural to urban habitation, generally referred to as the urbanization process, is one of the most conspicuous social and economic developments in the last hundred years. The concentration of the population to agglomerated areas is a finite process concomitant of the change from an agrarian to an industrial society. This study analyzes a late stage of that process in a highly industrialized country.

The 1960s and the early 1970s saw a lively discussion in Sweden on the role of the metropolitan areas in the urbanization process. The debate disclosed our limited knowledge of the spatial anatomy of urban Sweden; it became obvious that a better understanding of the pattern of population change in metropolitan as well as in non-metropolitan areas was needed.

The object of this study was twofold:
Primarily it was necessary to achieve a wider basic knowledge of the changes in the urban population distribution of contemporary Sweden.   The analysis should be capable of unravelling general directions and major breaking points in the development, and provide the means for anticipating future changes. As a rule a relative rather than an absolute measure of population change was

therefore employed. An allometric approach was pursued
as the development of the total system was related to
its various subsystems, whereby it became possible to
distinguish residual developments such as concentrations
and deconcentrations within the urban system.

It was regarded as imperative that the study should
encompass all urban places in Sweden, and bring down
the analysis to the development of individual places.
An outline of inter-regional changes was attempted and
the relative location of urban places considered.
Because our prime interest was changes in the residential
pattern, the emphasis was laid on the study of agglomera-
tions as places of residence rather than places of work.

The inquiry was confined to the period 1960 - 1970.
A study of changes in the urban population distribution
with only one decade in focus may seem to offer limited
scope for a penetrating analysis. But the circumstance
governing this choice was a statistical one. The attain-
ment of the objectives demanded detailed and fully com-
parable data which Sweden actually lacked until 1960.
The unequivocal urban place definition in use since then,
and the carefully prepared delimitation procedures, have
together ensured a continuity in the urban statistics
and provided a degree of comparability unparalleled
in the history of the Swedish census. In no decade
prior to 1960 had conditions been more suitable for un-
biased comparisons of the population of individual places
between censuses.

The second objective of this study was to provide a
background and a conceptual framework for the detailed
analysis of the sixties. This part of the study involved
an appraisal of the extent to which various interpre-
tations of the urban concept were reflected in the present
Swedish urban statistics. It also involved a discussion
of the operationalization of the urban population and the
urban place definitions as well as the development of
urban statistics in Sweden. Finally, it involved an out-
line of the earlier urban development. The length of
these chapters attests to the abscence of such material

in literature concerning Sweden.

Chapter 2 reviews the literature on the urban concept and attempts to catch the mainstream of thought in the present conceptual disorder surrounding the meaning of the term. The closing section of the chapter contains an appraisal of contemporary urban statistics in Sweden against this background.

Chapter 3 introduces the population census of Sweden. A discussion of the way in which urban population and urban place definitions have been operationalized in Swedish research follows. A large section is devoted to the development of urban place statistics.

Chapter 4 outlines some general aspects of population development and the main characteristics of the growth and spread of urban settlement before 1960. The chapter closes with a review of earlier studies concerning Swedish urban development.

Chapter 5 raises the question "How do we measure population change?" Most of the chapter is devoted to metropolitan growth. In the last section, the design of the study of urban development in Sweden 1960 - 1970 (and the material used) are discussed.

Chapter 6 is devoted to the analysis of urban development in Sweden 1960 - 1970. After some general aspects concerning the system of urban places there follows a discussion of the development by groups of places and by regions. The material is gradually disaggregated down to the level of individual places. After a discussion of their development, data are aggregated again on the basis of the relative location of urban places. The concluding section concerns a series of local subsystems of inter-connected places thus distinguished (urban regions).

The closing chapter points out some possible directions of future research concerning metropolitan growth, and ends with a discussion of how changes in residential preferences may be responsible for intra-regional population shifts. The arguments are based on the color map series *Four Maps of Sweden* in the back of the book.

II. THE URBAN CONCEPT

The urban phenomenon is, without doubt, one of the most
striking features of contemporary civilisation. Even
the use of the expression 'phenomenon', signifying an
astonishing appearance, demonstrates something paradoxi-
cal in the development of cities. We do not, after all,
speak of a rural phenomenon, as it seems to us perfectly
natural that men should scratch the earth and sow seed
in order to gain their bread. Perhaps there was a time
when even that seemed extraordinary, when men, ceasing
to drive their flocks before them, stayed in their own
fields. But since prehistoric times there has never
been any question of finding anything astonishing in
rural life.[1]

A subset of the *total population* of an area may be re-
ferred to as *urban*; its antonym is then *rural*. Before
considering the various definitions of the urban concept,
some common expressions related to this concept must be
introduced. *Urbanization* is usually understood as a process
of change, involving a redistribution of the total popula-
tion that increases the share of the urban subset. *Urbanism*
(urban mode of life), on the other hand, refers to cultural
traits that are said to accompany this process. The amount
of *urbanness* found in a population at any given time is
commonly, though somewhat inconsistently, called the *de-
gree of urbanization*. (Thus, in the literature, the term
urbanization sometimes has static and sometimes dynamic

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[1]Beaujeu-Garnier & Chabot (1967:1)

connotations.) The enlargement of the urban subset in absolute terms is referred to as *urban growth*. The terms *city, town, urban place, agglomeration, place,* and *locality* refer to subsets of the urban population. The term *urban unit* will be used here as a common designation for all these subsets.[2]

An Ambiguous Concept

A vast literature testifies to the countless attempts that have been made to define the urban population. In everyday usage the difference between "urban" and "rural" seems easy to identify and understand, while in a scientific context the precise meaning of the terms has been difficult to establish. The significant question seems to be whether it is possible to distinguish a *sine qua non* of an urban population.

Let us first consider the United Nations' *Handbook of Population Census Methods* which concludes that

> The basic meaning of the terms *urban* and *rural* is fairly clear, the former referring to the city and the latter to the country or to areas outside the city ... (But) ... the terms themselves have taken on overtones and added meaning whereby they have come to refer to ways of life, cultural patterns, attitudes, value systems, etc.[3]

The complexity of the whole question is highlighted in the following passage in which Webber elaborates on the above:

> ... the terms 'city', 'urban', 'metropolitan', and the various other synonyms are applied to a wide variety of phenomena. Sometimes we speak of the city as though it were simply an artifact - an agglomeration of buildings, roads, and interstitial spaces that marks the settlements of large numbers of people. On other occasions we refer not to physical buildings but to concentrations of physical bodies of humans, as they accumulate in nodal concentrations at higher densities than in 'non-urban' places. At other times we refer to the spatial concentration of the places at which human activities are conducted. At still other times we mean a particular set of institutions that mark urban systems of human organization, where we mean to identify the organization-

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[2]Cf. Gibbs (1961:14 ff.)

[3]United Nations (1959:65)

al arrangements through which human activities are relat-
ed to each other   -   the formal and the informal role
allocating systems and the authority systems controlling
human behavior. In turn, we sometimes refer to patterns
of behavior, and sometimes we mean to distinguish the
social value systems of those people and groups that are
'urban' from those that are 'nonurban'.[4]

Again and again a lack of agreement recurs among authors
as to the precise nature of the urban concept. Dewey, who
scrutinized eighteen books and articles dealing with urban
and rural matters   provides an illuminating example of
this. After listing the items believed by the various
authors to be the base for distinguishing ruralism from
urbanism, Dewey found a remarkable lack of consensus. His
heterogeneous list comprised 40 items referred to in the
various definitions of urbanism. He concluded that if the
terms *urban* and *rural* are to be of any real use in teaching
and research, objective referents for them must be found.
Otherwise the terms will have to be abandoned, since the
only thing generally agreed "... is that in some vague way
the terms in question are related to city and country, to
community variations in size and density of population."[5]

Students have not responded to Dewey's ultimate exhorta-
tion: they have not rid themselves of these expressions,
probably realizing that any substitutes would necessarily
be specific to particular purposes and that conventional
scientific wisdom requires concepts allowing for genaraliza-
tions about reality and permitting comparisons in time and
space rather than concepts tailor-made for the analysis of
unique cases. Despite an initial temptation to rebel
against this wisdom, the terms *urban* and *rural* have been
employed in the present study: the creation of a terminology
specific to this study would only have added to the con-
ceptual confusion. The justification for this standpoint
is that, despite the great variety of definitions of the
urban concept, it is quite clear from the literature that

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[4] Webber (1963:26 f.)

[5] Dewey (1960:60). This diversity in the conception of
urban life was not confined to authors interested primari-
ly in rural-urban matters; it can also be found in 19
well-known introductory text-books in sociology.

students *do* undoubtedly have a general idea of the meaning
of these terms. They subscribe to a general notion of the
urban concept in which (1) the concept of place (perceived
as an agglomerated settlement of population, i.e., a locus
of collective residence in closely juxtaposed dwellings) is
fundamental, and in which (2) urbanization is regarded as
a process of population concentration to agglomerated
settlements (and the social and economic changes associated
with that process, notably a shift to non-agricultural pur-
suits). The term *urban* serves, then, as a useful *umbrella
construct* covering all the facets of societal life that
can possibly be conceived in connection with this notion.

Although the scientific interpretation of the urban con-
cept is somewhat amorphous and is used with widely differ-
ing connotations, it should nevertheless be remembered
that no usage is ever entirely divorced from this basic
notion. Consider, for example, the various national
census practices of the world. The urban concept is opera-
tionalized by means of detailed definitions of urban units,
constructed specifically for the different countries, but
in each case clearly reflecting the general notion.[6] Let
it be understood then, that any discussion of the urban
concept implicitly or explicitly emanates from a discussion
of the origin and growth of cities, and of the social and
economic organization of cities.

This chapter is not intended to provide a complete account
of how the urban concept has been treated in the literature;
it does attempt to catch the mainstream of thought and
establish some order in the present conceptual disorder.
The purpose of this is to lay the foundations for an
appraisal of contemporary urban statistics in Sweden.

If we are to unravel the scientific ambiguity surround-
ing the meaning of the urban concept, the definition of the
urban population must be treated apart from the definition
of *urbanization*.

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[6]See, e.g., United Nations (1959:60-66, 1971:159-165)

Defining the Urban Population

URBAN PLACES

Since agglomerated settlements of human collective resi-
dence (*urban units*: cities, towns, and other urban places)
first became the objects of scientific inquiry, sociolo-
gists, anthropologists, architects, geographers, economists,
and other social scientists have adopted an abundant
variety of urban place definitions. However, three basic
approaches to the definition of urban units can be found in
the literature, all departing from the concept of place as
discussed above:[7] (1) the urban unit defined as a *morpho-
logical entity,* where the "bricks and mortar" aspects of
built-up areas and the presence of *urban characteristics*
are considered,[8] (2) a *social entity* (a specific form of
human community), and (3) a *functional entity* (e.g., cul-
tural, economic, and political activities, as well as the
role of the urban place in a regional setting). Let us
consider some examples.

In a classic and widely accepted definition, population
size and density, urban characteristics and the industrial
structure of the locality (employment predominantly in non-
agricultural activities) are determinants of urban places.[9]
The relevance of the non-agricultural criterion depends on
the time perspective employed. To start with, most urban
places had a large agricultural population which gradually
diminished with increasing specialization, in favor of
industry and commerce.[10] Apparently recognizing this, Bobek
finds the prime determinant of an urban place to be the

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[7] An agglomerated settlement of population, i.e., a locus of
collective residence in closely juxtaposed dwellings.

[8] The expression *urban characteristics* is used to denote a
densely built-up area having a recognizable street forma-
tion and contiguously aligned buildings, etc. Cf. United
Nations (1959:61).

[9] See, e.g., Nelson (1918:1-10). Cf. Chapter 3 for a further
discussion, as well as criticism by Frödin (1946).

[10] See, e.g., Mabogunje (1968:41), Frödin (1946), and Pounds
(1969). Cf. the discussion of agriculture in Swedish towns
in Chapter 3.

presence of a social differentiation rather than a specific industrial structure. An urban place must exhibit a minimum size and density, as well as a *Städtisches Leben* (by which he means division of labor, and the fact that each household has a production above the subsistence level). Large agricultural agglomerations that fail in this respect, are not urban places. But some social differentiation will occur with the emergence of a class of craftsmen which trades its services for agricultural products. For this reason, Bobek regards agricultural agglomerations, e.g. in southern Spain and Italy, Greece, and northern Africa as urban places when they reach a certain size and density.[11]

Jacobs advances a definition strictly confined to the economic growth aspects of human settlements. Implicitly arguing against the notion of a settlement continuum (see below), she writes: "Our ordinary vocabulary does not take account of the differences between the nature of cities and the nature of other settlements; e.g., 'town' and 'city' are often used interchangeably, as if cities were larger towns." Jacobs narrows the scope of the urban concept so that only a specific type of agglomeration is to be considered as an urban place: "A settlement that consistently generates its economic growth from its own local economy." She calls this type of settlement a city, but does not regard what is usually known as a town as an urban place, since it is "A settlement that does not generate its growth from its own local economy and has never done so. The occasional export a town may have generated for itself has produced no consistent self-generating growth thereafter."[12]

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[11] Bobek (1938:89 ff.) here quoted from Frödin (1946:180 ff.). Cf. also Dickinson (1964:21): "... the functions of the city throughout its history have been threefold - cultural, administrative, and economic. It is a serious error to regard the economic functions as exclusive criteria of the character of a city, important as these may be in our time. The earliest cities in south-western Asia, north-western India and north-western China, as well as in western Europe, were in the first place permanent seats of cultural institutions."

[12] Jacobs (1969/1972:245 f.). Stagnant cities are also regarded as urban places. A stagnant city is "A settlement that formerly grew as a city, but has stopped doing so."

Hall distinguishes three meanings of the urban place concept. First there is a *physical* one: "That which is urban looks like a town. It has large numbers of buildings close together. They are functionally differentiated: some are designed for work, some for residence, some for shopping, some for recreation." There is also a *functional* one: "That which is urban functions like a town. The economic functions of a town are manufacturing and the provision of services. The social functions are intercommunication and interaction on a large scale." And there is a *political* one: "That which is urban is governed, as a town, by a town council."[13]

Wirth finds that Ratzel

> ... gives one of the earliest and soundest geographical definitions of the city: 'A permanent condensation (or dense settlement) of human beings and human habitations covering a considerable area and situated in the midst (or at the juncture) of several routes of transportation.[14]

From the sociologist's point of view the city is a "distinct form of human community"[15] and for sociological purposes Wirth, in his classic article *Urbanism as a Way of Life*, defines it as "... a relatively large, dense, and permanent settlement of socially heterogeneous individuals."[16] After making a systematic study of various definitions, Maunier advanced his conclusive definition of the city as a complex community with a geographic extension extremely small relative to its population. Ahlmann defined the city as an agglomeration with a distinct functional land-use pattern. William-Olsson combined these definitions, stating that a city is a differentiated community with regard both to its sociological structure and to its settlement pattern.[17]

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[13] Hall (1973:42)

[14] This summary of Ratzel (1903) appears in Wirth (1925:177), an early comprehensive bibliography of the urban community.

[15] Reiss (1957 a:17)

[16] Wirth (1938:8)

[17] Maunier (1910) quoted in William-Olsson (1937:16 f.), Ahlmann *et al.* (1934:7).

The difference between the physical (morphological) and the functional aspects of urban places is often stressed. "The city has to be interpreted as an organic part of a social group, as well as described as a mass of materials."[18] William-Olsson also makes this distinction very clearly, arguing that buildings in the city are just tools for the mode of life there. "A palace is a palace as long as the nobility lives there. If they move the building may become a government office, a laundry, a ruin, or almost anything."[19]

Following Hassinger, William-Olsson defined the base for delimiting the city population as the people who take part in its daily life, irrespective of their place of residence.[20]

THE URBAN POPULATION

A considerable amount of scientific work has been devoted to establishing the cultural traits characteristic of urban societies and to describing their specific social and economic organizations. As we have seen, a great variety of phenomena and attributes characterizing urban communities has thus emerged. Let us consider some examples.

Wirth advances three basic characteristics of urban society. As the *size* and the *density* of a population develop, a concomitant "*heterogeneity* of inhabitants and group life" will also evolve.[21] According to Reiss, variables

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[18]Aurousseau (1924:444)

[19]William-Olsson (1937:6, my translation).

[20]Hassinger (1910) quoted in William-Olsson (1937:29), William-Olsson (1941:9 f.). Cf. the arguments of Webber and Mandelbaum below.

[21]Wirth (1938:10 ff., italics added). "Large numbers account for individual variability, the relative absence of intimate personal acquaintanceship .... Density involves diversification and specialization, the coincidence of close physical contact and distant social relations, glaring contrasts, a complex pattern of segregation, the predominance of formal social control, and accentuated friction .... Heterogeneity tends to break down rigid social structures and to produce increased mobility, instability, and insecurity, and the affiliation of the individuals with a variety of intersecting and tangential social groups with a high rate of membership turnover" (ibid., 1).

that define the urban community in sociological terms can
be found under four headings, referring to characteristics
that define it as (1) an ecological community, (2) a unique
demographic structure, (3) a characteristic form of social
action or organization, and (4) a set of values or subjec-
tive perceptions.[22]

Many definitions focus on the industrial structure of the
population, the implicit or explicit assumption being that
the spatial arrangement of the population is determined by
economic activities. According to Aurousseau:

> ... the dense clusters of folk, who have no immediate
> interest in the production of the materials for their
> food and clothing or general comfort, but are engaged
> in transporting, manufacturing, buying and selling them,
> or in educating the people, or in managing the affairs
> of the state, or in merely 'living in town', become
> the *urban* section. [23]

In their classic work on rural sociology Sorokin and
Zimmerman used *occupation* as the principal criterion for
the definition of the *rural* world. "Rural society is com-
posed out of a totality of individuals actively engaged
in an agricultural pursuit, such as collection and cultiva-
tion of plants and animals, and the totality of their

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[22]Reiss (1957 a:19). This is further elaborated by Reiss
(1957 a:20, 1964:738 f.). In a summary of the writings
of Sorokin & Zimmerman, Simmel, Park, Spykman, and Wirth
he epitomizes the characteristics of urbanism (the special
mode of life pertaining to urban communities) by emphasiz-
ing the following nine factors: (1) Qualitative differ-
ences in the occupational structure and complex division
of labor with diversified occupational structure which
forms a major basis of the system of social stratifica-
tion, (2) high territorial and social mobility, (3) par-
ticipation in voluntary interest groups or associations,
(4) marked functional dependence of the population,
(5) spatial segregation, (6) substantial personal anonym-
ity in interpersonal contacts and segmentalization of
social roles and role interaction, (7) reliance on in-
direct modes of social control, (8) the toleration of
social differences, (9) normative deviance.
[23]Aurousseau (1921:568)

children ...."[24] This standpoint is further underlined
when the authors define rural sociology as, "... in the
first place a sociology of an occupational group, namely,
the sociology of the *agricultural occupation*."[25] Analogous-
ly, the urban world is defined as the "Totality of people
engaged principally in manufacturing, mechanical pursuits,
trade, commerce, professions, governing, and other non-
agricultural occupations."[26]

Loomis and Beegle classify activities into two types:
field activities and *center activities*, each presupposing
the other. Field activities comprise the production of
foods and raw materials (e.g. ores and fibres) in small
and dispersed human groupings which in general may be clas-
sed as rural. The authors find that center activities
"... which have to do with processing, distributing, and
the coordination of field products, lead to the agglomera-
tion of larger groups. From these activities cities

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[24] Sorokin & Zimmerman (1929:15). Cf. Aurousseau (1921:
568). Needless to say, the methodological and theoreti-
cal problems associated with a scientific definition of
the *rural* concept are analogous to those relating to the
definition of the urban concept. Ecological, occupatio-
nal, demographic, social, organizational, and cultural
characteristics have been used in the definitions pro-
posed (Larson, 1968:582). Cf. Zimmerman (1934:469):
"Rural society as compared with urban society is marked
by a relative predominance of the agricultural occupa-
tions, by the closeness of the people to a natural as
contrasted with a human environment, by the smallness of
its communal aggregates, by a relatively sparse popula-
tion, by greater social homogeneity, by less internal
differentiation and stratification and by less territo-
rial, occupational and vertical social mobility of the
population. The individual in rural society as a rule
has fewer contacts with others, he associates with people
from a smaller geographic and social area, a greater
proportion of his social contacts are face to face and
his relationships with any particular individual tend to
have a longer duration. The people of rural society live
in systems of organization which tend to include a higher
proportion of status as contrasted with contract rela-
tionships; they are bound to a greater extent by organic
ties rather than by the cooperation made necessary by
economic division of labor." A summary of some empirical
investigations of urban-rural differences in habits and
attitudes, published in 1939-1960 is to be found in
Swedner (1960:30-51).

[25] Sorokin & Zimmerman (1929:16)

[26] Ibid., 56

emerge."[27]   Earlier, both McKenzie and William-Olsson had
adopted this distinction. McKenzie distinguishes between
field work and *center work*,[28] and William-Olsson between
areal-bound production (areell produktion) and *point-bound
production (lokal produktion).*[29]   The concept of areal-
bound production does not include mining but does include
fishing. Apparently Loomis and Beegle include mining in
their "field activities," while Sorokin and Zimmerman ex-
clude it from rural population activities.[30]

William-Olsson also distinguishes between *exchange
production* and *local production*; exchange production for
trade with the outside world and local production for con-
sumption within the producing community. In the rural
world William-Olsson includes exchange and local areal-
bound production as well as local point-bound production.
These rural non-farm activities include retail services,
schools, handicraft etc. Sorokin and Zimmerman exclude
this category from their object of study.[31]

To summarize, it thus seems that the urban concept is
approached in the literature under three headings:

(1) As a *mode of habitation*. Fundamental here is the con-
    cept of place as discussed above. Population size and
    density, as well as certain morphological characteris-
    tics of built-up areas are considered.

(2) As a *mode of work* (the industrial structure of society

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[27]Loomis & Beegle (1950:204)

[28]McKenzie (1933:50 ff.)

[29]William-Olsson (1938:262 ff., 1941:11 ff., 1946:9). The
author uses the concept of production in its widest
possible meaning, including transport and cultural activ-
ities as well as material production. The terms *areel
produktion* and *lokal produktion* cannot be directly trans-
lated into English. *Areal-bound* and *point-bound* produc-
tion have been suggested here. In his English version of
the *Economic Map of Europe,* William-Olsson (1953:4)
speaks of *areal production* (low concentration activities)
and *local production* (high concentration activities).
Later William-Olsson (1975:5) has introduced the terms
areal and *stigmal* activities, derived from the Greek words
area (surface) and *stigma* (point, mark).

[30]Sorokin & Zimmerman (1929:16)

[31]Ibid., 56

- an economy predominantly based on non-agricultural
pursuits).

(3) As a *mode of life* (the social characteristics and cul-
tural traits, apart from those specified under (1) and
(2), that are associated with life in agglomerated
settlements.[32]

THE RURAL-URBAN CONTINUUM

The community variables considered above imply by their
very nature a polar distinction between societies. "The
city and the country may be regarded as two poles in
reference to one or the other of which all human settle-
ments tend to arrange themselves."[33] This *rural-urban
dichotomy* belongs to what Reissman calls the "theories of
contrast" and has its roots in the contrast typologies of
society advanced by the classic social philosophers.[34]
"Since the emergence of the cities of antiquity, social
philosophers have attempted to characterize and account
for the contrast between tribal or rural life and the ways
of city men."[35] Prominent examples of such dichotomies
are *status-contract* (Henry Maine), *Gemeinschaft-Gesellschaft*
(Ferdinand Tönnies), and *mechanical solidarity - organic
solidarity* (Emile Durkheim).[36] Of specific interest here
is the distinction between *folk* and *urban* societies ad-
vanced in the writings of the anthropologist Robert

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[32]Cf. Lampard (1965:519 f.)

[33]Wirth (1938:3)

[34]Reissman (1970:123)

[35]Miner (1968:174)

[36]Cf. agricultural - non-agricultural, static-dynamic,
preliterate-literate, primitive-civilized, sacred-secular,
military-industrial, traditional-rational, and folkways-
stateways found in the writings of Becker, Spencer, Weber,
Simmel, Sumner, and others, here quoted in Miner (1968),
Reissman (1970:123), Berry (1973:9 ff.), and Dewey (1960:
63). In the static-dynamic dichotomy the differentiating
factor between urban and rural is the degree of dynamism
in society. Cf. the suggestion by Pallin (1948) to
account for the dynamism of society by measuring the
movement within it. Movement is here understood opera-
tionally as the volume of trafic generated.

Redfield.[37]

With urban society as its logical opposite, folk society is characterized as "... small, isolated, nonliterate, and homogeneous, with a strong sense of group solidarity." It lacks any division of labor and could be conceived as a group of people economically independent of all others.[38] Redfield points out that this is a mentally constructed ideal type of society with no exact equivalent in reality.[39]

In most studies the variables used to measure the rural-urban dichotomy have a range of variation. Hence, most writers recognize a conceptual continuum between the two ideal types of societies implied by the rural-urban dichotomy. A *rural-urban continuum* postulates a continuous gradation from rural to urban, so that any community can be placed at some point along the scale.[40] The idea of a settlement continuum seems to have been accepted by many students on logical grounds, but it is a controversial and often disputed matter in empirical application. Redfield appears to have been the first to conceive of a rural-urban continuum; his distinction between the folk and urban societies can be expressed as a *folk-urban continuum.*[41]

Duncan tested the hypothesis of the rural-urban continuum. From the very beginning he acknowledged the limitations on operationalizing an empirical test. "Even if a 'continuum' exists, it can be analyzed only by using discrete categories."[42] As an approximation of the independent variable, namely the rural-urban continuum, Duncan used eleven intervals of community size. As dependent variables he took several criteria of urbanism (cf. above),

[37]See, e.g., Redfield (1941) here quoted in Reissman (1970: 126 ff.) and Redfield (1947).

[38]Redfield (1947:297 f.)

[39]Ibid., 294

[40]Reiss (1964:739), Miner (1968)

[41]Miner (1968) and Reissman (1970:126 ff.). The folk-urban continuum is much debated in the literature. See, e.g., Reissman (1970:131 ff.) for a review of criticisms.

[42]Duncan (1957:36)

and studied their regression on community size. He found
that several of the urban characteristics did not vary
consistently with community size. He concluded that the
hypothesis could not withstand a close statistical examina-
tion, but that his results did support "... the merely
negative assertion that there is no unique, sharp breaking
point between rural and urban."[43]

Defining Urbanization

THE URBAN AND RURAL AMALGAMATION

Duncan's conclusion raises the following question: is it
possible to delimit independent rural and urban entities and
if so, where does the rural end and the urban begin? The
United Nations' *Handbook of Population Census Methods* con-
cludes: "In reality, there is no definite point, in the
continuum from scattered dwellings or small clusters to the
great metropolitan agglomerations, where the rural ends
and the urban begins."[44]

The ambiguity of the urban concept probably stems from
the fact that cultural traits first observed in cities
were gradually reported for urban units further and further
down the size continuum. Reiss even argues that many
traits claimed to be characteristic solely of urban com-
munities may occur in other types of communities as well.[45]
In modern industrialized economies, factors which were
once easily recognized as distinct social and economic
features of city life (thus rendering the border between

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[43] Ibid., 44

[44] United Nations (1959:65). Cf. for example Davis (1969:
10): "Since human settlements vary in size from isolated
farmsteads to huge city agglomerations, they vary also
in how urban they are. It is obviously arbitrary, there-
fore, to designate a single point in the continuum as
the dividing line between rural and urban." Cf. also
the contradicting argument by Jacobs (1969/1972:245 f.)
above.

[45] Reiss (1955)

rural and urban life indisputable), eventually came to
describe society as a whole.

Except in terms of the density of habitation, no distinc-
tion between the urban and rural worlds seems meaningful
any longer. The primary agent of this social and economic
integration that has made the population urban i.e., the
urbanization of the population, is the improved technology
for the transfer of goods, people and messages. This tech-
nological evolution gradually increased the spatial mobility
and contact accessibility of the population at the same
time fostering social intercourse in society.[46] It is also
responsible for a constantly widening spatial conception
of urban places. Improved transport technology made
possible the outward extension of urban built-up areas
(the "suburban" growth or "urban sprawl," subsequently
giving rise to metropolitan regions). For the same reason
the need for physical proximity between urban functions,
places of work and places of residence gradually dimin-
ished. Thus, greater spatial mobility made it less easy
to set definite limits between what had formely been
physically discrete entities. The rural-urban amalgama-
tion was further encouraged by an increase in commuting
from rural to urban areas,[47] and by people moving from
urban to rural residence.[48]

Referring to the United States, Webber explains this
conceptual disorder by arguing that the idea of city can

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[46] Compare, e.g., the discussion by Firey, *et al.* (1957) on
the "fusion of urban and rural" for which the highway
is held as a principal nexus. The authors' interest
focuses on the influence of highway development on rural
settlement patterns, rural social interaction, and rural
culture.

[47] For studies concerning Sweden see, e.g., Bosaeus (1958),
Kant (1957), Lewan (1960, 1963, 1967), Micklander (1971),
and K. Olsson (1961). In this context we may quote
Stewart (1958:153): "... in advanced countries employ-
ment is much more nucleated than residence ...", and
note his further argument that urban statistics there-
fore usually underestimates the urban population defined
in terms of the population employed in urban places (and
their dependents).

[48] For studies concerning Sweden see, e.g., Gustavsson (1974)
and Stahre & Wretblad (1972).

no longer be distinguished from the idea of society. "If we lack consensus on an organizing conceptual structure of the city, it is mainly because we lack such a structure for society as a whole."[49] Despite Webber's focus on the American example, his argument is also valid in the case of other advanced industrial societies.

In another work, Webber goes on to describe the end-result of the economic and cultural integration in the industrial state as a *non-place urban realm*. He disregards the common recognition of the urban place as a physically separate unit. Arguing against the conceptual tie between the idea of city and the idea of place, Webber finds the place-community representing

> ... only a limited and special case of the larger genus of communities, deriving its basis from the common interests that attach to propinquity alone.[50] As accessibility becomes further freed from propinquity cohabitation of a territorial place - whether it be a neighborhood, a suburb, a metropolis, a region, or a nation - is becoming less important to the maintenance of social communities.[51]

For industrial societies Webber finds that the urban place concept must be replaced by the concept of non-place urban realms, which are "... interest-communities whose members conduct their affairs within roughly the

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[49]Webber (1963:23 f.). "In previous eras, when the goals, the beliefs, the behavior, and the roles of city folk were clearly distinguishable from those of their rural brethren, and when urban settlements were spatially discrete and physically bounded schoolboy common sense was sufficient to identify the marks of 'urbanness'. Now all Americans are coming to share very similar cultural traits; the physical boundaries of settlements are disappearing; and the networks of interdependence among various groups are becoming functionally intricate and spatially widespread: (ibid., 24).

[50]Webber (1964:111)

[51]Ibid., 109

same spatial field."[52]

In his study of rural settlement in the Swedish province
of Skåne since World War I, Lewan expects that the concept
of city or town will in future have a morphological signifi-
cance only. From a functional point of view he suggests
the concept of the *urbanized region*, which is an area "...
where both small towns and villages and sparsely populated
areas are included in a continuous complex with a common
field of employment."[53] Lewan suggests that this situation
is neatly summarized in the expression *urbs in rure*, which
is used by Pahl in a study of the metropolitan fringe in
Hertfordshire.[54] Also notable in this context is
Stewart's argument: "The size of the small settlement is
certainly less important for its participation in urban
life and outlook than its location relative to large
towns and cities."[55]

In yet another study of Skåne, Swedner examined the
differences in habits and attitudes in urban and rural
areas. Starting from the assumption of a rural-urban
continuum, Swedner confirms the presence of such differ-
ences in Sweden but suggests, in view of developments

[52]Ibid., 114. "An urban realm ... is neither urban settle-
ment nor territory, but heterogeneous groups of people
communicating with each other through space. At any of
the lower levels in the hierarchical continuum of speci-
alization, the spatial distances over which the people
interact are relatively short; but the spatial extent of
each realm is ambiguous, shifting instantaneously as par-
ticipants in the realm's many interest-communities make
new contacts, trade with different customers, socialize
with different friends, or read different publications"
(ibid., 116 f.). Cf. Friedmann & Miller (1965) and
Hägerstrand (1963). Cf. also, e.g., Mandelbaum (1972:27)
who argues that it is necessary to "... abandon the
spatial model of the city and the association of the word
community with a pattern of settlement. A man's communi-
ty is, quite simply, the set of people, roles, and places
with whom he communicates."

[53]Lewan (1967:217). Cf. Lewan (1969).

[54]Pahl (1965)

[55]Stewart (1958:156). He gives the following example: "The
isolated farm homestead in the Middle West, perhaps a
mile from the nearest similar homestead, may seem at first
sight to be the epitome of rural isolation. But it is far
more a part of urban society in outlook, in contact, and
in background and behavior than a hosehold in an eastern
European peasant village" (ibid., 155).

in modern communication technology (notably television
and the private car), that these differences will probably
diminish rapidly. He predicts that the material on which
the study was based (gathered in 1957) will be outmoded
fairly soon. In fact it was expected to be somewhat out
of date already at the time of writing (August 1960).
Swedner also suggested that if the study had covered the
whole range of residential variation, it would probably
have been necessary to abandon the idea of a rural-urban
continuum. "A first trial in this direction would probably
be to substitute the classic dichotomy, Town and Country-
side, by a trichotomy, Town, Countryside, and Suburbia, or
some more complicated scheme."[56]

Let us conclude this section by noting that observa-
tions of an urban and rural fusion were made at an early
stage in the social sciences. The blurred distinction
between the two concepts was discussed as early as 1899
by Adna F. Weber in the remarkable volume *The Growth of
Cities in the Nineteenth Century*. The ancient and medieval
cities were enclosed towns, cut off from the scattered
population outside. This clear distinction between rural
and urban was further reinforced by law, since cities held
special rights to commerce and trade by royal charter.
(Cf. Chapter 3 for the Swedish experience.) Thus, at an
early stage, this situation fostered the role of manufac-
turing industry and commerce as the principal marks of
urbanness. Arguing that the privileged towns lived an
isolated life exerting little impact on the rural popula-

[56] Swedner (1960:332 f.). Swedner's findings are corrobo-
rated, e.g. by Constandze (1962). He talks of a *mental*
urbanization, meaning the change of attitude in the rural
population that accompanies increasing spatial mobility
and contact accessibility in society. For many goods,
services, cultural activities, etc., the small nearby
urban centers are by-passed in favor of larger ones.
This is exemplified by the reclamation of the Northeast
polder in Holland, an experience which has in turn in-
fluenced the planning of the new polder of Oostelijk
Flevoland. Another example of mental urbanization is
the many part-time farmers in West-Germany who, since
World War II, have let their land lie uncultivated
("social fallow"). Constandze contends that there is no
economic rationale for this since it was not the inferior
land that was abondoned first.

tion, Weber saw s ch towns as the "oases of civilization."
But the change came rapidly,

> ... in the last half-century all the agencies of modern
> civilization have worked together to abolish this rural
> isolation; the cities have torn down their fortifica-
> tions, which separated them from the open country;
> while the railways, the newspaper press, freedom of
> migration and settlement, etc., cause the spread of the
> ideas originating in the cities and lift the people
> of the rural districts out of their state of mental
> stagnation. Industry is also carried on outside of
> the cities, so that the mediaevel distinction between
> town and country has lost its meaning in the advanced
> countries.[57]

In 1915 Galpin coined the widely used term *rurban* to
denote the population living in the urban-rural fringe,[58]
and two years later Jefferson reported "the unity of city an
and country." Recognizing their interdependence he argued
that: "It is a wholly mistaken conception that attempts to
separate them."[59]

We shall return to the issues discussed in this section
in Chapter 7.

THE MEANING OF URBANIZATION

The scientific ambiguity of the urban concept is further
underscored by the discussion of the meaning of
urbanization. It seems that two logically inconsistent
approaches to a definition of urbanization are responsible
for this confusion. It is regarded either as (1) the total
social and economic process culminating in agglomerated
settlement, i.e. the process which *makes* urban places, or
as (2) the diffusion of cultural traits (said to character-
ize agglomerated settlements) from urban places to sur-
rounding areas. The latter approach presupposes the exist-
ence of cities before urbanization; cities are regarded as
the impetus of social and economic change. Tisdale argues
lucidly against the logic of regarding

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[57] Weber (1899:7 f.)

[58] Galpin (1915) quoted in Carter (1972:17). For a
bibliography on matters concerning the rural-urban fringe
zone see, e.g. Hassbring (1971).

[59] Jefferson (1917:6)

... urbanization as a process of radiation whereby
ideas and practices spread out from the urban center
into surrounding areas. This is an objectionable defini-
tion because it makes the city the cause of urbanization
rather than the result or the product of urbanization.
It does not explain the appearance and growth of
cities.[60] Any definition of urbanization which calls
for a transcendence of cities is a definition of some-
thing else, because urbanization must culminate in
the city if it is to be the process which makes the
city.[61]

Tisdale then subscribes to a strictly demographic defini-

tion: "Urbanization is a process of population concentration.

It proceeds in two ways: the multiplication of points of

concentration and the increase in size of individual con-

centrations."[62] This definition "... comprehends the

totality of the process both in time and in space" and is

the only one not leading to ambiguity.[63] As for other

aspects of urbanization Tisdale writes: "The concomitants

of urbanization are not to be ignored; they are simply to

be distinguished from it."[64] Besides people, Tisdale

regards technology as the necessary condition for urbaniza-

tion. "Urbanization is so closely bound up with technology

that we can say without qualification that technology is

the sine qua non of urbanization."[65]

The various definitions of urbanization in the literature

embrace a wide range of phenomena, both spatial and

aspatial. But in one way or the other they are connected

with the notion of the urban concept as discussed above.

A typical use of the term urbanization is to "... indicate

both the steady shift of population from rural to urban

areas and the process of social and economic change

associated with that shift."[66] Similarily, Thompson finds

that

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[60]Tisdale (1942:311)
[61]Ibid., 312
[62]Ibid., 311
[63]Ibid.
[64]Ibid.
[65]Ibid., 315
[66]United Nations (1970:1)

> Urbanization is characterized by movements of people
> from small communities concerned chiefly or solely with
> agriculture to other communities, generally larger,
> whose activities are primarily centered in government,
> trade, manufacture of allied interests.... Urbaniza-
> tion depends largely on the extent to which industrial
> and mercantile products are divorced from agriculture.[67]

A common approach is to state that the term urbaniza-
tion is used with two connotations: either as the growth
of agglomerated built-up areas or as the growth of urban
industries (non-agricultural activities).[68] In some cases
a narrow approach is follwed, according to which urbaniza-
tion is related to the growth of metropolitan areas only.[69]
In other cases, urbanization has the widest possible applica-
tion and implies a "new way of life," i.e. a process of
cultural integration. In operational terms, urbanization
is usually understood as an increase in the percentage of
the population living in urban places.

THE EVOLUTION OF CITIES

According to the classic and widely accepted explanation
of the emergence of urban societies, the city emerged as
man's response to the neolithic revolution - the funda-
mental change when men learned how to *grow food*. Occur-
ring between 9,000 and 5,000 B.C. in the Middle East, this
societal transformation meant a change in the human economy
from gathering and hunting to the domestication of animals
and the cultivation of plants. This in turn permitted
life in settled communities. The existence of neolithic
villages were the prerequisite of cities in their ability
to grow food above the requirements of subsistence.[70]

Childe refers to this dramatic social change, which led
to the first cities, as the *urban revolution*. Occurring
in Mesopotamia in the third millenium B.C., it is claimed
to have resulted in about three cities with an estimated

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[67] Thompson (1935:189 f.)

[68] See, e.g., Micklander (1971:68), Godlund (1967:34),
Tryggveson (1967:17 f.), Ahlberg (1953).

[69] See, e.g., B, Olsson (1972:107) and Andersson & Jungen
(1968:60).

[70] Jones (1966:17 f.)

population of 12,000 in the smallest and one of twice this size in the largest.[71] Mumford characterized this transformation as a centripetal process, which he calls the *urban implosion.* "The many diverse elements of the community hitherto scattered over a great valley system and occasionally into regions far beyond, were mobilized and packed together under pressure, behind the massive walls of the city."[72]

Following Duncan, Hauser argues that the emergence and development of the city is a function of four factors: (1) the size of the total population, (2) the control of the natural environment, (3) technological development and (4) developments in social organization.[73]

A platform for the inquiry in the following pages has been provided by Adna Weber: "... a successful investigation of the causes of the city growth ... must begin with a study of social, or more strictly speaking, economic evolution."[74]

Mabogunje suggests a functional specialization theory of urbanization, following the classic approach outlined above.[75] Fundamental to the emergence of agglomerated settlements - hence "the essence of urbanization" - is the occurrence of a functional specialization between communities through a division of labor, which in turn results in an increased production of goods and services. But functional specialization *per se* does not necessarily give rise to urban communities. For this to happen three conditions must prevail:

(1) a surplus of food production to feed the urban dwellers withdrawn from agriculture

(2) a class of people exerting power over the food producers to make the surplus available for the urban population (it could more easily be retained by the produc-

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[71]Childe (1942:90-94) quoted in Reissman (1970:1)

[72]Mumford (1961:34)

[73]Hauser (1965:1) quoting Duncan (1959:681 ff.)

[74]Weber (1899:158)

[75]Mabogunje (1968:33-43)

ing community to facilitate a population increase there); this group is also responsible for stable and peaceful conditions in society

(3) a class of merchants and tradesmen for the distribution of food and raw materials.[76]

In *The Conditions of Agricultural Growth*, Boserup argues that it is difficult to induce people in non-industrialized societies to produce a food surplus above their immediate needs.[77]

The classic theory of the emergence of cities has been challenged by Jacobs. In *The Economy of Cities* she puts forward an opposing theory, arguing against "the dogma of agricultural primacy" which postulates "agriculture first, cities later."[78] Basing her arguments on archeological and anthropological findings, Jacobs swings the developing order of agriculture and cities around: cities first and rural development later. Crucial is her suggestion that "... permanent settlements within hunting territories were ordinary features of pre-agricultural life."[79]

Regarding such settlements as the embryos of the first cities, Jacobs argues that agriculture and animal husbandry in fact arose in cities.

> If my reasoning is correct, it was not agriculture then, for all its importance, that was the salient invention, or occurrence if you will, of the Neolithic Age. Rather it was the fact of sustained, interdependent, creative city economies that made possible many new kinds of work, agriculture among them.[80]

The argument is then pushed even harder as Jacobs claims that agriculture, first developed in cities, was in fact transplanted to the rural world. The most likely reason

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[76]Ibid., 34 ff. Cf. also, e.g. Davis (1955), Childe (1950), and Sjoberg (1955, 1965 b).

[77]Boserup (1965)

[78]Jacobs (1969/1972:15)

[79]Ibid., 49

[80]Ibid., 42

for this was that animal husbandry eventually took up too
much room. Pasturage that lay more than a day's journey
from the city created a need for herdsmen. Together with
their families, these people brought with them the means
to grow grain for themselves, and eventually there arose
the rural village based on agriculture. A discussion of the
mechanisms behind economic growth in cities leads Jacobs
to conclude that:

> Rural production is literally the creation of city con-
> sumption. That is to say, city economies invent the
> things that are to become city imports from the rural
> world, and then they reinvent the rural world so it can
> supply those imports. This, as far as I can see, is
> the only way in which rural economies develop at all,
> the dogma of agricultural primacy notwithstanding.[81]

Following Sjoberg we may distinguish at least three
types of cities: the preindustrial (feudal), the transi-
tional (the modernizing or developing) and the industrial.[82]
In addition we may also conceive of a post-industrial
city. But Reissman cautions that the ancient, the medieval,
and the industrial city are different social phenomena.[83]
"We ought not to be misled by our own semantics: the word
'city' has been transformed throughout our history, as has
the phenomenon that it denote."[84]

It seems to be the consensus among authors that there
was no massive growth of urban places before the advent
of the *industrial revolution*. Let us pass over ten millen-
nia of human history and confine the rest of this section
to the emergence of the industrial city.[85]

INDUSTRIAL CITIES

According to Sjoberg, the major differentiating factor
between the preindustrial and the industrial city is the

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[81]Ibid., 47

[82]Sjoberg (1965 a:215). Cf. Lampard (1965).

[83]Reissman (1970:16)

[84]Ibid., 19

[85]For a treatment of urbanization in the classical world
see, e.g. Pounds (1969). A discussion of the spread and
growth of medieval, renaissance, and baroque towns in
Europe is found in Dickinson (1959).

kind of energy used. While the former relied on *animate*
(human or animal) sources of energy, the latter uses
inanimate sources.[86] Sjoberg further claims that in prein-
dustrial cities commercial functions were always secondary
to the governmental and the religious.[87]

The industrial revolution may be regarded as an economic
contingency,[88] the fundamental condition for industrializa-
tion being innovations in two major areas: *technology* (the
machine, notably the steam engine) and *organization* in
terms of work (the factory system) and in terms of capital
(the joint financing of economic enterprises). The term
industrialization is used here to denote the whole set of
demographic, social, economic, and political effects that
accompany these innovations.[89]

Urban development under the impetus of industrializa-
tion is the result of *push* and *pull* forces, each of which
are responsible for a great change in the distribution of
population. The push force is accounted for primarily by

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[86]"The type of social structure required to develop and
maintain a form of production utilizing inanimate sources
of power is quite unlike that in the preindustrial city.
At the very least, extensive industrilization requires a
rational, centralized, extra-community economic organiza-
tion in which recruitment is based more upon universalism
than on particularism, a class system which stresses
achievement rather than ascription, a small and flexible
kinship system, a system of mass education which empha-
sizes universalistic rather than particularistic criteria,
and mass communication.... Industrialization, moreover
not only requires a special kind of social structure
within the urban community but provides the means neces-
sary for its establishment" (Sjoberg, 1955:444).

[87]Sjoberg (1965 a:216). Cf. Dickinson (1964:21).

[88]Cf. Lampard (1955:85)

[89]Cf. Reissman (1970:17). Industrialization may be concep-
tualized comprehensively by such key factors as: the
machine, the factory system, division of labor and other
forms of functional specilization, economies of scale,
the creation of an open market, a rational pursuit of
profit, the development of corporate firms, the expan-
sion of bureaucracies, and the use of inanimate sources
of energy together with the technology for converting
the energy into fuels, increasing man's productivity and
releasing him from much time that used to be needed for
mere survival (Reiss, 1957 b: 79 ff.; Reissman, 1970:
16-20).

the *agricultural revolution*, as rising agricultural
productivity gradually released people from the land.[90]
Urban settlement demands an agricultural system capable
of producing a surplus. The increase in agricultural
productivity has been enormous. In the United States, for
example, the surplus production of nine farms was needed to
feed one urban family in 1787; one hundred and fifty years
later a single farm family could feed seven urban fami-
lies.[91] The pull force, of course, was the demand for
manpower in the factories. The new organization of work
that was introduced with the factory system made it neces-
sary for people to congregate.

The change to mass production created a need for markets
larger than the previous local markets; subsequently, both
national and international exchange systems emerged. This
commercial revolution generated a demand for greater
spatial mobility and communication, which was met initially
by the development of the railway, the telegraph and the
steamboat, followed later by the automobile, the aircraft
and the telephone (the *transport and communications revolu-
tion*).

Industrial urbanization thus means a severence of people
from the land, and the agglomeration of population in urban
places is the spatial consequence of industrialization.
Lampard remarks "The growth of the modern city and the
march of the industrial revolution are joint products of
a single cultural strand - specialization.[92] Hägerstrand

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[90] In England where the industrial revolution began (in the
latter half of the 18th century), agricultural productivi-
ty alone did not push people off the land. An important
factor was also the movement of people caused by the
Enclosure Acts.

Jones (1966:29) finds that urbanization in the second
half of the 19th century would have been impossible with-
out the new sources of food developed in the Americas
and Australia.

[91] Reiss (1957 b:79)

[92] Lampard (1955:91, italics removed). Lampard's paper
contains a good illustration of the rise of the urban-
industrial center.

characterizes the transformation from a subsistence econo-
my to the functionally specialized economy of today as a
shift from a vertically to a horisontally organized
society.[93]

The factors that have been considered responsible for
industrial urbanization are not confined to questions of
propinquity. The literature abounds in theoretical state-
ments seeking the *economic rationale* for urban places,
from the early theories of Ratzel and Cooley which explain
the location of cities by reference to cost minimization
at transport junctions or breaks in transportation[94] to
Hägerstand's proposition that urbanization saves time.[95]

Many studies have tried to understand *why* people and
firms agglomerate.[96] Arguing from a socio-ecological
point of view, Lampard regards city growth as "... the
concentration of differentiated but functionally-integrated
specialisms in rational locales. The modern city is a
mode of social organization which furthers efficiency in
economic activity."[97] According to the same author, Haig
was probably the first economist to adapt locational
analysis to a general theory of urbanization. Haig found
that from a transfer-efficiency point of view, cities were
optimum points for both production and consumption.[98]
Starting from the pioneering work of Christaller, a great
many writers have explained the rationale of the urban
place as a service center for a surrounding population.[99]
Similarly many others have discussed the economic base and

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[93] Hägerstrand (1965)

[94] Cooley (1894), Ratzel (1903) both quoted in Berry & Horton
(1970:2-7). See also, e.g., Ullman (1941).

[95] Hägerstrand (1970:9, 104 ff.)

[96] See, e.g., Isard (1956), Kristensson (1967), and Thorn-
gren (1972). A good review of literature, particularly
as regards administrative agencies, business offices and
the secretariats of interest groups, can be found in
Ahnström (1973:17-24, 125-212). For a general treatment
of the geography of concentration see, e.g., Ullman
(1958).

[97] Lampard (1955:92, italics removed, cf. Jacobs (1969/
1972).

[98] Lampard (1955:94 ff.), Haig (1926 a, b)

[99] Christaller (1933/1966)

functional specialization of urban places, the economic
rationale here being the comparative advantages of these
places in the national and international exchange system
of goods and services.[100]

In his theory of urbanization, Reissman criticizes the
"narrow economic interpretation" that sees cities solely
as a response to industry. "The city is a *social* con-
sequence; it takes more than rational, economic motives
to stimulate and sustain the growth of the city."[101] Also
necessary to the new industrial order was the emergence
of the ideologies of democracy and nationalism, and the
rise of a middle class and middle class leadership. As
for nationalism, Reissman remarks: "Loyalty to the nation
replaced the former narrower loyalties. Village loyalties
were too narrow a basis to support an effective integra-
tion of the whole society...."[102]

URBANIZATION AND INDUSTRIALIZATION

Given that urbanization is defined as a process of popu-
lation concentrationto agglomerated settlements, it may be
said that "... urbanization and industrialization have gone
hand-in-hand."[103] Many studies have established a strong
statistical co-variation between urbanization (as defined
above) and industrialization. Three examples are given
here.

Davis and Golden found a correlation coefficient of 0.86
between the degree of urbanization and the degree of in-
dustrialization of the world.[104] In other words, about

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[100] Both William-Olsson (1943) and Harris (1943) indepen-
dently introduced the first functional classification
of urban places based on quantitative data. See also
e.g., William Olsson (1946, 1953, 1974), Alexander
(1954), Alexandersson (1956), Ullman, Dacey & Brodsky
(1969).

[101] Reissman (1970:182)

[102] Ibid., 17

[103] Davis & Golden (1954:24)

[104] Davis & Golden (1954:8). They studied 155 countries
with data from 1950. The degree of urbanization was
measured as the percentage of total population in
cities above 100,000 inhabitants; the degree of indust-
rialization as the percentage of economically active
males engaged in non-agricultural pursuits.

74 per cent of the variation between countries with regard
to urbanization could be explained by the variation
in industrialization. After stating that urbanization is
not a uniformly distributed phenomenon in the world, Davis
and Golden conclude: "The achievement of high levels of
urbanization anywhere in the world had to wait for the
industrial revolution."[105] In a study of 95 countries
Berry found a high positive correlation between economic
development and urbanization.[106] In a similar study
Schnore established several other correlates of urbaniza-
tion besides industrialization, and this led him to conclude
that it is necessary "... to consider especially carefully
the evidence suggesting that urbanization is an intrinsic
part of modernization in general."[107]

Not all authors, however, have accepted the apparent
interchangeability of the terms urbanization and industri-
alization. Hoselitz warns that there need not necessarily
be any causal connection between them. "Industries can be
and have been established in rural districts and cities
have grown up without large industrial plants."[108] This
standpoint is shared by Breese.[109] He also emphasizes
that in the study or urbanization in newly developing
nations it is important for the student to divest himself
of the Western image of urbanization. After all, in devel-
oping nations the urban population consists mainly of
recent migrants to the cities, most of whom lack any
control over the environment in which they are living.
In the developed countries, on the other hand, "... delega-
tive, representative governments have been developed to

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[105] Ibid.

[106] Berry (1962). Berry used 43 indices of economic develop-
ment. After performing a principal component analysis,
he found that the indices collapsed into four patterns
of association. The first dimension was a technological
scale, the second a demographic scale, the third isolated
poor trading countries with low national products and
high population growth rates, the fourth differentiated
between very large and very small countries.

[107] Schnore (1961:243). A total of 75 countries and terri-
tories were studied for the period 1950-1955 (circa).

[108] Hoselitz (1955 a:167)

[109] Breese (1966:5 f., 51 ff.)

the point where by means of such representation, as well
as by pressure group activites, the ordinary citizen can
make some impact on the environment in which he lives.[110]
Breese then introduces the term *subsistence urbanization*,
meaning a situation where "... the ordinary citizen has
only the bare necessities, and sometimes not even those,
for survival in the urban environment."[111]

   The release of people from the land - people who,
unemployed, will subsequently congregate in the urban
centers - is said to give rise to *overurbanization*.
Overurbanization is usually said to exist if the proportion
of a country's population living in urban places is larger
than is justified by the degree of economic development.[112]
But Breese admits that it is extremely difficult to estab-
lish a point at which overurbanization can be said to
exist. To begin with, it is not easy to establish an un-
ambiguous norm to apply in comparisons between countries.
Davis and Golden used a regression line that they had
worked out, and distinguished overurbanized nations as
those with a high positive residual, i.e. nations whose
index of urbanization was larger than their degree of in-
dustrialization would have led one to expect. Egypt,
Greece, Korea, and possibly Lebanon are said to be over-
urbanized countries.[113] In a study that is very critical
of these results, Sovani finds that "... the definitions
of 'overurbanization' developed so far are chimerical and

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[110] Ibid., 4 f. For a discussion of similarities and dif-
ferences in urban development between developing and
developed countries see, e.g., Reissman (1970:150-194)
and Hoselitz (1955 a). On the subject of cityward migra-
tion Hoselitz remarks: "Most of the European migrants
to the cities in the eighteenth and nineteenth centuries
came from the countryside, just as the migrants to
cities in underdeveloped countries today. But whereas
the European, once he had reached the city and lived
there for a short time was able to cut himself loose
from his old home because he found a new home with new
loyalties in the city, the Asian or African does not
experience such a transfer of loyalty. He continues to
belong to the place whence he came and he never feels
fully and exclusively at home in the city" (ibid., 176).

[111] Breese (1966:5)

[112] Ibid., 134, here quoting Hauser (1963:203). Cf. also,
e.g., Reissman (1970:161 f.).

[113] Davis & Golden (1954:16 ff.)

so unusable."[114]

Sovani based his sharp criticism on a recapitulation of the study by Davis and Golden (and an analysis of a study issued by UNESCO where developments in the United States, France, Germany, and Canada were regarded as the norm against which developments in the rest of the world were compared). He studied those countries for which he could obtain data on urbanization and occupational distribution for the same year during the period 1946 - 1951. The correlation coefficient between urbanization and industrialization that was thus established was 0.70.[115] Sovani then split the material into two groups, treating the highly industrialized nations (the United States, Canada, and 15 European countries) apart from the rest. The result was a 0.395 correlation coefficient for the highly industrialized nations, and a coefficient of 0.85 for the remaining group.

Sovani's results suggest that the two variables are much more closely linked in the developing nations than in the highly industrialized countries, or "... that the pace of urbanization in the underdeveloped countries is much more closely dependent on the pace of industrialization than in the highly industrialized areas."[116] This view is reinforced by an analogous analysis regarding the United States, Canada, and eleven western European countries in 1891, which gives a coefficient of 0.84.

From a methodological point of view, this study is a good illustration of the potential risk of a fallacy of composition when a cross-section analysis of data for a large number of countries is made. Sovani's study did indeed reveal the ",... non-homogeneous character of the two groups of countries and the invalidity of deriving corre-

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[114] Sovani (1964:117)

[115] The study included 41 countries. Source: UN's Demographic Yearbook. Sovani finds that the somewhat lower correlation coefficient obtained in comparison with the Davis and Golden study may be due to the smaller number of countries examined in his study.

[116] Sovani (1964:115)

lation coefficients for all countries together in one
lump."[117]

In his work *Population Trends and Urbanization in
Sweden 1911 - 1950*, Ahlberg regards "the emergence and
growth of urban places" as the commonly accepted meaning
of the urbanization concept. But Ahlberg finds this
meaning questionable. He doubts whether it is possible to
formulate any definition of urban places that is truly
definitive. Even if this were possible, the emergence of
urban places would still have to be regarded as a discon-
tinuous process. To get round this problem, we must re-
gard urbanization as equivalent to the expansion of non-
agricultural pursuits (urban industries) irrespective of
the character of the built-up areas. Ahlberg justifies
this view by arguing that the growth of urban industries
in rural areas eventually gives rise to urban places.
Accordingly, he subscribes to the broadest possible con-
cept of urbanization, and sets forth a study of all phases
and aspects of it, ranging from non-agricultural activities
in rural areas to the growth of large cities.[118]

Tryggveson assumes to the same standpoint as Ahlberg in
his work on urban development in Sweden 1951 - 1960. How-
ever, he points out that the transition from agriculture
to urban industries does not necessarily give rise to
urban places, since increased spatial mobility has made it
possible to commute from a rural residence to an urban
place for work.[119]

CITIES AS DIFFUSION POINTS OF SOCIAL AND ECONOMIC CHANGE

To many authors urban places are the primary agents in
a cultural and economic diffusion process.[120] "... cities
have been important centers providing an impetus for

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[117]Ibid.

[118]Ahlberg (1953:4)

[119]Tryggveson (1967:17 f.)

[120]Cf. especially Jacobs (1969/1972 *passim*).

economic growth and cultural change..."[121] The social
change emanating from the cities is even said to be the
principal factor behind the rise of "civilization"
itself,[122] and with reference to the city in newly develop-
ing countries, Breese argues that "... it serves as the
primary agency and diffusion point of social change for
the new nation."[123]

A definition of urbanization that starts from urban
places as the diffusion points of social and economic
change does not, as Tisdale rightfully argues, explain
the evolution of urban places themselves. Apparently, urban
units must attain a certain size before they can be con-
sidered as places of diffusion. "In a primary phase of
urbanization," Redfield and Singer write, "when cities are
developing from folk societies, it seems meaningless to
assert, e.g., that the direction of cultural flow is from
city to country ... it would make more sense to see the
process as one of a series of concentrations and nuclea-
tions within a common field."[124]

In his analysis of the components of the early city,
Mumford emphasizes "... the essential function of the
closed container, which concentrated the social agents and
gave them a closed field that promoted the maximum inter-

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[121]"... but also a fertile soil has been found in cities for
social disorganization, criminality, and other presum-
ably undersirable forms of social behavior" (Hoselitz,
1955 b:279).

[122]See, e.g., Weber (1899:5 f.): "The development of the
arts and sciences, the prosecution of industry, and
political activity - all the social forces going to
make up civilization - were phenomena of the great
capitals like Memphis, Thebes, Nineveh, Babylon. In
classic antiquity, indeed, the identification of city
and civilization becomes complete; the Greek republics
were city states, and when Aristotle wishes to charac-
terize man as a social or gregarious animal he says man
is by nature a citizen of the city.... The essential
identification of the city with all the higher interests
of humanity by the Greeks and Romans is to be observed
at the present day in the English word 'city' and 'civiliza-
tion', both of which are derived from the latin 'civis'.
The tremendous influence of the classic city on the life
of society has since been equaled by the mediaeval city
republics in Italy (Venice, Florence, Genoa) and Germany
(the Hansatowns and free imperial cities)."

[123]Breese (1966:41)

[124]Redfield & Singer (1954:71)

action."[125] He also distinguishes a "magnet" aspect of
the city, but for a great part of urban history he finds
the functions of the container more important: "... for the
city was primarily a storehouse, a conservator and accumul-
ator. It was by its command of these functions that the
city served its ultimate function, that of transformer."[126]

Redfield and Singer distinguish two types of cities in
their discussion of the cultural role of cities. The city
of *orthogenetic transformation* develops a great tradition
and carries "... forward into systematic and reflective
dimensions an old culture." The first cities in early
civilizations were of this kind. In the city of *heteroge-
netic transformation* we find a disintegration of local
cultures and the creation of "... original modes of thought
that have authority beyond or in conflict with old cul-
tures and civilizations."[127] The authors further discuss
the differing cultural roles of cities by speaking of a
primary and a *secondary* phase of urbanization. When
"... a precivilized folk society is transformed by urbaniza-
tion into a peasant society and correlated urban center"
it is regarded as primary urbanization because "... the
peoples making up the precivilized folk more or less share
a common culture which remains the matrix too for the
peasant and urban cultures which develop from it in the
course of urbanization."[128] A secondary pattern of urban-
ization occurs when this society is further urbanized" ...
by contact with peoples of widely different cultures from
that of its own members."[129] Secondary urbanization is
claimed to be the rule in modern Western civilization.

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[125]Mumford (1961:82)

[126]Ibid., 97

[127]Redfield & Singer (1954:58 f., italics removed). The
first type is also called the city of moral order; the
latter the city of the technical order.

[128]Ibid., 60. Cf. Lampard (1965) who calls incipient urban
development *primordial urbanization*. Subsequent
development is denoted *definitive urbanization* subsumed
into *classic urbanization* and *industrial urbanization* to
cover the periods before and after A.D. 1700 respective-
ly.

[129]Redfield & Singer (1954:61)

The cultural integration occurring with the diffusion of the city way of life is accounted for by Wirth in the following manner:

> Urbanization no longer denotes merely the process by which persons are attracted to a place called the city and incorporated into its system of life. It refers also to that cumulative accentuation of the characteristics distinctive of the mode of life which is associated with the growth of cities, and finally to the changes in the direction of modes of life recognized as urban which are apparent among people, *wherever they may be*, who have come under the spell of the influences which the city exerts by virtue of the power of its institutions and personalities operating through the means of communication and transportation.[130] The degree to which the contemporary world may be said to be 'urban' is not fully or accurately measured by the proportion of the total population living in cities. The influences which cities exert upon the social life of man are greater than the ratio of the urban population would indicate, for the city is not only in ever larger degrees the dwelling-place and the workshop of modern man, but it is the initiating and controlling center of economic, political, and cultural life that has drawn the most remote parts of the world into its orbit and woven diverse areas, peoples, and activities into a cosmos.[131]

It was argued above that this cultural integration is more or less completed in the industrilized countries today.

Finally, following Hoselitz, we may question whether cities always have a favorable impact on their surroundings in terms of economic growth. Hoselitz calls a city *generative* "... if its formation and continued existence and growth is one of the factors accountable for the economic development of the region or country in which it is located."[132] Cities exerting the opposite impact are called *parasitic*. Hoselitz closely follows partial economic equilibrium theory in an example concerning the regional economic impact of generative cities. Income advantages, greater in the city than in the countryside, attracted migrants; the labor force that grew up as the population increased, made the establishment of industry attractive. He continues:

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[130] Wirth (1938:5, italics added)

[131] Ibid., 2

[132] Hoselitz (1955 b:279)

This in turn exerted a favorable influence upon the
potentialities of economic development of the wider
countryside in which the raw materials for the industries,
which had developed in the cities, were produced. It
also created increased demand for food, and in some
instances, export crops. The net result was the gradual
improvement of economic conditions in the countryside
and the widening of economic development over an increas-
ing area affecting a growing proportion of the popula-
tion outside the city.[133]

Hoselitz exemplifies parasitic cities with the establish-
ments of colonial capitals.

It is granted that the new techniques introduced by the
colonizing power, the increase of trade and commerce
carried on by the Europeans, did result in economic
growth within the city itself and its immediate environs.
But the advantages accruing from this kind of urban
growth to the wider region in which such a city was
located were counterbalanced by an excessive depletion
of natural resources, and the exploitation of peasants
and other primary producers. This had the consequence
that often stagnation and economic decline rather than
economic growth of the region as a whole ensued.[134]

The Operationalization of the Urban Concept

To make the urban concept operational for statistical
purposes, the geographic extension of urban communities has
to be delimited. In operational terms, an urban unit is
defined either on a basis of intrinsic properties of the
unit itself, or from a legal (political) point of view.
In the first case the geographic extension of the urban unit
coincides with an area delimited in accordance with estab-
lished criteria, e.g. various population size and density
requirements, urban characteristics (as defined above),
and the predominant economic activity (non-agricultural

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[133]Ibid., 281 f. Cf., e.g., Hicks' (1959:162-166) discus-
sion of interregional equalization. Such positive
economic influences from an urban center is called *spread
effects* by Myrdal (1957:31 f.) and *trickling-down* effects
by Hirschman (1958:187 ff.).

[134]Hoselitz (1955 b:280). In Myrdal's (1957:27 f.) termin-
ology a parasitic city causes *backwash effects;* the same
phenomenon is called *polarization effects* by Hirschman
(1958:187 ff.).

pursuits). In the second case the geographic extension
of the urban unit is defined by the border of an adminis-
trative area (e.g. a local government area).[135]

It should be noted that the *rural* population is seldom
defined specifically. The rural population is usually
regarded as the residual of the urban (i.e., the "rest of
the country"). In most countries the rural-urban distinc-
tion is therefore based on a definition of the urban
population only.[136]

All over the world a great variety of definitions are
used to delimit urban places. However, for purposes of
international comparison a uniform definition of urban
places is required. The United Nations called attention at
an early stage to the variety of criteria that prevailed and
to the resulting lack of commensurable statistics. The
frequent use of an urban-rural classification based on the
administrative sub-divisions of the various countries is a
case in point. This practice hampers international compari-
sons, since each country has a specific administrative and
institutional organization - generally with a unique
historical background. Furthermore, when an aminidstrative
border is used operationally as a demarcation line between
urban and rural settlement, the continuous built-up area
and the administrative area do not necessarily coincide.
In most instances, therefore, the urban place is either
overbounded, which means that part of the delimited area
is in fact rural country, or *underbounded*, in that the
continuous built-up area extends beyond the administrative
border with the result that the urban population reported
is too small. Countries often allow a combination of
criteria to be applied, and sometimes an area is designated
urban if it meets any one or two of the requirements dis-

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[135]These main categories of criteria are identified by the
United Nations' *Handbook of Population Census Methods*
(United Nations, 1959:60 ff.). For a very detailed treat-
ment of the delimitation of urban boundaries in various
countries, see Linge (1965).
[136]United Nations (1959:60 f.)

cussed above. Hence, several types of urban units may be distinguished within a single country.[137]

To get round these difficulties the United Nations has recommended a delimitation of *localities*; countries are to report their rural-urban distinction on a basis of *locality statistics*.[138] According to the United Nations' *Handbook of Population Census Methods* it is recommended for census purposes that

> ... a 'locality' be defined as a distinct and indivisible population cluster (also designated as agglomeration, inhabited place, populated centre, settlement, etc.) of any size, having a name or a locally recognized status and functioning as an integrated social entity. This definition embraces population clusters of all sizes, with or without legal status, including fising hamlets, mining camps, ranches, farms, market towns, communes, villages, towns, cities and many others. Localities as defined above should not be confused with the smallest administrative divisions of a country. In some cases, the two may coincide. In others, however, even the smallest administrative division may contain two or more localities. On the other hand, some large cities or towns may contain two or more administrative divisions, which should be considered only segments of a single locality rather than separate localities.[139]

This is further qualified in *Principles and Recommendations for the 1970 Population Censuses*: a locality "... should be defined as a distinct population cluster ... of which the inhabitants live in neighbouring buildings ...."[140] The possible distance and density criteria in-

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[137]Ibid., 61 ff. An invaluable source for the analysis of urban data throughout the world is Davis (1969). This book provides data on urban development in the world 1950 - 1970 by country, with a view to achieving international comparability. Davis classifies the world's countries in nine categories with respect to their urban definitions in 1950 and 1960.

[138]"Because of national differences in the characteristics which distinguish urban from rural areas, the distinction between urban and rural population is not yet amenable to a single definition which would be applicable to all countries. For this reason, each country should decide for itself which areas are urban and which are rural.... For national purposes as well as for international comparability, the most appropriate unit of classification is the locality ..." (United Nations, 1967:63).

[139]United Nations (1959:63). Cf. United Nations (1964:6).

[140]United Nations (1967:51)

volved are outlined in a report from a working group on
censuses of population and housing within the *United Nations
Statistical Commission* and *The Economic Commission for
Europe*.

> The population cluster may be defined as the population
> living in neighbouring buildings which either: ... form
> a continuous built-up area with a clearly recognizable
> street formation; (Two such areas will normally be
> regarded as continuous if separated by less than 200
> metres ...) ... (or) constitute a group none of which is
> separated from its nearest neighbour by more than 200
> metres and which comprises at least ten housing units
> or is inhabited by at least 50 people ... the figures
> are inserted as a guide and may be varied according to
> national conditions and practices and even in different
> parts of one country.[141]

The Swedish census already reports locality statistics of
this kind; it recognizes as a locality (*tätort*) any agglomera-
tion with a population of 200 or more, if the distance
between the houses does not normally exceed 200 meters.
These criteria were accepted as a common Nordic definition
in the 1960 census, and have been employed ever since. In
this study the terms urban and rural are used with reference
to these locality statistics. Each locality is regarded
as an *urban unit*. The entire population living in locali-
ties designates the *urban population*; the residual - the
people in sparsely populated areas (*glesbygd*) - make up
the *rural population*. No other distinction between urban
and rural is presently drawn in Sweden.

The terms *city, town, urban place, agglomeration, place,*
and *locality* are employed in this study. The first two
terms are used in a legal or political connotation; the
others are regarded as synonyms and used interchangeably
to denote any urban unit. A detailed discussion of the
delimitation of urban places and the development of urban
statistics in Sweden follows in Chapter 3.

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[141]Statistical Commission and Economic Commission for
   Europe (1959:3 f.)

Conclusions

The review of the urban concept in this chapter reveals
three basic, although not mutually exclusive, approaches
to the definition and study of the urban population and of
urban communities.

(1) *The social and cultural approach*, which puts the main
    emphasis on cultural traits, habits and attitudes,
    value systems, personality aspects, social roles, and
    other social characteristics.

(2) *The industrial approach*, putting the main emphasis on
    the mode of work (the industrial structure of society
    - an economy predominantly based on non-agricultural
    pursuits).

(3) *The density of habitation approach*, putting the main
    emphasis on the mode of habitation. The size and den-
    sity of populations, as well as morphological aspects
    of built-up areas, are considered here. The concept of
    place, perceived as an agglomerated settlement of
    population (i.e. a locus of collective residence in
    closely juxtaposed dwellings), is fundamental here.

This study of the literature suggests that the third
of these approaches is paramount: the *sine qua non* of
an urban population that we sought at the beginning of this
chapter proves to be the density of habitation - the
agglomerated settlement of population. Current Swedish urban
statistics reflect the *density-of-habitation approach* only,
and the rural-urban distinction is thus reduced to the
single question of whether communities are densly or sparse-
ly habitated. As for the first two approaches, it seems
reasonable to assume that, for the period of this study
(1960-1970), neither of them would make any distinction
between rural and urban in Sweden. In both these respects

Sweden is fully urbanized.[142] This statement is borne out
by the following facts:

Technological improvements in the transfer of goods,
people, and messages was held above to be mainly responsible
for an increase in social interaction and a blurring of the
distinctions between urban and rural. Already in his study
of the late 1950s Swedner predicted, in a reference to the
increase in car ownership and the spread of television
sets, that any major differences in habits and attitudes
between rural and urban areas were going to diminish rapid-
ly in Sweden.[143] No study has yet tested this supposition,
but the following figures for the 1960 - 1970 period
certainly support Swedner's argument.

The 1970 census reported a total Swedish population of
some 8,077,000 people, an urban population (i.e. living
in localities as defined above) of about 6,574,000 people
(81.4 per cent of the total population), and some 3,050,000
households. About 54 per cent of the households had a car
in 1970, as compared to 36 per cent in 1960. In 1970,
83 per cent of the households were located in urban places.
These households had relatively fewer cars than households
in rural areas. In the former category 53 per cent of the
households had a car; in the latter 58 per cent. The number
of passenger cars almost doubled between 1960 and 1970,
from about 1,193,900 to about 2,287,700. In 1960 Sweden
had 159 cars per thousand inhabitants; ten years later
this figure had increased to 283.[144] Television was intro-
duced in the late 1950s. This new medium spread fast and
the number of licenses increased by 143 per cent during

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[142]We may argue, however, that this view is valid only as
long as the scales of measurement discussed in this
chapter are employed. More sophisticated measurements
with more refined scales, adjusted to the present living
conditions, would probably still distinguish differences
between rural and urban in Sweden.

[143]Swedner (1960:330 ff.)

[144]*Folk- och bostadsräkningen 1970*, råtabell H2. *Statis-
tisk årsbok för Sverige 1965*, table 32. *Statistisk års-
bok för Sverige 1975*, table 170.

the decade, reaching 2,513,000 by 1970. This is equivalent to an increase form 138 to 310 licenses per thousand inhabitants.[145]

As regards the industrial approach, we can turn to Table 2.1 which shows the working population of Sweden in 1970, by certain groups of industries, according to place of residence and place of work.[146]

Table 2.1. Economically active population in 1970 by place of residence and place of work

	Place of residence		Place of work	
	(night-time population)		(day-time population)	
	Urban	Rural	Urban	Rural
A: Economically active population 1970*	2,837,197	575,471	2,899,476	423,129
B: Economically active population 1970 in agriculture, forestry and fishing	55,573	220,932	37,849	231,433
C: A minus B "urban industries"	2,781,624	354,539	2,861,627	191,696
Unspecified**				90,063
Total economically active population 1970	3,412,668		3,412,668	

* Persons who worked at least 20 hours during the census week.

**Place of work not specified (abroad, at sea, varying, or unknown).

Source: FoB (1970-VIII), table C.

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[145] *Statistisk årsbok för Sverige 1962*, table 370.
Statistisk årsbok för Sverige 1975, table 379.

[146] For a discussion of the reliability of the figures for the economically active population in the 1970 census, see Chapter 3.

Roughly eight per cent of the total working population
was engaged in *agriculture, forestry, and fishing*. A
quarter (25.2 per cent) of the population employed in this
sector lived in urban places. Agriculture alone engaged
only 6.4 per cent of the economically active population.[147]
The table further indicates commuting from urban places to
rural areas by people employed in *agriculture, forestry,
and fishing* (and from rural areas to urban places by
people engaged in *urban industries*). Of the working popula-
tion with a place of work in rural areas, 45 per cent were
employed in *urban industries*. Sweden had a substantial
rural non-farm population. Only 38.4 per cent of the
economically active population living in rural areas were
engaged in *agriculture, forestry, and fishing* (agriculture
alone gives the figure 32.2 per cent).[148] Hence, almost
62 per cent of the working population with a rural residence
was employed in *urban industries*.

This is confirmed by Figure 2.1 a and b. Here Sweden is
divided into 70 statistical regions (A-regions, see Chapter
5 for definition). Figure 2.1 a shows the percentage of
the economically active population living in rural areas.
Less than a third of the regions have a percentage below
the national average (16.9 per cent). These are notably the
three big-city regions (Stockholm, Göteborg and Malmö),
the majority of regions in the eastern half of central
Sweden, and two regions in the extreme North. Even though
more than two thirds of the regions have a percentage above
the national average (and almost a third have a percentage
above 30), Figure 2.1 b clearly indicates the predominant
engagement in *urban industries*. This map shows the *rural
non-farm population*, measured as the economically active
population living in rural areas engaged in activities other
than *agriculture, forestry, and fishing*. The picture is
striking: in all regions except three more than 50 per cent
of the working population was engaged in non-agricultural
activities. We may also note that, with one exception, all

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[147]FoB (1970-V), table A.

[148]Ibid.

A

Percentage economically
active population in
rural areas:

○ 2.60 - 16.90
◌ 16.91 - 29.99
◍ 30.00 - 39.99
● 40.00 - 48.00

National average:16.9

B

Percentage rural
non-farm population

○ 42.40 - 49.99
◌ 50.00 - 61.60
◍ 61.61 - 69.99
● 70.00 - 76.70

National average:61.6

1500   5000 10000   25,500 People

1500   5000 10000   25,500 People
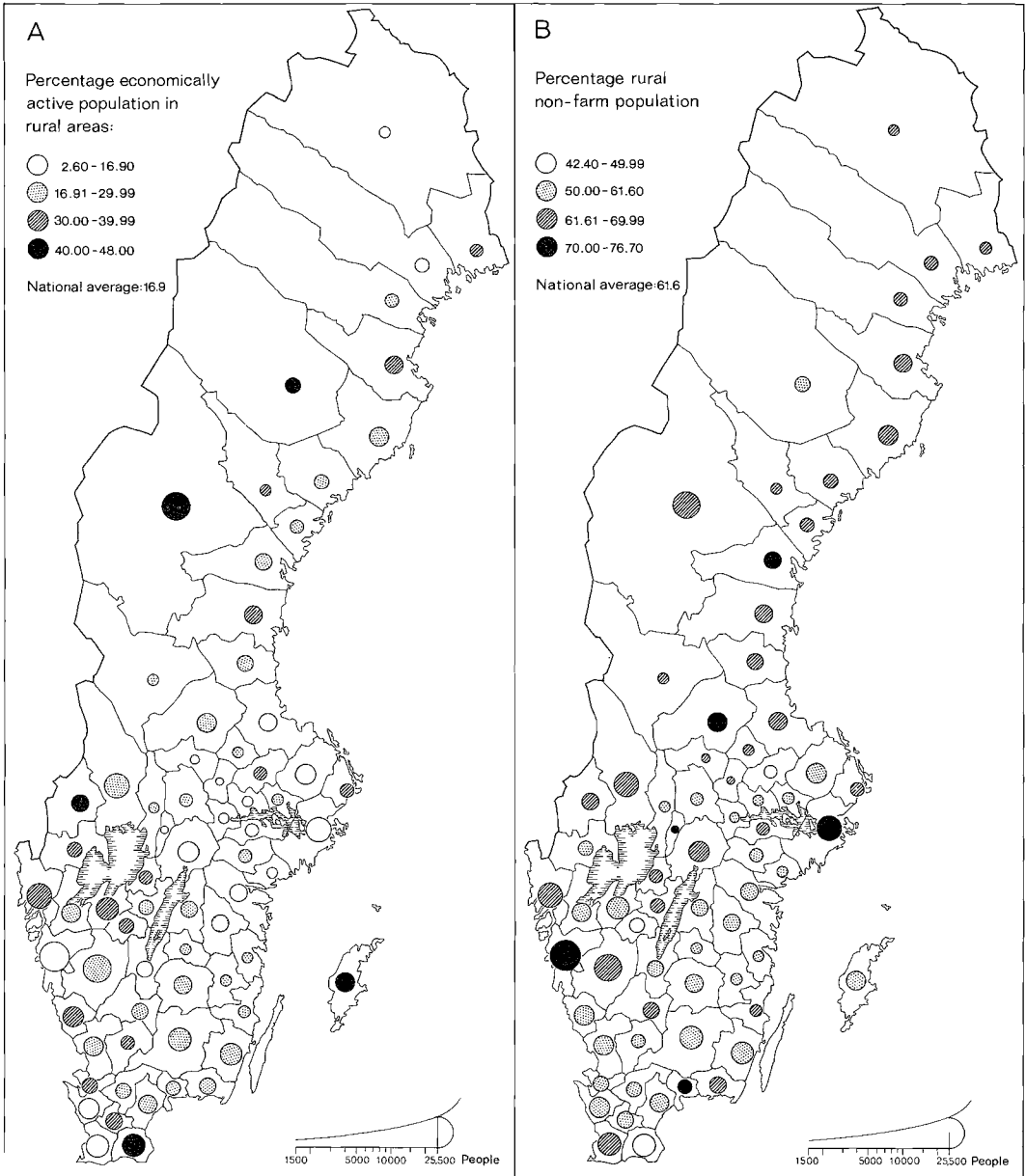
Figure 2.1 a. Economically active population resident in
rural areas. Number of persons 1970 and percentage of
total economically active population, by A-regions.

Source: FoB (1970-X), table 8.

Figure 2.1 b. Economically active population resident in
rural areas. Number of persons 1970 and percentage *rural
non-farm* population (engagement in other activities than
agriculture, forestry, and fising).

Source: FoB (1970-X), table 8.

the regions in northern Sweden had a rural non-farm
ratio above the national average (61.6 per cent).

The 1970 census recognized 1,774 localities. Although
most of these were small (65.5 per cent had a population
below 1,000 inhabitants and 42.5 per cent below 500), it
could be maintained that Sweden has no agricultural
villages. A simple investigation of the industrial struc-
ture of the localities reveals that only 36 places (all
except five with a population of less than 400), had more
than 35 per cent of their economically active population
engaged in *agriculture, forestry, and fishing*. Nine of
these places had more than 35 per cent of their working
population in forestry; by the same measure, six could
be classified as fishing hamlets and three as agricultural
places.[149]

From this review of literature we can conclude that the
term *urbanism* should be used as a common expression embrac-
ing all facets of societal life associated with urban com-
munities; that, the distribution of a population is deter-
mined by its economic activities, and the agglomeration of
human settlement is a response to the locational require-
ments of the new economic organization of society; that
the term *urbanization* implies a force of integration with-
in a population, which increases the proportion of the urban
subset; urbanization must be understood as a *finite* process.

In the present study a demographic definition of urbani-
zation in line with that of Tisdale has been adopted:
"Urbanization is a process of population concentration. It
proceeds in two ways: the multiplications of points of
concentration and the increase in size of individual con-
centrations."[150] Thus, operationally, urbanization is
taken to mean an increase in the percentage of the total
population living in urban places while *urban growth* refers

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[149]Only ten agglomerations had more than 50 per cent of
their economically active population engaged in
agriculture, forestry, and fishing. Of these, three
places could be assigned to fishing alone, one to
forestry, and one to agriculture (FoB 1970-V, table 4;
Folk- och bostadsräkningen 1970, råtabell E2).

[150]Tisdale (1942:311)

to the absolute increase of the urban population. Hence,
given this definition, before we can speak of urbanization
the urban population must be increasing faster than the
population as a whole - a situation which results from
two circumstances (by themselves or in combination):
(1) a net migration to urban places from rural areas and
(2) a natural population growth in urban places more rapid
than that in the rural areas. Further, we may have *urban
growth without urbanization* (for example, if the rural
population increases at least at the same rate as that of
the urban), and also *urbanization without urban growth*
(for example, if the total population decreases more
rapidly than the urban population).[151] It must be noted
that the population growth of an urban place is not a
function of the natural population increase and the net
migration from rural areas only; the net influx from
other urban places is also a contributory factor.

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[151] See, e.g., Davis (1965) where the distinction between
urbanization and urban growth is discussed with examples
concerning developing nations.

III. THE POPULATION CENSUS AND THE DEVELOPMENT OF URBAN PLACE STATISTICS IN SWEDEN

A census of population may be defined as the total process of collecting, compiling and publishing demographic, economic and social data pertaining, at a specified time or times, to all persons in a country or delimited territory.... The original and perhaps fundamental purpose of the census is to provide the facts essential as a basis for governmental policy and administration.... In addition to specific administrative uses, the population census provides indispensable data for scientific analysis and appraisal of the composition, distribution and growth of the population.[1]

The term census has been borrowed from the Roman institution whereby the registration of male adults and their property was required for taxation and military purposes, together with the determination of each man's political status. The first modern censuses consistent with the definition quoted above were various counts made at a relatively early date in Sweden, Canada, and the United States, e.g. in Virginia 1624 - 1625 and 1634 - 1635, in New France 1665, and in Quebec 1754; Sweden claims its first census in 1749.[2]

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[1] United Nations (1958 a:3 f.). Unless otherwise stated the terms *census* and *census of population* (or population census) are used interchangeably in this study.

[2] Willcox (1930)

The State of the Population

Sweden possesses a unique series of population statis-
tics.[3] From an early stage the maintenance of population
registers was of paramount interest to the ecclesiastical
and the civil communities. The clerical authorities needed
records for parish management, while the civil community
used them for taxation purposes and military drafting.
The embryo of population statistics in Sweden can be found
in connection with the beginnings of individual taxation.
One example is an estimate of the Swedish population based
on tax registers dated 1571. The maintenance of population
registers in parishes became customary during the 17th
century. The oldest Swedish parish register still in
existence dates from 1608. The practice of keeping regis-
ters was institutionalized by law in 1686. Each pastor
was instructed to keep a list of his parish members and to
maintain *vital records*, i.e. registers of births, deaths
and marriages as well as in- and out-migration.

Suggestions for the establishment of a national popula-
tion count based on the parish records led to a Royal
decree in 1748, requiring tabular compilations of the
parish registers. Each parish was to prepare three
tables, two for births and deaths and a third for the
whole population. National totals were obtained from
summaries of these tables. Inasmuch as the third table was
a measure of the *state* of the population, the first census
of population was in fact taken in 1749. Since then
Sweden has an unbroken series of population statistics, both
vital records and the *state* of the population. Until the
mid 1760s it was the practice, in the national interest,
to keep the total Swedish population figure secret.

Originally, the state of the population was to be
measured every year. But the laborious compilation of the
third table aroused opposition among the clergy, who forced

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[3] This section is based on: Wicksell (1922), Arosenius
(1928), SOU (1938-XLI), SCB (1949), Lublin (1952), Högberg
(1953), Widstam (1955), SCB (1955), FoB (1960), FoB (1970-
IV), FoB (1970-XII).

through a revision of the census program. Annual censuses
were only taken three times. After that the census was
taken every third year until 1775, and from then until
1860 it was taken quinquennially. In 1860 the production
of population statistics was reorganized with the establish-
ment of the Central Bureau of Statistics. Belgium provided
the model for the new official Swedish statistics. From
1860 until 1930 the inter-censal period was 10 years.
Since 1930 the census has again been taken every fifth year
(except for 1955 when the population census was cancelled).

Prior to 1860 the main source of the census of popula-
tion was the compilation of the parish records. After the
establishment of the Central Bureau of Statistics these
tables were replaced by extracts from the parish registers
sent direct to the Bureau. The new procedure guaranteed
uniform treatment of the material. Since 1950 the major
source of the census has been a copy of the annual national
register (*mantalslängd*). Prior to 1967 this register was
drawn up annually by the local authorities for taxation pur-
poses. Each household supplied statements on their real
estate property and household members (*mantalsskrivning*).
Since 1967 this registration has been conducted without
the participation of the households.

It can be seen from the above account that the
Swedish population census has always recorded the *resident*
(de jure) population.[4] The 1970 census and its two immedi-
ate predecessors relate to the situation on November 1;
the earlier censuses refer to conditions at the end of
the census year.

Since 1960 the census of population has been coordinated
with the *census of housing*. Over the years the scope of
the census has been extended and elaborated to meet a

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[4] The *de jure population* of a given area consists of the
people who habitually live in that area. Cf. the *de facto
population* (the actual population, enumerated population
or present-in-area population) which is the population
present in the area on the census day i.e. permanent re-
sidents (temporary absentees included) together with
visitors or transients (United Nations, 1958 b:18).

continually expanding demand. With the computer and the
introduction of questionnaire surveys, the census has
gained recognition as a comprehensive record of the
state of the population and the complexity of its daily
life, representing a record of great importance for both
scientific and planning purposes.

The Urban Population

In Chapter 2 it was argued that the term *urban* has
taken on numerous meanings, ranging from a "way of life"
to strictly applied rules about the continuity of built-up
areas. To make this concept operational for statistical
purposes, it is necessary to determine the areal extent
of urban communities. Thus, for both scientific and
planning purposes, a principal issue has been the develop-
ment of operational methods for defining and delimiting
urban place boundaries.

In this section the discussion in Chapter 2 on urban
population and urban place definitions is followed by an
account of: (1) how these definitions are operationalized
in the case of Sweden, and (2) the development of urban
place statistics in Sweden.

ADMINISTRATIVE URBAN PLACES

The early Swedish censuses made no distinction between
urban and rural settlement. For more than a hundred years,
from 1800 onwards, urban population data were reported
exclusively for agglomerations that had been granted
municipal status i.e. communities with local governments.
These *administrative urban places* were: *städer* (towns),
köpingar, and *municipalsamhällen*.[5] The first urban data

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[5]The basic administrative unit at the local level in Sweden
is the *kommun* (municipality, commune or local government;
in this study referred to as a *municipality*).

(cont.)

(footnote 5, cont.)

The principle of self-government is fundamental to the administrative structure in Sweden and a large amount of responsibility is placed in the hands of the municipality (which is governed by an elected municipal council). This form of self-government is the same throughout the country regardless of whether the areas are urban or rural in character.

These local governments were established by the first Municipality Act of 1862 and were based on the parishes. Their ecclesiastical and civil administrative duties were separated (although still performed for the same geographical area). Up to 1952 Sweden had some 2,500 municipalities, but there then followed two local government reforms. Through amalgamations, the number of municipalities was reduced to about one thousand in 1952 and to 278 by 1974. These reforms were thought necessary to create financially strong municipalities in response to increasing social responsibilities and interregional population changes. The aim of the border adjustments was the establishment of adequate population thresholds for public services. Most of the activities carried out in the municipality are delegated from the central government (e.g. social welfare, education, planning etc.). Sports and recreational facilities, libraries, theaters, and public transport exemplify matters supported optionally. To cover the costs of all these activities the municipality levies taxes primarily on personal income but also on real estate; considerable grants-in-aid from the state budget are received as well. A measure of equity between rich and poor municipalities is achieved by means of transfers via the state budget.

Stad (town). Towns in Sweden for a long time had an exeptional position. In law and in practice a clear distinction was made between towns and rural areas. Before the liberal trade laws were enacted in 1846 (partially) and in 1864 (completely), towns held exclusive rights to middle-man trading and certain crafts. This was encouraged by the Government in a policy to support the rising "urban industries" by a concentration of outlets. With the liberalization of trade, towns lost their position as trade monopolists, although they retained their status as municipal units; from 1862 each town formed a municipality. Due to the density of habitation, by-laws concerning public health, building regulations, public order, and fire regulations applied. For example, towns had public prosecution authorities and tax charge departments of their own, and they formed special road districts.

Köping. The rigorous trade laws prevailing until the middle of the last century, and the long distances between towns, created a need for complementary trading places to restrict the widespread but unlawful trading outside towns. (Middleman trading in rural areas was never altogether stopped. With reference to the 16th century, Heckscher (1935:34 f.) claims that trade and crafts probably flourished more outside the towns than within them.) Like the towns the *köping* was granted the rights to commerce. Later, each *köping* also formed a municipa-

(cont.)

available concerned the population of the Swedish towns in the year 1800,[6] followed later by records on *köpingar*; population statistics regarding *municipalsamhällen* are available from 1899 onwards.[7] Although population statistics for settlements without municipal status (the *non-administrative urban places*) were introduced as early as 1890, the same delimitation principles did not apply to administrative and non-administrative urban places until 1950. Up to that time the administrative urban places were delimited according to existing administrative boundaries, and the records thus reported the population in each urban local government (administrative, incorporated) area. The local authority borders were used operationally as the demarcation line between urban and rural settlement. No attention was paid to existing rural areas within the legal borders, or to contiguous built-up areas outside it. Consequently the dense and continuous built-up area and the administrative area did not necessarily coincide in these urban places. The significance of this will be discussed further below.

In the case of agglomerations without municipal status, there were no legal boundaries along which the limits could be set; their demarcation was a matter of determining the geographic extension of built-up areas that actually

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(footnote 5, cont.)
lity. The town by-laws applied, but in other respects a *köping* municipality was administratively organized as a rural municipality.

Municipalsamhälle. From 1900 an agglomeration within a rural municipality could form a *municipalsamhälle* when the density of habitation made it necessary for some, or all, of the town by-laws to be applied. A *municipalsamhälle* was part of a rural municipality; it had only partial self-government and levied only a small income tax.

From 1971 the *town, köping,* and *municipalsamhälle* institutions were abolished. This footnote is based on Heckscher (1923, 1935), J. Olsson (1935), Nothin (1922), Planning Sweden (1973), Schalling (1944), and SFS (1969).

[6] Widell (1906)

[7] Söderberg (1902), Arosenius (1903)

claimed to posess *urban characteristics*.[8] The development
of statistics for non-administrative urban places therefore
gradually cleared the way for the delimitation principles
introduced in 1950, where the city and the small agglomera-
tion were treated alike for the first time. Before dis-
cussing this development, we can look at three early studies
which consider the areal extent of urban boundaries in
individual places.

In a study of 13 cities on the Baltic, published in
1912, De Geer delimited the urban boundaries by distinguish-
ing and mapping the continuous residential built-up areas,
allowing for interspersed non-residential areas such as
marshalling yards, industrial sites, and harbor areas.[9]
In Borlänge Granlund found that the area with urban
characteristics far exceeded the local authority area of
the town (see further below).[10] In a study of Gävle,
De Geer mapped both a detailed and a generalized urban
boundary, the first closely following the built-up area
and the latter including related areas separated by narrow
rural strips.[11]

Obviously it is possible to assess the extension of
urban communities from detailed maps that recognize
variations in population density.[12] However, with reference
to Viktorin's population map of Stockholm (1910), De Geer
suggested that this approach did not allow for the es-
tablishment of a distinct demarcation line between urban
and rural areas.[13] The early geographic urban studies were
comprehensive descriptions of individual places, comprising

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[8] The expressions *urban characteristics* and *urban type built-
up area* (introduced below) are used synonymously to denote
a densely built-up area with properties such as a recog-
nizable street formation, contiguously aligned buildings
etc. Cf. United Nations (1959:61).

[9] De Geer (1912)

[10] Granlund (1916)

[11] De Geer (1924)

[12] For examples regarding Stockholm, see e.g., Ahlmann *et al.*
(1934), William-Olsson (1937, 1961). Walldén (1953) has
mapped the population in 1900, 1910, 1940, and 1945, as
well as houses by year of construction from 1870 to 1944,
in the suburbs of Solna and Sundbyberg.

[13] Viktorin (1910), De Geer (1912:42 ff.).

both economic, social and morphological aspects. With
varying degrees of sophistication these studies described
the areal extension of the continuous built-up area of
an urban place; most studies also contained detailed popu-
lation maps as discussed above.[14]

NON-ADMINISTRATIVE URBAN PLACES

Before 1920

Urban places without municipal status remained unrecog-
nized in the census until 1890, when population figures for
non-administrative urban places were reported for the first
time. A morphological aspect was introduced, in that loca-
lities with an urban type built-up area and a population
of 100 inhabitants or more were distinguished. The mate-
rial, however, was too incomplete to be included in the
census report.[15] In connection with both the 1900 and the
1910 censuses, population figures were prepared for some
non-administrative places that posessed urban characteris-
tics,[16] but again the material was incomplete.[17]

The need for satisfactory urban statistics was pointed
out by Heckscher in his study of the impact of the railway
on the Swedish economy.[18] The author cites Meuriot's
discussion of criteria for distinguishing between urban
and rural populations.[19] Meuriot argues that since the
growth of the small agglomerations is negligible, it does

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[14]Three extensive studies are Ahlmann *et al.* (1934) and
William-Olsson (1937) on Stockholm; Weiler (1936) on
Jönköping. See also e.g. Holm (1924) and Ekstrand (1925)
on Göteborg, Mauritzon (1925) on Höganäs, Weiler (1926)
on Huskvarna, De Geer (1928) on Visby, Johansson (1932)
on Kungälv, Pettersson (1932) on Boliden, Hallonstén
(1934) on Trelleborg, Rydberg (1934) on Karlshamn,
Tengstrand (1934) on Alingsås, and Lundström (1934) on
Karlskrona.

[15]Arosenius (1903:101)

[16]Arosenius (1903, 1911). Included were agglomerations with
a population of at least 1,000 inhabitants "and several
others which, because of their location or for other
reasons, could be of general interest"
Arosenius (1903:105, my translation).

[17]Fo (1920-II:6), Overton (1937:147)

[18] Heckscher (1907)

[19]Meuriot (1898)

not matter which category they are placed in. Heckscher
did not accept this view. He maintained that the attribu-
tion in itself was not so important, but the existence and
development of the small agglomerations was certainly of
great importance, and he emphasized that the study of these
matters should be given priority in Sweden.[20] Due to gaps
in the available population statistics, he was unable to
obtain population figures for several small localities of
interest to his study.[21]

In his study on towns and other localities in Sweden with
urban characteristics, Nelson made the first extensive
contribution in this country to the theoretical discussion
on the delimitation of the urban population.[22] As deter-
minants of urban places he suggested: *population size and
density, urban characteristics* and *the industrial structure
of the locality* (employment predominantly in non-agricul-
tural activities). However, since the study was confined
to the location of the urban places only, Nelson made no
effort himself to make these criteria operational. In-
stead he relied on the available statistics. Nevertheless
the delimitation of urban places in the 1920 census and in
the four subsequent censuses (to be discussed below) makes
use of the concepts developed by Nelson.[24]

Twenty-eight years after the publication of Nelson's
study, Frödin raised a strong objection to the suggested
urban place definition, claiming that it provided no basis
for a universal comparison of urban units.[25] A major
point in his criticism concerned the role of agriculture
in the economy of urban places and the prevalence of speci-
fic urban industries. Firstly, Nelson's industrial struc-
ture criterion did not accord with agricultural activities
as observed in Swedish towns before 1850. Virtually no
towns at that time would have been urban places in Nelson's

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[20]Heckscher (1907:54)

[21]Ibid., 54 ff., 163 f.

[22]Nelson (1918:1-10)

[23]For agglomerations without municipal status, notably
Arosenius (1911)

[24]See Fo (1920-II:4)

[25]Frödin (1946)

terms, since their economies were based mainly on agricul-
tural production. Many towns were not only self-sufficient
in agricultural products, they even had an overcapacity
allowing them to export to the surrounding agricultural
population.[26]

Secondly, Frödin questioned the exclusion from the urban
place concept of those small agglomerations in present-day
Sweden which have agriculture as their main source of in-
come. Thirdly, Nelson's criterion was not in concordance
with the presence of large agricultural agglomerations
with an urban type built-up area such as those to be found
in Central and Southern Europe, in Northern Africa and in
Southern Sudan for example. Frödin thus linked *his* urban
place criteria to morphological aspects, size, and density
only, and ignored the industrial structure of urban places.

In reply Nelson questioned whether it is in fact
possible to formulate an urban place definition that is
universal in time and space.[27] The suggested definition
pertained to what was considered relevant to Sweden at the
time, and it did in fact have sufficient merit to be applied
in the censuses up to 1945. Nelson had also shown that he
was not unaware of the dominant role of agriculture in the
Swedish towns prior to 1850.[28]

The first operational delimitation of urban settlement
in Sweden appeared with the innovative population map of
Sweden by De Geer, published in 1919.[29] This carefully
prepared map did not purport to demarcate urban areas, as
did the author's study of 13 cities on the Baltic.[30] That
the map is operational in this respect is incidental to the
method used for mapping the population distribution in
Sweden.

De Geer used the parish population statistics from 1917
and a mapping technique in which the spatial distribution

[26]Cf. also, e.g., Heckscher (1923:343 f.) and Herlitz
(1924:33-37, 197-211).

[27]Nelson (1947:144 f.)

[28]Nelson (1928:7)

[29]De Geer (1919)

[30]De Geer (1912)

of the population was symbolized by dots.[31] The parish
population aggregates were broken down into groups of 100
people, each group represented by a dot. With the use of
detailed physical maps the dots were allocated according to
the location of the dwellings. A condensation of dots
disclosed agglomerated settlement. As the density of the
dots increased it became necessary to arrange them in
matrix patterns. De Geer did this with agglomerations
up to about 5,000 inhabitants; above this figure proportio-
nate spheres were substituted for the dots. Although
De Geer had earlier given 1,000 inhabitants as a lower
limit for urban places in the Scandinavian countries, he
acknowledged the presence of smaller agglomerations. A
cluster of three to four dots, i.e. 300 to 400 inhabitants,
could easily be separated from the rural population.
De Geer generalized his findings by distinguishing four
degrees of population density in Sweden: *uninhabited areas*,
scattered habitation, semi-densely populated areas and
densely populated areas.[32]

De Geer first applied his mapping technique to a map of
Gotland,[33] a study which had been preceded by his map of
the same area in 1906. On that map he had worked out an
early model for the co-ordinate system map of the popula-
tion distribution - a system reintroduced by Arpi,
Claeson, Godlund and Hedbom.[34]

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[31] De Geer (1919:17-44). For a comprehensive English version
of this text see De Geer (1922 a).

[32] De Geer (1919:45-55)

[33] De Geer (1908). In this case each dot denoted ten people.
De Geer (1919:5) mentions five regional population maps
based on this method and published prior to the popula-
tion map of Sweden: Johansson (1911), Sjögren (1913),
Swedberg (1913), Sahlström (1915), and Norlindh (1917).
An early map on which the same principle is used is that
of Kihlman (1897-99), see Stolpe (1908:413). This foot-
note is based on Claeson (1964:6, 128 ff.) and De Geer
(1919).

[34] See Claeson (1963). One application on the county of
Kronoberg is found in Claeson (1964).

Apparently De Geer's map was not used extensively by the census authorities in 1920; it is only mentioned in a foot-note in the census report.[35] Later, however, the map became the foundation of subsequent Swedish population maps.[36]

The 1920 census

The first census in which an attempt was made to delimit urban places without municipal status systematically and comprehensively appeared in 1920.[37] No less than 805 non-administrative urban places were observed. Included were agglomerations with at least 250 inhabitants, a predomi-nance of non-agricultural occupations, and a built-up area with urban characteristics (cf. Nelson above). The delimi-tation was carried out by the Central Bureau of Statistics (the Central Bureau) with the use of parish population records and physical maps. Little field-work was done and the boundaries were mostly established without recourse to first-hand local knowledge. Due to uncertainty, the popula-tion figure for each urban place was rounded off and given to the nearest 50. Thus the reliability of the data was questionable and its comparability with subsequent censuses limited.[38]

The 1930—1945 period

The unreliable nature of the population figures for non-administrative urban places in the 1920 census contrasts with the 1930 figures, which marked the beginning of improv-ed census procedures. The reliability of the population figures increased gradually in each census after 1930. The delimitation criteria were the same from 1930 through 1945.

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[35] Fo (1920-II:6)

[36] Notably William-Olsson (1946), Lundqvist & Enequist (1954), Pålsson (1958), Hedbom, Norling & Pålsson (1963), Hedbom & Norling (1968, 1972).

[37] Fo (1920-II)

[38] See Overton (1937) for a critical appraisal of the material.

Apart from two alterations, the criteria were also
basically the same as in the 1920 census. The lower popu-
lation limit was set at 200 and the maximum population
allowed in agriculture was specified at 40 per cent of the
total population. Accordingly, agglomerations larger than
200 people where the non-agricultural population accounted
for less than 60 per cent were excluded from the census
report. To assure first-hand local information, the deli-
mitation procedure was decentralized; the clergy, with
instructions from the Central Bureau, were asked to demar-
cate the urban place boundaries in their own parishes.
To the greatest possible extent the Central Bureau wished
to establish uniformity in the material thus received. A
regular correspondence was therefore maintained with the
various pastors and the material was checked against
physical maps and scrutinized in frequent consultation with
the chief land surveyors.[39] The population threshold for
urban places has been 200 inhabitants ever since. This is a
low figure in comparison with most other countries, but it
has proved useful in a sparsely populated country like
Sweden.

[39] Fo (1930-I), Fo (1935/36-I), Fo (1940-I), Fo (1945-I).
For an evaluation of the delimitation of non-administra-
tive urban places in the 1930 and 1935 censuses, see
Overton's detailed study of the province of Skåne
(Overton, 1937). The author questioned the comparability
between the two censuses of the population figures for
individual urban places. To overcome irregularities
found in the delimitation of urban places between censuses,
and to ensure continuity, Overton (1937:160 f.) suggested
that the Central Bureau should list the real estate com-
prising each urban place. The Central Bureau seems to
have followed this recommendation, since lists of this
kind referring to 1940 were prepared and submitted to
the parishes to facilitate the delimitation of urban
places in the 1945 census (Fo, 1945-I:33[x]). However,
Ahlberg (1953:312) points out that the questionable
comparability of urban data between the censuses could
be partly explained by the fact that each census improv-
ed the completeness and the accuracy of the data. The
summed population of the reported urban places thus re-
flected the actual urban population of Sweden with in-
creasing accuracy. This was indicated by the fact that
each census recognized several *new* urban places (i.e.
places not previously reported), some of which were so
large that they ought to have been included in a preced-
ing census.

In his work on a population forecast for Stockholm, William-Olsson needed figures giving the total urban population in Sweden before 1920.[40] Since the available material was mainly connected with administrative areas, and the non-administrative urban places reported did not have reliable population figures, William-Olsson developed a method for assessing the urban population in Sweden back to 1880. Population figures for municipalities were plotted over time at ten-year intervals on the abscissa.[41] The population-development curve thus obtained was compared with the typical development in purely rural neighboring municipalities. If the graph deviated in relation to this development by a pronounced positive kink due to an increased rate of growth, William-Olsson inferred the development of an urban place (or places). The graph was completed with the population figures for the urban places reported in the 1910-1935 censuses and, in the comparison with the expected development curve for a purely rural community, the lag between the curves constituted the urban population.[42]

The curve typical of a purely rural community in southern and middle Sweden was slightly bow-shaped and showed a population that doubled itself between 1810 and 1870-1880 and which then tapered off to return to much the same figure in 1935 as it had initially shown in 1810. In northern Sweden the rural curve deviated markedly from this progression; the rural population increased throughout the investigated period. This is explained by the *colonization* (traditionally encouraged by the Government and still in progress in the 1930s) and by a *high natural population increase*.[43] For the coastal areas and the

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[40] William-Olsson (1938, 1941)

[41] Sweden counted 2,524 municipalities in 1938 (out of which 165 were towns), a fact indicating the arduous work behind this material (*Årsbok för Sveriges kommuner 1938*, p. 1).

[42] A similar approach is found in Ahlberg (1953:160 ff.), used for the establishment of comparable city areas 1910-1950.

[43] See, e.g., Bylund (1966).

middle and southern parts of this region a typical curve
of a purely rural community showed a steady increase
that levelled around 1920; for the far North the curve
had a steep progression with no sign of saturation at the
end of the investigated period.

If a municipality had no urban places reported in the
censuses but did have a graph indicating an urban develop-
ment, the increased population growth had to be explained
by other factors. The author suggested such factors as
water regulation schemes or colonization, both of which
enlarge the area of arable land. When municipalities had
more than one locality, it was impossible to establish
population figures for individual urban places back to
1880.[44] But the total urban population could be calculated.
For Sweden as a whole this figure was 879,000 in 1880,
or 19.3 per cent of the total population.[45] The method was
first introduced by William-Olsson in a delimitation of
the greater Stockholm area.[46]

The 1950 census

The delimitation criteria were changed again at the
1950 census. No distinction was made between administra-
tive and non-administrative urban places. Any agglomeration
with a population of 200 inhabitants or more, irrespective
of its legal status and regardless of its industrial struc-

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[44] Cf. Jonasson (1949) who made an assessment of the popula-
tion in individual non-administrative urban places for
the year 1865 in the north and west of Svealand. The
material was assembled from various sources, notably:
published material in encyclopedias (e.g. the trade
directory), parish records, and physical maps etc. Due
to the uncertainty of the material it was published in
even 200s (Jonasson, 1949:250 ff.).

[45] William-Olsson (1938:253 f.)

[46] Other delimitations of greater Stockholm were made by,
e.g., Söderlund (1922 a, b; 1930) who used commuting
time (isochrones) and Grytzell (1951, 1963, 1969) who
attempted to delimit equal population density areas for
Stockholm and some large metropoles of the world in
order to establish uniform population comparisons. See
also, e.g., De Geer (1912, 1922 b), Ahlmann *et al.*
(1934) and William-Olsson (1961).

ture, was recognized as an urban place. In the delimitation of the localities, the demarcation line between urban and rural settlement was drawn operationally in relation to residential building density.[47] Hence, for agglomerations with municipal status the existing administrative boundaries were ignored. Only the population in the continuous built-up areas was reported.[48] Various circumstances may have contributed to this change in the conception of the urban place. Let us examine some of them.

The practice of separating administrative and non-administrative urban places in the census made the scientific use of urban data difficult. In most administrative urban places the continuous built-up area (or areas) and the total administrative area did not coincide. Nelson pointed out the implications of letting urban place boundaries follow the continuous built-up areas rather than the total administrative boundaries.[49] Some administrative urban places were *overbounded*, i.e. a large part of the incorporated area was rural country, and Nelson cited the example of Västerås in 1910,[50] where the built-up area with urban characteristics covered about one fifth of the administrative area of the town but accounted for 98.5 per cent of its population (about 19,000).[51]

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[47] FoB (1970-IV:67)

[48] Fo (1950-I:31 ff.)

[49] Nelson (1918). Cf. De Geer (1912:43).

[50] Nelson (1918:9 f.)

[51] Jonasson (1949:341 and map 13) recognized the problem of overbounded urban places. In a population map of western and northern Svealand (1940) he broke down the population figures for towns to show the rural and urban populations within the urban administrative areas separately. Another example is William-Olsson (1946:16). In his classification of the Swedish urban places according to their industrial structure he found several administrative urban places having such a large rural area and agricultural population that they should in fact have been classified as "agricultural places". To obtain a basis for a classification of the continuous built-up area only, the agricultural population was excluded from the employment figures in these urban places.

Some urban places on the other hand were *underbounded*.
An early example was Borlänge, discussed by Granlund.[52]
In 1910 the built-up area with urban characteristics
in Borlänge extended over 1.8 sq.km. while the administra-
tive town covered a mere 0.3 sq.km. The official
population figure for the town of Borlänge was 1,500;
Granlund found a population six times as large as this in
the continuous built-up area.

In several administrative urban places the divergence
between the continuous built-up area and the administra-
tive area increased over the years, as a result of the
incorporation of surrounding rural communities (after
which the rural population was automatically reported as
urban in the statistics).[53]

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[52]Granlund (1916)

[53]The history behind this practice goes back to the 1860s.
As we have seen, pre-industrial towns held exclusive
rights to middleman trading and certain crafts. To
facilitate the exercise of these privileges and (before
1810) the collection of town-tolls, it was necessary
to have well-defined boundaries vis-à-vis the surround-
ing area. To get an area which would be easy to control,
towns were enclosed to encompass the smallest possible
area. As a result the habitation was concentrated.
Agricultural production in the often large areas outside
the built-up area (but within the administrative border)
had to supplement incomes from trade and handicrafts.
Towns were stagnating with a low population growth; the
number of migrants from rural areas barely offset a
natural population loss caused by high mortality rates.
No need had yet arisen for areal enlargements. A funda-
mental change came with the rise of manufacturing
industry and the enactment of the liberal trade laws.
Towns began to report a rapid population growth. A
need for areal expansion was evident. By 1910 the 89
towns of 1860 had grown by 210 per cent. The demand
for new residential space was soon met by the *incorpora-
tion* of surrounding communities, in full or in part
(Rosman, 1912; Larsson, 1912 a. See also Améen,
1964:7-57). By 1929 towns existing in 1880 had increased
their areas by 22 per cent, the 20 largest places repor-
ting an areal increase of 212 per cent (Silén, 1930:5 f.)

In his extensive work on the history of incorporations,
Larsson (1912 b:90-234) distinguished two primary types
of incorporation: (I) *Incorporations of satellite resi-
dential developments*. The centrifugal growth of the

(cont.)

The significance of the new census procedures regarding the treatment of urban places with municipal status can be exemplified by the cases of three administrative urban places: Stockholm, Askersund, and Luleå. Facts and figures relate to the 1950 census.[54]

Askersund. If the town had been delimited according to the pre-1950 methods, the population of the total administrative area of Askersund would have been declared urban. In 1950 the figure was 4,211 inhabitants, as against 2,065 for the urban place of Askersund delimited in accordance with the new criteria. Had the old principles been applied, Askersund would have been overbounded, since 50 per cent of the population then reported as urban was in fact rural.

(footnote 53, cont.)

urban places necessitated an adjustment of the administrative boundaries to the geographic extension of the continuous built-up area. In this case an area considered for incorporation was socially and economically already part of the administrative urban place. (II) *Colonizing incorporations*, i.e. the administrative urban places secured land for future expected growth by incorporating large rural areas. Apparently some administrative urban places acted against being underbounded by incorporating satellite residential areas. Hence, in such cases, the population figures reported in the censuses concerning administrative areas must, in the long run, have reflected the actual population in the continuous built-up areas fairly accurately. Obviously the colonizing incorporations did the opposite, by exaggerating the differences between administrative and continuous built-up areas. The increasing occurance of this type of incorporation seems to be the reason why the census stopped reporting population figures for the administrative urban places in 1950. Between the 1945 and the 1950 censuses, about 90 municipalities largely rural in character were incorporated by towns. The administrative areas of these places increased nearly five-fold during this period. (This figure is largely explained by Kiruna in the far north. Kiruna became a town in the intercensal period with the exeptionally large administrative area or 13,181 sq.km. See Fo, 1950-I:12[x], 33[x].) See also Frödin (1948) for examples.

[54] Fo (1950-I), tables 1, 12. The urban population delimited with the new procedures in 1950 totalled 4,660,000. Had the old principles been employed, a further 122,000 people would have been reported as urban (ibid., 37[x]).

Stockholm. The continuous built-up area defined in
1950 as the urban place of Stockholm extended into, and was
part of, six administrative areas: Stockholm, Sundbyberg,
Solna, Nacka, Huddinge, and Segeltorp. According to
the old census principles, each of these would have been
reported as an individual administrative urban place.

Luleå. According to the new delimitation principles,
the administrative urban place of Luleå was split into six
individual localities. The total administrative area
of Luleå had a population of 22,646 people. The urban
place of Luleå accounted for only 50 per cent of this
population. The census recognized five additional urban
places within Luleå's administrative area, which answered
together for the rest of the population. What would have
been reported as a single unit according to the old
criteria, was accounted for by six individual agglomerations
in 1950.

No industrial-structure criterion was applied in the
1950 census. Earlier delimitations had implied an emphasis
on the *functions* of urban places. The idea of disqualify-
ing agglomerations engaged predominantly in agriculture
had its roots in the notion that urban places should be
central places for the surrounding rural area. However,
it was found that, although populations were predominantly
engaged in agriculture, small agglomerations could be re-
garded as central places in sparsely populated parts of
Sweden. But it seemed to be difficult to establish an
operational standard for the nation in this respect,[55] and
the earlier practice of not publishing population data
for agglomerations with more than 40 per cent of the
population in agriculture was abondoned in 1950.[56]

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[55]Arpi (1958:89)

[56]Both Enequist (1947:247) and Frödin (1946:174) had earlier
argued against having this constraint in the population
agglomeration statistics.

Before the 1950 census Enequist had drawn a distinction
between the concepts of *agglomeration* and *urban place*, and
agglomeration being *any* cluster of residential buildings and
an urban place *(tätort)* an agglomeration possessing urban
industries ("city functions"), in other words it was a
central place.[57] Enequist argued that whether or not an
agglomeration was to be considered as an urban place
should be determined by its function in its regional
setting.[58]

As we have seen in 1950 the demarcation line between
urban and rural settlement was related operationally to
residential building density. The 1950 census thus con-
formed to Enequist's *agglomeration* concept. She recognized

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[57]Enequist (1947, 1950, 1951)

[58]We may summarize the main arguments of Enequist (1947,
1950, and 1951) thus: To serve as a comercial center for
the surrounding area, i.e. to be a *central place*, was
regarded by her as the prime function of an urban unit
(at least in contemporary western societies). This view
was said to be corroborated by consent of most geographers.
Hence, referring to Christaller and Dickinson the author
considered an *agglomeration* to be an *urban place* if it
was such a *"central place"*, *"zentraler Ort"*, *"regional
centre"*, or *"service centre"* (Christaller, 1938;
Dickinson, 1947). Enequist inferred from empirical
research that, as its population increased an agglomera-
tion would develop urban industries and a central busi-
ness district. It was found that localities with 1,000
inhabitants or more showed urban characteristics, but
the beginnings of a central business district could be
noted once a population reached about 500. The author
therefore argued that urban places reported in the census
with a population below 500 inhabitants should be excluded
from the material in a manipulation of *urban place* data,
since they were genereally found to lack urban industries
and could not thus be considered central places.
Enequist (1954, 1970) pursues this belief in *Atlas of
Sweden*. In the map *Types of Agglomerations and Rural
Districts According to the Occupations of the Inhabitants
1950* (pp. 59-60), revised for 1960 (pp. 127-128), locali-
ties with less than 500 inhabitants were included in the
rural districts. This view seems also to have been sup-
ported in the preparation of the 1950 census report, as
urban places with less than 500 inhabitants were listed
separately (Fo, 1950-I:35[x]).

only two determinants of an *agglomeration*: size and dwelling
density. This concept had been introduced by Kristoffersson
in 1924 and was later used by Enequist.[59]

For the description of the intermediate stages between
rural and urban settlement, Kristoffersson distinguished
as an agglomeration any cluster of 10 dwellings or more
with a distance between dwellings not exceeding 50 meters.
Following Kristoffersson and Carol, Enequist suggested
that, being agglomerations, the officially delimited non-
administrative urban places should meet Kristofferson's
density requirement for agglomerations.[60] She found
several examples of urban places reported in the census
which failed in this respect.[61]

After carrying out further empirical investigations,
Enequist extended the maximum distance between the dwellings
from 50 to 70 meters.[62] At the 1950 census the clergy
were still responsible for delimiting urban places, with
the help of written instructions from the Central Bureau.
But these instructions included no density criterion. The
delimitation of individual urban places was very much
left to the judgement of the pastors. If anyone asked,
the Central Bureau recommended 100-200 meters as a suitable
maximum distance separating the houses.[63] Enequist's
criterion of 70 meters could not be applied, since several
urban places reported in the previous census might then
have been split up into smaller agglomerations. For some
of these the population threshold would have been too low
for inclusion in the statistics. The practice among the

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[59] Kristoffersson (1924:141), Enequist (1937:392 ff.)

[60] Kristoffersson (1924), Carol (1946), Enequist (1947:273)

[61] Enequist (1947:276 ff.)

[62] Enequist (1950). Interspersed non-residential areas with
a typically urban land-use (e.g. churchyards, sports
grounds, marshalling yards, industrial sites etc.) were
not regarded as a break in the settlement.

[63] FoB (1970-IV:67)

pastors seems to have been to take 130-150 meters as a maximum distance between dwellings.[64]

To help the pastors in their task, the written instructions contained not only a list of the properties constituting the urban places reported in the previous census, but also a list of what the Central Bureau considered to be possible urban places. The material received from the parishes was scrutinized for uniformity in the same manner as for the 1930-1945 censuses.[65]

THE CURRENT DELIMITATION OF URBAN PLACES

Sweden currently subscribes to a common Nordic definition of *localities* that follows the recommendations of the United Nations. (See Chapter 2.)

According to this definition all groups of houses having at least 200 inhabitants are counted as localities as long as the distance between the houses does not normally exceed 200 meters. The distance may however be permitted to exceed 200 meters in the case of groups of houses within the sphere of influence of a major community. On the other hand the maximum distance between the houses may be put at less than 200 meters when this is called for by the character of the settlement, that is to say in small localities where no distinct centres are apparent and in cases where the boundary between locality and sparsely populated area

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[64] Bylund (1958). Cf. Godlund (1954:38 ff.). In his study on the function and growth of the bus traffic within the sphere of urban influence, 350 meters was used as a maximum separating distance between the buildings. (Godlund recognized any kind of building.) In the investigated areas the delimitations of the non-administrative urban places in the 1920-1945 censuses were adjusted accordingly through field studies, physical maps, source material from the censuses, parish records, and the population maps of De Geer (1919) and William-Olsson (1946).

Bergsten (1950) studied the agglomerative tendencies in Swedish settlement by using a simple distance criterion only. He studied the clusters of dwellings in six sample areas using 200 meters as the maximum distance separating houses. Cf. also Jonasson (1949:339) who suggested a lower density limit for non-administrative urban places of 300 inhabitants/sq.km.

[65] Fo (1950-I:34[x])

is ill-defined. Areas used for public purposes such as
parks, sports grounds, churchyards, wharfs, etc. are
not to be regarded as a break in the settlement. The
localities are demarcated irrespective of the administra-
tive divisions.[66]

All sorts of buildings are considered (uninhabited
houses, working places, summer cottages etc.), but only the
resident (de jure) population is reported. The definition
was first employed in the 1960 census and has not been
altered since.

The new element in the urban place definition of 1960
was the formalized distance criterion; but the really
important modification concerned the *modus operandi*.
Compared with 1950, the delimitation of urban places in
1960 was a highly centralized procedure. The boundaries
were established by *one* person only (the same for the whole
of Sweden). The configuration of each agglomeration was
depicted on the best large-scale physical maps available
(notably the *economic map* in the scale of 1:10,000 but
also air photos and other detailed physical maps).
Necessary adjustments were made after consultations with
various local authorities, such as the district offices
of the land surveying authority and representatives of the
municipalities. To establish the resident population in
each urban place, the maps were sent to the municipalities
where specially appointed scrutinizing bodies checked them
against the annual national register (*mantalslängd*) and
determined the size of the population resident within the
depicted urban place boundaries.[67]

In this way the Central Bureau hoped to achieve the
overall aim of the 1960 delimitation: a demarcation of
urban places in accordance with uniform principles
applying throughout the country. The concepts on which
the current delimitation principles rest, were originally
laid down in the 1950 census. The operational procedures

[66]FoB (1970-II:5)

[67]This section is based on Fo (1960-V:40-46)

were also tested at that time in the counties of
Kalmar, Västmanland, and Norrbotten.[68] The current defini-
tion draws on the work of Enequist (cited above), and on
suggestions by Erik Bylund based on his experience of the
test delimitations.[69]

The change in delimitation principles again hampered
comparison between censuses. Comparing population figures
for individual urban places between 1950 and 1960, Arpi
called attention to what could be a fictitious urban
growth: given the longer distance between houses generally
accepted in 1960, buildings which were located outside the
urban boundary in 1950 would now be included.[70] This
suggestion was supported by Norling in a study of a sample
of 26 urban places in the county of Gävleborg. He used the
1960 delimitation principles to reconstruct the 1950 bor-
ders, and found substantial discrepancies. Norling claimed
that 80 per cent of the population increase in these urban
places was attributable solely to the new demarcation
procedures.[71]

Jakobsson investigated eight urban places in the province
of Småland. Each dwelling reported in the censuses of
1940, 1950, and 1960 respectively was assigned co-ordinates
with an accuracy of ten meters. In a computorized delimi-
tation, the urban areas were approximated in cells of
100 x 100 meters. The maximum distance allowed between
buildings was found to be equally generous in the three
censuses, and Jakobsson could not verify any fictitious
urban growth in this area. Rather, his results indicated
the reverse: the official figures tended to underestimate
the urban growth of the 1950s.[72]

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[68]Fo (1950-I:35^x). Sweden is subdivided into 24 administra-
tive provinces (*län*), here referred to as *counties*.
Each county has an administrative board headed by a pro-
vincial governor. Before 1968 Sweden had 25 counties,
the city and the county of Stockholm being counted as
separate units.

[69]Ylander (1961:35)

[70]Arpi (1958)

[71]Norling (1962)

[72]Jakobsson (1969:154-163)

The aim of the 1965 delimitation was to achieve full
comparability with the preceding census; the same objective
was set for the 1970 demarcation. These delimitations
were primarily updatings of the groundwork done in 1960.
The district offices of the land surveying authority ad-
justed the borders to allow for new settlement. In those
parts of the country where new sheets of the economic map
had been issued in the intercensal periods, the boundaries
were established by *one* geographer at the Central Bureau.
The resident population in each urban place was determined
in the same way as in 1960. A series of checks on the
reliability of the material was carried out by the local
and the regional authorities, and by the Central Bureau.

The unequivocal urban place definition used since 1960
permits a computorized demarcation of urban places accor-
ding to a method developed by Nordbeck. The current
urban place definition allows a maximum distance between
houses of 200 meters. By definition *any* point within the
urban boundary must then be situated less than 100 meters
from at least one dwelling. Thus, any point within a
radius of 100 meters from a house could be ascribed a
"density of buildings" of at least one. In other words,
the urban boundary is equal to the 1-isarithm on a map
showing the distribution of houses. (The reference area
used for this map is a circle with a radius of 100 meters;
the 1-isarithm is a line connecting the midpoints of the
reference areas within which one house is situated.)
Nordbeck shows that the housing density can be replaced
by population density; the 1-isarithm on a population map
will closely follow the urban boundary, provided the popula-
tion density in the sparsely populated areas is consider-
ably less than one inhabitant per 3.14 hectares. (The
reference area is the same here as for the housing map
above.) With population data on a co-ordinate basis for
squares of 100 x 100 meters, the computor establishes the
1-isarithm on the population map - and hence the
approximated urban boundary. In most Swedish municipali-
ties the rural population density is less than 0.3 inhab-
itants per 3.14 hectares; in areas with a higher density
the 1-isarithm cannot be used (the 5 or the 10-isarithm

might be more appropriate). However, since the urban
boundary appears where there is a marked increase in
population density, it is easy to distinguish it on a
isarithmic population map as a concentration of several
isarithms. Nordbeck concludes from empirical testings that
the computorized delimitations and the official (manually
established) equivalents are almost identical. Corrections
to the automatic boundaries are sometimes necessary;
provisions have to be made for interspersed non-residential
areas with a typically urban land-use (e.g. parks, sports-
grounds, churchyards, etc.) which, according to the urban
place definition, should not be regarded as a break in the
settlement. According to Nordbeck, any remaining dispari-
ties between the manually and the automatically established
borders are a question of definition only. He contends
that urban places could be delimited automatically through-
out Sweden with the help of this method, as soon as popula-
tion statistics on a co-ordinate basis become available
for all counties.[73]

THE RELIABILITY OF THE CURRENT STATISTICS

The continued use of the urban place definition laid
down in 1960, and the carefully prepared delimitation
procedures, have together ensured continuity in the urban
place statistics and provided a degree of comparability
unparalleled in the history of the Swedish census. Con-
ditions have never been better for unbiased comparisons
of the population of individual places between censuses.
However, sources of error still exist. The three main
sources are:

(1) *Variations in the up-to-dateness and the detail of maps.*
    The quaility of the maps used was not the same through-
    out the country. This could hamper comparison between
    areas and between censuses. Several new or revised
    sheets of the economic map were issued each year. Since

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[73]Nordbeck (1969 *passim*)

the Central Bureau always uses the best map sheets
available, some urban places may have been delimited on
different maps on different occasions during the ten-
year period. In 15 counties the maps were substantially
the same in 1960 as in 1965. In 1965 the economic map
was used for most delimitations in 14 counties; 11 of
these counties used this map in 1960 as well.[74] In 1970
another four counties used the economic map for most
delimitations. It is felt that the lack of economic
map sheets for the counties of Blekinge, Kristianstad,
and Malmöhus makes it more difficult to compare these
regions with the rest of Sweden.[75]

(2) *The determination of the resident population.* This
source of error concerns the ability of the scrutinizing
body to determine the resident population within the
established borders. This task requires extensive
knowledge of every local community. In his investiga-
tion of urban places in the county of Gävleborg, Norling
found that in 1960 a few people were assigned to the
wrong category (urban or rural) in almost every case.
For six places the disparity ranged from 5 to 12 per
cent.[76] To cope with this problem, Norling was invited
to design checks for the 1965 census.[77] Several checks
on the accuracy of the separate urban place figures
were suggested and carried out, in 1965 and again in
1970. Despite checks of this kind, some minor irregula-
rities are still likely to remain. Olsson studied the
1970 demarcations in the counties of Göteborg & Bohus
and Älvsborg and found minor discrepancies from the

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[74] Norling & Jeansson (1967:213 f.). In the related figures
the *city* and the *county* of Stockholm are treated as one
unit.

[75] FoB (1970-II:10)

[76] Norling (1962). Cf. the similar result found by R. Olsson
(1966) who studied the 1960 demarcations in the county
of Göteborg & Bohus. The major differences that he found,
concerned two urban places which he had demarcated but
which were not reported in the census.

[77] Norling & Jeansson (1967:218 f.)

official figures in about 50 per cent of the places.[78]

(3) *The enlargement of continuous built-up areas.* A fic-
    titious population increase may be reported for an
    urban place if its built-up area extends into adjacent
    agglomerations whose populations are less than 200.
    This type of error is illustrated in Figure 3.1 Case
    A shows the configuration of two agglomerations, 300
    meters apart, in 1965. Alpha has exactly 200 inhabit-
    ants and is reported in the urban statistics; Beta has
    only 95 inhabitants and is unrecognized in the census.
    By 1970 Alpha has a reported increase of 50 inhabitants
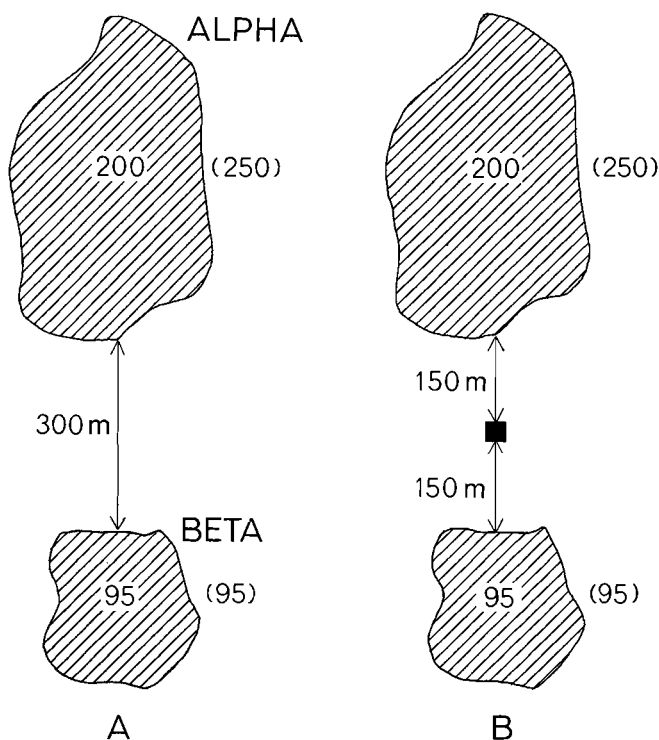   (25 per cent), while Beta remains unchanged. If, as in

Figure 3.1.

[78] R. Olsson (1972:42 f.)

case B, a house with five inhabitants had been built in
the intercensal period half-way between the agglomera-
tions, a fictitious population increase would have been
reported for Alpha. Since Beta by definition becomes
part of Alpha, this place thus has a reported popula-
tion of 350 people. The 75 per cent population in-
crease can be largely explained by the inclusion of
the stationary agglomeration Beta. Had Beta been an
urban place, this error would not have occurred; an
amalgamation between urban places is always noted in
the census report. The significance of this error is,
of course, greatest in the case of the small urban
places. But the advantages of full comparability be-
tween censuses has to be weighed against the drawbacks
of ignoring the *real* size of the agglomeration.[79]

Norling and Jeansson discuss the quality and the
comparability of the urban statistics for 1960 and 1965.
Although they maintain that the quality of the data is
primarily a function of the ability of the relevant scruti-
nizing bodies to determine the resident population within
the urban boundaries, they point out that the varying
quality of the maps should not be ignored.[80] Ylander
and Altvall maintain that the introduction of new or
improved maps in an area is likely to suggest some fic-
titious urban growth, since the greater detail which be-
comes possible in the delimitation of the areas may now
reveal some previously unrecognized fringe settlement.
They find support for their argument in the urban growth
figures for 1960-1965, for counties in which old maps with
less detail were replaced by newly issued sheets of the
economic map. In these counties, reported urban growth
slightly exceeded the average for all regions.[81]

Taking into account both the nature of the map material
and the quality of the delimitations, Norling and Jeansson
assessed the average accuracy with which the urban popula-

[79]FoB (1965-II:13[x]). Cf. Norling (1962).
[80]Norling & Jeansson (1967:212)
[81]Ylander & Altvall (1971:58)

tion could be determined in each county. Assigning to each county a figure between 1 and 5, the authors gave eleven counties a rating of 2 or less; only seven counties achieved a rating of 4 or 5. This seemingly discouraging result did not prevent the authors from assigning a favorable rating to the overall comparability between 1960 and 1965. "For the first time in the history of the census, comparability of urban statistics exists between two censuses.... The objective of the 1965 urban statistics, which was to establish direct comparability with the data of 1960, has been achieved. For all normal research needs, this comparability could probably be regarded as acceptable."[82] The major reason for the high degree of comparability was said to be that the 1965 demarcations were primarily updatings of those of 1960.

The central Bureau does not publish any appraisal of the urban place statistics. But corrected figures are supplemented in those cases where irregularities are discovered. For example, if in 1970 a place was found to have been incorrectly delimited in 1965, the population figure for that year was recalculated and the correct figure was given in the 1970 census report.

A note on economic activity statistics

Statistics on the economically active population are collected from questionnaires returned by the households to the census authorities. The reliability of the data thus collected for the 1970 census was subjected to an evaluation study, which showed that the number of economically active persons in Sweden in 1970 had been underestimated by 4.6 per cent (with an interval estimate of $\pm$ 0.6 per cent). The underestimation was relatively greatest in the case of *agriculture, forestry, and fishing* (11.8 per cent with an interval estimate of $\pm$ 5.0 per cent).[83] The results of the evaluation study have not been taken into account

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[82] Norling & Jeansson (1967:222, my translation)
[83] SCB (1974)

in the present study; the use of corrected figures
on the economically active population would not have
substantially altered the general findings.

Conclusion

   Prior to 1960 urban statistics in Sweden varied consider-
ably in quality and reliability. This applies particularly
to the figures regarding non-administrative urban places,
where frequent changes in the definitions and a lack of
formalized delimitation procedures hampers a comparison of
data between censuses. A first step towards the achieve-
ment of greater reliability was taken in the 1950 census.
The distinction between *administrative* and *non-administra-*
tive urban places was dropped, and all urban places were
delimited according to a residential building density
criterion only. But the important improvement came in the
1960 census, when a system of formalized delimitation on
physical maps was introduced. It is not within the scope
of this study to test the reliability of the urban data
available for the 1960-1970 period; the census material
for the decade has been accepted in its entirety, and it
should be noted that most of the delimitation errors dis-
cussed above were in any case negligible. However, the
possibility of such errors was taken into account in the
design of the study (see Chapter 5). Despite minor ir-
regularities, it is assumed that the data for 1960, 1965,
and 1970 are sufficiently reliable and comparable for the
present purpose.

IV. A NOTE ON POPULATION DEVELOPMENT IN SWEDEN SINCE 1750

This chapter provides a necessary background to the fol-
lowing analysis of urban development in Sweden 1960 - 1970.
A short survey of some general aspects of the population
development in the country since 1750 is followed by an
outline of the main characteristics of the growth and
spread of urban settlement prior to 1960. The final sec-
tion of the chapter provides a review of earlier studies
concerned with Swedish urban development.

General Aspects

A country's total population growth consists of natural
increase (the excess of births over deaths) and the balance
of external migration (emigration and immigration). The
unique properties of Swedish population statistics allow
analysis from 1750 onwards. The development of the popula-
tion since that year is illustrated in Figure 4.1. In
1750 Sweden had a population of about 1.8 million. By
1850 the population had almost doubled (to 3.5 million);
a hundred years later it had doubled again to a little
over 7 million. In 1970 a population of 8.1 million was
reported. The annual population increase from 1750 to
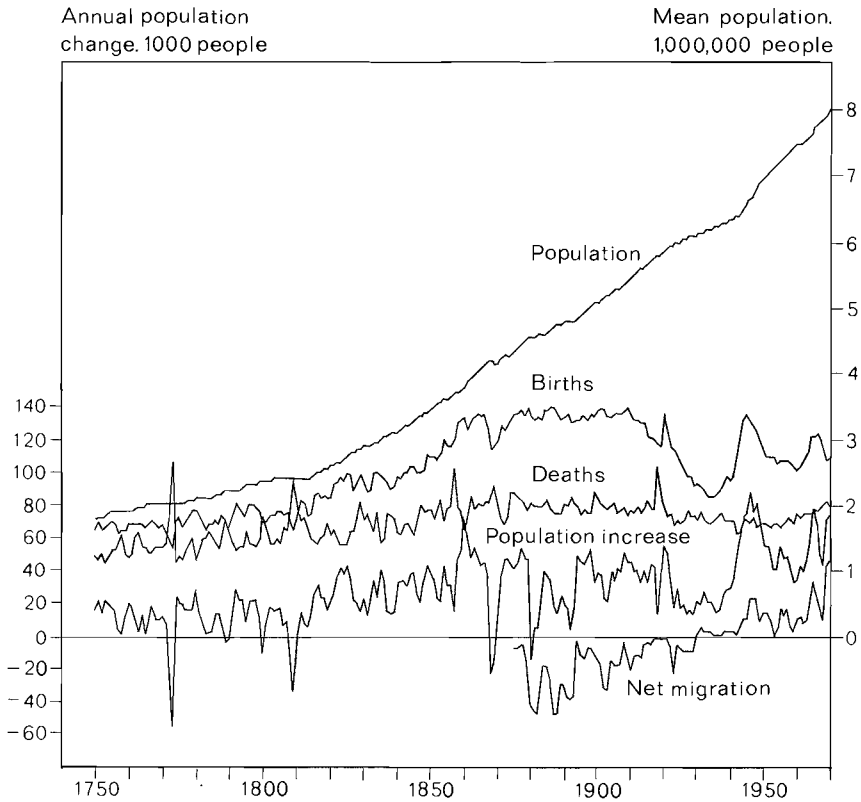1970 was 0.69 per cent.

Figure 4.1. Population development in Sweden 1750 - 1970. Annual change of births, deaths, population increase, and net migration (left scale); mean population (right scale).

Source: Befolkningsförändringar 1961 - 1970, diagram 5.

The diagram shows a parallel progression for births and deaths until the beginning of the 19th century, when the death rate became stable. The birth rate continued to increase until the 1870s, when the curve levels out; it begins to fall just after the turn of the century, swings upward again in the mid-1930s, and culminates with some high birth rates during the years of World War II.[1] The

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[1] In response to the continuous decline in births during the 1910 - 1935 period, a pro-natal population policy was advocated by Alva and Gunnar Myrdal (1934). In their classic work *Kris i befolkningsfrågan (The Population Crisis)* they opposed the Neo-Malthusian school which had been introduced in Sweden during the 1880s and which (cont.)

The rural population declined at a rather homogeneous rate in the three decades between 1930 and 1960. However, rural depopulation accelerated during the 1960s. (Table 4.7. See also Table 5.2.)

Table 4.7. Percentage rural population decrease 1920 - 1970 by decades.

	Per cent
1920-1930	2.1
1930-1940	11.8
1940-1950	14.6
1950-1960	14.3
1960-1970	26.5

Sources: SCB (1955), table A 15; *Census compilation 1960 - 1970.*

We now turn to the development of urban places by size-groups. To secure an unbiased comparison of growth the agglomerations must be arranged in a *cohort of permanent places,* so that only those which existed both at the beginning and the end of the investigated period are included. The places must be classified according to their size either at the beginning or at the end of the period. (Cf. the discussion in Chapter 5.) A body of material that meets theese requirements has been assembled from four studies for the periods 1920 - 1935, 1940 - 1945, and 1950 - 1960. It is presented in Tables 4.8 - 4.10. Two studies for the period 1950 - 1960 have been juxtaposed in Table 4.10, showing that although Arpi and Tryggveson formed their cohorts differently, their results were similar. Again, a surprisingly homogeneous development is indicated. In each of the three periods the small-place groups show the most pronounced deviation from the average growth. Other size-groups followed the national average fairly closely.

Table 4.8. Percentage change in urban population 1920 –
1935 by size of urban place (1935). Cohort of urban places
existing in 1920, 1930, and 1935.

Size (inhabitants)		Number of places	Growth 1920–1935 per cent
	500	429	7.3
500–	2,000	386	12.0
2,000–	5,000	87	21.5
5,000–	20,000	72	16.0
20,000–	50,000	14	19.5
50,000–	200,000	3	18.5
200,000–	500,000	1	20.2
500,000–1,000,000		1	31.7
Cohort total		993	19.6

Source: William-Olsson (1941:82).

Table 4.9. Percentage change in urban population 1940 –
1945 by size of urban place (1945). Cohort of urban places
existing in 1940 and 1945.

Size (inhabitants)	Number of places	Growth 1940–1945 per cent[**]
200– 1,999[*]	–	–
2,000– 4,999	103	12.6
5,000– 9,999	43	15.8
10,000–19,999	33	20.2
20,000–49,999	18	18.9
50,000–99,999	7	13.9
100,000–	3	13.0
Cohort total	207	15.2

[*]In 1945 a total of 1,089 urban places was reported for the
 size-group 200-1,999 inhabitants. The population
 figure for this size-group in 1940 is uncertain, but
 its growth between 1940 and 1945 has been estimated
 at between 8 and 16 per cent.

[**] In the original version of this table, which appeared
 in SOU 1951-VI, the percentage growth for 1940-1945 was
 computed with 1945 as the base year. The table has
 been recalculated here with 1940 as the base year.

Sources: SOU (1951-VI), table 12; Fo (1945-I), table S.

Table 4.10. Percentage change in urban population 1950 –
1960 by size of urban place (1950). Cohort of urban
places existing in 1950 and 1960. Two versions.

Size (inhabitants)	A		B	
	Number of places	Growth 1950-60 per cent	Number of places	Growth 1950-60 per cent
200- 499	733	10	675	2.6
500- 999	396	7	336	5.2
1,000- 1,999	237	21	187	16.7
2,000- 4,999	145	24	113	21.3
5,000- 9,999	46	24	46	22.6
10,000-19,999	33	23	33	23.8
20,000-49,999	19	20	19	19.7
50,000-99,999	9	16	9	16.1
100,000-	3	14	3	14.1
Cohort total	1,621	17	1,421	16.4

Sources: A: Arpi (1963:190); B: Tryggveson (1967:155).

As regards Stockholm, Göteborg and Malmö, the tables
corroborate what several other studies have testified:
for a long time the three largest urban places have had a
rate of growth close to the average for all urban places
together. We shall return to this issue in the next chap-
ter. However, in Table 4.8 Stockholm's percentage growth
(size-group 500,000 – 1,000,000) is shown as being well
above the national average. As we shall see in Chapter 5,
since 1920 Greater Stockholm has shown a rate of increased
far above the national average urban growth during one
decade only. This was during the 1920s, when the area
reported twice the growth rate of all the urban places
together.

For the smaller urban places, Arpi showed that about
50 per cent of those with less than 1,000 inhabitants
exhibited a population increase in the 1950s (see
Table 4.11). However, only a fourth of the places in this
group increased at a rate faster than the national average.
The table further reveals that very few of the places with

a population above 2,000 inhabitants registered a decline.
In most of these size-groups, over 50 per cent of the
places showed growth above the national average.

Table 4.11. Urban population by size of urban place
(1950). Per cent of urban places in each size-group with
population growth 1950 - 1960. Cohort of urban places
existing in 1950 and 1960.

Size (inhabitants)	Percentage of urban places in sizegroup with population increase 1950-1960	Percentage of urban places in sizegroup with population increase 1950-1960 above average of cohort (17 per cent)	Number of places
200- 499	51	29	733
500- 999	54	27	396
1,000- 1,999	74	45	237
2,000- 4,999	90	51	145
5,000- 9,999	94	70	46
10,000-19,999	100	61	33
20,000-49,999	95	47	19
50,000-99,999	100	56	9
100,000-	100	33	3
Cohort total	62	35	1,621

Source: Arpi (1963:188)

The main characteristics of the present geographical
distribution of the population are discussed in Chapter 5,
where the development of the population during the period
1960 - 1970 is outlined in aggregated terms.

STUDIES OF URBAN DEVELOPMENT IN SWEDEN —A BIBLIOGRAPHY

This chapter closes with a selected bibliography of
urban studies. For this to be more complete most of the
studies referring to Sweden that have been cited in the
above discussions should have been included. However, to

keep the review within manageable limits, only some of
these studies are mentioned again. Studies relevant to
the discussion in forthcoming chapters, will be referred
to again in the appropriate contexts.

Surprisingly few extensive studies exist on urban
development in Sweden. The first penetrating study to
appear was Nelson's, published in 1918, in which the loca-
tion of some 240 towns and other agglomerations with urban
characteristics was explained.[27] The two most extensive
general studies hitherto published are Ahlberg's
*Population Trends and Urbanization in Sweden 1911 -
1950 (Befolkningsutvecklingen och urbaniseringen i Sverige
1911 - 1950)* from 1953 and Tryggveson's *Urbanization in
Sweden 1951 - 1960 (Urbanisering och tätortsutveckling
1951 - 1960)* from 1967.[28] Both studies contain a penetrat-
ing statistical analysis.

An overview of *urbanization* and *urban growth* can be
obtained from some shorter surveys.[29] As regards retro-
spective studies going back earlier than 1900, most rely
on data for towns only. Two exceptions are the afore-
mentioned studies by William-Olsson and Jonasson.[30] In
a series of stochastic migration models Morrill simulated
the spread and growth of urban settlement in a section of
southern Sweden 1860 - 1960.[31]

Several shorter studies are available on *urban growth*
and the *degree of urbanization* during different periods
since 1950. Most of these contain a class-wise analysis
of aggregated data for urban places,[32] while others are

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[27]Nelson (1918)

[28]Ahlberg (1953), Tryggveson (1967). Tryggveson's study
contains a summary in English. Ahlberg's main findings
are also available in English, see Ahlberg (1956).

[29]See, e.g. Godlund (1961, 1964), Godlund *et al.* (1967:
32-47), Hägerstrand (1966), and Kant (1957:253-271).

[30]William-Olsson (1938, 1941), see the discussion in chap-
ter 3; Jonasson (1949), see Chapter 3, footnote 44.

[31]Morrill (1963, 1965)

[32]Arpi (1962, 1963) concerning 1950 - 1960; Norling &
Jeansson (1967), Enequist (1969, a, b) concerning 1960 -
1965; Tryggveson (1974) concerning 1965 - 1970; Ersson
(1971) concerning northern Sweden during the 1960s.

based on computorized isarithmic maps.[33] A class-wise
analysis of the development of urban places in Sweden
during the period 1960 - 1970 is also included in a
monograph on smaller urban places published by Mattsson
in 1974.[34]

An early discussion of suburban development in Sweden
can be found in a study by Silén from 1930; Larsson had
already earlier dealt with the incorporation of suburban
residential developments by towns.[35] Suburban development
around Stockholm between 1870 and 1970 is treated exten-
sively by Johansson, while Walldén concentrates on the
development of the suburbs of Solna and Sundbyberg (1870 -
1945).[36] The suburbs around Lake Mälaren and Lake Hjälmaren
were studied in a monograph by Ohre in 1966.[37]

Ohre-Aldskogius held that residential building con-
struction was the main factor governing population change
during the period 1950 - 1960 in 14 large and medium-
sized urban regions.[38] Alexandersson and Falk studied the
population development in 26 urban regions during the
1960s, and found that the satellites generally increased at
a faster rate than the urban cores.[39]

Smaller urban places (less than 2,000 inhabitants) were
examined by Enequist, with special attention to their
industrial structure and regional distribution (1940).
The study, which appeared in 1947, does not include any dis-
cussion of population development. This, on the other
hand, is covered by Mattson in his study of smaller urban
places (also less than 2,000 inhabitants), which focuses
on population change between 1960 and 1970.[40]

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[33]Hägerstrand & Öberg (1970), Öberg (1969, 1970) concerning
1960-1965; Hägerstrand (1968) concerning 1960.
[34]Mattsson (1974)
[35]Silén (1930), Larsson (1912 b)
[36]Johansson (1974), Walldén (1953)
[37]Ohre (1966)
[38]Ohre-Aldskogius (1968). A summary in English is available
in M. Aldskogius (1970).
[39]Alexandersson & Falk (1973, 1974)
[40]Enequist (1947), Mattsson (1974)

The industrial structure of urban places has been thoroughly investigated. Enequist and William-Olsson have repeatedly returned to this issue and published several classifications of urban places according to their industrial structure.[41] The industrial development of towns between 1867 and 1940 was discussed by Overton, and Nelson sketched the industrial structure of towns during the 1920s.[42] The structure of urban places of 10,000 inhabitants or more in 1965 was studied by Aldskogius, using factor analysis.[43]

Market towns and central places in Sweden were discussed in a historic perspective by Dahl,[44] and several studies have focused on central places in sparsely populated areas.[45] The rural-urban transition was treated by Lewan from a settlement point of view, and by Swedner with reference to sociological aspects.[46] Several monographs on the development of individual towns are available.[47] Regarding Stockholm, Ahlberg has studied the population development since 1850 in a volume published in 1958, while Ahlmann *et al.* and William-Olsson have made detailed studies of the economic geography.[48]

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[41] Enequist (1943), map 11 - administrative urban places 1930; Enequist (1946), maps 2, 3 and pp. 31 ff. - urban places 1940; Enequist (1955, 1957) - urban places 1950; Enequist (1970) - urban places 1965 and changes of the industrial structure 1950 - 1965. William-Olsson (1943) - urban places 1935 in northern Sweden; William-Olsson (1946) - urban places 1940; William-Olsson (1967) - urban places 1960 (also published in Ödmann & Dahlberg, 1970).

[42] Overton (1942), Nelson (1928)

[43] H. Aldskogius (1969). Cf. a similar study by Ahnström (1975) concerning A-regions in 1970.

[44] Dahl (1965)

[45] See, e.g., Bylund & Weissglas (1970), Bylund (1972), and Enequist & Bäck (1966)

[46] Lewan (1967, 1969), Swedner (1960)

[47] See, e.g., Chapter 3 footnote 14.

[48] Ahlberg (1958), Ahlmann *et al.* (1934), William-Olsson (1937, 1961)

Finally, several maps showing the population of urban places are available for various periods,[49] and in connection with the 1960 census both the location and the areal extension of urban places were mapped.[50] William-Olsson has prepared two maps on the population development of urban places for the periods 1920 - 1935 and 1950 - 1960.[51]

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[49] See De Geer (1919) and Chapter 3 footnote 36.

[50] SCB (1963)

[51] William-Olsson (1938, 1941, 1966)

V. HOW DO WE MEASURE POPULATION CHANGE?

This chapter falls into three parts. The first section
outlines the principles governing the choice of relative
rather than absolute measures of population change in this
study. Next follows a discussion of the role of the
metropolitan areas in the urbanization process; because
of differences in measurement, two interpretations have been
offered in Sweden. The final section describes the design
of the study and the census compilation employed in the
analysis of urban development in Sweden 1960 - 1970.

Relative Changes

Should relative or absolute measures of population
change be employed? There is neither a "right" nor or
"wrong" answer to this question: Whether the rate or the
absolute magnitude of a population change should be meas-
ured will depend on the purpose of the inquiry. In this
study of urban development in Sweden 1960 - 1970 a relative
measure of population change is generally used.

The overall aim here is to focus the analysis (both
description and explanation) on the *dynamics* of population
development and the settlement system. Thus, it is impera-
tive to reveal general directions (tendencies) and major
breaking-points in the development. Although the purpose

is not primarily to provide a forecast, a predictive
element is clearly recognized; the analysis should provide
the means for anticipating future changes. Further, an
allometric approach is pursued, i.e., the urban population
development in a place (or a region) is related to the
national average urban population development. When the
development of the total system is related to the progress
of its various subsystems, it becomes possible to dis-
tinguish residual developments such as concentrations and
deconcentrations within the urban system.

A common objection to the use of percentage measures of
change in urban places is an elementary one: it is main-
tained that the small place needs only a small population
increment to reach a high percentage rate, whereas the
large metropolis has to have a large increment to reach
the same rate. On the other hand, the relative measure
allows comparison of changes irrespective of the magni-
tudes involved. In the present study, however, to attain
the objective discussed above, an emphasis on relative
rather than absolute measures is a prerequisite.

The Role of the Metropolitan Areas in the Urbanization Process

We now turn to the question of inter-regional compari-
sons of population change. During the 1960s and the early
1970s a discussion took place between urban planners,
politicians, economists, geographers, and other social
scientists in Sweden on the role of the metropolitan areas
in the urbanization process. On the one hand it was
contended that the population of Sweden was becoming con-
centrated to the three big-city regions (Stockholm,
Göteborg, Malmö), and especially to the Stockholm metropol-
itan area. On the other hand it was maintained that the
population development of the metropolitan areas was on
par with the average for all urban places in Sweden. This
discussion will not be reviewed in any great detail here.
Only some fundamental aspects of the argument will be high-
lighted. We will focus particularly on a problem of
measurement - namely, how the geographical redistribu-

tion of the population should be measured. Let us first outline the main features of the population development in Sweden between 1960 and 1970 in aggregated terms.

## POPULATION DEVELOPMENT IN SWEDEN 1960—1970. A BROAD OUTLINE BY A-REGIONS

The analysis below is based on the *A-regions* which are employed by the Central Bureau of Statistics. For statistical purposes the municipalities have been amalgamated to form 70 statistical areas (A-regions), each region comprising at least one major urban center. The 70 A-regions are presented in Figure 5.1.[1]

The population of Sweden reported in the 1970 census totalled 8,077,000 people; 6,574,000 of these (or 81.4 per cent) lived in urban places. The total population had increased by 582,000 (7.8 per cent) since 1960, while the urban population gained 1,122,000 (20.6 per cent). The rural population declined by 26.5 per cent during the decade, reaching a total of 1,503,000.

Figures 5.2 a and b show the distribution of the urban and total population by A-regions. Sweden has a skewed population distribution. In 1970 the Stockholm/Södertälje, the Göteborg, and the Malmö/Lund/Trelleborg A-regions together accounted for 32 per cent of the total population, and for 37 per cent of the urban population. As will be seen later, this fundamental feature of the regional population distribution of Sweden is very much a historical legacy, and its origins can be traced back at least to the mid-19th century. Whereas all regions except two (Mora and Härnösand/Kramfors) had an increasing urban population during the 1960s (Figure 5.2 a), more than a third of the regions - particularly in the northern two-thirds of Sweden - reported a total population loss

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[1]This regionalization dates from 1966 when a former subdivision by the Labor Market Board was adapted for statistical purposes. See SCB (1966). The subdivision employed here includes changes as of 1 January 1973. See SCB (1972 a).

01 Stockholm/Södertälje
02 Norrtälje
03 Enköping
04 Uppsala
05 Nyköping
06 Katrineholm
07 Eskilstuna
08 Mjölby/Motala
09 Linköping
10 Norrköping
11 Jönköping
12 Tranås
13 Eksjö/Nässjö/Vetlanda
14 Värnamo
15 Ljungby
16 Växjö
17 Västervik
18 Hultsfred/Vimmerby
19 Oskarshamn
20 Kalmar/Nybro
21 Visby
22 Karlskrona
23 Karlshamn
24 Kristianstad
25 Hässleholm
26 Ängelholm
27 Hälsingborg/Landskrona
28 Malmö/Lund/Trelleborg
29 Ystad/Simrishamn
30 Eslöv
31 Halmstad
32 Falkenberg/Varberg
33 Göteborg
34 Uddevalla
35 Trollhättan/Vänersborg
36 Borås
37 Lidköping/Skara
38 Falköping
39 Skövde
40 Mariestad
41 Kristinehamn
42 Karlstad
43 Säffle/Åmål
44 Arvika
45 Örebro
46 Karlskoga
47 Lindesberg
48 Västerås
49 Köping
50 Fagersta
51 Sala
52 Borlänge/Falun
53 Avesta/Hedemora
54 Ludvika
55 Mora
56 Gävle/Sandviken
57 Bollnäs/Söderhamn
58 Hudiksvall/Ljusdal
59 Sundsvall
60 Härnösand/Kramfors
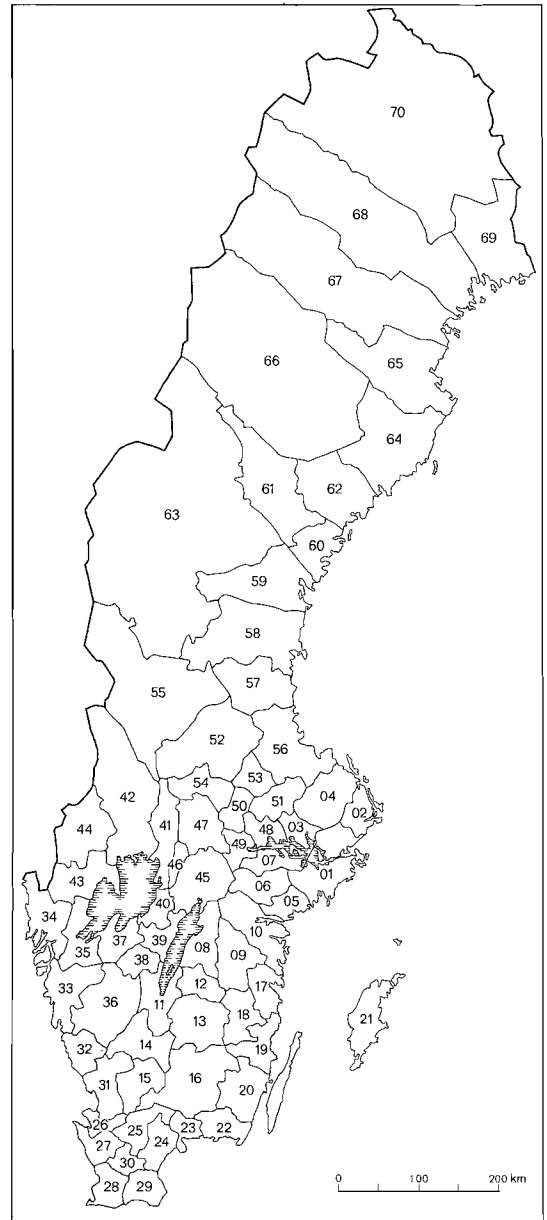
61 Sollefteå
62 Örnsköldsvik
63 Östersund
64 Umeå
65 Skellefteå
66 Lycksele
67 Piteå
68 Luleå/Boden
69 Haparanda/Kalix
70 Kiruna/Gällivare

Figure 5.1. A-regions.

(Figure 5.2 b). The decrease in these regions reflects
the characteristic north-south drift of the population,
which was accentuated after World War II as a result of
the decline in forestry and agriculture. The three big-
city regions each had a total population increase rate of
more than twice the national average (7.8 per cent). How-
ever, in the case of urban development, the picture is
strikingly different. Stockholm/Södertälje and Göteborg
each exhibited an urban population growth that lay close
to the average for all urban places (19.0 and 22.0 per
cent respectively), while Malmö/Lund/Trelleborg was some-
what above the average (25.7 per cent).

Without exception, all regions exhibited a depopulation
of their rural areas (Figure 5.2 d). The rural decrease
during the decade was surprisingly homogeneous. Except for
Göteborg, which had a loss of 4.7 per cent, all regions
reported a rural rate of decline ranging between 17 and
45 per cent. The national average was 26.5 per cent.

Besides the three big-city regions, both Karlskoga and
Västerås had a *degree of urbanization* (i.e. the proportion
of the total population living in urban places) above
90 per cent (Figure 5.2 c). The lowest degree of urbaniza-
tion was slightly below 50 per cent (Arvika). The ratio
increased in all regions during the decade, but the change
was minimal in the metropolitan areas (Figure 5.3). Even
though most regions in the eastern portion of Central
Sweden had reached above 80 per cent by 1970, a further
increase in the urban proportion must still be expected
for a majority of regions.

Inter-regional comparisons of the total population change
on the one hand, and of the urban population change on the
other, appear to lead to different conclusions about the
growth of the metropolitan areas. The total growth rate
in these regions was twice the national average; but their
urban population increase more or less paralleled the average
urban growth rate in Sweden. As we shall see, the contro-
versy about metropolitan growth in Sweden resolves into
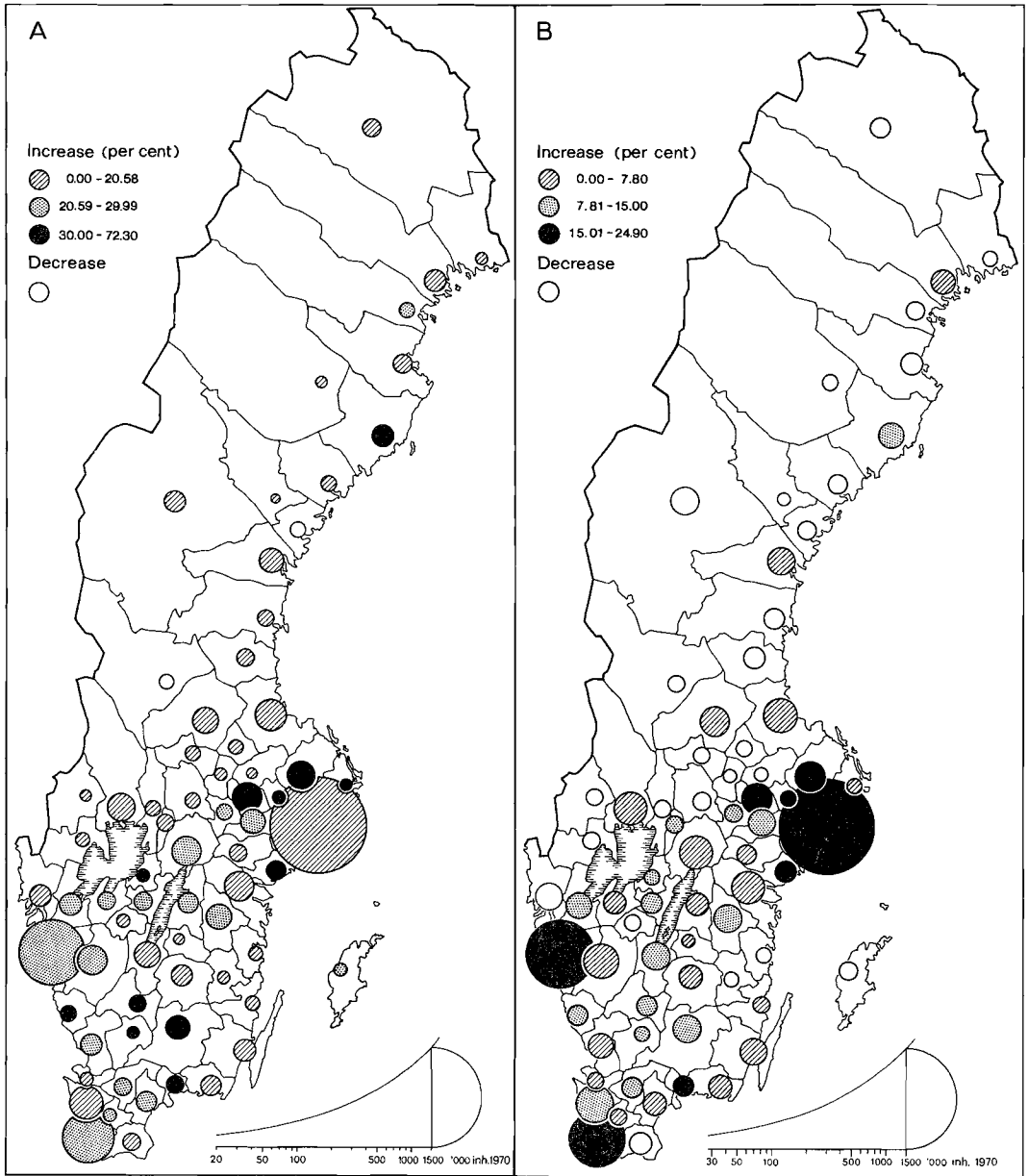the question of whether the geographical redistribution of

Figure 5.2 a. Urban population. Number of persons 1970 and percentage change 1960 – 1970 by A-regions. National average urban growth 20.6 per cent.

Source: Census compilation 1960 – 1970.

Figure 5.2 b. Total population. Number of persons 1970 and percentage change 1960 – 1970 by A-regions. National average total population growth 7.8 per cent.
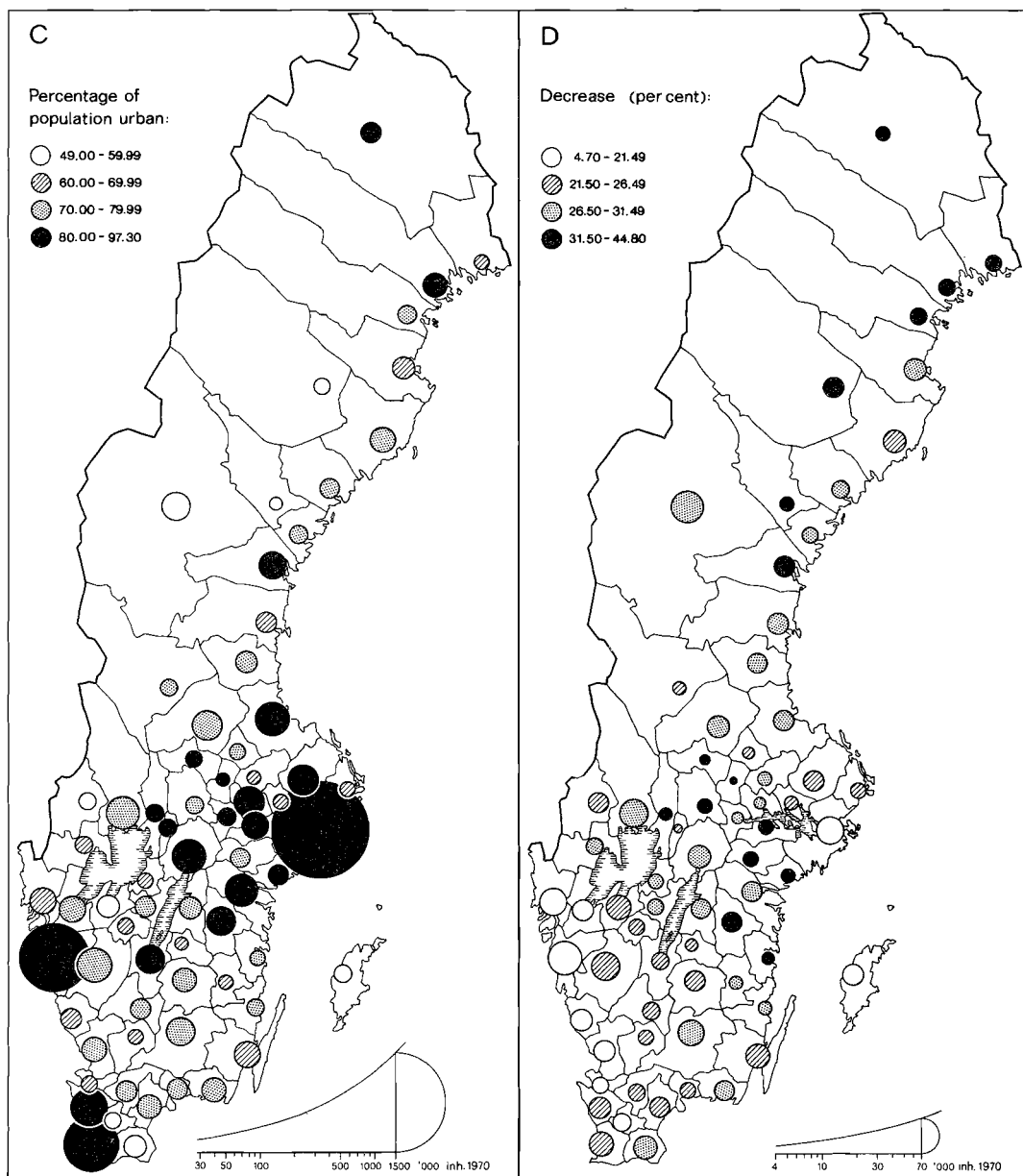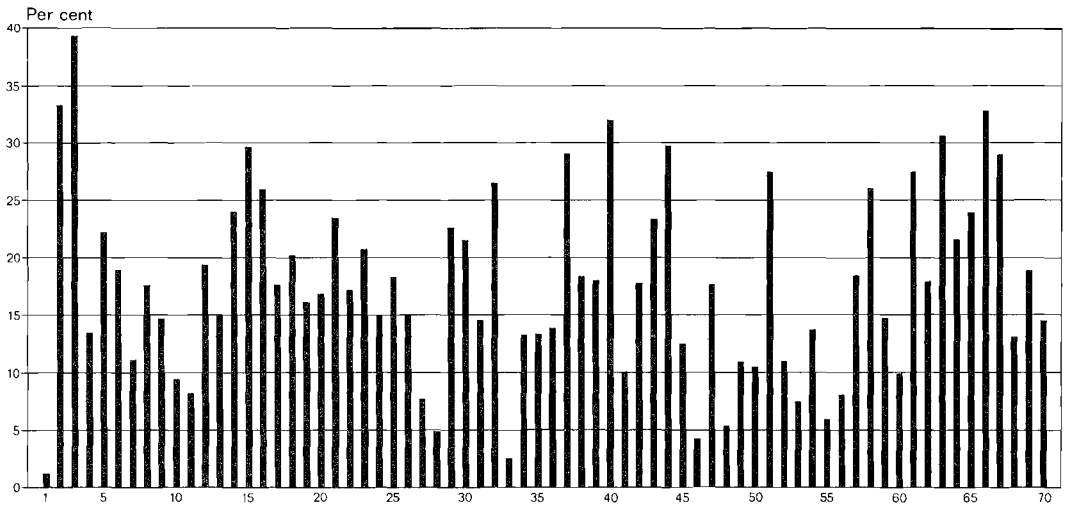
Source: Census compilation 1960 – 1970.

Figure 5.2 c. Total population. Number of persons and degree of urbanization 1970 by A-regions. National average degree of urbanization 81.4 per cent.

Source: Census compilation 1960 - 1970.

Figure 5.2 d. Rural population. Number of persons 1970 and percentage decrease 1960 - 1970 by A-regions. National average rural population decrease 26.5 per cent.

Source: Census compilation 1960 - 1970.

Figure 5.3. Degree of urbanization. Percentage change
1960 - 1970 by A-regions (numbered, see Figure 5.1).

Source: Census compilation 1960 - 1970.

the population should be measured in terms of the *total*
population or of the *urban* population. Let us examine
these two approaches.

THE COMPONENTS OF POPULATION CHANGE

The argument that the population was being concentrated
to the three big-city regions,and especially to the
Stockholm metropolitan area, was based on comparisons of
the total population development in administrative regions
(municipalities, A-regions, or counties). A typical and
frequently recurring example of this argument is presented
in Table 5.1. Here the total populations of the counties
of Stockholm, Göteborg & Bohus, and Malmöhus, and of six
other groups of counties, are compared over time.[2] The

[2]The table is quoted from *"Balanced Regional Development"*
(SOU 1970-III), table 1.2.1, which is a report from the
Expert Group of Regional Studies within the *Ministry of
Labor.* Figures for 1970 have here been substituted for the
original 1965 and 1968 figures. The table also appeared
in Hägerstrand (1966:276). The same approach can be found
in a number of reports, see, e.g., Proposition (1970-
LXXV), table 5; SOU (1971-XVI), figure 3:1; Proposition
(1972-CXI), figure. 3:8; Planning Sweden (1973), figure
9:2; ERU (1975), figure 2:7.

Table 5.1. Total population by groups of counties
1870 - 1970. Percentage distribution.

Counties	1870	1900	1930	1960	1970
Stockholm	6.4	9.3	12.5	17.1	18.3
Göteborg & Bohus	5.6	6.6	7.5	8.4	8.9
Malmöhus	7.6	8.0	8.3	8.4	8.9
Uppsala, Söder-manland, Öster-götland, Örebro, Västmanland	18.5	17.8	16.5	16.6	17.1
Jönköping, Krono-berg, Kalmar, Gotland, Blekinge, Kristianstad	23.3	19.6	17.6	15.0	14.7
Halland, Älvs-borg, Skaraborg	15.6	12.9	11.4	10.5	10.6
Värmland, Koppar-berg, Gävleborg	13.9	13.8	13.1	11.6	10.6
Västernorrland, Jämtland	4.9	6.7	6.7	5.7	4.9
Västerbotten, Norrbotten	4.0	5.4	6.6	6.7	6.0
Sweden	100.0	100.0	100.0	100.0	100.0

Sources: SOU (1970-III), table 1.2.1; FoB (1970-I),
table 1.

geographic extension of these administrative areas is shown
in Figure 5.4.

The table has commonly been interpreted as follows.
The Stockholm region has more or less doubled its share
of the Swedish population since the turn of the century.
Even though the Göteborg region increased its share con-
siderably, this increase is modest compared with that of
Stockholm. The Malmö region has maintained a more or less
constant share, but a small increase is noticeable during
the 1960s. The counties of Uppsala, Södermanland, Öster-
götland, Örebro, and Västmanland constitute a stable region,
while the rest of central and southern Sweden shows de-
creasing shares. Until recently the counties in northern
Sweden maintained their shares, and for a long time norther-
most Sweden even reported increasing shares.[3]

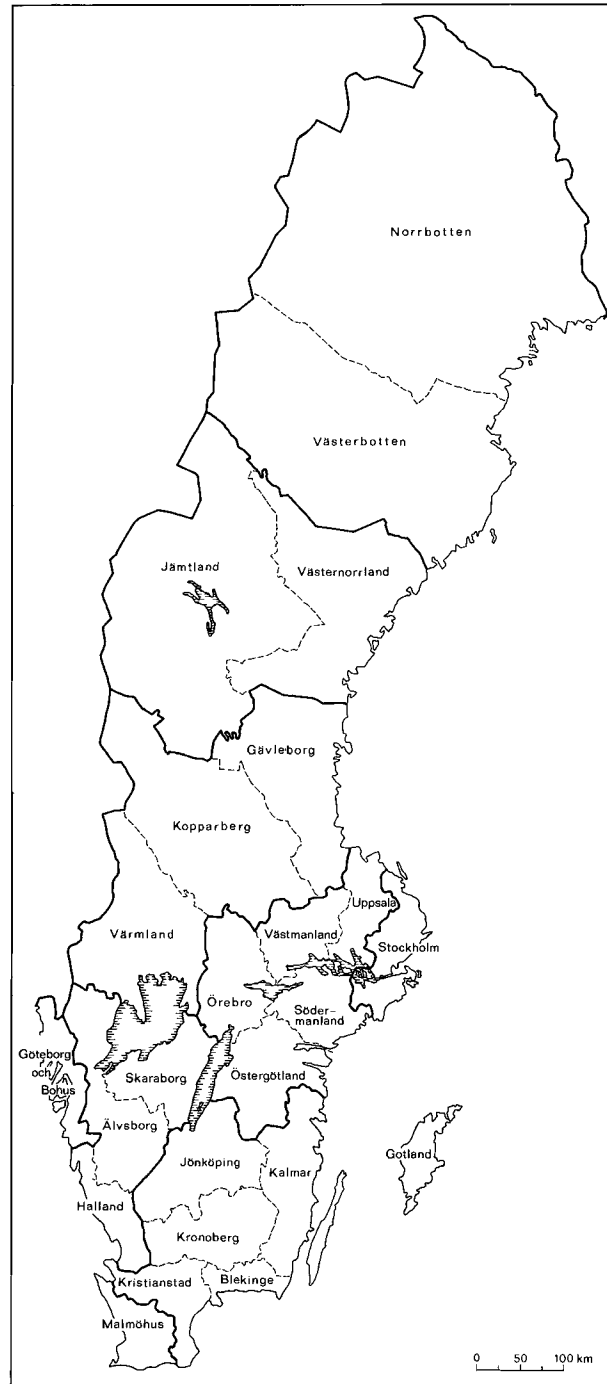[3] SOU (1970-III:31 f.), Hägerstrand (1966:276 f.)

Figure 5.4. Counties and groups of counties.

In a series of articles, William-Olsson has argued
against this interpretation.[4] He does not dispute that
the county of Stockholm has greatly increased its share
of the national population since 1900, but contends that
this could with equal justification also be reported for
many other areas in Sweden, namely the growing *urban places*.
Each administrative region comprises urban places and
rural areas in varying proportions. A fundamental feature
of Swedish population development has long been an
overall concentration of the population to urban places;
any comparisons of blunt analytical aggregates would only
partly account for the rural-urban migratory movement.
The net influx of people into a region's urban places from
the rural areas of other regions affects the total popula-
tion figure of the region concerned, whereas the rural-
urban migration *within* the regions does not. In other
words, since the rural population is declining rather
uniformly throughout the country and the urban population
is expanding, the ratio of the two components greatly
affects the growth rate of the total population in an
administrative region.

Take for example a region delimited in such a way that
it consists of *one* large urban place and a surrounding
rural area. Assume that the urban place grows more populous
solely because of an influx from its own rural area. The
total population figure in this region will not be affected
since the rural loss is counterbalanced by a corresponding
gain in the urban place. Thus, the total population in
this region will not increase its share of the national
population; obviously the expanding urban place will do so.
William-Olsson therefore concludes that whether or not
a region can report an increasing share of the national
population, will depend largely on the way it has been

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[4]*Kommunal tidskrift* 1968:6, 1970:19 and 20; *Svenska Dag-
bladet* 1970: November 8, 1971: January 14, July 21, July
23, and October 11, 1972: February 25; *Dagens Nyheter*
1970: February 7; *Industria* 1969:5.

Cf. also e.g., Plan (1965, editorial), Holm (1969), and
Rasmussen (1969:36 ff.) for similar arguments.

delimited.

In a comparison of the total population developments in different administrative regions, intra-regional migration from rural areas to urban places remains concealed. Since each administrative region has a different degree of urbanization, and since the total population consists of two components (an increasing urban population and a decreasing rural population), William-Olsson contends that comparisons of regional totals are in fact comparisons of noncomparable magnitudes. If changes in the geographical distribution of the population are to be correctly interpreted, a distinction must be made between urban and rural components. An analysis based on a subdivision of the country into urban places and rural areas, would be much more revealing than comparisons of arbitrarily delimited administrative regions. Hence, urban and rural population developments should be analyzed separately. This is especially important in the case of metropolitan areas which are more or less totally urban in character. (As noted above, each of the three metropolitan A-regions had a degree of urbanization above 90 per cent in 1970, and Stockholm/Södertälje had a ratio of 97 per cent.) Thus, the urban population development in the metropolitan areas should be compared with developments in other urban places in Sweden. Focusing on Greater Stockholm, William-Olsson then shows that this area has maintained a constant share (around 20 per cent) of the Swedish urban population since 1880. This, he claimed disproves the alleged concentration of population to this region.

Let us further examine these interrelationships from a formal point of view.

The total population change in a country during a specific period could be expressed as:

$$T = (B-D) + (I-E) \tag{1}$$

where T = the total population gain (or loss)
     B = births
     D = deaths
     I = immigrants
     E = emigrants

If the country is subdivided into administrative regions, the total population change in one region during a specific period would read:

$$T_r = (B-D) + (I-E) + (M_t-M_f) \qquad (2)$$

where T_r = the total population gain (or loss) in the region

M_t = migrants to the region from other regions

M_f = migrants from the region to other regions

If the national population is broken down into its urban and rural components, we obviously get:

Total population = Urban population + Rural popula- (3)
                    tion

The redistribution of the population from rural to urban settlement leaves the total population column in equation (3) unaffected; in other words, equation (1) does not allow for the most conspicuous population change in Sweden in the course of almost a century. The urban population change in a country during a specific period could be expressed:

$$U = (B-D) + (I-E) + (M_u-M_r) \qquad (4)$$

where U = the urban population gain (or loss)

M_u = migration to urban places from rural areas

M_r = migration from urban places to rural areas

Similarily, the rural population change in a country during a specific period could be expressed:

$$R = (B-D) + (I-E) + (M_m-M_n) \qquad (5)$$

where R = the rural population gain (or loss)

M_m = migration to rural areas from urban places

M_n = migration from rural areas to urban places

If equation (4) is rewritten to show the urban population change in one administrative region during a specific period, we get:

$$U_r = (B-D) + (I-E) + (M_a-M_b) + (M_c-M_d) + (M_e-M_g) \qquad (6)$$

where U_r = the urban population gain (or loss) in the region

M_a = migration from rural areas within the region

M_b = migration to rural areas within the region

M_c = migration from rural areas in other regions

M_d = migration to rural areas in other regions

M_e = migration from urban places in other regions

M_g = migration to urban places in other regions

The expression $(M_c-M_d) + (M_e-M_g)$ is equal to (M_t-M_f) in equation (2).

The rural population change in one region during a specific period is written:

$$R_r = (B-D) + (I-E) + (M_p-M_q) + (M_1-M_s) + (M_z-M_u) \qquad (7)$$

where R_r = the rural population gain (or loss) in the region

M_p = migration from urban places within the region

M_q = migration to urban places within the region

M_1 = migration from urban places in other regions

M_s = migration to urban places in other regions

M_z = migration from rural areas in other regions

M_u = migration to rural areas in other regions

In a situation with a declining rural and an expanding urban population, the urban gain must be greater than the total population change in both absolute and relative terms. This is illustrated in Table 5.2, which covers the period 1920 - 1970. The urban population in Sweden increased more rapidly than the total population during each decade - on an average, three times as fast. Taking the 1960s as an example, we find that the absolute urban increment was almost twice as large as that of the total population.

By definition, urban and total population change must be identical when one hundred per cent of the population is reported as urban. With two exceptions, the A-regions reported an absolute urban gain (U_r) exceeding the total population change (T_r) during the 1960s (Figure 5.5). In the cases of Mora and Härnösand/Kramfors (* in the figure), both the total and the urban population decreased. But the total population decline was larger than that of the urban.

Table 5.2. Total, urban, and rural population changes 1920 - 1970, by decades.

	Absolute population change			Relative popula-tion change, per cent		
	Total	Urban	Rural	Total	Urban	Rural
1920-1930	237,700	306,100	- 68,400	4.0	11.5	- 2.1
1930-1940	229,200	603,600	-374,400	3.7	20.3	-11.8
1940-1950	672,600	1,079,000	-406,400	10.6	30.1	-14.6
1950-1960	451,100	791,600	-340,500	6.4	17.0	-14.3
1960-1970	581,800	1,122,300	-540,500	7.8	20.6	-26.5

Sources: SCB (1955), table A 15; *Census compilation 1960-1970.*
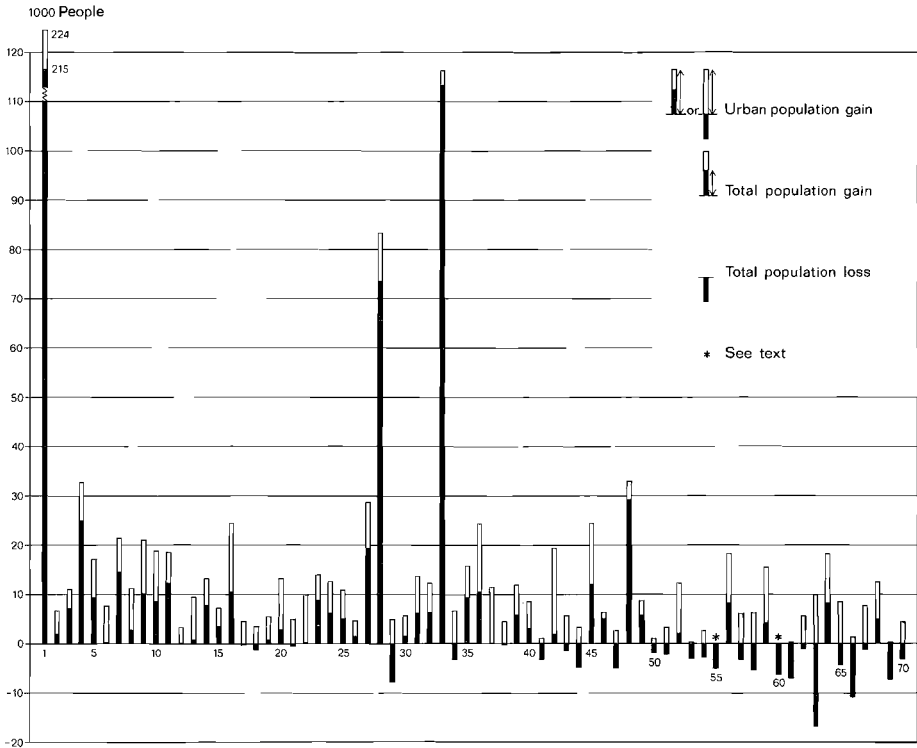
Figure 5.5. Population change 1960-1970 by A-regions (num-bered, see Figure 5.1). Columns proportional to urban and total population change.

Source: Census compilation 1960 - 1970.

Figure 5.5 further reveals that U_r may increase even if T_r is zero or negative. In this case the urban gain is maintained solely by the net migration from rural areas within the region $(M_a - M_b)$ and by the natural increase $(B-D)$. If T_r declines while U_r increases (or is stationary), the rural decline is not fully counterbalanced by a corresponding urban gain; the region will thus show a net loss of population (see Figure 5.6). Clearly, the rural-urban redistribution is a function of both a migratory movement and of differences between the rural and urban components in terms of births and deaths. But Swedish statistics do not allow a break-down of the regional population change into the components given in equations (6) and (7). The census provides stock data, and comparisons over time yield only the net outcome of population changes between censuses. However, if we take migration as an example, we can see clearly that comparisons of population change based on a *holistic* approach (i.e. on total population development), will not fully recognize all migratory movement. The rural-urban migration within administrative regions will be ignored. *An urban increment due to migration from rural areas will affect the total population change (T_r) differently, depending on whether the migrants' place of origin is within the region or in the rural areas of some other region.* These aspects of regional population development have important practical implications. If, for example, funds for residential housing are allocated to regions on a basis of their total population development, then the supply and the demand for housing will almost certainly fail to match.

The significance of the intra-regional redistribution of the population from rural areas to urban places is illustrated further in Figure 5.6. Ascending columns are proportional to the net urban gain. Shaded areas depict the net rural loss. If the rural loss exceeds the urban gain, the region shows a decreasing total population (downward black columns). Unshaded columns depict the sum of the net migration from other regions (including foreign areas) and the natural population increase, i.e. the net
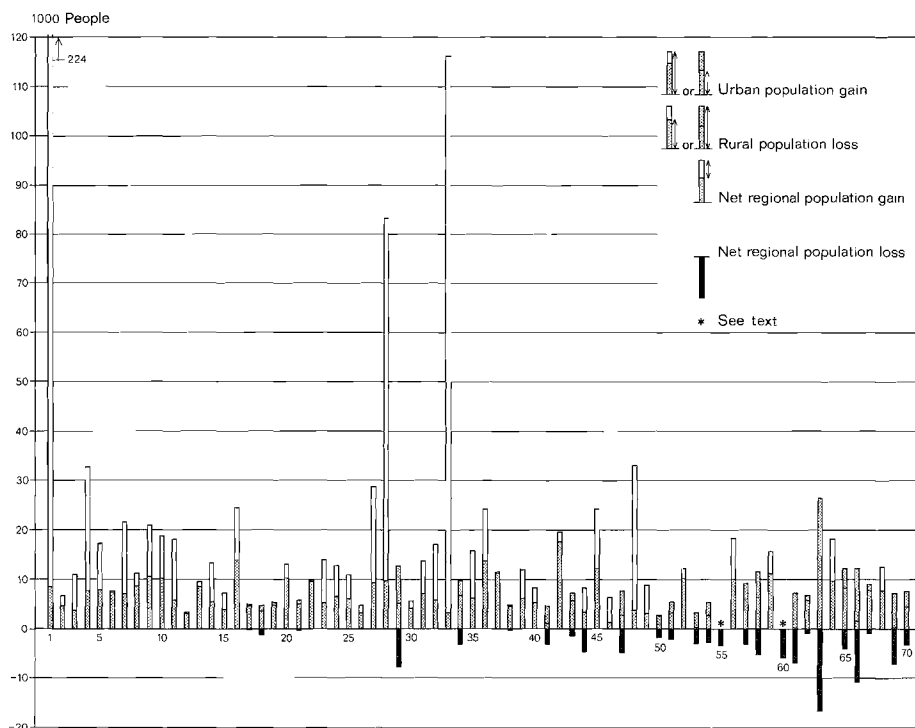
Figure 5.6. Population change 1960 - 1970 by A-regions (numbered, see Figure 5.1). Columns proportional to urban population gain, counterbalancing rural loss, and the net regional population change.

Source: Census compilation 1960 - 1970.

regional population gain. (* in the figure indicate that both the urban and the rural population decreased.)

In a situation where the rural population declines homo-geneously and the urban population increases, a varying degree of urbanization in each region will affect the relation between the total and the urban population change. As the degree of urbanization increases in regions report-ing urban gains, the proportion of the urban increment that is counterbalanced by a rural loss will decrease. For example, Stockholm/Södertälje, Göteborg, and Malmö/Lund/ Trelleborg had a high degree of urbanization in 1970, but only a minor share of the urban increment in these A-regions was accounted for by a corresponding rural loss. The lower the proportion of the urban increment that is

matched by a corresponding rural loss, the higher the
proportion of the regional urban gain which affects the
total population figure. It can be shown that regions with
a high total growth rate tend to have a low proportion of
their urban increment counterbalanced by a rural loss,
and vice versa.

The proportion of the regional net urban increment which
is counterbalanced by a corresponding net rural loss is
expressed as a simple ratio (K).

$$K = \frac{|DR|}{DU} \tag{8}$$

where $|DR|$ = the absolute value of the net rural popula-
tion decline in the region during a specific
period

   DU = the net urban increase in the region during
the period

A regression analysis was performed for 68 A-regions.
Mora and Härnösand/Kramfors were excluded, since these
regions reported both rural and urban depopulation. With
the percentage total population growth 1960 – 1970 (DT)
in each region as the dependent variable, and K as the
independent variable, it was possible to explain 80 per
cent of the variance in DT by the variance in K.[5]

The shortcomings of inter-regional comparisons of
population change on a total population basis have been
clearly demonstrated in this lengthy excursus. Since each
region has a different degree of urbanization, comparisons
of regional totals conceal the rural-urban redistribution
within the regions. Hence, to reveal the role of the
metropolitan areas in the urbanization process, the urban
population development of these areas should be viewed in
relation to the development of all urban places, not to
the total population.

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[5]The regression was not linear. After a log-transformation
of the independent variable an adjusted coefficient of
determination of 0.805 was reached. (The correlation
coefficient was 0.899.)

THE GROWTH OF THE METROPOLITAN AREAS

We now return to population developments in the groups of counties discussed in Table 5.1.[6] The table has been recalculated so that the urban development is discernible. The three metropolitan counties of Stockholm, Göteborg & Bohus, and Malmöhus reached a high degree of urbaniza- tion earlier than any other group of counties - in the case of Stockholm, more than 50 per cent as early as 1870 (Table 5.3).

Table 5.4 below, in which the urban population by groups of counties has been related to the national urban population, provides a completely different picture of the growth of the big-city regions than that presented in Table 5.1 above. Having initially answered for a larger share of the urban population, the county of Stockholm has maintained a more or less constant share (just above 20 per cent). Since 1900, the county of Göteborg & Bohus has reported a decreasing share; so has Malmöhus, except for 1970 when a small increase was again recorded. The remaining groups of counties have generally increased their shares of the urban population since 1900, but counties in the northern half of Sweden reported falling shares in the 1960s.

Table 5.1 should also be compared with Table 5.5, which illustrates the obvious fact that, in all groups of coun- ties, the urban population has increased its share of the national population.

If the rural-urban redistribution within the adminstra- tive regions is allowed for, then the alleged concentra- tion of the population to the three big-city regions -

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[6]For other studies showing a metropolitan concentration with the use of total population data for administrative regions see, e.g., Törnqvist (1970) and Kristensson (1967). Kristensson recognized, but disregarded, a pos- sible distortion of the results due to the intra-regional migration from rural areas to urban places.

Table 5.3. Degree of urbanization by groups of counties
1870 - 1970.

Counties	1870[*]	1900[*]	1930	1960	1970
Stockholm	53.3	66.7	84.9	94.3	96.4
Göteborg & Bohus	28.4	43.2	75.6	87.6	90.3
Malmöhus	19.4	31.9	63.4	81.1	87.1
Uppsala, Söder-manland, Öster-götland, Örebro, Västmanland	11.8	19.1	46.1	73.5	82.9
Jönköping, Krono-berg, Kalmar, Gotland, Blekinge, Kristianstad	8.2	12.5	36.0	61.6	72.7
Halland, Älvs-borg, Skaraborg	5.9	12.1	35.3	59.2	70.5
Värmland, Koppar-berg, Gävleborg	7.0	11.3	37.8	66.7	75.9
Västernorrland, Jämtland	5.8	9.4	33.3	56.1	67.7
Västerbotten, Norrbotten	4.6	6.8	28.2	58.6	71.1
Sweden	12.9	21.5	48.5	72.7	81.4

[*]Towns only

Sources: SCB (1955), tables A5, A7; Fo (1930-I), table P;
Fo (1960-I); FoB (1965-II), table A; FoB (1970-I); FoB
(1970-II), table A; *Census compilation 1960 - 1970.*

and especially to the Greater Stockholm area - cannot
be corroborated. The concentration-to-the-big-city
notion was basic to regional planning and policy during
the 1960s and the early 1970s; as has been demonstrated
here, this notion was largely based on a dubious way of
interpreting the statistics.

In fact, it can be shown that the skewed population
distribution of today is a legacy of the past. The metro-
politan counties early acquired a dominant position as
population centers, but their initial weight was not aug-
mented over the years. These areas developed more or less
pari passu with the total urban system in Sweden. The map
series in Figure 5.7 provides three snapshots of the

Table 5.4. Urban population by groups of counties
1870 - 1970. Percentage distribution.

Counties	1870[*]	1900[*]	1930	1960	1970
Stockholm	26.4	28.6	21.9	22.0	21.7
Göteborg & Bohus	12.2	13.2	11.6	10.0	9.8
Malmöhus	11.4	11.8	10.9	9.3	9.5
Uppsala, Söder- manland, Öster- götland, Örebro, Västmanland	16.9	15.8	15.8	16.8	17.5
Jönköping, Kro- noberg, Kalmar, Gotland, Ble- kinge, Kristian- stad	14.7	11.5	12.9	12.8	13.1
Halland, Älvs- borg, Skaraborg	7.1	7.3	8.4	8.6	9.2
Värmland, Kop- parberg, Gävleborg	7.6	7.2	10.2	10.6	9.9
Västernorr- land, Jämtland	2.2	2.9	4.6	4.4	4.1
Västerbotten, Norrbotten	1.4	1.7	3.8	5.4	5.3
Sweden	100.0	100.0	100.0	100.0	100.0

[*]Towns only

Sources: SCB (1955), table A7; Fo (1930-I), table P;
FoB (1965-II), table A; FoB (1970-II), table A; *Census compilation 1960 - 1970.*

emerging urban pattern in Sweden. In 1800, the earliest
year for which urban statistics are available, Stockholm
stands out as the metropolis of pre-industrial Sweden with
its 76,000 inhabitants. The dominance of the capital was
explained not only by its governmental function, but also
by its importance as a port and as a center for whole-
saling. A large amount of seaborne trade passed through
the city, whose hinterland included the eastern part of
the Bergslagen district. Stockholm still handled more of
Sweden's important iron exports than Göteborg. This city
was second (13,000 inhabitants) but not substantially
more populous than Karlskrona (10,000) and Norrköping
(9,000). Towns in the county of Malmöhus were small, but

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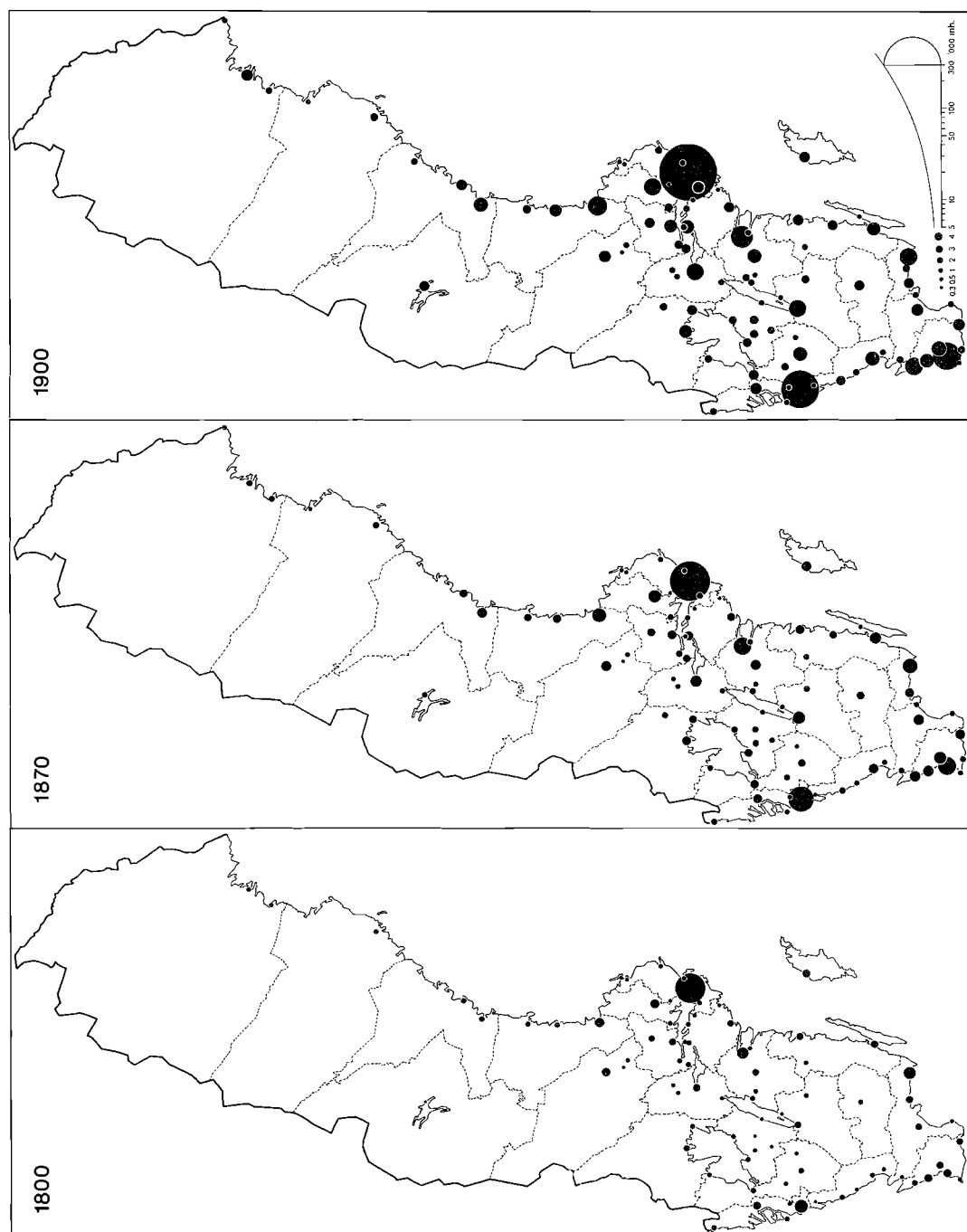
Figure 5.7. Towns 1800, 1870, 1900.
Source: SCB (1955), tables A 12 – 13.

Table 5.5. The ratio between the urban population in groups of counties and the national total population 1870-1970, per cent.

Counties	1870[*]	1900[*]	1930	1960	1970
Stockholm	3.4	6.2	10.6	16.0	17.6
Göteborg & Bohus	1.6	2.8	5.6	7.3	8.0
Malmöhus	1.5	2.5	5.3	6.8	7.8
Uppsala, Södermanland, Östergötland, Örebro, Västmanland	2.2	3.4	7.6	12.2	14.2
Jönköping, Kronoberg, Kalmar, Gotland, Blekinge, Kristianstad	1.9	2.5	6.3	9.3	10.7
Halland, Älvsborg, Skaraborg	0.9	1.6	4.1	6.3	7.4
Värmland, Kopparberg, Gävleborg	1.0	1.6	4.9	7.7	8.0
Västernorrland, Jämtland	0.3	0.6	2.2	3.2	3.3
Västerbotten, Norrbotten	0.2	0.4	1.9	3.9	4.3

[*]Concerns towns only

Sources: SCB (1955), tables A4, A7; Fo (1930-I), table P; Fo (1960-I); FoB (1965-II), table A; FoB (1970-I); FoB (1970-II), table A; *Census compilation 1960 - 1970.*

the embryo of an urban population axis in western Skåne can clearly be seen. In 1800 this county had a town population ranking third after the counties of Stockholm and Göteborg & Bohus.

By 1870 Göteborg had consolidated its position as the second town in Sweden. The port of Göteborg answered for a growing seaborne trade, and was by now the leading gateway for Sweden's iron and steel exports. In this period of incipient industrialization, Malmö emerged as the third town in Sweden. Altogether the county of Malmöhus had a town population of 61,000 (Malmö and adjacent towns predominating), which was almost as large as that of Göteborg & Bohus (66,000). The 1870 picture had not

changed substantially by 1900.[7]

After the initial period of domination, the three metro-
politan population centers grew more or less with the
urban system.[8] This is clearly demonstrated by Figure 5.8.
The urban population in the three metropolitan counties
accounted for 50 per cent of the town population in
1800, and about 40 per cent of the urban population in
1970. The county of Stockholm reported a 35 per cent
share of the urban population in 1800; both Göteborg &
Bohus and Malmöhus accounted for less than 10 per cent.
While Stockholm reported steadily decreasing shares in the
perindustrial period, Göteborg & Bohus and Malmöhus
increased their shares somewhat. This continued after
1850, and these counties reached a peak of about 13 per
cent by 1910. By 1970 the two counties had fallen back
and held about 10 per cent each. The influence of

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[7]Cf., e.g., Friedmann (1973:238): "Rudimentary patterns
of urbanization and regional social structure, established
quite early in a country's history, tend to maintain them-
selves over long periods of time. Subsequent flows of
controlling decisions, innovation diffusion, migration,
and economic location will tend to reinforce this pattern.
The most probable future pattern will therefore resemble
that of the past. Planned changes may require decades
and even generations of counter-intuitive effort to alter
this structural pattern in a significant way." The
argument was illustrated by an analysis of the geographical
distribution of the population in the United States. The
relative proportions of major regions changed very little
between 1850 - 1960. Similarly, Clark (1967:288 f.)
compared population densities in western Europe and found
that present-day densely populated areas were generally
the same as the densely inhabited areas of the late 18th
century.

[8]The map series also provides an excellent example of the
influence of the railway on incipient urban development in
Sweden. Before 1870 an eastern rather than a western ur-
ban population axis dominated southern Sweden. Kalmar,
Karlskrona, Karlshamn, and Kristianstad in the east had
together a population of 19,000 in 1800, while Malmö,
Lund, Landskrona, and Hälsingborg in the west had 13,000.
Since the southern trunk-line by-passed the eastern towns
and connected western Skåne with the system, the popula-
tion development in these areas was greatly affected. By
1900 an increase of 35,000 (185 per cent) was recorded
for the eastern axis, whereas the towns in western Skåne
had increased about three times as much, by 104,000
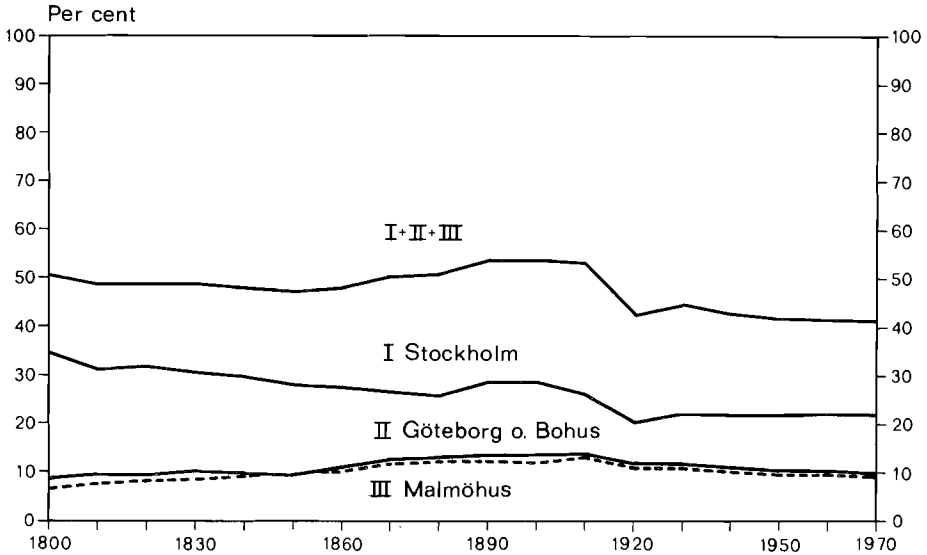(824 per cent). Cf. Nordström (1962).

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Per cent

Figure 5.8. Urban population in the counties of Stockholm,
Göteborg & Bohus, and Malmöhus. Percentage share of the
national urban population 1800 - 1970. Prior to 1920
data concern towns only.

Sources: SCB (1880), tables 7,8; SCB (1955), table A 7;
Fo (1920-II), table A; Fo (1930-I), table P; Fo (1940-I),
table U; Fo (1950-I), table Q; FoB (1965-II), table A;
FoB (1970-II), table A; *Census compilation 1960 - 1970.*

industrialization on the population development in the
Stockholm region is clearly indicated by an increasing
share between 1880 and 1900. After a dip in 1920, the
urban population in the county of Stockholm has since
answered for an average of 22 per cent of the national
urban population.

To comply with Table 5.1, we have so far been discussing
metropolitan development in terms of the urban population
within counties. This section concludes with a discussion
of Greater Stockholm and its development since 1920.
Figure 5.9 shows urban development in Greater Stockholm and
in Sweden as a whole. Greater Stockholm is here defined
as the municipality of Stockholm and the southern and
northern suburban municipalities within the Regional Plan-
ning Area as of 1 January 1971 (see figure for details).
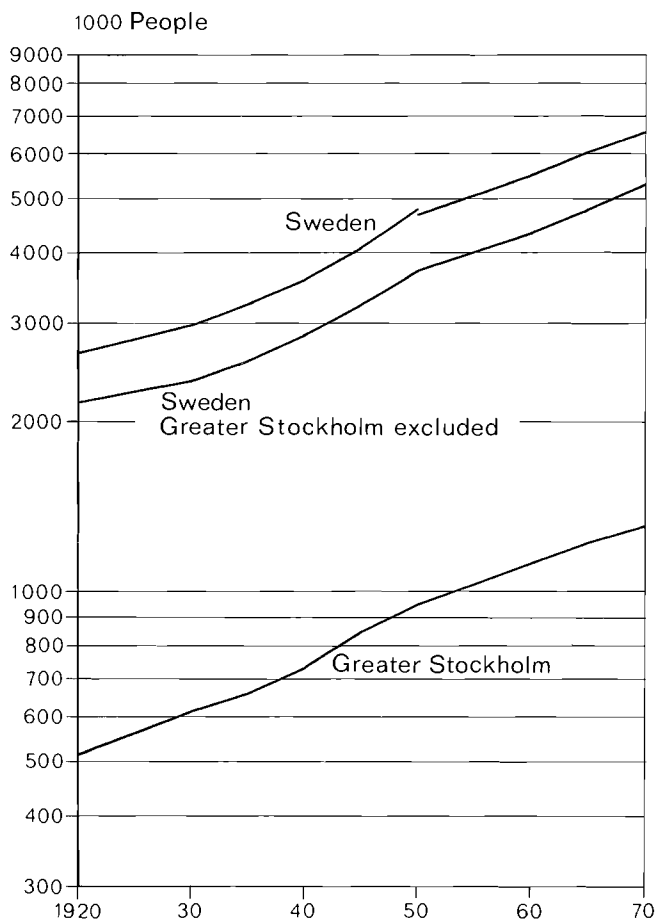
Figure 5.9. Urban population 1920 - 1970. Sweden and Greater Stockholm.

Greater Stockholm is defined as the municipality of Stockholm and the southern and northern suburban munici- palities within the Regional Planning Area as of 1 January 1971, except for the municipality of Upplands-Bro and the parishes of Sigtuna, Sankt Olof, Sankt Per, and Haga in the municipality of Sigtuna. For the extension of The Regional Planning area and a list of the southern and northern suburban municipalities see *Statistisk Årsbok för Stockholm 1971,* pp. 316 f.

Sources: SCB (1955), table A 15; *Census compilation 1960 - 1970*; Fo (1920-I), table 1; Fo (1930-I), tables 1, 2; Fo (1935-I), tables 1, 2; Fo (1940-I), tables 1, 16; Fo (1945-I), tables 1, 15; Fo (1950-I), table 1, 12.

In 1920 Greater Stockholm had a degree of urbanization
as high as 91.2 per cent; by 1970 it had reached 98 per
cent (Table 5.6).

Table 5.6. Greater Stockholm, degree of urbanization
1920 - 1970.

	per cent population urban
1920	91.2
1930	92.1
1935	93.6
1940	94.4
1945	95.7
1950	95.9
1960	97.3
1965	97.9
1970	98.0

Sources: see Figure 5.9.

The urban population in Greater Stockholm increased
almost twice as fast as the national average between
1920 and 1930. Apart from this period, the area has
developed more or less with the national urban popula-
tion, keeping a constant share of some 20 per cent of the
urban population in Sweden (see Tables 5.7 and 5.8).
The most pronounced deviation from the national urban
growth since the 1920s occurred during the 1940s and the
1960s. Between 1940 and 1945 the increase in Greater
Stockholm was somewhat above average; in the following five-
year period it was somewhat below. During the 1960s
Stockholm increased by 16.0 per cent, and the national
urban population by 20.6 per cent. Greater Stockholm's
share thus decreased from 20.6 per cent in 1960 to 19.8
per cent in 1970.

Table 5.7. Percentage urban growth 1920 - 1970, Sweden
and Greater Stockholm.

	Sweden	Greater Stockholm
1920-1930	11.5	21.1
1930-1935	7.8	7.7
1935-1940	11.6	11.5
1940-1945	13.7	15.8
1945-1950	14.5	12.0
1950-1960	17.0	17.7
1960-1965	10.3	8.8
1965-1970	9.3	6.7

Sources: see Figure 5.9.

Table 5.8. The ratio between the urban population in
Greater Stockholm and the national urban population
1920 - 1970, per cent.

	Per cent
1920	18.9
1930	20.6
1935	20.5
1940	20.5
1945	20.9
1950	20.5
1960	20.6
1965	20.3
1970	19.8

Source: see Figure 5.9.

The retarded population development in Greater Stockholm during the 1960s was highlighted in a study by Ahnström who investigated the industrial development of the Capital region since 1950 by computing *location quotients* (LQ).[9] Most activities reported falling LQs (see Table 5.9). Ahnström's most striking find was the declining LQ for activities believed to be particularly big-city oriented. For example, in 1950 Greater Stockholm had three times the national average employment in Business services but by 1970 this LQ had dropped to less than two and a half.

Several authors have testified that for various periods the three largest cities, Stockholm in particular, have not increased more rapidly than the national urban population.[10] But with few exceptions,[11] the ultimate conclusion of these findings seems to have been overlooked when the concentration of population to the metropolitan areas has been discussed.

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[9]Ahnström (1976). To determine whether a region has more or less than its share of a specific activity, the location quotient (LQ), a simple ratio of ratios, may be computed. Let us illustrate with the case of manufacturing.

$$LQ = \frac{M_r}{T_r} / \frac{M_t}{T_t}$$

where M_r = region's employment in manufacturing
T_r = region's employment in all activities
M_t = national employment in manufacturing
T_t = national employment in all activities

If the region's percentage employment in manufacturing is greater than the corresponding ratio for the nation, the region has more than its share of this acitivity. An LQ of 2 thus means that the region has twice the national average employed in manufacturing and LQ = 1 indicates an employment on par with the national average.

[10]See, e.g., SOU (1951-VI:29 f.), Höök (1952:131 f.), Ahlberg (1958:18 ff.), Godlund (1961), Buregren (1962), Arpi (1963).

[11]See footnote 4 above.

Table 5.9. Greater Stockholm. Economically active population by industry 1950 – 1970, location quotients.*

		LQs				***per cent
		1950	1960	1965	1970	1970
I	*Agriculture, hunting, forestry, and fishing*	*0.09*	*0.10***	*0.09***	*0.12***	*1.1*
II	*Industry*	*0.90*	*0.90*	*0.76*	*0.70*	*29.1*
	Mining and quarrying	0.02	0.16	0.17	0.20	0.1
	Manufacturing and re-pairing	0.89	0.89	0.71	0.64	19.5
	Construction	0.94	0.94	0.92	0.89	8.5
	Electricity, gas, and water	1.32	1.35	1.23	1.21	0.9
III	*Retail and wholesale trade*	*1.54*	*1.36*	*1.44*	*1.33*	*16.8*
IV	*Transport, storage, and communication*	1.26	*1.29*	*1.26*	*1.28*	*9.2*
V	*Banking, insurance, and real estate; Business services*	2.91	*2.78*	*2.47*	*2.24*	*11.0*
	of which Business serv.	(3.12)	(2.94)	(2.53)	(2.42)	(5.2)
VI	*Community, social, and personal services*	*1.59*	*1.47*	*1.38*	*1.31*	*32.2*
	Public administration and defence	2.12	1.93	1.70	1.59	7.6
	Education and research	1.36	1.32	1.29	1.27	6.5
	Medical, dental, veter-inary, and health serv; Welfare institutions	1.34	1.26	1.13	1.06	9.5
	Business, professional, and labor associations	3.91	3.35	2.96	3.09	1.4
	Religious organizations and other social and related community serv.	0.84	0.74	0.77	0.77	0.2
	Recreational and cul-tural serv.	2.79	2.59	2.91	2.03	2.0
	Restaurants and hotels	1.81	1.66	1.53	1.34	2.1
	Domestic serv.	1.00	0.73	0.64	0.65	0.4
	Other personal and household serv. (Incl. Sanitary serv.)	1.57	1.49	1.41	1.29	2.5
VII	*Activities not ade-quately defined*	*1.90*	*1.65*	*1.92*	*2.60*	*0.7*
						100.0

* Greater Stockholm is defined as the municipality of Stockholm and the southern and northern suburban municipalities within the Regional Planning Area as of 1 January 1971. See *Statistisk årsbok för Stockholm 1971*, pp. 316 f.

** Revised figures

*** In order to complete the industrial profile of Stockholm the percentages were added.

Source: Ahnström (1976)

The Census Compilation 1960—1970

The material used for the analysis of the urban develop-
ment in Sweden 1960 - 1970 was the corrected data for
urban places contained in the publications of the three
censuses of 1960, 1965, and 1970.[12] This material was up-
dated according to further corrections supplemented by
the census.[13]

For regionalization purposes the central point of each
urban place was assigned co-ordinates with an accuracy of
one kilometer in the national system.[14] The source was
the register of co-ordinates prepared by Micklander and
Torstensson in connection with the 1960 census which was
later revised by Micklander for 1965 and 1970.[15]

For an unbiased study of the population development in
urban places, a *cohort of permanent places* was prepared.
Included were those urban places which had been reported
in each of the 1960, 1965, and 1970 censuses. Excluded
were places entering the statistics after 1960 and places
dropped from the statistics after that year. Urban
places which had been amalgamated by an areal extension
of built-up areas after 1960, were treated as one agglome-
ration throughout the ten-year period, If, for example,
two places that were accounted for separately in the 1960
census had been amalgamated by 1965, the two population
figures for 1960 were added and treated as one unit. The

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[12] Fo (1960-VI), table 3; FoB(1965-IV), table 5; SCB (1972
b, c), table Tl; SCB (1973 a, b), table T 1.

[13] FoB (1965-II), bilaga 2; FoB (1970-II), bilaga 2.

[14] In the national system of co-ordinates, which is used
for the economic map, the y co-ordinate is designated by
the eastward distance from a line 1,500 kilometers west
of the meridian 2,^{c}5W, and the x co-ordinate by the dis-
tance from the equator. In the y-line co-ordinates range
between 1,200 and 1,900 kilometers; in the x-line be-
tween 6,100 and 7,700 kilometers (Wallner 1971:99).

[15] Micklander & Torstensson (1964). The revised edition was
generously made available for this study by the *Expert
Group of Regional Studies* within the Ministry of Labor.

cohort of permanent places thus established comprises 1,569 urban places or 98.8 per cent of the urban population in 1970.

It was considered imperative to bring the analysis down to the development of individual places. But such an approach is not without shortcomings. Explanations of the population development in urban places will be sought from a few generic factors. But the development of individual places may be determined by a host of randomly interplaying factors. Furhtermore, Chapter 3 dealt with possible sources of error in the delimitation of urban places which might hamper the comparability between places and between censuses. By having a large number of observations brought together in a class-wise analysis, it is possible to unravel the generic development for groups of places and for regions. It is then possible to relate the development of each individual place to this generic development. It is of paramount importance that such a class-wise analysis is performed for a cohort of permanent places, the places being classified according to their size either at the beginning or the end of the period of study. Otherwise the picture may become completely warped by the possibilities of observations "changing classes" during the period. The class-wise analysis was performed for the cohort of permanent urban places; places were classified according to their size in 1960. Nine classes were used in accordance with the recommendations of the United Nations.[16]

Total population figures for administrative areas were also obtained from the census,[17] and the rural population was represented by the residual of the urban.

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[16]See Chapter 4, footnote 23.

[17]Fo (1960-I), FoB (1965-I), and FoB (1970-I).

VI. URBAN DEVELOPMENT IN
SWEDEN 1960—1970

We now turn to a detailed analysis of urban develop-
ment in Sweden between 1960 and 1970. The first section
of this chapter points out some general aspects con-
cerning the system of urban places. It is followed by a
discussion of the development by groups of places and
by regions. The material is gradually disaggregated down
to the level of individual urban places. Following a
discussion of the development of individual places the
material is aggregated again, but this time on the
basis of the relative location of places; the population
development by urban regions is studied.

General Aspects

As emphasized in Chapter 4, the Swedish urban system
embraces a large number of small agglomerations. But
these account for a small proportion of the urban total.
The population and number of places by size-groups
1960 - 1970 are reintroduced in Table 6.1 which also shows
the mean population of each group. In 1970 the proportion
of the population living in urban places was 81.4 per
cent. If, for example, the threshold for urban places
were set at 2,500 inhabitants, Sweden's degree of urbani-
zation would still be as high as 69.3 per cent, but the

Table 6.1. Urban population 1960 - 1970 by size of urban place

Size (inhabitants)	1960 Number of places	%	1960 Population	%	1965 Number of places	%	1965 Population	%	1970 Number of places	%	1970 Population	%
200- 499	882	(48.6)	281,118	(5.2)	848	(46.6)	269,864	(4.5)	753	(42.4)	240,741	(3.7)
500- 999	402	(22.2)	281,882	(5.2)	390	(21.4)	275,061	(4.6)	409	(23.1)	285,823	(4.3)
1,000- 1,999	224	(12.3)	317,630	(5.8)	229	(12.6)	321,300	(5.3)	231	(13.0)	330,126	(5.0)
2,000- 4,999	160	(8.8)	489,760	(9.0)	189	(10.4)	576,326	(9.6)	208	(11.7)	664,522	(10.1)
5,000- 9,999	70	(3.9)	484,947	(8.9)	69	(3.8)	473,652	(7.9)	65	(3.7)	460,488	(7.0)
10,000-19,999	37	(2.0)	533,777	(9.8)	48	(2.6)	660,945	(11.0)	59	(3.3)	838,123	(12.7)
20,000-49,999	26	(1.4)	744,457	(13.7)	33	(1.8)	999,662	(16.6)	32	(1.8)	998,032	(15.2)
50,000-99,999	10	(0.6)	688,721	(12.6)	10	(0.5)	744,344	(12.4)	14	(0.8)	1,032,468	(15.7)
100,000-	3	(0.2)	1,629,649	(29.9)	3	(0.2)	1,691,254	(28.1)	3	(0.2)	1,723,924	(26.2)
	1,814	(100.0)	5,451,941	(100.0)	1,819	(100.0)	6,012,408	(100.0)	1,774	(100.0)	6,574,247	(100.0)

Mean population

Size (inhabitants)	1970
200- 499	320
500- 999	699
1,000- 1,999	1,429
2,000- 4,999	3,195
5,000- 9,999	7,084
10,000-19,999	14,205
20,000-49,999	31,188
50,000-99,000	73,748
100,000-	574,641

Source: Census compilation 1960 - 1970

urban places would only number 327 (18 per cent of the
present total). Outside the metropolitan areas (defined
as the A-regions of Stockholm/Södertälje, Göteborg, and
Malmö/Lund/Trelleborg) Sweden reported a degree of urbani-
zation of 75.1 per cent.

The geographical distribution of urban places is pre-
sented below in Figure 6.11 a (and in the map series
supplemented in the back of the book). Four main charac-
teristics of the urban population distribution stand out
on the maps: (1) the metropolitan concentration around
Stockholm, Göteborg, and Malmö; (2) the predominance of
small urban places in the interior parts of northern
Sweden; (3) the almost exclusive coastal location of lar-
ger urban places in the northern half of Sweden; (4) the
even spread of small, medium-sized, and large urban
places in the interior of the central and southern parts
of the country.

As regards the number of places in different size-
groups, the most pronounced changes in the 1960s concerned
size-groups 200-499 (a net loss of 129 places) and
2,000-4,999 (an increase from 160 to 208). Sweden counted
only three agglomerations with more than 100,000 people
throughout the ten-year period.

Although the total number of places decreased from 1,814
to 1,774 new places were added during the period.
As shown by Table 6.2 no less than 1569 places were re-
ported in all the three censuses. A total of 148 agglo-
merations fell below the population threshold of 200 in-
habitants and were subsequently dropped from the statis-
tics; 197 new urban places were recognized and added. (We
shall later return to these two categories of agglomera-
tions for a discussion of their location, see Figure 6.12).
A net loss of 40 places during the 10-year period was
obtained by the subtraction of 89 places, which by areal
extension of their built-up areas, had been amalgamated
with other places. The total area occupied by urban places
was small; the urban built-up areas covered only one per
cent of Sweden's total land surface (411,406 sq.kilometers)
in 1970.[1]

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[1] SCB (1972 d)

Table 6.2. The urban system 1960 - 1970. Permanent and new places, places dropped from the statistics.

	Population			Number of places
	1960	1965	1970	
Permanent places 1960-70	5,415,195	5,961,315	6,492,120	1,569
Places dropped from the statistics in 1970	17,719	15,811	-	71
Places dropped from the statistics in 1965	17,245	-	-	77
New places in 1965	-	32,388	47,867	103[*]
New places in 1970	-	-	32,356	94[**]
Places reported in 1960 and 1970 but dropped from the statistics in 1965	1,782	-	1,904	8
Places reported in 1965 but dropped from the statistics in 1960 and 1970	-	2,894	-	13
	5,451,941	6,012,408	6,574,247	1,935

[*]A further 5 places were added to the statistics in 1965 but were amalgamated with other places between 1965 and 1970 (see below).

[**]In the 1970 census one agglomeration was split up and reported as two urban places. In the cohort of permanent places 1960-1970 it is regarded as one place.

Amalgamated places: 58 urban places reported both in 1960 and in 1965 were amalgamated with other places between 1965 and 1970; 31 places reported in 1960 were amalgamated with others during the 1960-1965 period; 5 new places in 1965 were amalgamated with others between 1965 and 1970.

Source: Census compilation 1960 - 1965.

The distribution of population with regard to sex and age differs strongly between urban places and rural areas (Figure 6.1). The rural areas are considerably marked by the extensive out-migration of working-age people;

an excess in the older age-groups is clearly seen. The relatively few children born in rural areas are the offspring of a small parent generation.
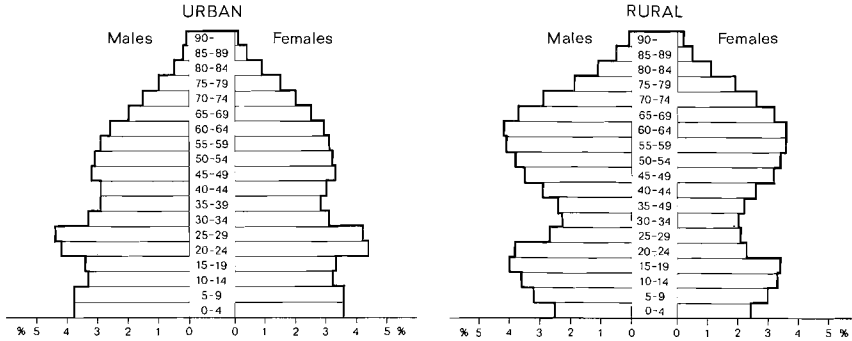
Figure 6.1. Population by sex and age 1970, urban places and rural areas. Percentage distribution.

Source: FoB (1970-III), table 1.

URBAN REDISTRIBUTION BY REGION

This section closes with an overall picture of the urban change in the 1960s. Figure 6.2 a presents the urban population in 1970 and the percentage change 1960 - 1970 by A-regions (the map was also referred to in Chapter 5). Figure 6.2 b shows the relative redistribution expressed in absolute quantities. Since the population redistribution in terms of positive or negative deviations from the national average growth rate is computed at various generalization levels throughout this chapter, the method is further explained below.

By calculating how many urban dwellers regions should have in 1970 to have grown in the sixties at the rate of the national urban population, *gains* or *losses* in relation to the national average can easily be expressed in absolute quantities. For the 1960s the redistribution figure (R) is obtained by the multiplication of the region's urban population figure in 1960 by the national urban growth rate for the sixties; the product is then compared with the figure actually reported for the region in 1970.

$$R = A_1 - A_0 \cdot \frac{B_1}{B_0}$$

where R = redistribution gain/loss
  A_0 = region's urban population at the beginning of period
  A_1 = region's urban population at the end of period
  B_0 = national urban population at the beginning of period
  B_1 = national urban population at the end of period

A positive value of R (redistribution gain) indicates that the region has increased its share of the national urban population, and a negative (redistribution loss) the opposite; thus, the value zero indicates a development on par with the national urban population. Obviously the sum of redistribution gains and losses is zero.

It must be emphasized that the redistribution figures are not measures of net migrations among regions. A redistribution loss of 1,000 people does not mean that the region actually lost 1,000 people by out-migration. It simply means that the urban population in the region would have been 1,000 people more if the region's urban population had grown at the same rate as the national average.[2]

All regions in northern Sweden except Umeå and Piteå showed an urban growth rate below the national average (20.6 per cent) and hence reported redistribution losses. (As already noted both Mora and Härnösand/Kramfors actually showed urban depopulation.) With an increase of 32.1 per cent, Umeå was among the 12 fastest growing A-regions during the sixties. While Stockholm/Södertälje had a growth rate just below the national average (19.0 per cent, equivalent to a redistribution loss of 18,400), seven surrounding regions reported growth rates well above the national average. The redistribution gains for the seven regions totalled 52,500; they include some of the fastest growing A-regions of the 1960s. The highest urban growth rate in Sweden was registered for Enköping (73.3 per cent). Other regions with growth rates exceeding 30 per cent were Norrtälje (41.0), Nyköping (40.5), Uppsala (36.6), and Västerås (31.6).

Since the Göteborg A-region had an urban growth rate just above the national average (22.0), the region registered a redistribution gain of 7,500; Malmö/Lund/Trelleborg had a rate of increase of 25.7 per cent which is equivalent to a redistribution gain of 16,600.

[2] Cf. for example Zelinsky (1958).
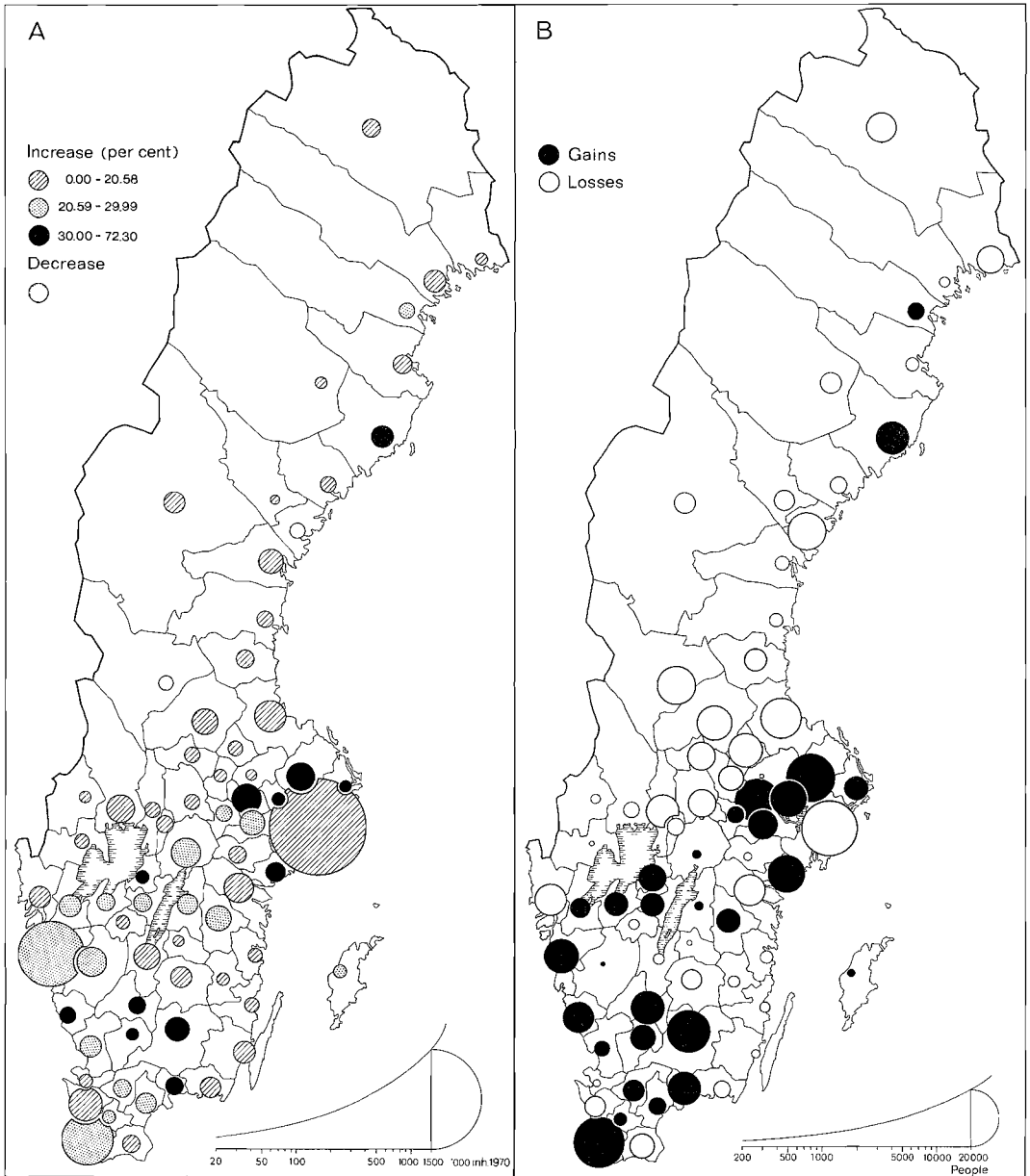
Figure 6.2 a. Urban population. Number of persons 1970 and percentage change 1960 - 1970 by A-regions. National average urban growth 20.6 per cent.

Source: Census compilation 1960 - 1970.

Figure 6.2 b. Urban population. Regional redistribution 1960 - 1970 by A-regions. Gains and losses relative to equal growth in all regions (see text).

Source: Census compilation 1960 - 1970.

A string of regions in the south-east showed redistribution losses, whereas the opposite was mostly true for regions in the central and western parts of southern Sweden. Five regions in the south had a growth rate exceeding 30 per cent: Ljungby (42.8) followed by Värnamo (41.7), Karlshamn (39.7), Falkenberg/Varberg (39.0), and Växjö (37.2). With a 42.4 per cent increase Mariestad on Lake Vänern completes the list of the 12 regions exhibiting growth rates above 30 per cent.

The maps once again illustrate that the metropolitan areas in an inter-regional perspective compare unfavorably with many other regions. The urban rate of increase was close to the average in Stockholm/Södertälje and Göteborg and somewhat higher in Malmö. Several other regions reported growth rates (and redistribution gains as well) which exceeded those of the metropolitan regions. Later in this chapter we shall return to the intra-regional redistribution of the urban population.

Development by Size-Groups of Urban Places

REGIONALIZATION

For practical purposes, larger regions than those used in the previous analysis had to be found for the study of places by size-groups. The regionalization should comprise as few areas as possible but still discriminate between major areas from the point of view of demographic and industrial structure. In view of what has been said above about the geographical distribution of urban places in Sweden, such a subdivision should at least differentiate between the interior and the coastal areas of northern Sweden and the southern part of the country. The metropolitan regions should also be treated separately.

An operational regionalization that suits the present study would depart from the official division of Sweden into support areas under the regional development program.

(The inner aid area and the general aid area.)[3] Figures 6.3
and 6.4 show the break-down of Sweden into the major
regions employed in the present study. To separate the
coastal and the interior parts of northern Sweden, four
main areas were initially discerned: *Norrland Interior*
accords with the inner aid area, while the general aid
area was divided into *Norrland Coast* and *Svealand North-
West;* the residual region was called *Sweden Central and
South.*[4]

In the next stage, Sweden Central and South was sub-
divided into three major areas: *Skåne and West Coast,
Småland,* and *Sweden Central.* A third stage treated the
metropolitan regions and their residual areas separately.[5]
The metropolitan areas were also taken together and
analyzed separately from the rest of Sweden.[6] Altogether
the step-wise subdivision comprises 15 regions. A list
of municipalities making up each region follows bellow
(Appendix).

Figure 6.3 also shows that Norrland Interior, Norrland
Coast, and Svealand North-West together accounted for only
15 per cent of the national urban population in 1970.
Skåne and West Coast and Småland answered for 28 and 11 per
cent respectively, while Sweden Central's proportion
amounted to 46 per cent. Of the three metropolitan regions
(which together answered for 37 per cent), Stockholm alone
accounted for 21 per cent.

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[3] The extent of the aid areas as of April 1974 was obtained
from the Ministry of Labor (*RU-enheten vid Arbetsmarknads-
departementet*).

[4] The municipalities of Vansbro, Malung, and Torsby, which
belong to the inner aid area, were included in Svealand
North-West. The municipalities of Gotland, Borgholm, and
Mörbylånga, which belong to the general aid area, were in-
cluded in Sweden Central and South.

[5] The metropolitan areas of Stockholm, Göteborg, and Malmö
were here defined as the Stockholm/Södertälje A-region,
the Göteborg A-region and the Malmö/Lund/Trelleborg A-
region respectively.

[6] For convenience the three metropolitan areas taken to-
gether will be called a region although it is obviously
not contiguous.

NORRLAND INTERIOR 3.9

SKÅNE AND WEST-COAST METROPOLITAN AREAS EXCLUDED 11.7

NORRLAND COAST 7.3

MALMÖ METROPOLITAN AREA 6.2

SWEDEN TOTAL 100%

SVEALAND NORTH-WEST 4.2

SKÅNE AND WEST-COAST 27.8

GOTEBORG METROPOLITAN AREA 9.8

SWEDEN TOTAL METROPOLITAN AREAS EXCLUDED 62.7

SWEDEN CENTRAL AND SOUTH 84.6

SMÅLAND 10.7

METROPOLITAN AREAS 37.3

SWEDEN CENTRAL 46.1

SWEDEN CENTRAL METROPOLITAN AREA EXCLUDED 24.8

STOCKHOLM METROPOLITAN AREA 21.3

Figure 6.3. Break-down of major regions. Figures denote region's percentage share of the national urban population.

Norrland Interior and Svealand North-West reported the lowest degree of urbanization (below 70 per cent) among the regions and they alone had an urban growth rate that deviated strongly from the national average (Table 6.3). Both regions together registered a redistribution loss of almost 60,000 people during the decade. Sweden reported a somewhat decreasing urban growth rate in the latter half of the decade as compared with the first (10.0 and 9.3 per cent). This holds for all regions with the exception of Norrland Interior and Norrland Coast, which reported the reverse.

According to Table 6.1 urban places with less than 2,000 inhabitants accounted for 79 per cent of the places in 1970 but for only 13 per cent of the urban population in Sweden. But the picture was strikingly different in Norrland Interior (especially) and Svealand North-West. The predominance of small urban places in these areas was already noted above. Table 6.4 emphasizes this by demonstrating that in Norrland Interior 89 per cent of the

NORRLAND
INTERIOR

NORRLAND
COAST

SVEALAND
NORTH-WEST

SWEDEN
CENTRAL   Stockholm

Göteborg

SMÅLAND

SKÅNE AND
WEST COAST

Malmö

0   100   200 km
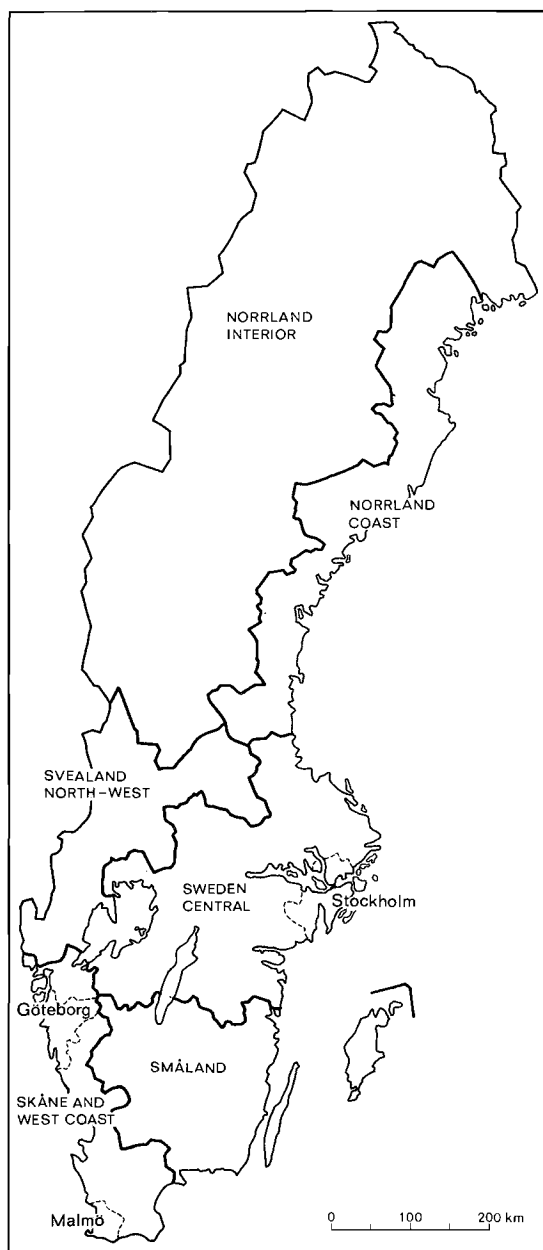
Figure 6.4.   Major Regions.

Table 6.3. Urban population and degree of urbanization (1970), percentage change and regional redistribution 1960 - 1970, by major regions.

Region	Population 1970	Degree of urbaniza- tion per cent 1970	Percentage change			Regional re- distribution 1960-1970 (gains/losses)*
			1960- 1970	1960- 1965	1965- 1970	
Norrland Interior	259,176	61.2	5.7	2.7	2.9	-36,533
Norrland Coast	479,465	74.8	20.6	9.4	10.2	-97
Svealand North-West	273,807	68.0	11.3	5.8	5.2	-22,861
Sweden Central and South	5,561,799	84.2	21.9	11.0	9.8	59,491
Småland	706,264	72.1	24.4	12.1	11.0	21,551
Skåne and West Coast	1,825,525	83.9	22.2	11.0	10.1	24,575
Sweden Central	3,030,010	87.7	21.1	10.8	9.4	13,365
Malmö Metropolitan Area	408,033	92.3	25.7	12.9	11.3	16,617
Göteborg Metropolitan Area	645,933	91.0	22.0	10.7	10.2	7,468
Skåne and West-Coast, Metropolitan Areas Excluded	771,559	75.3	20.7	10.3	9.4	490
Stockholm Metropolitan Area	1,400,272	97.3	19.0	9.8	8.4	-18,406
Sweden Central Metropolitan Area Excluded	1,629,738	81.3	23.0	11.6	10.2	31,771
Metropolitan Areas	2,454,238	(94.7)	20.9	10.5	9.3	5,680
Sweden Total Metropolitan Areas Excluded	4,120,009	75.1	20.4	10.1	9.3	-5,680
Sweden Total	6,574,247	81.4	20.6	10.3	9.3	-

*Gains and losses relative to equal growth in all regions (see text).

Source: Census compilation 1960 -1970.

Table 6.4. Urban population 1970 by size of urban place and major regions.

Size (inhabitants)	Number of places		Population	
	1970	%	1970	%
Norrland Interier				
200- 499	104	(51.2)	31,308	(12.1)
500- 999	48	(23.6)	33,730	(13.0)
1,000- 1,999	28	(13.8)	38,857	(15.0)
2,000- 4,999	13	(6.4)	40,438	(15.6)
5,000- 9,999	7	(3.4)	53,927	(20.8)
10,000-19,999	1	(0.5)	10,317	(4.0)
20,000-49,999	2	(1.0)	50,599	(19.5)
50,000-99,999	–		–	
100,000-	–		–	
	203	(100.0)	259,176	(100.0)
Norrland Coast				
200- 499	82	(43.6)	24,764	(5.2)
500- 999	37	(19.7)	25,343	(5.3)
1,000- 1,999	31	(16.5)	42,180	(8.8)
2,000- 4,999	25	(13.3)	81,485	(17.0)
5,000- 9,999	1	(0.5)	7,263	(1.5)
10,000-19,999	7	(3.7)	104,501	(21.8)
20,000-49,999	4	(2.1)	140,330	(29.3)
50,000-99,999	1	(0.5)	53,599	(11.2)
100,000-	–		–	
	188	(100.00)	479,465	(100.0)
Svealand North-West				
200- 499	69	(45.4)	20,647	(7.5)
500- 999	43	(28.3)	29,936	(10.9)
1,000- 1,999	12	(7.9)	19,398	(7.1)
2,000- 4,999	18	(11.8)	57,374	(21.0)
5,000- 9,999	5	(3.3)	37,727	(13.8)
10,000-19,999	3	(2.0)	44,495	(16.3)
20,000-49,999	2	(1.3)	64,230	(23.5)
50,000-99,999	–		–	
100,000-	–		–	
	152	(100.0)	273,807	(100.0)
Sweden Central and South				
200- 499	498	(40.5)	164,022	(2.9)
500- 999	281	(22.8)	196,814	(3.5)
1,000- 1,999	160	(13.0)	229,691	(4.1)
2,000- 4,999	152	(12.3)	485,225	(8.7)
5,000- 9,999	52	(4.2)	361,571	(6.5)
10,000-19,999	48	(3.9)	678,810	(12.2)
20,000-49,999	24	(1.9)	742,873	(13.4)
50,000-99,999	13	(1.1)	978,869	(17.6)
100,000-	3	(0.2)	1,723,924	(31.0)
	1,231	(100.0)	5,561,799	(100.0)

Source: Census compilation 1960 - 1970

agglomerations had less than 2,000 inhabitants. The small
places, however, accounted for no less than 40 per cent
of the urban population in the region. The corresponding
figures for Svealand North West were 82 and 26 per cent,
respectively.

This argument may be further illustrated by a Lorenz-
diagram (Figure 6.5). The curves in the figure are heavily
bow-shaped, indicating the dominance of large urban
places. Norrland Interior and Svealand North-West are less

Per cent of urban population

.... Norrland interior
– – – – Norrland coast
———— Svealand north - west
—·–·– Sweden central and south
———— Sweden total
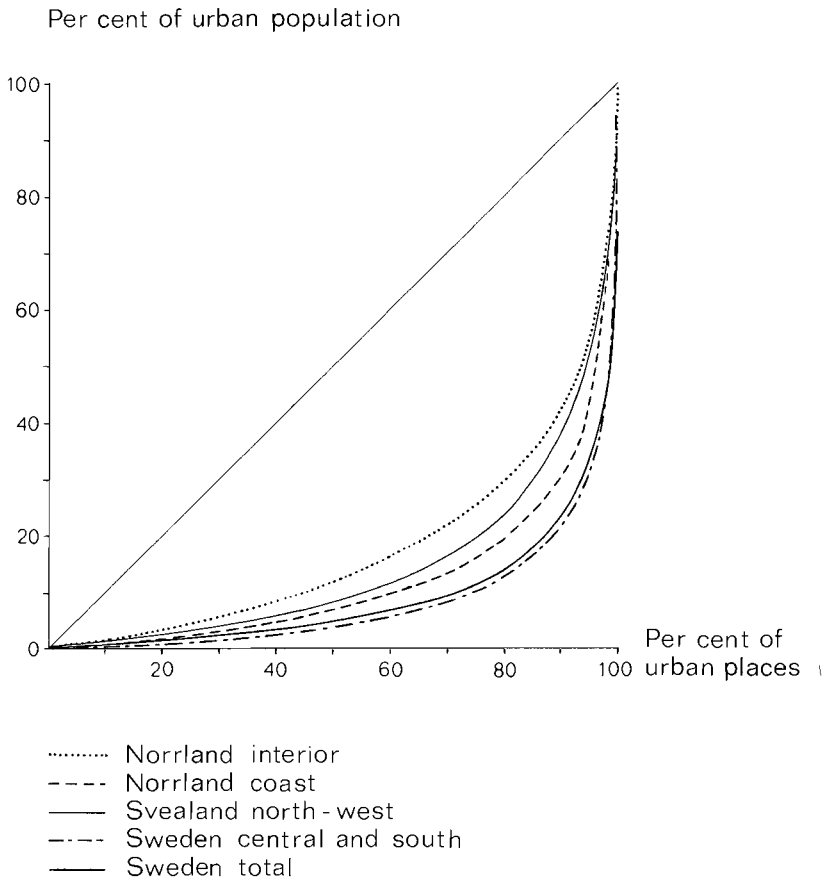
Figure 6.5. Lorenz-diagram, urban places and urban popula-
tion by major regions.

Source: *Census compilation 1960 - 1970.*

bow-shaped than the others due to their larger proportion of small places. In Norrland Interior, for example, 80 per cent of the agglomerations answered for 30 per cent of the urban population; in Sweden Central and South the same proportion of urban places accounted for less than 15 per cent.

The urban system registered a net loss of 40 places during the decade. Norrland Interior showed a net loss of 38 urban places, Norrland Coast and Svealand North-West reported a reduction of 19 and 3 respectively. On the other hand, Sweden Central and South showed a net gain of 20 places.

ANALYSIS BY SIZE-GROUPS

The investigation of urban change by size-groups and major regions was based on the cohort of permanent places 1960 - 1970 (Chapter 5). The cohort comprised 1,569 places which accounted for 98.8 per cent of the 1970 urban population. The percentage distribution of places and inhabitants by size-groups (according to the 1960 size) was more or less equal to that of all places reported in 1970 (Table 6.5; Table 6.1).

The average growth rate of the cohort during the decade was somewhat lower than that of the total urban population: 19.9 and 20.6 per cent. In most cases the cohort exhibited a growth rate slightly below that of the urban total for the region (Table 6.6; Table 6.3). Two obvious exceptions were Norrland Interior and Norrland Coast where the cohort places showed a more rapid growth rate than the total urban population. These regions registered a net loss of 57 agglomerations during the decade.

In the first series of diagrams, columns are proportional to the percentage of urban population change (Figures 6.6 - 6.7). In the following series (Figures 6.8 - 6.9) they show absolute changes. Each size-group has three columns or bars: the left (white) illustrates urban change during the whole decade (1960 the base year); the center (black), urban change 1960 - 1965 (1960 the base year); and the right (black), urban change 1965 - 1970 (1965 the base year).

Table 6.5. Urban population 1970 by size of urban place (1960). Cohort of urban places existing 1960, 1965, and 1970.

Size (inhabitants)	Population	%	Number of places	%	Mean population
200- 499	270,801	(4.2)	674	(43.0)	402
500- 999	376,204	(5.8)	389	(24.8)	967
1,000- 1,999	398,303	(6.1)	210	(13.4)	1,897
2,000- 4,999	611,245	(9.4)	151	(9.6)	4,048
5,000- 9,999	638,664	(9.8)	68	(4.3)	9,392
10,000-19,999	661,396	(10.2)	37	(2.4)	17,876
20,000-49,999	995,164	(15.3)	27	(1.7)	36,858
50,000-99,999	816,966	(12.6)	10	(0.6)	81,697
100,000-	1,723,924	(26.6)	3	(0.2)	574,641
	6,492,667	(100.0)	1,569	(100.0)	

Chapter 4 (Tables 4.8 - 4.10) showed a rather consistent pattern of urban growth for various periods between 1920 and 1960: smaller size-groups reported growth rates below the national average; medium-sized and large urban places exhibited a growth close to the average.

Sweden registered a pattern of urban change during the 1960s that contrasts with those reported for the previous periods.

Sweden Total. With the exception of the very smallest places, agglomerations with less than 10,000 inhabitants increased considerably faster than the national average for the sixties (above 30 per cent).[7] Medium-sized agglomerations (10,000-49,999) were also somewhat above the national average (24 and 26 per cent) while larger urban places showed a retarding population. A further change in the urban pattern was observed; whereas places with less than 5,000 inhabitants reported increasing growth rates during the second half of the sixties as compared to the first, the opposite applied to places above this size. The beginning of a population dispersal towards smaller

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[7] But the size-group 200-499 reported a more rapid growth than the national average in the 1965 - 1970 period.

Table 6.6. Urban population 1970. Percentage change
1960 – 1970 by major regions. Cohort of urban places
existing in 1960, 1965, and 1970.

Region	Population 1970	Percentage change		
		1960–1970	1960–1965	1965–1970
Norrland Interior	256,535	9.1	3.9	4.9
Norrland Coast	475,026	21.0	9.4	10.6
Svealand North-West	268,870	10.7	5.4	5.0
Sweden Central and South	5,492,236	20.8	10.7	9.2
Småland	698,881	23.9	12.0	10.6
Skåne and West-Coast	1,796,053	20.8	10.5	9.3
Sweden Central	2,997,302	20.2	10.5	8.7
Malmö Metropolitan Area	404,858	25.2	13.0	10.8
Göteborg Metropolitan Area	631,903	19.5	9.6	9.0
Skåne and West-Coast, Metropolitan Areas Excl.	759,292	19.7	10.1	8.8
Stockholm Metropolitan Area	1,388,783	18.0	9.6	7.7
Sweden Central, Metropolitan Area Excl.	1,608,519	22.0	11.3	9.6
Metropolitan Areas	2,425,544	19.5	10.1	8.6
Sweden Total, Metropolitan Areas Excl.	4,067,123	20.1	10.0	9.1
Sweden Total	6,492,667	19.9	10.1	8.9

Source: Census compilation 1960 – 1970.

urban places was discernible.

It must be emphasized that the low figure (4.5 per cent)
for Stockholm, Göteborg, and Malmö (size-group 100,000
and above) concerns the metropolitan *cores* only. As will
be demonstrated below, the 1960s was a decade of strong
suburbanization and exceptionally high growth rates were
recorded in urban places around the three largest agglomera-
tions (Figure 6.7). The development of populous residen-
tial areas in the environs of larger urban places partly
explains the growth rates of smaller urban places shown in
Figure 6.6 a. A conspicuous example was found in size-group
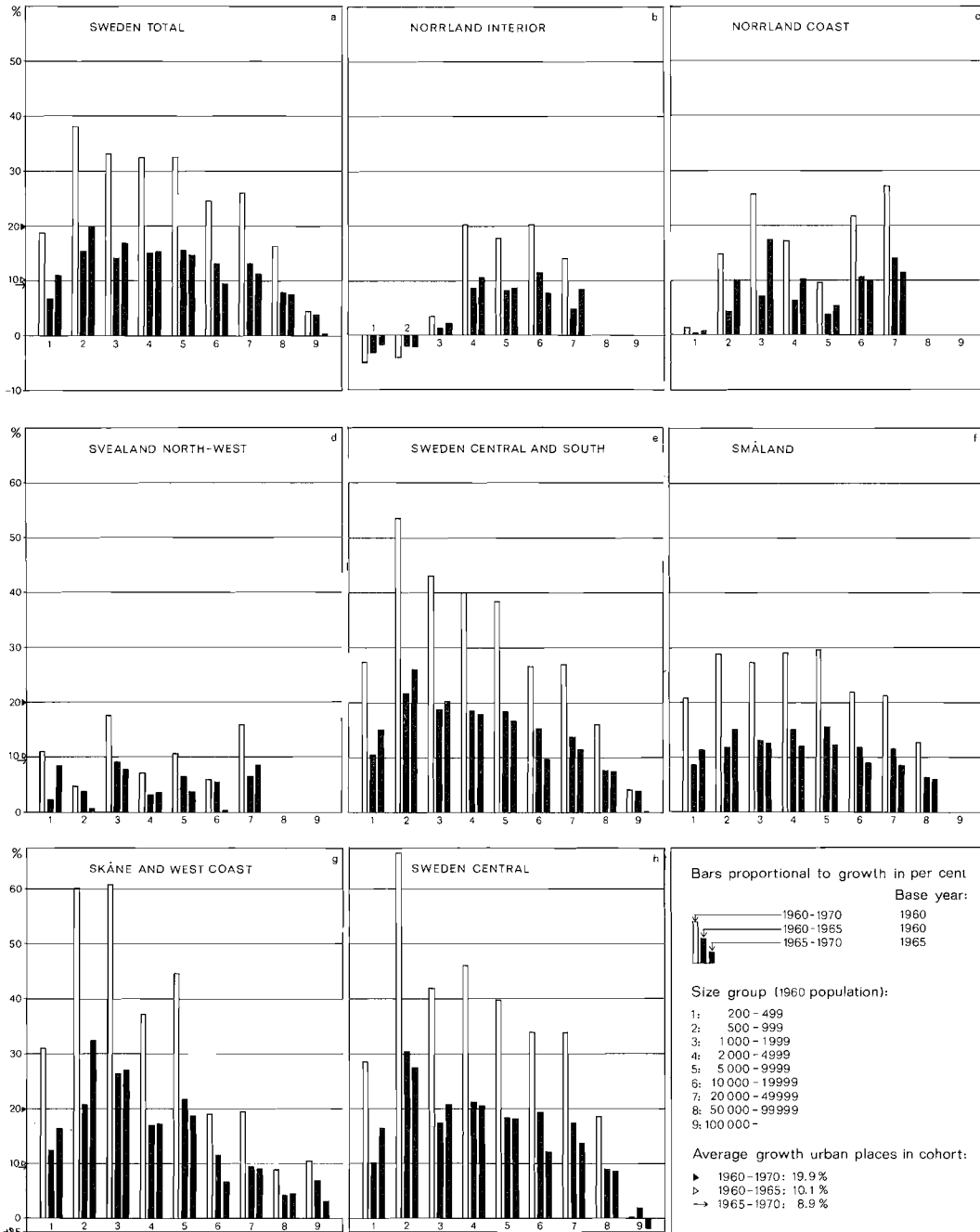
Figure 6.6. Urban population.   Percentage change 1960 — 1970
by size of urban place (1960) and regions.   Cohort of
urban places existing in 1960, 1965, and 1970.

Source: Census compilation 1960 — 1970.
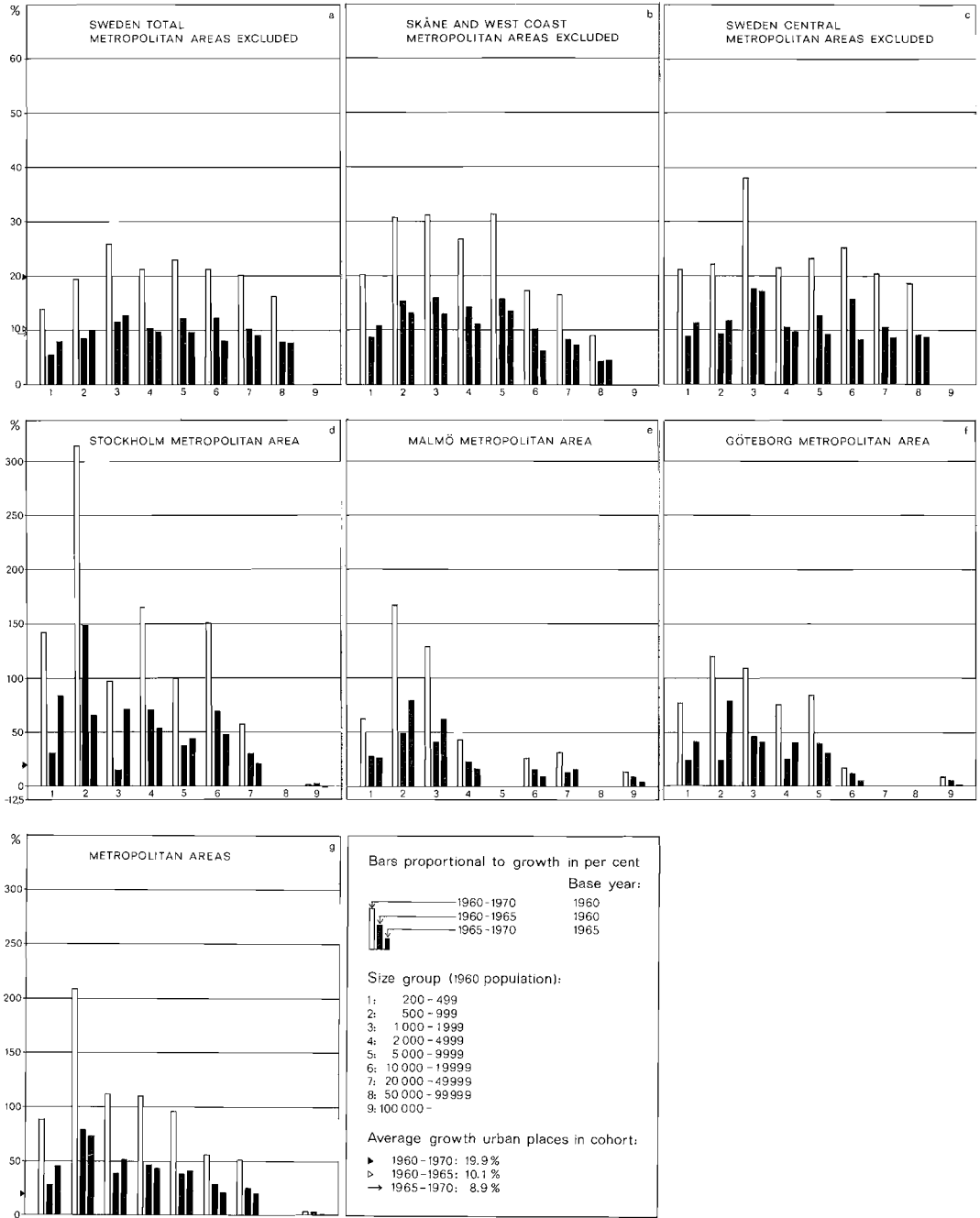
Figure 6.7. Urban population. Percentage change 1960 - 1970
by size of urban place (1960) and regions. Cohort of ur-
ban places existing in 1960, 1965, and 1970.

Source: Census compilation 1960 - 1970.
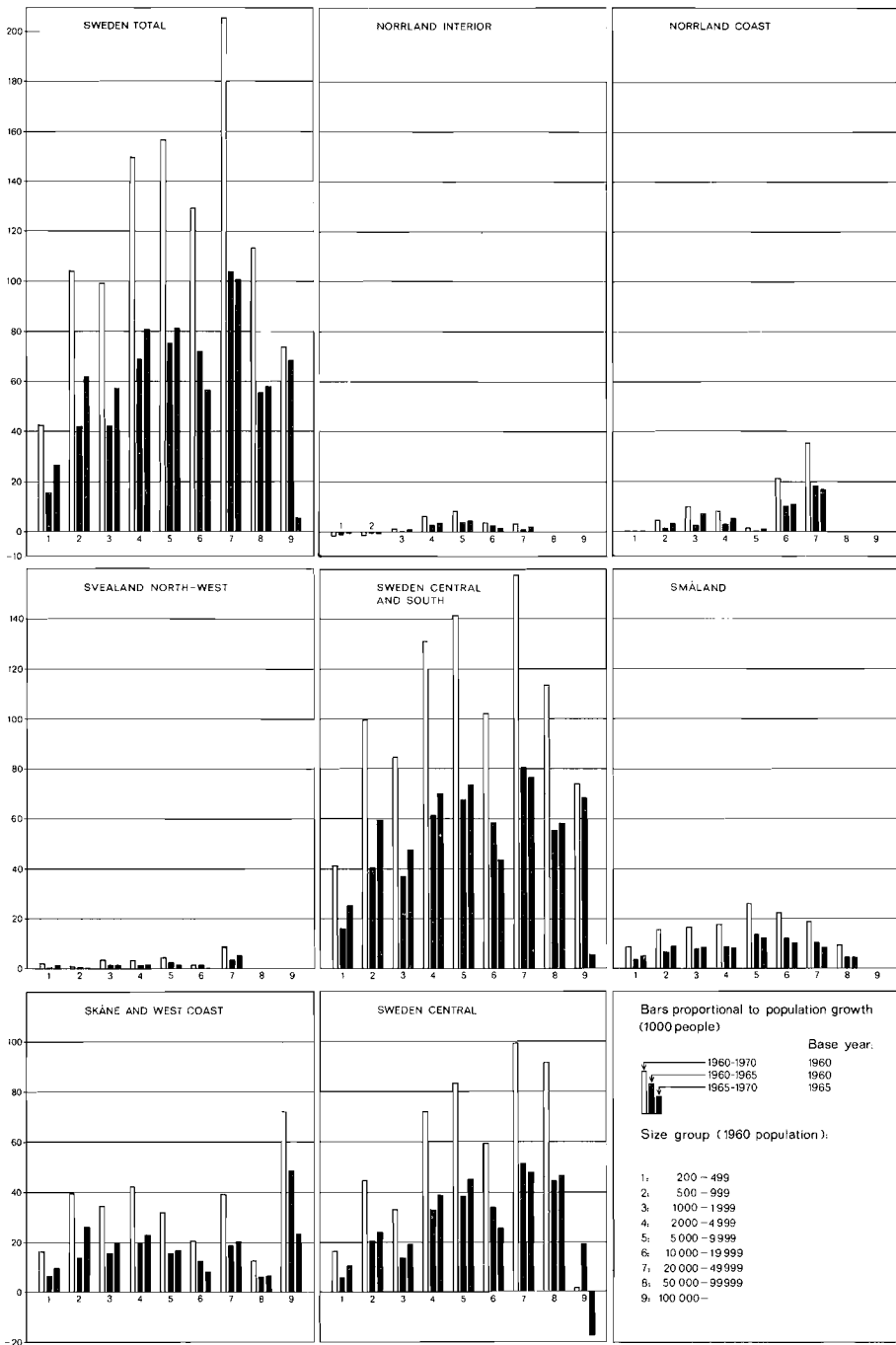
Figure 6.8. Urban population change 1960 - 1970 by size of urban place (1960) and regions. Number of persons. Cohort of urban places existing in 1960, 1965, and 1970.

Source: Census compilation 1960 - 1970.
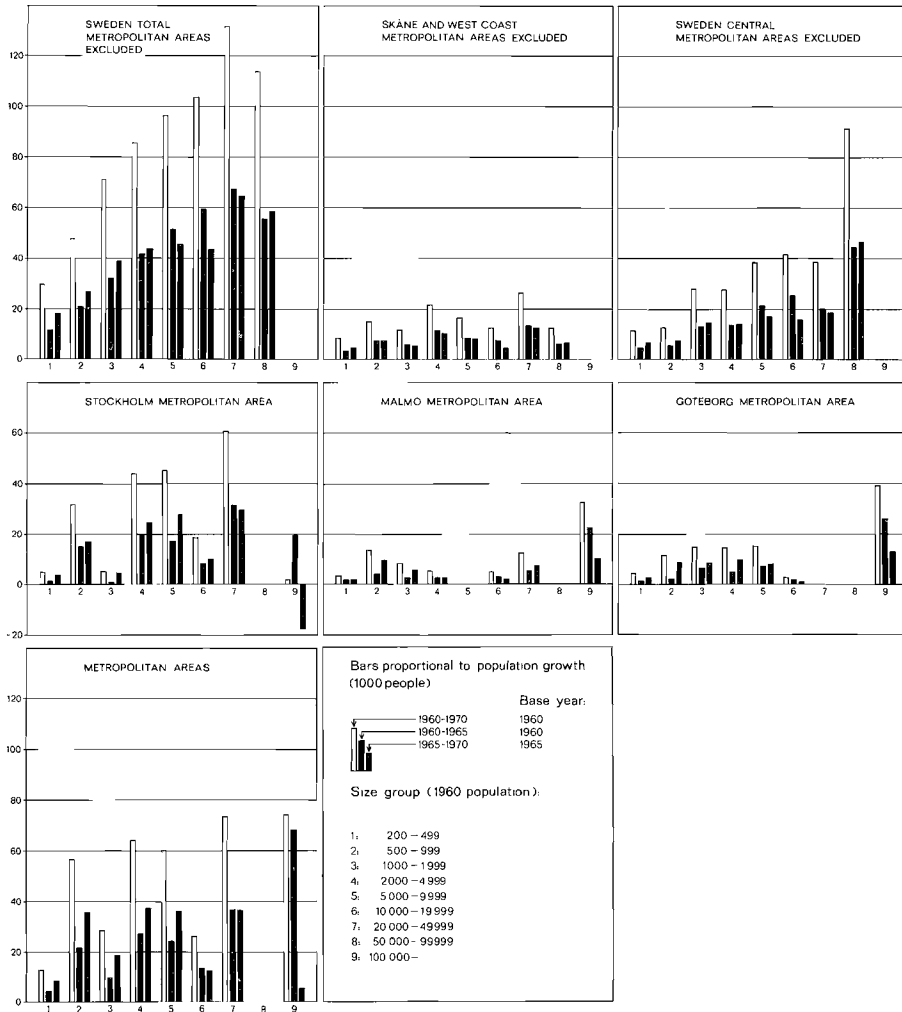
Figure 6.9. Urban population change 1960 - 1970 by size of urban place (1960) and regions. Number of persons. Cohort of urban places existing in 1960, 1965, and 1970.

Source: Census compilation 1960 - 1970.

500-999 which registered the highest growth rate (38.3
per cent). This number was partly explained by the excep-
tional increase of Bollmora, a suburb of Stockholm which
grew from some 600 inhabitants to 19,000 - an increase of
2,900 per cent. With Bollmora excluded from the analysis,
the size-group recorded an increase of 31.6 per cent.

Although the largest urban increment in absolute terms
was reported for places in size-group 20,000-49,999 (a
total increase of 205,500 people in the decade), places
below 10,000 inhabitants answered for over 50 per cent
of the urban increment exhibited by the cohort (Figure
6.8).

Norrland Interior and Svealand North-West. These regions
recorded a modest population development. With the exception
tion of Stockholm which registered a decrease between 1965
and 1970, the only case of depopulation found in the entire
material was reported for places with less than 1,000 in-
habitants in Norrland Interior. In this region, agglome-
rations showing an increase close to the national average
were found in size-groups 2,000-19,999. Although in
Svealand North-West, urban places in all size-groups
increased, it was at a below average rate.

Norrland Coast exhibited a more promising development,
but smaller places deviated negatively from the national
average. Of interest here was the fast growth of agglome-
rations in size-group 1,000-1,999 (especially in the second
half of the decade) and of the medium-sized places (10,000-
49,999) which also reached above the average growth rate.

Thus the unfavorable development of smaller urban places
was characteristic for northern Sweden; higher growth rates
were reported for medium-sized places only.

Sweden Central and South. The diagrams make it obvious
that places in central and southern Sweden dominated the
shaping of the national urban pattern by size-group.
In Småland all groups of places, with the exception of the
group comprising the largest agglomerations, reported
increases between 21 and 30 per cent during the sixties.
In several instances Skåne and West Coast, as well as
Sweden Central, had an even faster increase. In Skåne and

West Coast the rapid development of places with less
than 10,000 people was contrasted by growth rates below
20 per cent for places above this size. But in Sweden
Central, places in size-groups 10,000-49,999 showed growth
rates well above 30 per cent in the sixties. The high per-
centage increase for places in size-group 500-999 in this
region was reduced to 39.4 per cent when Bollmora was
excluded.

Metropolitan growth

Let us now turn to the role of the metropolitan areas.
Figure 6.7 demonstrates the strong suburbanization of
these regions. The series of diagrams clearly indicate
that after the exclusion of metropolitan regions from
the analysis, remaining places registered a development
different from that which was illustrated in Figure 6.6.
Skåne and West Coast, as well as Sweden Central, showed
considerably lower growth rates when the metropolitan
regions had been excluded. Central Sweden outside the
Stockholm metropolitan area exhibited somewhat lower growth
rates for most size-groups than were found in Småland or
in Skåne and West Coast (metropolitan areas excluded).

We learned above that the metropolitan areas compared
unfavorably with many other regions during the 1960s. The
metropolitan rate of increase was close to the national
urban average in Stockholm and Göteborg, and somewhat
higher in Malmö. With data from the material concerning
A-regions, it can be demonstrated (Table 6.7) that in
each region the metropolitan core reported a low growth
rate in comparison to other places (referred to below as
the suburbs). During the decade a substantial intra-
regional redistribution of the population was recorded
for these areas. In the case of Stockholm, a redistribu-
tion loss of nearly 200,000 in the core (which increased
by 0.2 per cent in the sixties) was not fully counter-
balanced by a redistribution gain of 180,000 in the
suburbs (an increase of 107.8 per cent). The region
totalled an urban redistribution loss of 18,000 people in
the sixties.

Table 6.7. Metropolitan growth 1960 – 1970.

A-region	Population 1970		Percentage change 1960-70			Regional redistribution 1960-70 (gains/losses)[*]		
	Core	Suburbs	Re-gion	Core	Sub-urbs	Region	Core	Suburbs
Stockholm/ Södertälje	972,700	427,600	19.0	0.2	107.8	-18,400	-197,900	179,500
Göteborg	486,700	159,300	22.0	8.8	93.8	7,500	-52,700	60,200
Malmö/ Lund/ Trelleborg	264,600	143,400	25.7	14.2	54.6	16,600	-14,900	31,500

[*]Gains and losses relative to equal growth in all regions
(see text).

Source: Census compilation 1960 – 1970.

The Stockholm metropolitan core actually decreased by
1.8 per cent between 1965 and 1970; in absolute figures
the loss amounted to 17,800 people (Figures 6.8 and 6.9).

This is as far as the class-wise analysis will take us.
The conclusion must obviously be that on this level of
generalization the three metropolitan areas played a dominat-
ing role in the shaping of the urban patterns by size-groups
as shown in Figure 6.6. The shortcomings of this class-
wise analysis are evident. The picture given here of the
growth of urban places in non-metropolitan areas will be
substantially altered when the material is further dis-
aggregated and the analysis is extended to include individual
places. The subsequent discussion will reveal several
places reporting rapid growth rates as well as areas with
a strong suburbanization outside the metropolitan regions.
Intra-regional population dispersal, characteristic of the
metropolitan areas, were also found in other areas.

Before proceeding to the development of individual
places, the class-wise analysis is completed by Figure 6.10,
where columns are proportional to the percentage of urban
places which reported population growth between 1960 and
1970. Black areas show the proportion of agglomerations
that grew more rapidly than the national average during
the sixties. In Sweden Total the pattern of the 1960s was
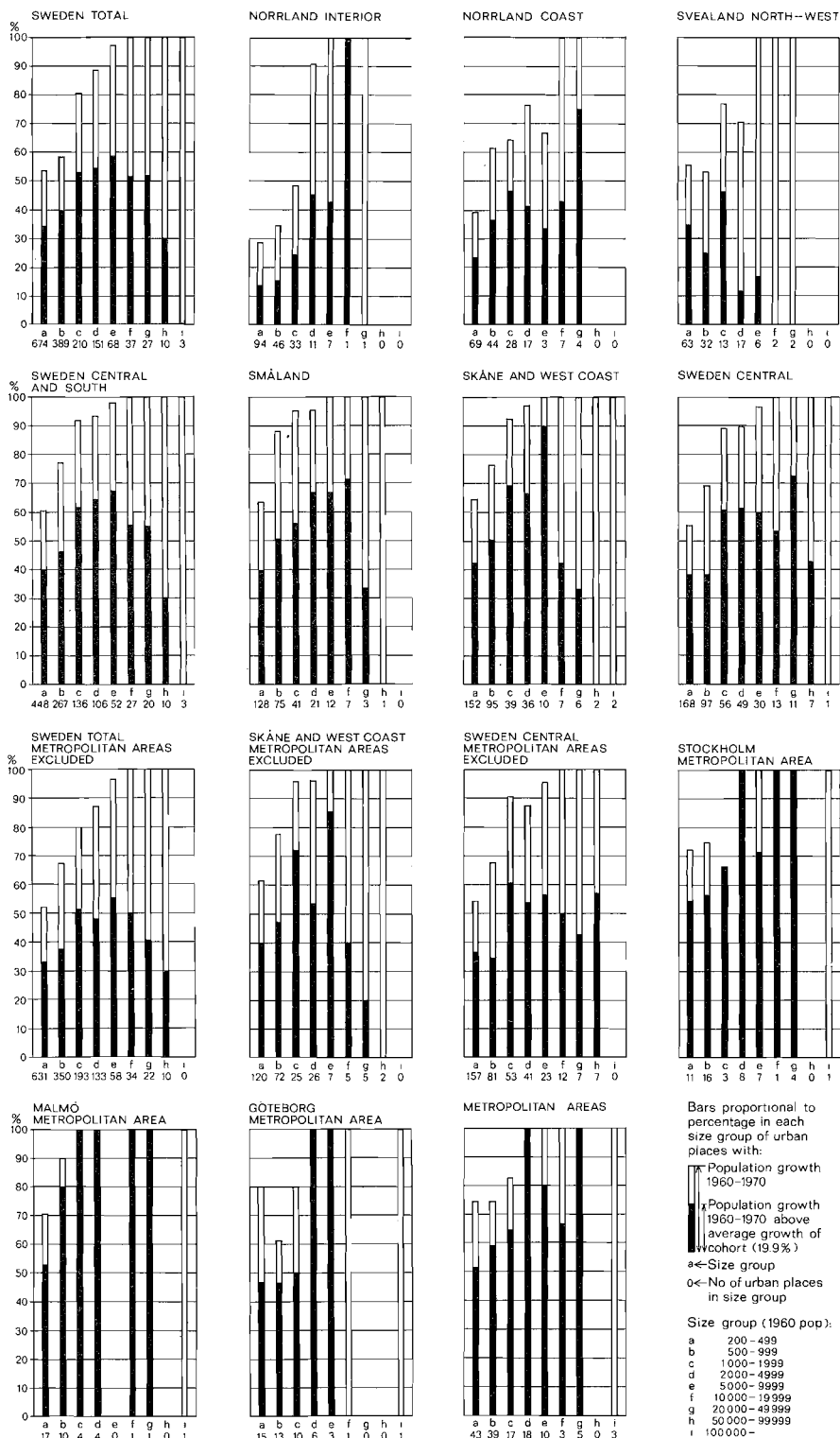
Figure 6.10. Urban population by size of urban place (1960). Per cent of urban places in each size-group with population growth 1960 - 1970. Cohort of urban places existing in 1960, 1965, and 1970.

Source: Census compilation 1960 - 1970.

very similar to that of the 1950s (Table 4.11). Just above
50 per cent of the places with less than 1,000 inhabitants
exhibited population increase. In size-groups below 5,000
inhabitants the proportion of places that increased more
rapidly than the national urban population was greater in
the sixties than in the fifties. The opposite applied to
most other size-groups. The largest proportion of places
with decreasing population was found in Norrland Interior.

Development by Individual Places

The analysis of individual agglomerations is based on
three maps. The color map *Urban Change 1960 - 1970,*
found in the back of the book, distinguishes five categories
of urban places: (1) new places, (2) urban places with
decreasing population, (3) places with a below average
growth rate, (4) places with increases between 20.6 and 50
per cent, and (5) places with growth rates of 50 per cent
or more. Symbols are proportional to the population in
1970.

The color map was simplified in Figure 6.11. The left
map (A) shows the urban population in 1970 (proportionate
symbols). Place names were inserted for agglomerations
with more than 30,000 inhabitants.[8] The right map (B)
shows the redistribution gains and losses. This map divides
places into two categories: those with a below average
growth rate (including those with a decrease) and those
with an above average growth. For all maps the source was
the *Census compilation 1960 - 1970*. The material was dis-
cussed in Chapter 5.

Although, at first glance, places in the environs of the
three largest agglomerations are the most conspicuous on
the maps, a large number of other places also exhibited
rapid growth rates. Consider, for example, several of the
larger agglomerations on the coast of northern Sweden;
places in areas around the lakes of Mälaren, Vättern, and

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[8]With the exception of three Stockholm suburbs: Sollentuna,
Roslags-Näsby, and Handen.

Vänern; places in the central parts of southern Sweden
(e.g. the region of small-scale industry in Western Småland
centered on Gnosjö and Anderstorp south of Jönköping);
and places on an axis Karlskrona - Hälsingborg.

Altogether 36 places with a population of 2,000 or more
in 1960 reported growth rates exceeding 50 per cent in the
sixties. No less than 15 of these were found in the
vicinity of Stockholm (a prominent example was Södertälje
which increased by 70 per cent). Another 6 places in
this category were close to Göteborg, and one was found in
the environs of Malmö. Places of this kind outside the
metropolitan surroundings were Enköping, Oxelösund, Växjö,
and Mariestad (all with a population close to 10,000 or
more). Places with rapid growth but of less size were:
Bankeryd, Markaryd, and Emmaboda in Småland; Olofström in
Blekinge; Perstorp, Sjöbo, and Bjuv in Skåne; Strömsund,
Bergnäset, and Kalix in the north.

Places decreasing in size were largely confined to
northern Sweden and particularly to the interior. The
great majority of agglomerations reporting depopulation
were small. Only 19 places larger than 2,000 inhabitants
had population losses in the sixties, 11 of which were
situated in the northern half of the country. Two had a
population of 5,000 or more: Norberg in central Sweden and
Skelleftehamn on the coast of Norrland.

A fundamental feature of the maps are the fast growing
places around medium-sized and large non-metropolitan
agglomerations. The maps clearly indicate the existence
of local subsystems of interconnected places, each com-
prising an urban core and surrounding satellites. We may
call such a subsystem an *urban region*.

A study of the map series suggests a closer look at the
relative location of places. Proximity to large agglomera-
tions influenced growth rates of smaller and medium-sized
urban places. The maps suggest that agglomerations within
urban regions registered higher growth rates than places
outside, and that satellites generally showed higher growth
rates than the core areas. In order to examine these sup-
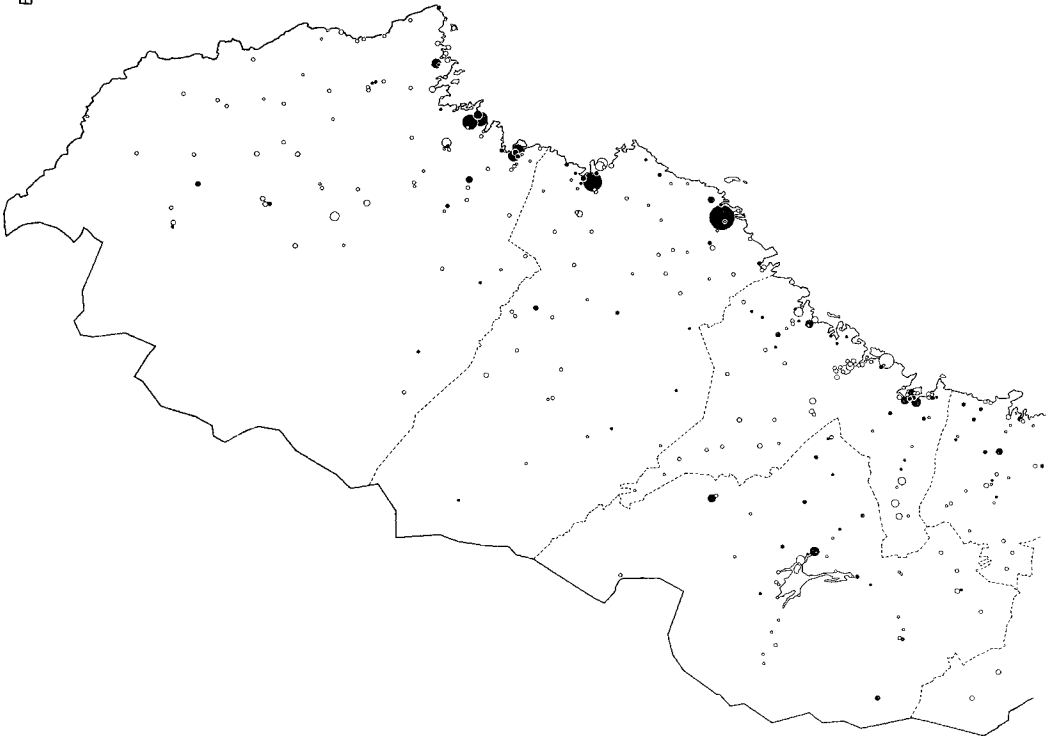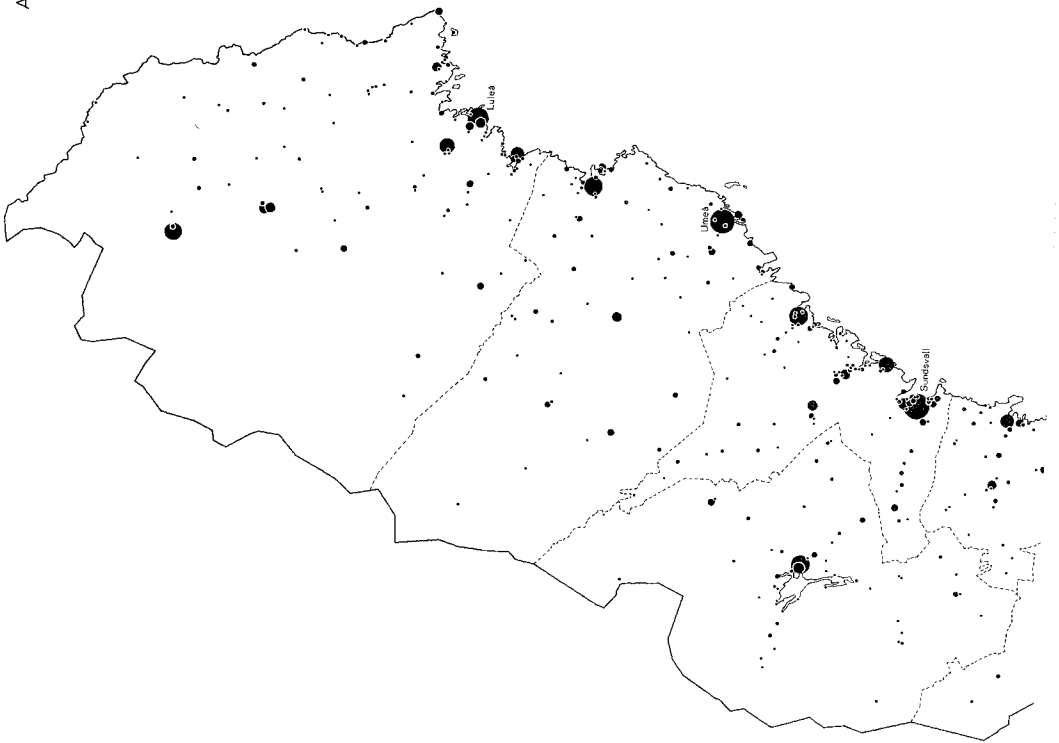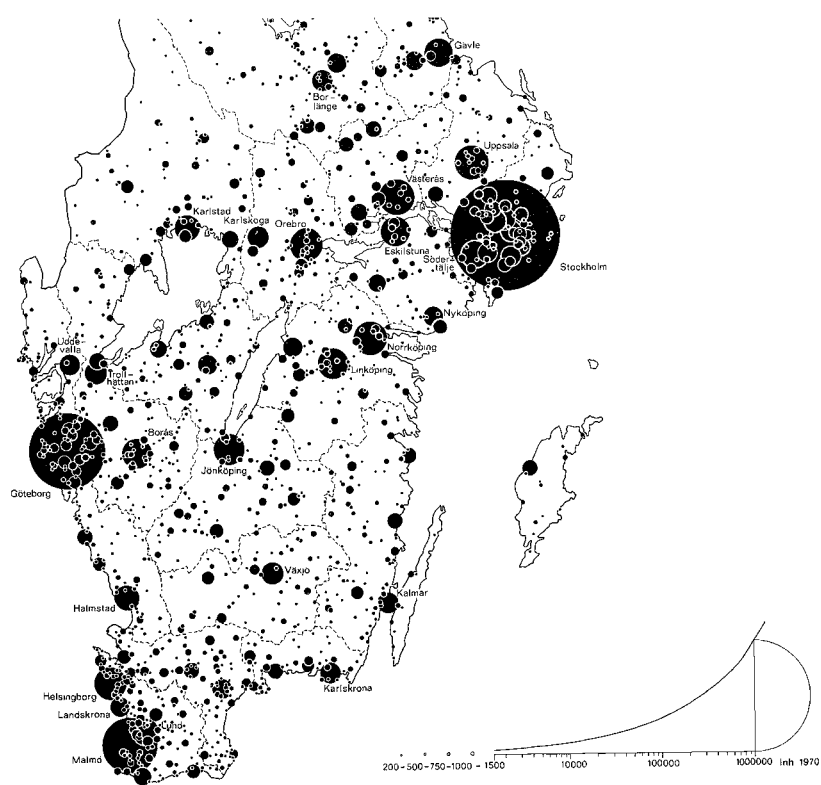
Figure 6.11 a. Urban population 1970.

Source: Census compilation 1960 - 1970.
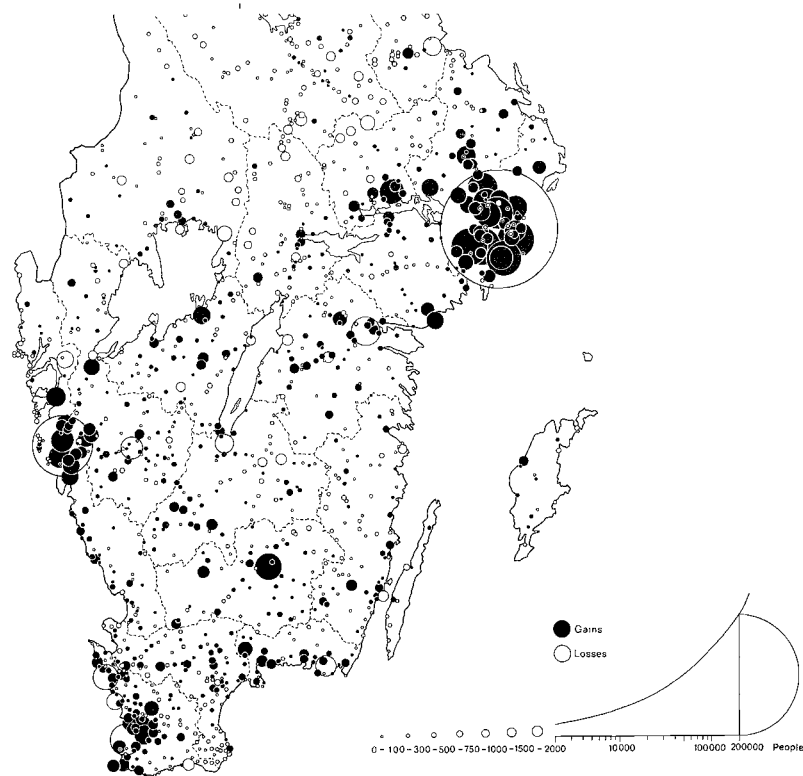
Figure 6.11 b. Redistribution of the urban population
1960 - 1970. Gains and losses relative to equal growth
in all places (see text).

Source: Census compilation 1960 - 1970.

positions data were again rearranged. The material was aggregated according to the relative location of urban places to permit a study of urban regions.

Relative Location of Places—Urban Regions

Our findings suggested that the urban region comprises a core and surrounding satellites. The threshold size of such a core is not well defined. The analysis was performed for three definitions of regions according to the size of the core. The following thresholds of urban cores were chosen: (1) 30,000 inhabitants, (2) 20,000, and (3) 15,000.[9] The urban regions were delimited with an average commuting distance as a radius. The limit was drawn 25 km from the center of each core; all urban places within this radius were included. During the sixties, 30 km was generally regarded as the maximum distance tolerated for travel to work.[10] A straight-line distance of 25 km was used as an operational approximation of a road distance of 30 km.[11] For the three largest agglomerations, Stockholm, Göteborg, and Malmö, a more generous limit was allowed: all satellites within a radius of 40 km were included. Urban places within overlapping areas were assigned to the closest core.[12] Each region was checked against physical maps. Places were omitted if interspersed bodies of water considerably hampered accessibility.

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[9] Although larger than 15,000, the suburbs of Märsta, Upplands-Väsby, Sollentuna, Roslags-Näsby, Lidingö, Bollmora, and Handen were included in the Stockholm region; Tumba was included in the Södertälje region and Oxelösund in the Nyköping region. Frösön and Östersund together formed a core of 36,300 inhabitants.

[10] See e.g. Kindahl (1965).

[11] The regionalization was performed using Euclidean distances between pairs of co-ordinates. Since urban places were assigned co-ordinates with a margin of error of one kilometer, a maximum distance of 25.5 km was actually allowed.

[12] In a few cases of equal distance, urban places were assigned to the largest core.

The three sets of regions thus distinguished are pre-
sented in Figure 6.15 (symbols are proportional to the
population in 1970). The areal extension of regions is
seen in Figure 6.12 (circles drawn around urban places
define the urban regions with the center of each core
indicated by an x). Altogether 63 regions with a core of
at least 15,000 inhabitants were delimited. A total of
44 regions with a core of at least 20,000 and 30 regions
with a core of 30,000 people or more were distinguished.
Urban regions answered for the main part of the urban
population in Sweden. More than 80 per cent of the urban
population in 1970 was found in urban regions with a core
of at least 15,000 inhabitants. On an average satellites
accounted for just above a quarter of the regional total
(Table 6.8).

RESULTS

Table 6.8 clearly indicates that urban regions had higher
growth rates than places in the residual areas (or the
country outside the urban regions). An intra-regional
deconcentration occurred during the sixties: the satellites
grew some five times more rapidly than the cores.

Proximity to larger urban places strongly influenced
growth rates of small urban places and the rise of new
agglomerations. Three quarters of the new places in the
sixties were located within urban regions. Only a third
of the places that were dropped from the statistics in
the same period were found within the limits of urban
regions (Figure 6.12; Cf. Table 6.2). As demonstrated in
Figure 6.13, small and medium-sized places reported far
more rapid growth rates in urban regions than in residual
areas.[13] The figure shows the development of urban places

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[13] In his study of the developement of smaller urban places
1960 - 1970 Mattson (1974) found that suburbs showed
higher growth rates than other places of equal size (see
pp. 35 and 44 ff.). He did not investigate suburban
growth further, since his study emphasized smaller urban
places outside the environs of larger cores.

Table 6.8. Urban regions. Population 1960 and percentage change 1960 - 1970.

Urban core	Number of regions	Population 1970			Percentage of national urban population 1970			Population change 1960-1970, per cent			
		Total	Core	Satellites	To-tal	Core	Satel-lites	To-tal	Core	Satel-lites	Places outside urban regions
30,000 and above	30	4,493,203	3,244,552	1,248,651	68.4	49.4	19.0	21.8	11.3	61.6	17.9
20,000 and above	44	4,927,898	3,598,876	1,329,022	75,0	54.7	20.2	21.9	12.2	59.4	16.8
15,000 and above	63	5,430,139	3,948,844	1,481,295	82.6	60.1	22.5	21.9	13.0	54.6	14.5

Source: Census Compilation 1960 - 1970.

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by size-groups in urban regions (A) and in residual
areas (B). Columns are proportional to the population
change percentage for the 1960s. In section A of the
diagrams, three columns are shown for each size-group:
places in urban regions with a core of at least 30,000 in-
habitants (left), those in regions with a core of at least
20,000 (center), and those in regions with a core of
15,000 or more (right). In section B the three columns in
each size-group refer to places in the corresponding
residual area.

The regions of Stockholm, Göteborg, and Malmö reported
high growth rates for small and medium-sized agglomerations
(Figure 6.14). After the exclusion of metropolitan areas
from the analysis, considerably higher growth rates were
still recorded for these size-groups in urban regions than
in the residual areas.

Table 6.9 lists the 63 urban regions with a core of at
least 15,000 inhabitants. No region reported depopulation
during the 1960s (even though a few satellites did). The
table clearly emphasizes the inter-regional redistribution
of population. The regions of Stockholm, Göteborg, and
Malmö reported growth rates below the national average in
spite of the rapid growth of the satellites. With regard
to Malmö the table indicates that two adjacent regions,
Lund (which increased 52.5 per cent) and Trelleborg (38.8
per cent), were largely responsible for the growth of
25.7 per cent in the Malmö/Lund/Trelleborg A-region.
Almost 50 per cent of the regions registered growth rates
below the national average. Besides Lund and Trelleborg,
another 15 regions showed growth rates of 30 per cent or
more: Umeå, Piteå, and Luleå on the coast of Norrland;
Södertälje, Uppsala, Enköping, and Västerås surrounding
Stockholm; Finspång, Lidköping, Skövde, and Mariestad in
central Sweden; Växjö and Karlshamn in the south; Varberg
and Alingsås in the south-west.

The table indicates a generally more rapid growth of

Table 6.9. Urban regions with a core area of 15,000 in-
habitants or more. Population 1970 and percentage change
1960-1970.

Region	Population 1970			Population change 1960-1970, per cent		
	Total	Core	Satel-lites	Total	Core	Satel-lites
Stockholm	1,288,298	972,676	315,622	15.3	0.2	114.7
Göteborg	595,863	486,657	109,206	20.1	8.8	124.2
Malmö	277,262	264,591	12,671	16.5	14.2	104.8
Uppsala	110,797	92,632	18,165	36.6	26.9	122.6
Södertälje	105,294	57,496	47,798	100.1	70.5	152.9
Enköping	26,671	19,072	7,599	71.0	51.2	154.8
Nyköping	52,804	30,944	21,860	29.6	40.6	59.7
Katrineholm	39,526	22,624	16,902	21.9	18.2	27.1
Eskilstuna	85,893	68,628	17,265	26.8	20.7	58.9
Motala	53,622	28,938	24,684	19.9	12.2	30.4
Linköping	93,431	77,065	16,366	24.9	17.2	81.8
Finspång	20,995	16,181	4,814	31.7	42.2	5.4
Norrköping	114,076	91,031	23,045	13.0	6.1	52.1
Jönköping	99,723	80,694	19,029	20.0	13.0	62.5
Tranås	21,446	15,142	6,304	20.6	21.0	19.6
Nässjö	40,233	19,434	20,799	11.4	12.3	10.6
Växjö	57,225	39,024	18,201	49.8	57.8	35.1
Västervik	28,437	20,168	8,269	16.2	13.6	23.1
Oskarshamn	28,429	17,144	11,285	19.8	23.3	14.8
Kalmar	46.394	34,918	11,476	22.0	13.6	57.2
Visby	20,796	19,245	1,551	28.0	28.2	25.9
Karlskrona	63,320	33,866	29,454	18.4	1.5	46.7
Karlshamn	50,793	17,198	33,595	38.7	27.5	45.2
Kristianstad	60,519	29,014	31,505	22.3	17.2	27.5
Hässleholm	44,498	16,984	27,514	29.0	27.2	30.1
Helsingborg	130,909	82,011	48,898	19.5	8.2	44.9
Landskrona	43,740	30,111	13,629	15.4	6.4	41.6
Lund	107,386	52,361	55,025	52.5	32.3	78.4
Trelleborg	44,434	24,097	20,337	38.8	26.4	57.0
Halmstad	67,075	49,726	17,349	22.6	19.1	33.8
Varberg	26,638	17,772	8,866	42.9	26.1	94.7
Alingsås	34,244	18,766	15,478	44.8	18.5	98.3
Uddevalla	44,310	35,449	8,861	11.2	7.8	27.3
Vänersborg	27,658	19,468	8,190	16.6	13.7	24.3

(cont.)

Region	Population 1970			Population change 1960-1970, per cent		
	Total	Core	Satel- lite	Total	Core	Satel- lite
cont.						
Trollhättan	48,479	41,019	7,460	29.5	30.9	22.0
Borås	100,275	73,346	26,929	16.7	9.9	40.3
Lidköping	42,405	21,303	21,102	31.8	26.3	37.9
Falköping	31,175	15,682	15,493	17.4	12.2	23.1
Skövde	42,718	29,040	13,678	35.8	28.2	55.4
Mariestad	24,664	16,647	8,017	43.5	52.9	27.4
Kristinehamn	24,213	21,043	3,170	6.9	4.5	26.9
Karlstad	90,901	52,046	38,855	21.9	21.9	22.0
Örebro	125,887	87,129	38,758	22.0	19.8	27.4
Karlskoga	47,500	36,966	10,534	15.6	17.6	9.0
Västerås	116,821	99,094	17,727	32.2	30.1	45.6
Köping	63,416	21,723	41,693	26.9	29.2	25.8
Fagersta	27,481	15,585	11,896	6.4	9.5	2.6
Ludvika	38,396	18,273	20,123	7.1	8.0	6.2
Gävle	81,572	65,336	16,236	12.5	11.3	17.4
Sandviken	40,562	28,411	12,151	19.8	28.3	3.6
Avesta	33,192	19,912	13,280	2.0	4.0	-0.8
Borlänge	48,079	35,437	12,642	16.2	17.9	11.9
Falun	37,873	28,793	9,080	15.1	14.2	18.3
Sundsvall	88,785	53,599	35,186	22.2	22.5	21.9
Härnösand	21,446	18,673	2,773	0.9	2.2	-7.1
Örnsköldsvik	39,434	28,428	11,006	19.1	14.7	32.2
Östersund	42,743	36,261	6,482	21.4	15.2	73.1
Umeå	57,784	47,692	10,092	44.0	46.8	32.0
Skellefteå	42,998	27,463	15,535	23.4	45.8	-2.9
Piteå	25,082	15,067	10,015	37.5	39.9	34.1
Luleå	48,507	36,747	11,760	36.5	23.1	107.2
Boden	19,978	18,638	1,340	9.7	12.5	-18.9
Kiruna	25,034	23,279	1,755	18.0	20.3	-5.3

Source: Census compilation 1960 - 1970
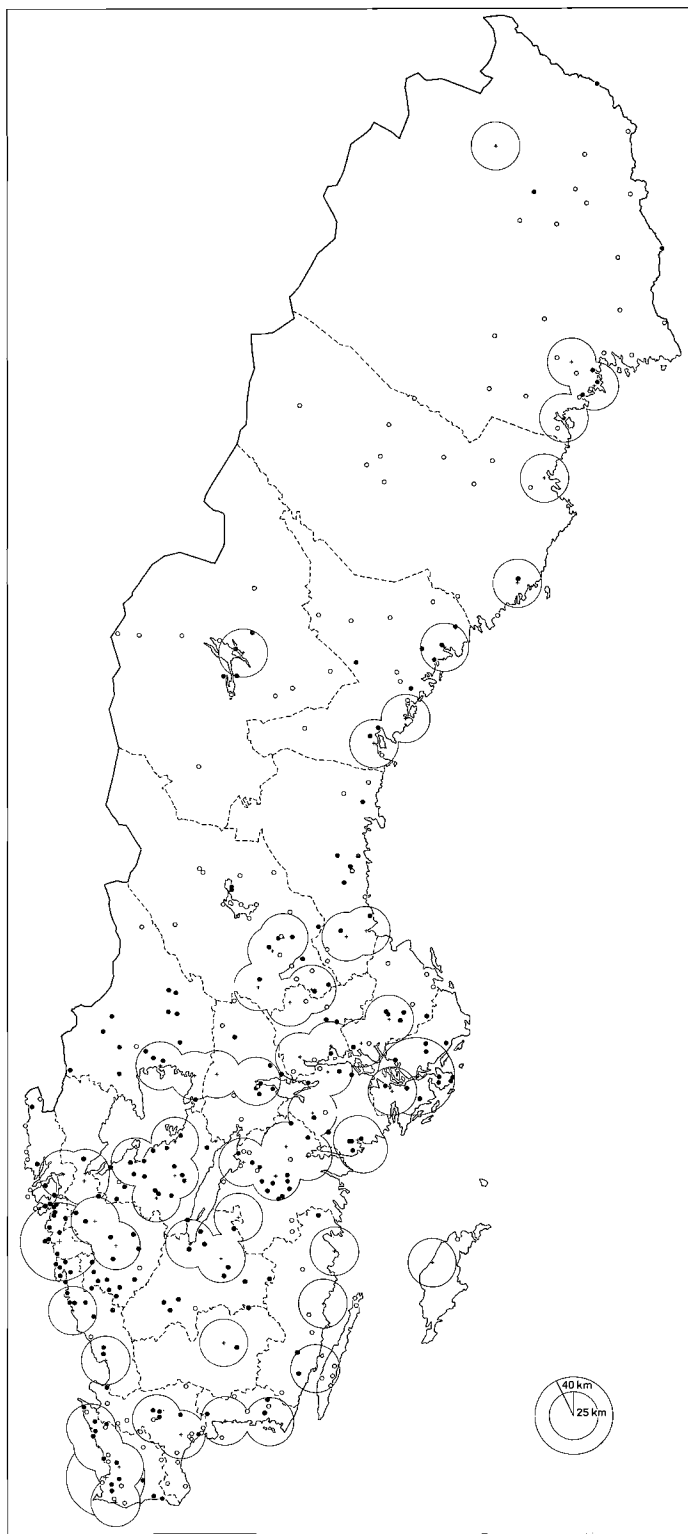
Figure 6.12. New places (black dots) and places dropped
from the statistics (white dots) 1960 - 1970. Circles
define urban regions with a core area of 15,000 inhabitants
or more 1970.

Source: Census compilation 1960 - 1970.

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Size group (1960 population):

1: 200 – 499
2: 500 – 999
3: 1000 – 1999
4: 2000 – 4999
5: 5000 – 9999
6: 10000 – 19999
7: 20000 – 49999
8: 50000 – 99999
9: 100000 –

* No place in size-group
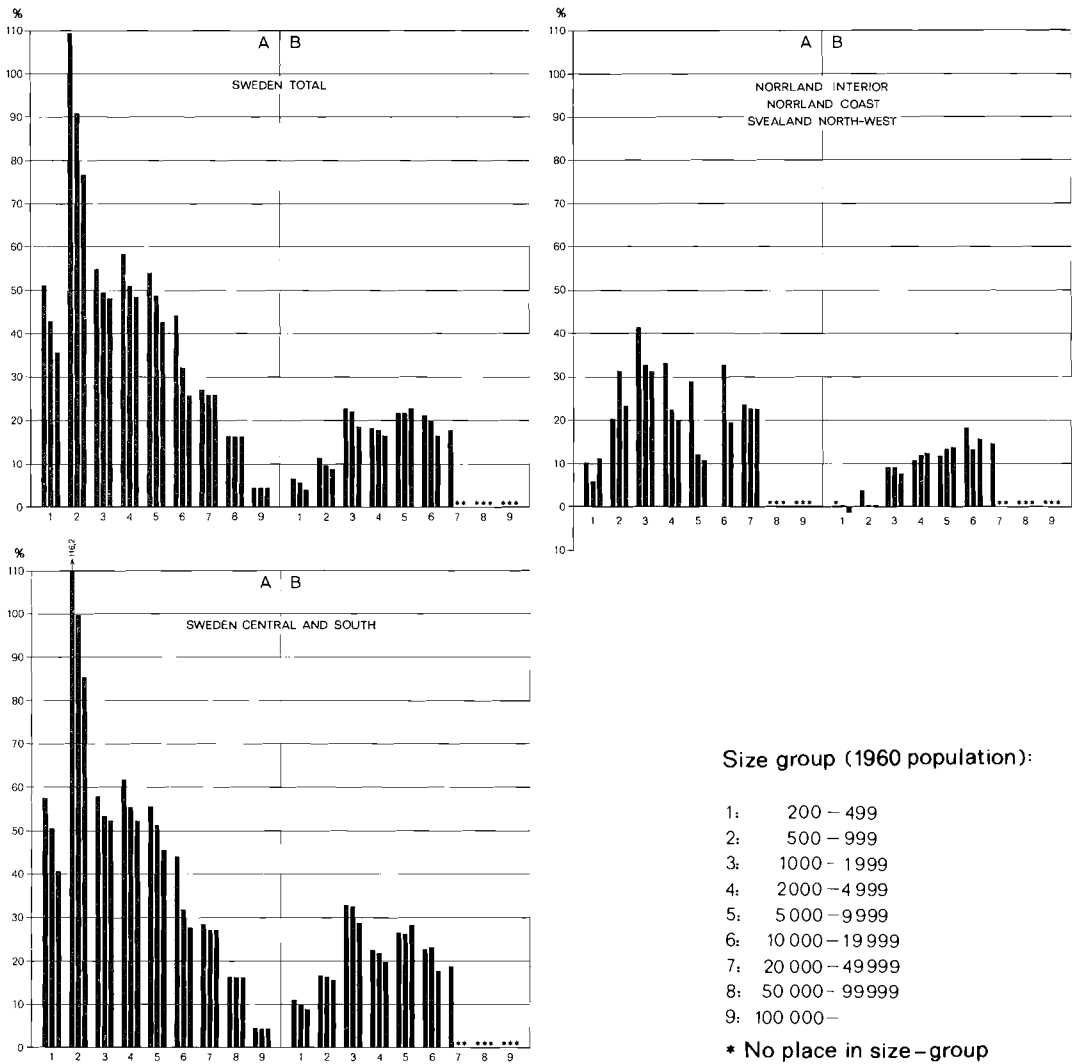
Figure 6.13. Urban regions (A) and residual areas (B). Percentage population change 1960 – 1970 by size of urban place (1960) and regions. Cohort of urban places existing in 1960, 1965, and 1970.
A: The three columns in each size-group refer to places in urban regions: with a core ≥ 30,000 inhabitants (left); with a core ≥ 20,000 inhabitants (center); with a core ≥ 15,000 inhabitants (right).
B: The three columns in each size-group refer to places in corresponding residual areas.

Source: Census compilation 1960 – 1970.
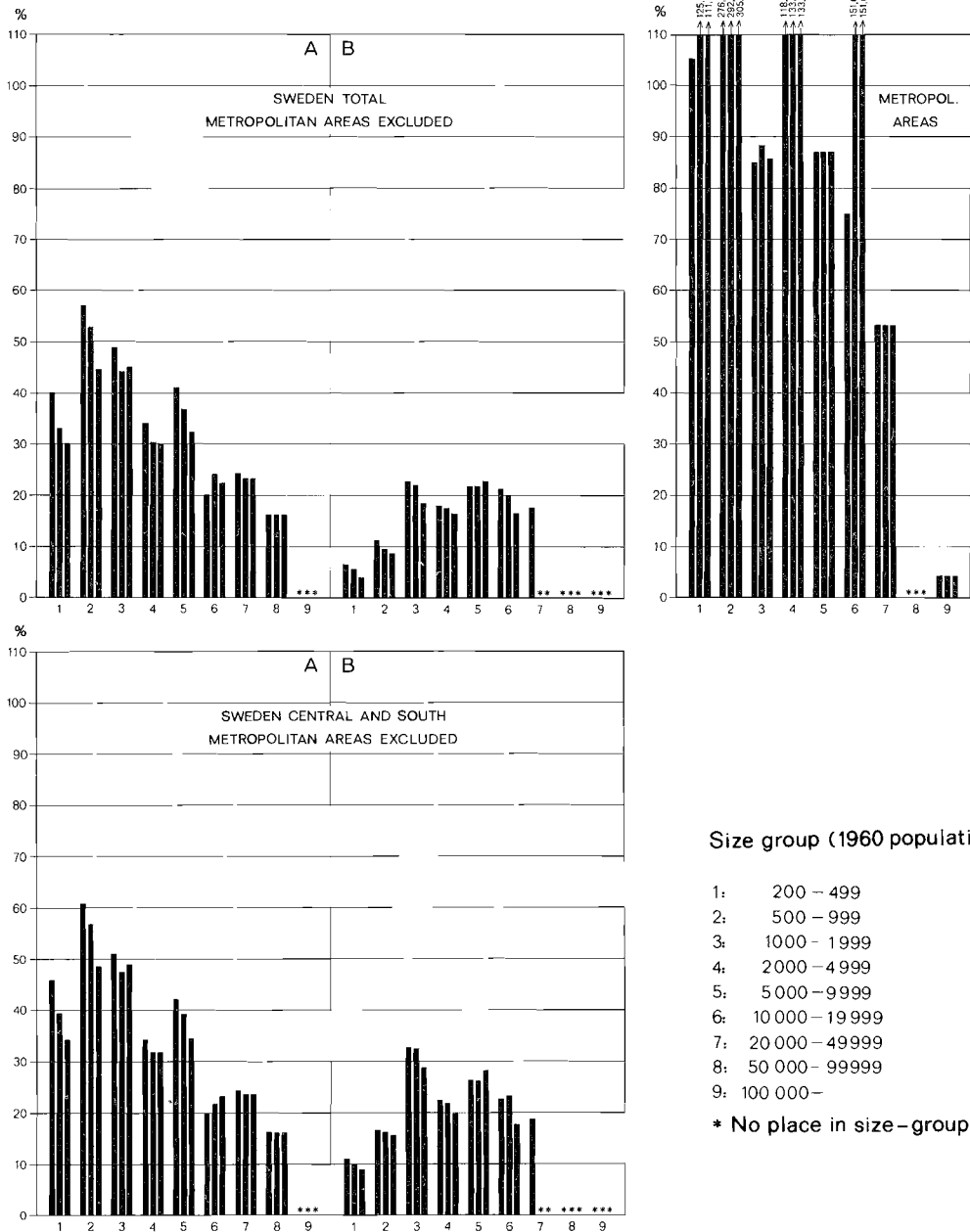
Figure 6.14. Urban regions (A) and residual areas (B). Per-
centage population change 1960 - 1970 by size of urban place
(1960) and regions. Cohort of urban places existing in
1960, 1965, and 1970.
A: The three columns in each size-group refer to places in
urban regions: with a core ≥ 30,000 inhabitants (left);
with a core ≥ 20,000 inhabitants (center); with a core
≥ 15,000 inhabitants (right).
B: The three columns in each size-group refer to places
in corresponding residual areas.

Source: Census compilation 1960 - 1970.
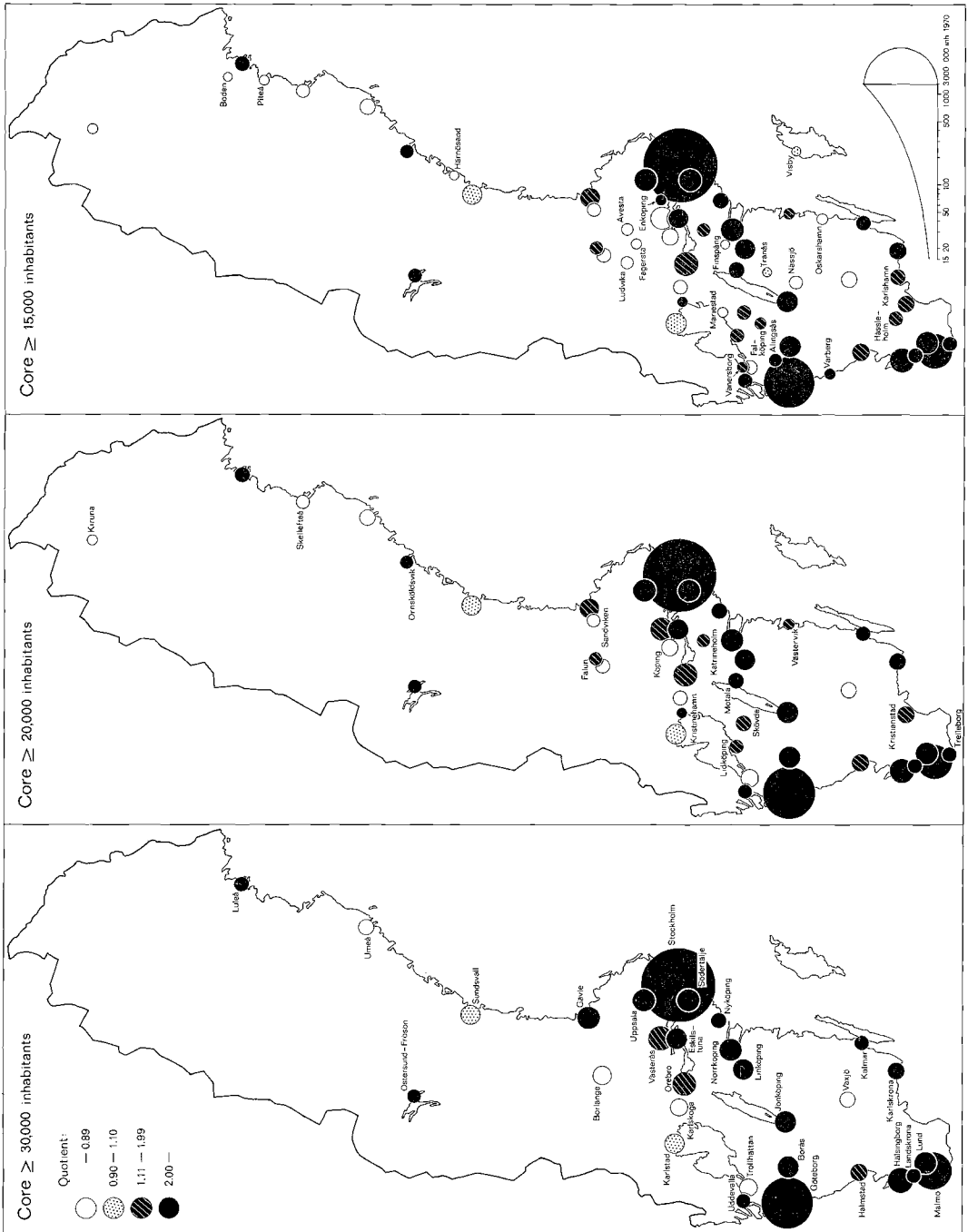
Figure 6.15. Urban regions. Population 1970 and intra-
regional comparison of population change 1960 - 1970 ex-
pressed as the quotient: growth rate of satellites/growth
rate of core. Three versions. Names on middle and left
maps indicate regions added when core threshold was set at
≥ 20,000 and ≥ 15,000 inhabitants respectively.

Source: Census compilation 1960 - 1970.

satellites than of cores.[14]   In Figure 6.15 an intra-
regional comparison of growth is demonstrated. For each
region the growth rate of the satellite has been related
to that of the core. (A quotient of one indicates an
equal growth rate.) Only five of the largest 30 regions
reported a faster increase of the core. In no less than
20 regions satellites grew more than twice as rapidly as
the cores. In two regions core and satellites had about
equal growth rates, and three regions had a quotient
averaging 1.5. When the threshold for the core was lowered
to 20,000 inhabitants, another four regions reported a
slower growth rate of the satellites than of the core.
With the threshold set at 15,000 people almost a third of
the regions reported a higher growth rate in the core.

Conclusion

The evidence presented suggests a two-way redistribution
of the population in the sixties.

On various levels of generalization, tendencies of an
inter-regional deconcentration from the metropolitan areas
was observed. The notion of a concentration of population
to metropolitan regions, which was basic to much regional
policy and planning in the 1960s, finds no support here.
Although suburban places within the metropolitan regions
registered unsurpassed growth rates, the regions on the
whole showed a rate of increase below, or close to, the
urban average. Considerably faster growth rates were
found in numerous nonmetropolitan areas.

Small and medium-sized agglomerations in the proximity
of a larger urban core often reported rapid growth rates.
Within such local subsystems of places (urban regions) an
intra-regional deconcentration was evident: satellites
generally reported higher growth rates than the cores.

[14] Norling & Jeansson (1967) delimited 17 urban regions with
at least 50,000 inhabitants in 1965 and studied the popula-
tion changes 1960 - 1965. In all but three of the regions
the satellites grew more rapidly than the core area; in
two regions growth rates were more or less equal.

VII. TOWARDS AN EXPLANATION

Inter-Regional Redistribution

The purpose of this study was to widen the basic know-
ledge of the geographical anatomy of urban Sweden. The em-
phasis was laid on agglomerations as places of residence
rather than places of work. The geographical arrangement
of the population is assumed to be determined by economic
forces. This at least is true for industrial societies
(Chapter 2). The inter-regional redistribution of the
population is a result of structural changes in the economy.
We may therefore postulate that, in the long run, urban
places will survive only if job opportunities are avail-
able in the place itself or within acceptable commuting
distance. An explanation of inter-regional shifts of the
population would ultimately become an explanation of the
structural changes in the economy. Such an explanation
is an undertaking beyond the scope of this study. It
would involve a linkage between empirical observations
and the theory of economic growth - and that is a
book in itself. We must therefore leave the explanation
of inter-regional population shifts for future research.
In the first section of this concluding chapter some
promising directions of such research are discussed.

An urgent task in a research program concerning inter-
regional population shifts in Sweden would be to unravel
the role of the metropolitan areas in the Swedish economy.
It has been shown here that over the years Greater
Stockholm has maintained a constant share of the national
urban population, a proportion that commenced to decrease
during the 1960s. The below average increase of this
region became a sudden absolute decline in the early 1970s.
In 1972 Stockholm was the first metropolitan area in
Sweden to report a decreasing population (Table 7.1). In
the absence of data from the 1975 census, the table shows
the total population for the area discussed in Chapter 5.
Since the degree of urbanization in Greater Stockholm
had reached 98 per cent in 1970, the table should be com-
parable with the data presented in Chapter 5. After two
successive years of depopulation, increase was recorded anew
and by 1974 the population of Greater Stockholm reached
a point just below the 1971 level.[1] A development towards
zero population growth was also indicated for the Göteborg
and the Malmö metropolitan regions between 1971 and
1973.[2]

The manufacturing industry stagnated and was gradually
decentralized from Greater Stockholm in the decades fol-
lowing World War II. Ahnström shows a location quotient
of 0.89 for manufacturing in Greater Stockholm in 1950 as

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[1]Evidence from the United States suggests that a metropoli-
tan decline might also be imminent in other industrial
countries. A development that has been labelled a
"... remarkable recent reversal of long-term population
trends ..." in terms of a "... revival of population
growth in non-metropolitan America" was reported in the
early seventies (Beale, 1975). Between April 1970 and
July 1973 non-metropolitan counties increased by 4.2 per
cent as compared with a 2.9 per cent population increase
in metropolitan counties. During the 1960s only one of
the 25 largest Standard Metropolitan Statistical Areas
(SMSAs) reported a population decline; by 1974 ten of
these largest SMSAs no longer reported population growth.
See Beale (1975) and Morrison (1975).

Reversed population developments were also reported for
metropolitan Köpenhamn and metropolitan Oslo in the
early 1970s. See SOU (1974-LXXXII:172 f.).

[2]SOU (1974-LXXXII:104 f.) See p. 67 for definition of
Greater Göteborg and Greater Malmö.

Table 7.1. Greater Stockholm, total population 1970 - 1974.[*]

1970	1971	1972	1973	1974
1,329,310	1,335,614	1,332,908	1,331,399	1,334,137

[*]For the definition of Greater Stockholm see Figure 5.9.
Source: SSK (1975), table 1.

well as in 1960. In 1965 the LQ had fallen to 0.71 and by 1970 it had reached a low 0.64 (Table 5.9)[3] Greater Stockholm's proportion of the total number of job opportunities in manufacturing decreased from 14.1 per cent in 1965 to 13.7 per cent in 1970.[4] Between 1963 and 1970 about 150 manufacturing establishments were relocated across a county border. Half of these establishments originated from the county of Stockholm. Location changes in manufacturing between 1963 and 1970 resulted in a net decrease in employment of 27,000 people; more than half of this decrease was accounted for by the three metropolitan counties.[5] The growth of Greater Stockholm was obviously maintained by expansion in other sectors. William-Olsson found the impetus of Stockholm's growth to be a set of pyramidally organized specific city-forming functions: central government and private administrative functions, wholesaling, financing, and high-level cultural activities whose prime locational requirements were easy accessibility. The industrial apparatus in the city was largely adapted to these city-forming functions (the printing industry was a case in point). William-Olsson regarded the major constraints on Greater Stockholm's development to be high costs accruing from intensified competition for central location.[6]

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[3]Ahnström (1976)

[4]The corresponding figures for Greater Göteborg and Greater Malmö also decreased, from 8.3 to 8.1 and from 5.1 to 4.8 respectively. See SOU (1974:LXXXII:190 f.).

[5]Ibid., 141

[6]William-Olsson (1941)

Against this background, three directions of research
concerning metropolitan development are suggested:

(I) What was the impact of the regional development policy
enacted by Parliament in 1964 and extended in 1970 and
1972?[7] It is believed here that this program did not
come early enough to have any influence on the popula-
tion development in metropolitan Stockholm during the
1960s. If the policy measures did excert some influence
on this development, the effects must only have been
marginal reinforcements of an already ongoing structural
change. The below average growth of Greater Stockholm
which foreshadowed the absolute decline in the early
1970s must be regarded as a spontaneous development.
To what extent the regional development program was
responsible for the population decline in 1972 and 1973
is still to be investigated.[8] An obvious non-policy
factor which might have tipped the scales towards
depopulation was the economic recession in the early
seventies with a resulting low immigration (Figure
4.3). By the same token the turning business cycle
should be credited for the population increase reported
again for Greater Stockholm in 1974.

(II) What caused the spontaneous population retardation in
metropolitan Stockholm during the 1960s? At least two
approaches seem to be appropriate here. One would
regard stagnating metropolitan growth as a problem
of sector balance. In his population projection for
Greater Stockholm, published in 1941, William-Olsson
used a model which divided the economy into areal-bound
and local- or point-bound production (Chapter 2).[9]
Assuming a continuously declining rural population
and an increasing urban, the future national urban
population was determined by the projected balance

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[7] See, e.g., Planning Sweden (1973) or Sundquist (1975:214-
238) for an outline in English of this policy.

[8] In both Sundquist (1975:228 f.) and SOU (1975-XCI:12) the
regional development program is given some credit
for this decline.

[9] William-Olsson (1941)

between areal-bound and point-bound production.
Greater Stockholm's share of the future national urban
population was to be determined by its ability to
attract rural-urban migrants. William-Olsson actually
forecasted the urban population curves for Sweden and
Greater Stockholm to level in the 1960s, after which
the population would stagnate or possibly decline. The
urban population figures projected for Sweden and
Greater Stockholm for the 1960s were found to have been
underestimated. This was largely due to false assump-
tions about births and immigration, but also because
Sweden experienced a more rapid rural decline than was
expected (which among other things was caused by
massive mechanization in forestry).[10] The second
approach would be a study of metropolitan areas as
undesirable environments, in terms of noise,
pollution, etc. as well as in terms of rising costs
accruing from such things as high labor turnover,
high cost for meeting increasing demand for floorspace or
decreasing transferability within the regions due to
congestion. A useful conceptual framework for such a
study would be the model developed by Kristensson,
in which various demands for regional structures are
outlined.[11]

(III) With the stated aim of curbing the population increase
in Metropolitan Stockholm, Parliament enacted schemes
in 1971 and 1973 for relocating Government offices
comprising some 10,000 civil servants. To what ex-
tent will Greater Stockholm be affected by this dis-
persal of specific city-forming functions?

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[10] William-Olsson (1968)
[11] Kristensson (1967)

Intra-Regional Redistribution

To a large extent intra-regional population shifts are
the result of changes in residential preference. In this
section some factors behind the observed development are
discussed. The arguments are based on the color map
series, *Four Maps of Sweden*, in the back of the book.

Slower growth rates in the urban cores could result from
an increasing standard of living in terms of per capita
demands for urban space (larger homes, more space for
roads and other public uses etc.). An increase of popula-
tion in the satellites is a reflection of the desire for
residence in the attractive surroundings of a smaller
community, away from noise, pollution, congestion, and
other environmental drawbacks characteristic of many urban
core areas. The residential preference materializes as an
increased demand for single-family houses; there was a
drastic decline in the share of apartments in the output
of dwelling units from the late 1960s. Since land near
urban cores was mostly preempted by other land uses, such
houses had to be sought in the satellites. A high stan-
dard of private transportation made it possible to separate
places of residence and places of work.

The map series clearly indicate a residential pattern
highly dependent on personal transport facilities. The
increased spatial mobility, especially the expansion of
private car ownership, have facilitated a concentration of
service outlets and a dispersed residential pattern. A
fundamental feature of urbanization is the gradual separa-
tion of places of work and places of residence. The
triangle (Figure 7.1) illustrates that with modern
transport technology places of work, service and residence
do not necessarily have to coincide. The far-reaching
implications of the transport revolution were discussed
in Chapter 2.

SERVICE

RESIDENCE   WORK
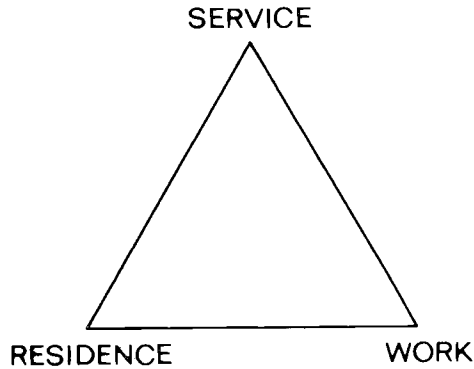
Figure 7.1.

According to Figure 7.2, the number of passenger cars
in Sweden almost doubled in the sixties and reached about
2,29 million in 1970 (or 283 cars per thousand inhabit-
ants). The family car was more common in the small and
medium-sized urban places than in the largest ones
(Table 7.2).

In each of the color maps, symbols are proportional to
the population in 1970. The first map in the series,
Urban Change 1960 - 1970 was introduced in Chapter 6.
On the map *Journey to Work 1970* the economically active
day-time population is related to the economically active
night-time population. A percentage above 100 thus in-
dicates an excess of day-time population due to commuting.
A great daily mobility of the population is evident. It
resolves into two basic patterns of commuting. Firstly
there is a radial pattern of commuting, between satellites
and urban cores. A second pattern is found outside the
urban regions, where people travel between urban places,
and between rural areas and urban places. In 1970 almost
three quarters of the economically active population
travelled to work in one way or the other; no less than 54
per cent of these people used the private car.[12]

The map *Houses 1970* shows one- and two-family houses
in per cent of total number of residential units. Obviously
apartment buildings are predominant in larger urban places

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[12]SOU (1974-I:69)

1000 Cars
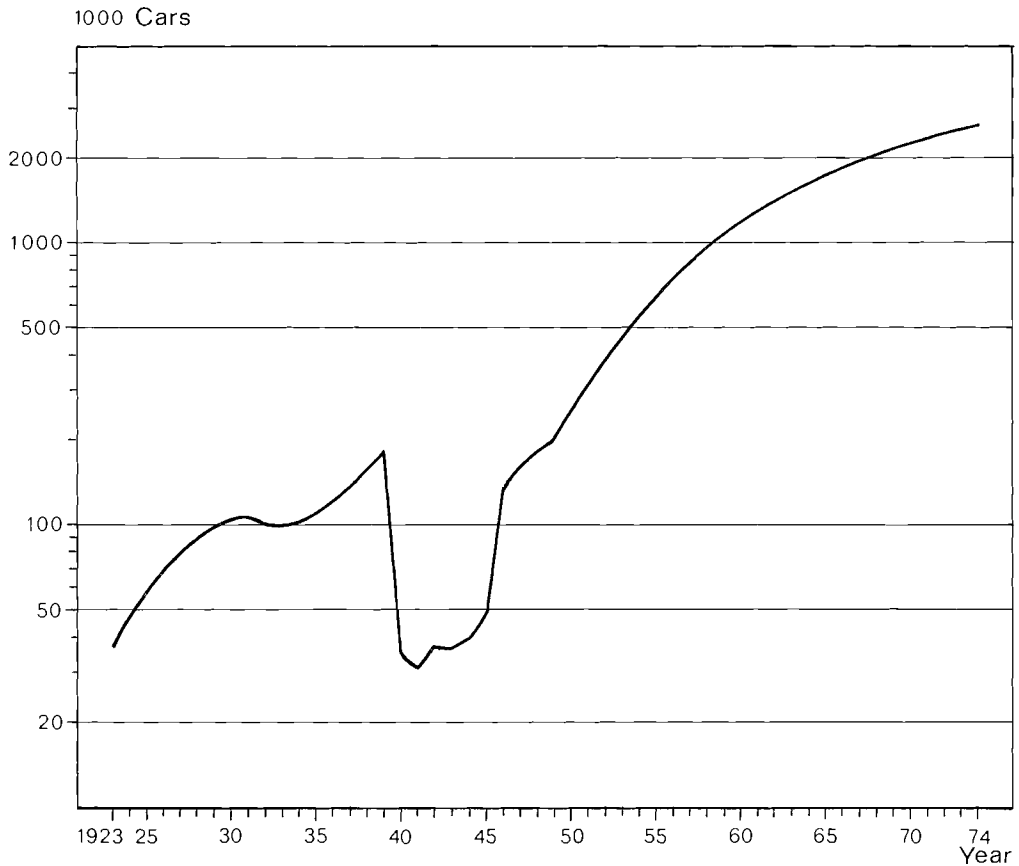
Figure 7.2. Passenger cars 1923 - 1974. Number of regis-
tered vehicles.

Sources: Various issues of *Statistisk Årsbok för Sverige.*
(Statistical Abstract of Sweden).

(see also Table 7.3). Smaller urban places mostly repor-
ted high proportions of one- and two-family houses. Resi-
dential units comprising one-family houses increased by
64 per cent between 1960 and 1970. The number of apart-
ments increased by only 32 per cent (Table 7.4). The in-
crease of one-family houses was faster in the 1960 - 1965
period than in the following five-year period. In each
size-group of urban places one-family houses increased
more rapidly than apartment units between 1960 and 1970.
This applied to the 1960 - 1965 period as well, whereas
in the latter period the picture was reversed for some
size-groups. In the short run, the supply of residential
units may be important in determining the population devel-

Table 7.2. Households with cars. Percentage of total number of households, by size of urban places (1970).

Size (inhabitants)	Sweden Total	Sweden Total, Metropolitan areas excluded
200- 499	58.9	58.8
500- 999	60.1	60.2
1,000- 1,999	61.3	61.0
2,000- 4,999	60.5	59.2
5,000- 9,999	59.1	58.3
10,000-19,999	58.5	57.5
20,000-49,999	58.6	58.2
50,000-99,999	52.7	52.7
100,000-	41.1	–
National average	53.0	

Source: Folk- och bostadsräkningen 1970, råtabell H2.

Table 7.3. One- and two-family houses. Percentage of total number of dwelling units, by size of urban places (1970).

Size (inhabitants)	Sweden Total	Sweden Total, Metropolitan areas excluded
200- 499	80.7	80.8
500- 999	74.1	73.4
1,000- 1,999	66.9	66.5
2,000- 4,999	54.7	53.6
5,000- 9,999	41.8	41.5
10,000-19,999	32.9	32.7
20,000-49,999	28.6	26.4
50,000-99,999	17.5	17.7
100,000-	12.7	–
National average	31.2	

Source: FoB (1970-VI), table 1.

Table 7.4. Residential units. Percentage change 1960 - 1970 by size of urban place (1960). Cohort of urban places existing in 1960, 1965, and 1970.

Source: FoB (1970-VI), table 1.

Size (inhabitants)	One-family houses			One- and two-family houses			Apartments		
	1960-70	1960-65	1965-70	1960-70	1960-65	1965-70	1960-70	1960-65	1965-70
200- 499	45.8	22.3	19.2	24.3	10.7	12.4	20.9	-2.0	23.3
500- 999	62.6	28.3	26.7	34.4	14.7	17.2	61.5	22.9	31.4
1,000- 1,999	63.5	30.8	25.1	30.7	14.0	14.7	51.6	19.0	27.4
2,000- 4,999	64.7	30.6	26.1	29.9	13.5	14.5	48.9	20.0	24.1
5,000- 9,999	71.9	37.3	25.2	29.6	14.8	12.9	51.5	20.9	25.4
10,000-19,999	77.1	43.1	23.8	29.5	16.5	11.2	39.5	20.5	16.2
20,000-49,999	70.9	42.3	20.1	27.8	17.1	9.1	44.6	17.5	23.1
50,000-99,999	100.7	56.5	28.2	36.6	20.2	13.6	26.6	10.5	14.6
100,000-	44.3	23.2	17.1	22.3	10.7	10.5	20.5	8.0	11.6
National average	63.9	33.1	23.2	29.1	14.4	12.8	32.3	13.0	17.1

Source: FoB (1970-VI), table 1.

ment of urban places (both in terms of the market situation
and in terms of building permits supplied by the local
planning agencies). During the 1960s, a shortage of
apartments was considered to hamper population growth
in many places. Ohre-Aldskogius studied population growth
in 14 large and medium-sized urban regions. With popula-
tion growth 1950 - 1960 as the dependent variable in a
multiple regression analysis, residential housing con-
struction was found to explain most of the variance in the
dependent variable.[13] Obviously the reversed relationship
is equally plausible depending on the local market and
planning situation.

Finally, the map *Retail Trade 1970* clearly indicates
a highly concentrated retailing in Sweden. The map shows
the economically active day-time population engaged in
retail services as a percentage of the population in each
urban place. On an average places with more than 5,000
inhabitants fall close to the national average (4.0 per
cent, Table 7.5). The map suggests that older centers,
established in pre-industrial Sweden, tend to have a some-
what more labor-intensive retail structure than later
established manufacturing places. An explanation to this
observation could be that older places traditionally have
had large trading areas and an initially large number of
small outlets.

In summary, the residential pattern that has evolved is
presently much dependent on a high standard of personal
transport. In our local subsystems of interconnected
places, satellites are predominantly places of residence
comprising mostly one- or two-family houses. The
satellite populations rely on the cores for work and
service; private car ownership seems to be imperative.[14]
A new phase of the Swedish regional development program
envisages a policy for the settlement system based on sub-
systems of interacting places.[15] A basic model behind

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[13] Ohre-Aldskogius (1968)

[14] See, e.g. Hägerstrand (1972) and Mårtensson (1974) who
show that lack of public transport facilities in settle-
ment systems of this kind sometimes makes a privately
owned car almost imperative.

[15] See, e.g. SOU (1974-I) and ERU (1974)

this policy has been Hägerstrand's time-space geography
of society.[16]

Table 7.5. Retail trade. Employment, percentage of popu-
lation, by size of urban places (1970).

Size (inhabitants)	Sweden Total	Sweden Total, Metropolitan areas excluded
200- 499	2.2	2.2
500- 999	2.5	2.5
1,000- 1,999	2.9	3.0
2,000- 4,999	3.4	3.6
5,000- 9,999	4.0	4.4
10,000-19,999	4.2	4.6
20,000-49,999	4.2	4.6
50,000-99,999	4.5	4.6
100,000-	4.6	-
National average	4.0	

Source: FoB (1970-VIII), table 4.

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[16] Hägerstrand (1970). A summary in English of
Hägerstrand's basic time-space budget model is available
in Pred (1973:36-50).

Appendix

BREAK-DOWN INTO MAJOR REGIONS

   The two-digit code denotes A-region and the four-digit
code denotes municipality according to the subdivision
as of 1 January 1973. See SCB (1972 a).

Norrland Interior

A-region   55 except 2010 Malung
and
A-regions 57-70 except:
                        Norrland Coast:

                        2501 Piteå
                        2502 Älvsbyn
                        2505 Luleå
                        2506 Boden
                        2401 Umeå
                        2402 Nordmaling
                        2404 Vännäs
                        2405 Robertsfors
                        2406 Skellefteå
                        2202 Sundsvall
                        2204 Timrå
                        2205 Härnösand
                        2206 Kramfors
                        2209 Örnsköldsvik
                        2110 Nordanstig
                        2109 Hudiksvall
                        2105 Söderhamn
                        2106 Bollnäs
                        2107 Ovanåker

Svealand North-West

A-regions 52, 53, 44, 43

and

```
2010 Malung
1714 Torsby
1717 Hagfors
1703 Filipstad
1718 Munkfors
1713 Sunne
1504 Mellerud
1503 Färjelanda
1413 Munkedal
1415 Strömstad
1414 Tanum
```

Sweden Central and South

Residual areas

SUBREGIONS OF SWEDEN CENTRAL AND SOUTH

Småland

A-regions 11 - 23

and

```
1512 Herrljunga
1513 Ulricehamn
1514 Tranemo
1515 Svenljunga
```

Skåne and West-Coast

A-regions 24 - 33

and

```
1516 Mark
1517 Borås
1505 Vänersborg
1506 Trollhättan
1507 Lilla Edet
1601 Grästorp
1409 Orust
1410 Uddevalla
1411 Lysekil
1412 Sotenäs
```

Central Sweden

Residual areas

Metropolitan areas

A-region

01 (Stockholm)
28 (Malmö)
33 (Göteborg)

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ning i tätorter. (*Population and Housing Census 1970:2.*
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ning i hela riket och länen, utlänningar och utrikes föd-
da personer mm. (*Population and Housing Census 1970:3.*
Population in the whole country and in the counties,
aliens and foreign-born persons, etc.) Stockholm:
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methods, population dvelopment etc.) Stockholm: Statis-
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arbetande befolkning efter näringsgren mm i kommunblock,
kommuner och tätorter. (*Population and Housing Census:
1970:5.* Economically active population by industry,
age etc. in co-operating communes, communes and locali-
ties.) Stockholm: Statistiska centralbyrån, 1973.

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heter och hushåll i kommunblock och tätorter mm. (*Popula-
tion and Housing Census 1970:6.* Dwellings and house-
holds in co-operating communes and localities, etc.)
Stockholm: Statistiska centralbyrån, 1973.

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värvsarbetande dagbefolkning efter näringsgren, yrke mm
samt utpendling och inpendling i kommunblock, kommuner
och tätorter. (*Population and Housing Census 1970:8.*
Economically active day-time population by industry
and occupation and commuting in co-operating communes,
communes and localities.) Stockholm: Statistiska central-
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(*Population and Housing Census 1970:10.* Industry,
occupation and education in the whole country, by county
etc.) Stockholm: Statistiska centralbyrån, 1974.

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och utförande. (*Population and Housing Census 1970:12.*
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FOUR MAPS

OF

SWEDEN

FOUR MAPS OF SWEDEN

In each map, symbols are proportional to the population in 1970.

Sources:

Folkräkningen den 1 november 1960:VI. (Census of the Population in 1960:VI.)

Statistiska Meddelanden (Statistical Reports), Be 1972: 9,12; 1973: 2,6.

Urban Change 1960—1970

National average increase

All urban places: 20.6 per cent.

Cohort of places existing in all three census years: 19.9 per cent.

Sources:

Folkräkningen den 1 november 1960:VI. (Census of the Population in 1960:VI.)

Statistiska Meddelanden (Statistical Reports), Be 1972: 9,12; 1973: 2,6.

Journey to Work 1970

Economically active day-time population as a percentage
of economically active night-time population.

Houses 1970

One- and two-family houses as a percentage of the total
number of residential units.

Retail Trade 1970

Economically active day-time population in retail trade
as a percentage of the population in each urban place.

URBAN CHANGE 1960—1970

Decrease
◯

New places
⊙

Increase (per cent)

⬤ 0.00—19.89

⬤ 19.90—49.99

⬤ 50.00—

National average increase 19.9 per cent.

0   50   100km

200 – 500 – 750 – 1000 – 1500   10000   100000   1000000 Inh 1970
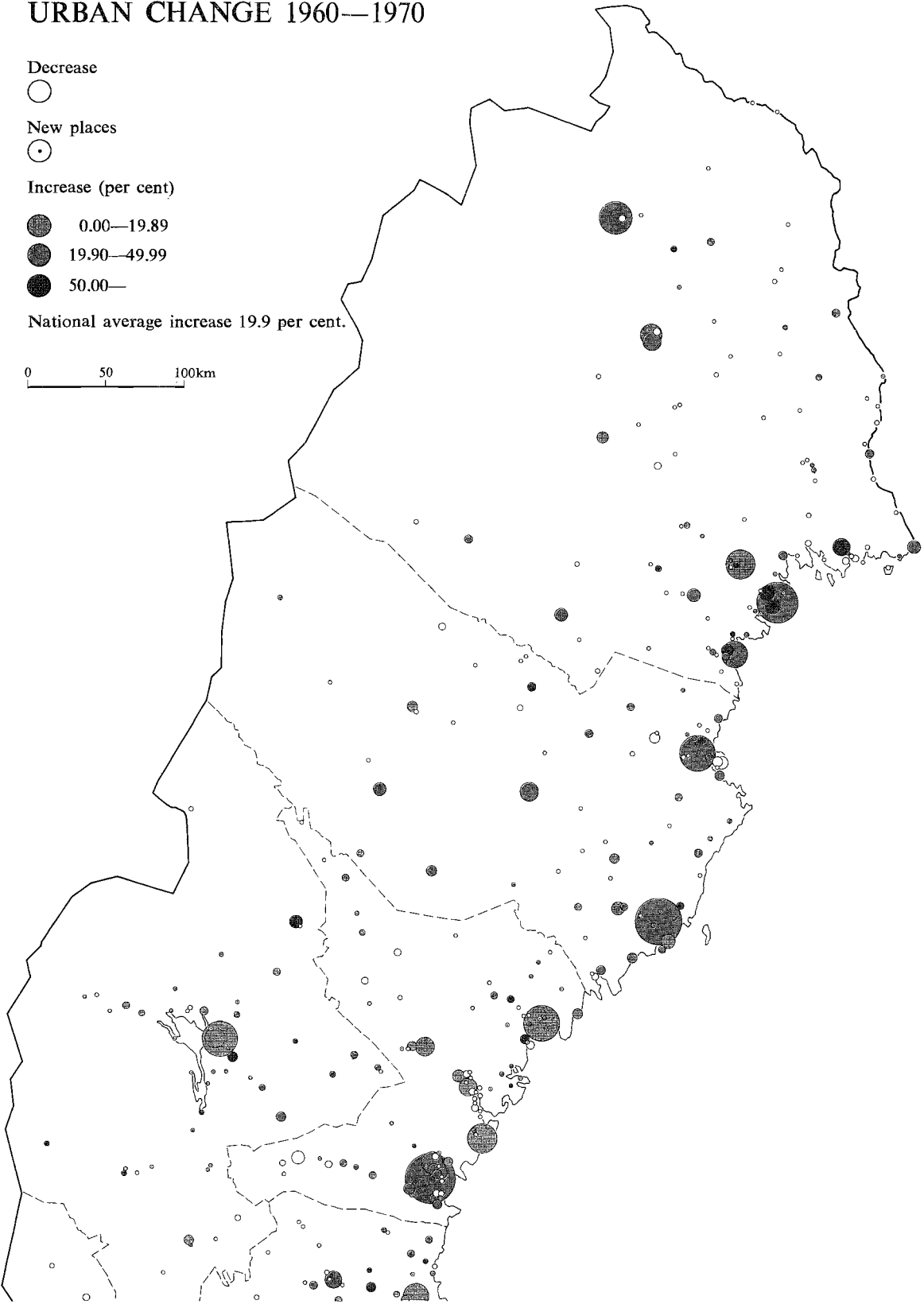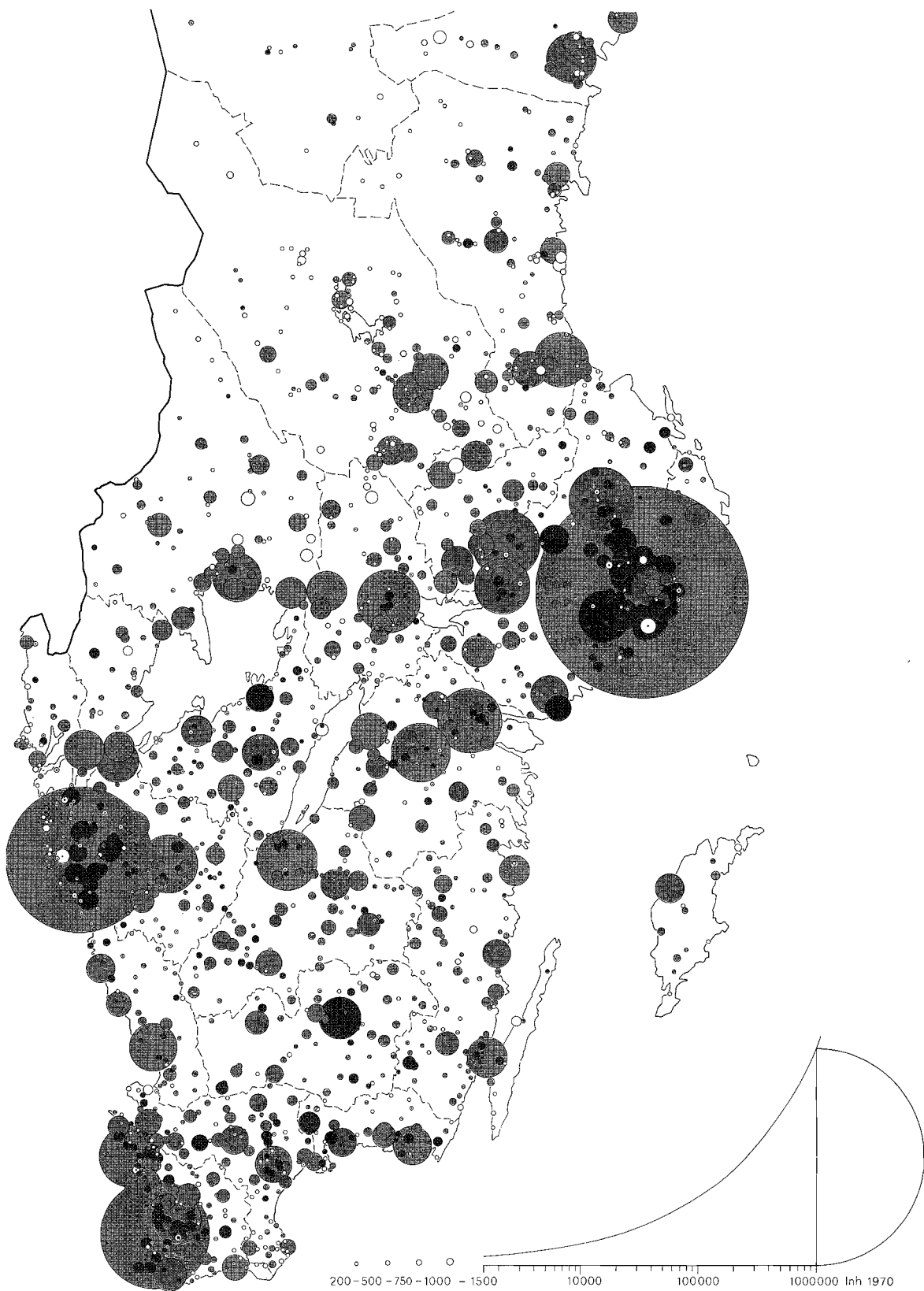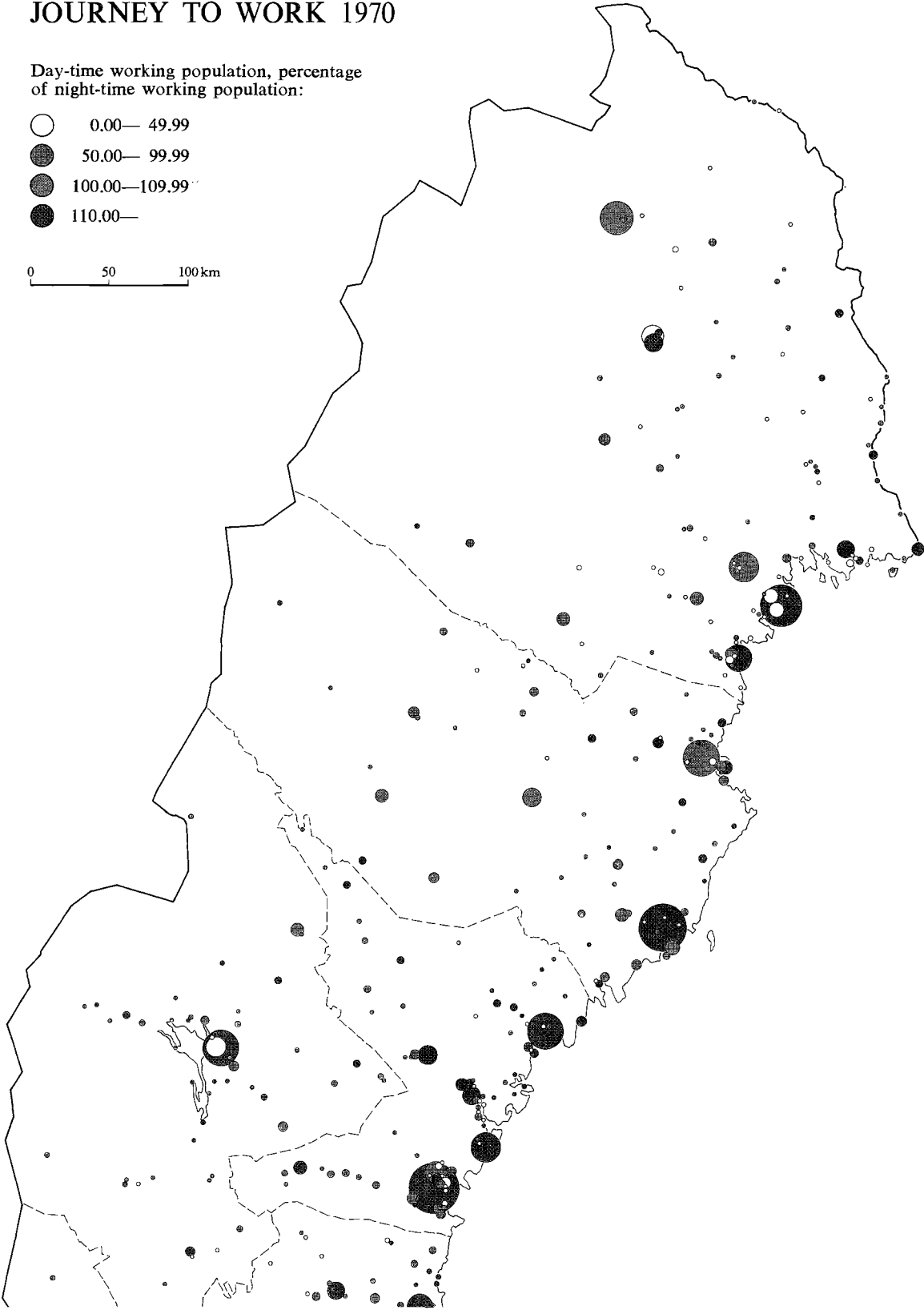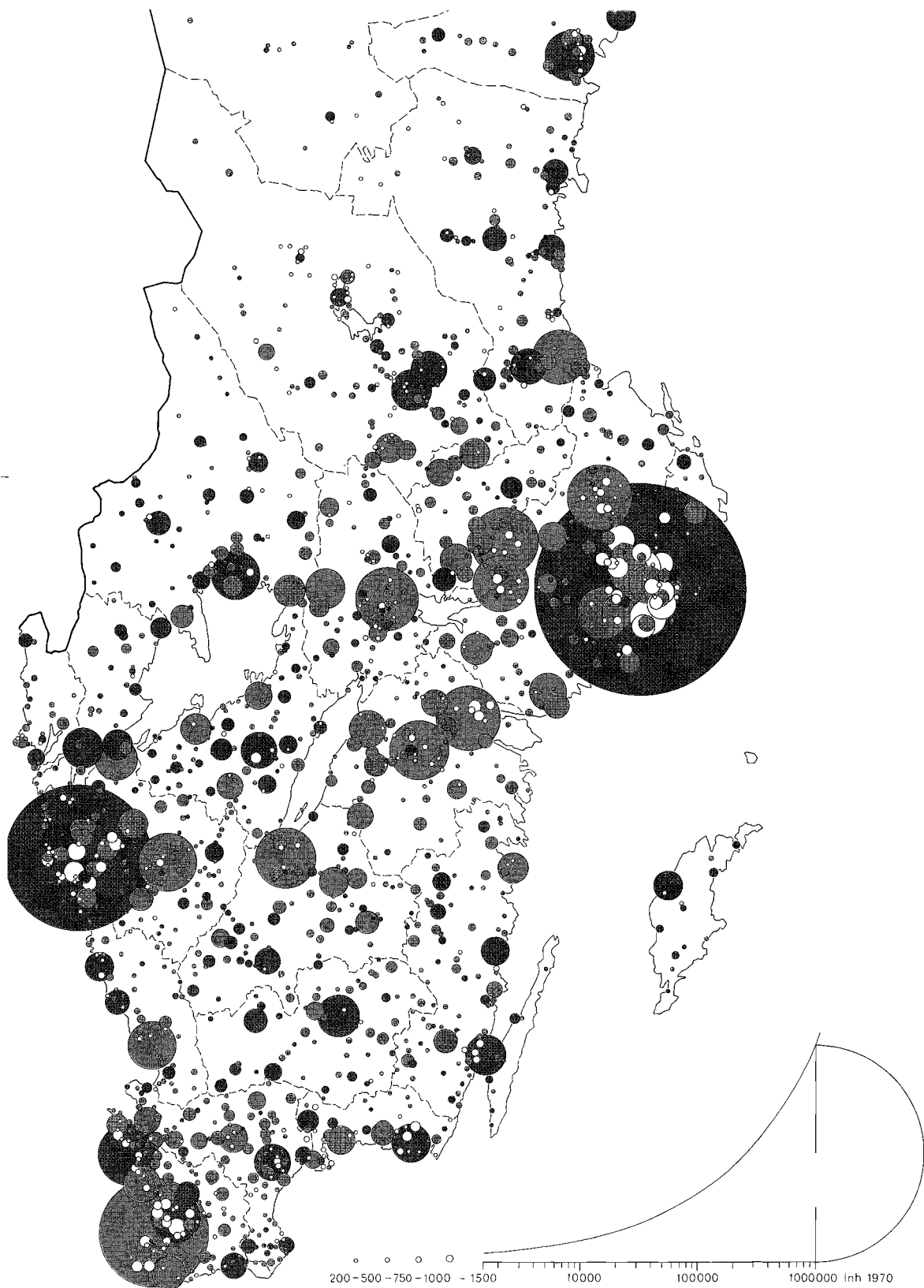
JOURNEY TO WORK 1970

Day-time working population, percentage
of night-time working population:

○ 0.00— 49.99

◔ 50.00— 99.99

◑ 100.00—109.99
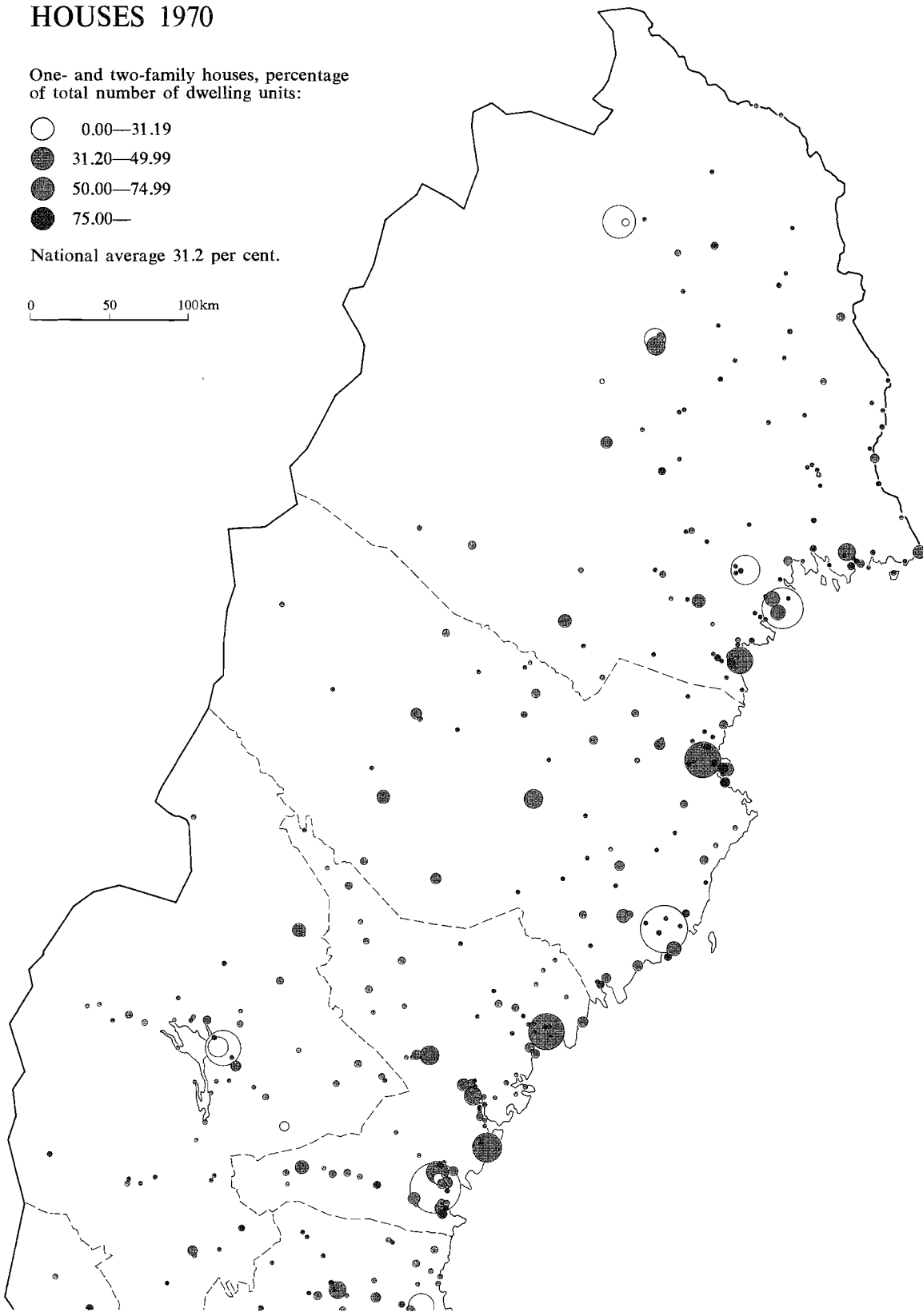
● 110.00—

0   50   100 km

200 – 500 – 750 – 1000 – 1500   10000   100000   1000000 Inh 1970
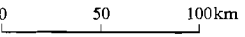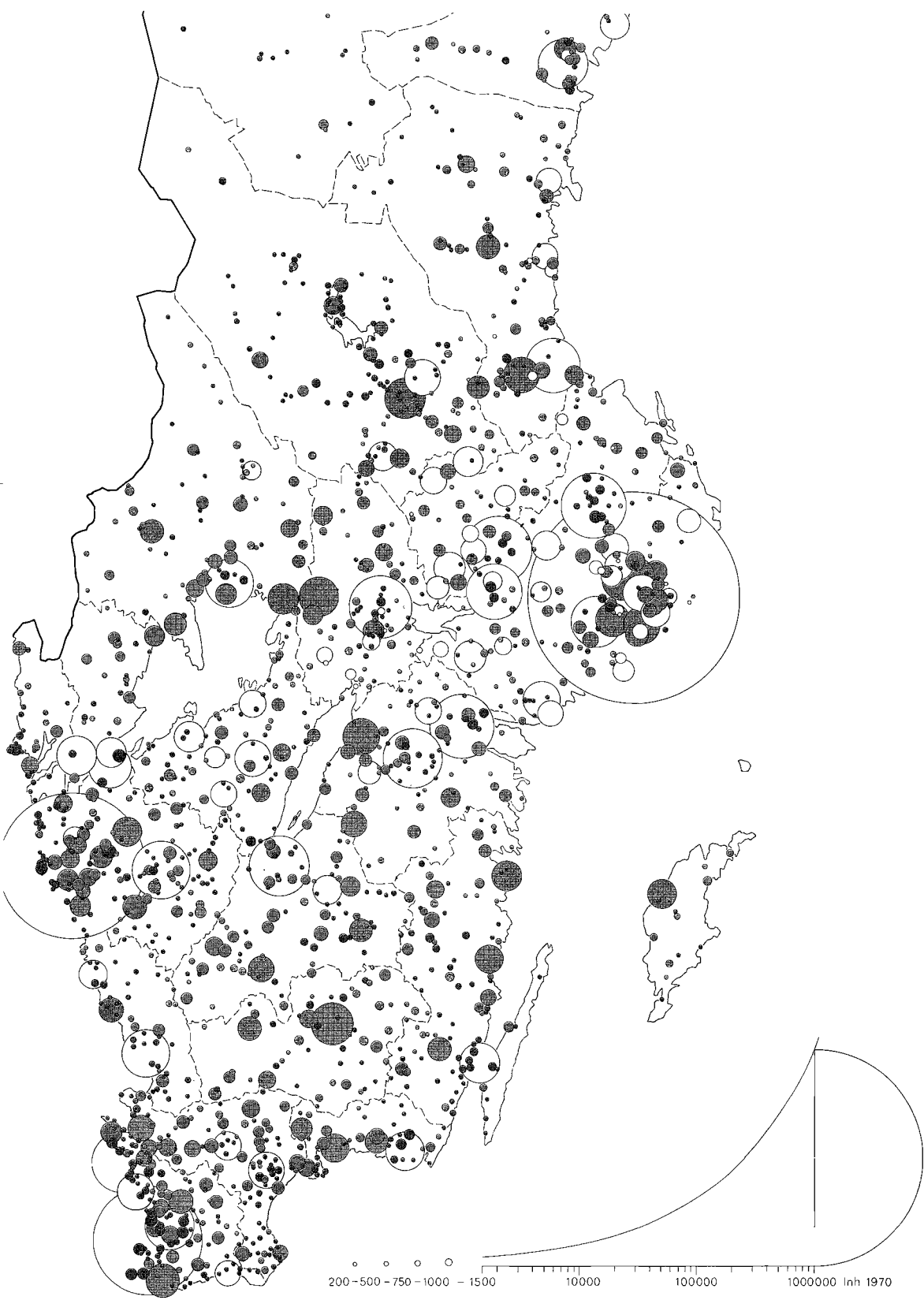
HOUSES 1970

One- and two-family houses, percentage
of total number of dwelling units:

○   0.00—31.19

◕   31.20—49.99

◔   50.00—74.99

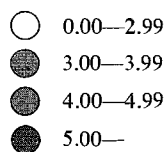●   75.00—

National average 31.2 per cent.

0   50   100km

200 – 500 – 750 – 1000 – 1500   10000   100000   1000000 Inh 1970

RETAIL TRADE 1970

Employment, percentage of population:

◯ 0.00—2.99

◉ 3.00—3.99

◉ 4.00—4.99

● 5.00—

National average 4.0 per cent.

0   50   100km

200 – 500 – 750 – 1000 – 1500   10000   100000   1000000 Inh 1970