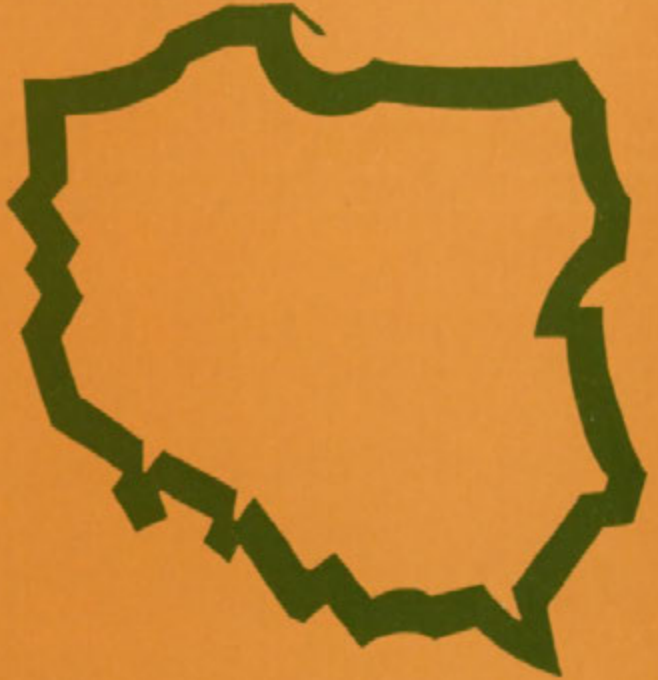


**POLISH ACADEMY OF SCIENCES
INSTITUTE OF GEOGRAPHY AND SPATIAL ORGANIZATION**

GEOGRAPHIA POLONICA

66



**URBAN SYSTEMS
AND REGIONAL CHANGE**

**EDITED BY
PIOTR KORCELLI**

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FOREWORD

The primary focus of this volume is on present-day urban and regional change that accompanies the political and economic transformation in East-Central Europe. Developments observed in the region are confronted with contemporary urban, migration-related, and spatial economic trends in countries such as Italy, Spain, Australia and Japan. The introductory article by P. Korcelli questions the reference of some of the "common knowledge" concerning urban structure and urbanization patterns in East-Central Europe. An analogous issue is addressed from a different perspective at the end of the volume by H. van Zon who emphasizes the specific nature of regional development problems in Central and Eastern Europe.

The remaining contributions are mainly of empirical character. T. Czyz arrives at a new regionalization of Poland on the basis of an analysis of the population potential patterns. A. Beer demonstrates the impact of Australia's recent economic restructuring upon its national urban system, in particular the growing importance of "regional cities" as locations for expanding economic sectors and new activities. Recent changes in the Italian urban system, including marked shifts in the distribution of economic functions as well as a contraction of the number of smaller towns are documented in the paper by E. Lemmi. Nauharu Fujita portrays the process in which Japan's industrial and financial corporations have expanded their locational networks so as to much the national urban hierarchy.

In the next article J. Parysek and J. Kotus give an overview of urbanization processes in Poland between 1950 and 1990, by focusing on the rate-of-population change trajectories for urban places arranged by several city-size categories, Z. Rykiel traces the shifts in the character and spatial location of Poland's economic core regions, following the country's transition from "realistic socialism" to the early stage of market economy, and, prospectively, to a mature economy system. The article by I. Bodega-Fernandez et. al. introduces the theme of international migration. The growth of immigration to Spain and the evolution of Spanish migration policies, since the country's access to the European Union, may carry important lessons for the future of East-Central Europe. Another type of implications for the region are found in the article by M. Lazzeroni, who discusses the characteristics of science and technology parks in Western Europe and suggests possible similar initiatives to occur in the countries of East-Central Europe.

Earlier versions of the articles by P. Korcelli, A. Beer, and E. Lemmi were presented at the International Geographical Union Conference on Environment and Quality of Life in Central Europe, held in Prague between 22-26 August, 1994.

The article by H. van Zon is based on a paper presented at the conference on regional industrial restructuring, held in Cracow, 1995.

Editor

URBAN RESTRUCTURING IN EAST-CENTRAL EUROPE: SELECTED QUESTIONS

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ABSTRACT: Several counterinitiative arguments related to urban development in East-Central Europe are proposed in this article. Firstly, the concept of the socialist city is shown to be only partly relevant in the present context. Secondly, limited evidence is found in support of the often anticipated rapid population concentration in the national urban systems. Thirdly, major metropolitan centres in East-Central Europe are shown to be entering into competition with their counterparts in West-Central Europe. This process may even overshadow the so far dominant patterns of metropolitan interdependence within the region.

KEY WORDS: Urban restructuring, national urban systems, metropolitan centres, the socialist city, East-Central Europe.

INTRODUCTION

The changing face of cities represents an important measure if not a symbol of the political and economic transformation in East-Central Europe. Yet relatively few aspects of recent urban change have so far been documented in the available scientific and planning literature. The most recent census data refer to the socialist past, while a lot of new, relevant survey data still awaits analysis and interpretation. Hence, any generalizations tend to rely to a substantial degree still on speculations rather than on empirical evidence. Such is also the character of this brief state-of-art review which focuses on three interrelated themes: (a) prospects for market transformation of the socialist city, (b) concentration and deconcentration trends in national urban systems, and (c) international level competition between individual large metropolitan centres.

THE SOCIALIST CITY HERITAGE

Questions concerning the specific nature of "the Socialist city" have been raised by many authors. Typically, their answers were affirmative. Cities in

centrally planned economies were found to display a number of common features that distinguished them from urban centres developing under market economies. The rules concerning land ownership and urban land development represented perhaps the most distinct element in this respect. Other characteristics referred to the allocation and management of housing, the principles of land use and architectural design, the centralized provision of services and utilities, the dominance of public transportation. The mechanism of land rent generally did not apply and social policies aimed at minimization of disparities across urban space.

There were, however, important doubts as well. Studies in urban social ecology involving individual large cities in East-Central Europe (by Musil 1968; Weclawowicz 1975; Dangschat 1987, among others) clearly documented the existence of spatial variations in the social status of individual districts, the kind of variations that could be only partially interpreted in terms of an incomplete elimination of historical, i.e. pre-socialist patterns. To Western observers such present-day variations typically represented distortions (non-systemic inequalities, see Smith 1989), or planning failures to achieve the equity goals (French and Hamilton 1979). Once adequate resources become available, those authors were assuming, the original socialist city models, the "blueprints for development", would become reality.

Such a perspective was absent from a number of critical studies conducted by the insiders, the authors who were pointing at a more fundamental nature of intraurban social variations to be found in countries of the so-called realistic socialism. Thus, social disparities have been attributed to persistent class differentiation of socialist societies (Szelenyi 1983), to the occupational structure of the population (Ladanyi 1991), as well as to spatial demographic patterns related to temporal regularities of urban growth (Weclawowicz 1988). In fact, several dimensions were identified in the light of which the contemporary, large cities of East-Central Europe appeared to represent members of the class of Western cities rather than of the Socialist city category. The behavioural factors, it was suggested, played an important part in shaping the cities of East-Central Europe. The collectivist values represented by official policy fell short of determining the location and allocation decisions taken by individuals. Instead, such policies were providing some sort of boundary conditions within which the great majority of decisions had to be accommodated.

These arguments, even though they may sound somewhat overextended, have been strongly supported by newer empirical evidence. The orthodox planning goals and policy instruments of the 1950s were later generally rejected and replaced by more liberal, quasi-market oriented approaches. The gradual introduction of market rules (including privatization) in the housing sector, together with increasing spatial mobility of the population (facilitated by improving access to private automobiles), brought about a deepening of intra-urban social disparities during the 1970s and the 1980s. One could indeed speak of indications of a convergence process leading towards an

emergence of spatial patterns analogous to those found in cities of Western Europe.

Such conclusions may bear on our expectations and forecasts concerning the pace and scope of transition towards a market-oriented system. The urban transformation may seem to be more straightforward and rapid than it was generally assumed. Naturally, there are important factors that will hinder the transition process as well. These include the unsolved questions concerning the ownership of urban land, as well as all problems related to housing costs and subsidies. Even if the "socialist layer" is quickly covered by new developments spawned by expanding market forces, it will definitely persist as a major component of urban structure even in the long term.

CONCENTRATION VERSUS DECONCENTRATION IN THE URBAN SYSTEMS

National urban systems in East-Central Europe underwent a gradual albeit rather slow concentration, as shown by the evolution of the city-size distributions, during the last four decades. In spite of considerable differences in economic development, the level of urbanization, and the spatial structure of settlement in individual countries, a number of common features could be observed in the patterns of urban change throughout the region (Korcelli 1990).

Firstly, most of the small towns, below 10 thousand inhabitants, were losing population both in relative and absolute terms. The biggest relative gains occurred in middle-size cities, typically those in the population categories of 20-50 thousand and 50-100 thousand inhabitants.

The large cities experienced population growth at rates comparable to the total urban population growth. These cities (in particular the capital cities) were in fact subject to various growth controls and growth limitation policies.

Secondly, the patterns of inter-urban migration conformed to the urban hierarchy. Destination-specific rates of outmigration from smaller to larger urban places were typically higher than the rates referring to the reverse flows. Migration towards the largest urban centres represented a major aspect of population mobility, even though the total intensity of internal migration declined over time.

Thirdly, some indications of population deconcentration within the metropolitan areas began in the late 1960s, but the process was still very weakly advanced in the late 1980s. Generally, trends towards deconcentration of population and economic activity from cores to rings within metropolitan areas, and from metropolitan to non-metropolitan areas in centrally planned economies were much weaker than in market economies at comparable levels of urbanization and development. Some of the reasons for these differences could be traced to specific intersectoral proportions. As a centrally-planned economy was putting the heavy emphasis on the expansion of the industrial base, it was discouraging the growth of the tertiary sector. The service

activities, being relatively scarce, tended to maintain a clustered pattern which, in turn, discouraged residential deconcentration.

What are then the expectations concerning future development of urban systems in East-Central Europe? First of all, one might assume that the capital cities, once relieved of any growth controls, would begin to attract an increasing volume of migrants from smaller towns and other regions. On the other hand, those urban regions whose economic base was heavily dominated by manufacturing industries (especially those which, like in the case of defence industries may be quite vulnerable to political change, or to liberalization of trade, for example electronics and textile industries), would stagnate or begin to contract in terms of population numbers. The same may apply to a number of middle-size, predominantly industrial towns. Secondly, one may anticipate an emergence, in fact a re-appearance of inter-regional differences in urban development, the kind of traditional economic and social disparities that a centrally-planned economy tended to neutralize. Some of these disparities may now assume a core-periphery, or a west-east gradient.

Nevertheless, the urban change, at least the one measured in terms of population redistribution, will be (as it has been since 1989) retarded by a few important factors as well. When referring to forecasts concerning the development of capital cities one has to consider the fact that in the recent past these cities were subject not only to growth controls, but also to powerful growth stimuli represented by the burgeoning industrial management and ever expanding bureaucracy of the socialist state. Some of these pressures seem now to have been lifted. Also, the capital regions may, and in fact already have shed some of their overgrown industrial functions. Warsaw, for example, has lost more manufacturing jobs than any other city in Poland since 1989.

Also, the countries of East-Central Europe experience a rapidly declining, in some instances negative demographic growth. This is accompanied by a secular decline in spatial mobility of the population. Although larger cohorts will be entering the labour market during the late 1990s, the total volume of internal migration is not likely to assume the high levels observed during the 1960s and the 1970s. Therefore, one can envisage a situation in which demographic stagnation, when coupled with inertia of the existing infrastructure, will work to produce a rather high stability of national urban systems in East-Central Europe over the next decades. The question to be posed in this context is whether such a stability would be compatible with a rapid economic transformation of the region.

COMPETITION BETWEEN METROPOLITAN CENTRES: INTERNATIONAL LEVEL

Several authors have advanced hypotheses concerning possible developments at the upper levels of urban hierarchy in East-Central Europe that in fact run partly against our earlier statement concerning stability in urban systems.

In particular, Hall (1990) maintains that the entire European urban system may be profoundly affected by the integration of East-Central Europe. As he claims: "Berlin and to some extent Vienna — may well recapture much of their former roles as key junction points for international traffic, making them much more attractive for high-level service activities. Currently there is no such city in this part of Europe; there is a vacuum to be filled". This was written at the time (1989) when the two cities still performed the role of "shopping centres for the COMECON countries" (Lichtenberger 1987). Since then the main stream of shoppers has turned east: for example, more than 40 million shopping trips were made across the German-Polish border in 1994. Prague, Budapest and Warsaw have "recaptured" some of their former functions, and have acquired new functions as well (some other, especially manufacturing functions have contracted in the process). Nevertheless, the question remains as to the future role of these capital cities. Should any of them develop into a truly transnational centre, or should their hinterlands continue to correspond mainly to the respective national territories? Or, should a specific division of labour emerge, one in which each of the capitals performs certain high-ranking service functions on a transnational scale?

The position of Berlin among the large metropolitan centres in the region is potentially the strongest but at the same time clouded by a number of uncertainties (Stadtforum 1994). It is not even totally clear what role the city assumes within Germany once it fully regains its status of the capital. Paradoxically, if Berlin fails to assume a dominance in the national urban system and remains just "the first among the equals" vis-a-vis other major German metropolitan centres, this may actually enhance its role to be played in East-Central Europe.

The situation of Warsaw is in some respects analogous to that of Berlin. In Poland, Warsaw shares the high-ranking commercial functions with the cities of Poznań and Gdańsk; it is challenged as a cultural capital by Cracow, and falls behind the Upper Silesian conurbation in terms of population size and market potential. Still, as the political capital of a country with the population of almost 40 million, Warsaw is to a much greater extent dependent upon its role performed within Poland (and the progress of economic transformation of Poland as a whole) than on its prospective transnational functions (Korcelli et al. 1994).

This leaves the cities of Vienna, Prague and Budapest as the main competitors for high-ranking functions in the region (see also Fassmann 1994), although, as Hall (1990) suggested, Vienna will in any case maintain its role of the eastern outpost of Western Europe. Global functions (see: Bourne 1993) are crucial to the development of each of these metropolitan centres whose traditional hinterlands considerably exceeded the extent of the national urban systems of today. Strangely enough, each of the three cities can gain in the process which is likely to help to attract a considerable volume of investments but also future international migration into East-Central Europe.

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APPLICATION OF THE POPULATION POTENTIAL MODEL IN THE STRUCTURAL REGIONALISATION OF POLAND

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ABSTRACT: The application of population potential in the research procedure employed to arrive at Poland's structural regionalisation allows three main tasks to be solved: (1) determining the interaction in the urban system, (2) establishing macroregional nodes, and (3) delimiting peripheral zones of macroregions. The configuration of the potential surface and membership functions indicates the spatial structuring of socio-economic reality at the level of population interaction. It helped to distinguish 9 macroregions in Poland in 1992.

KEY WORDS: structural regionalisation, spatial interaction, population potential, macroregions of Poland.

INTRODUCTION

The cognitive aim of the present work is the structural regionalisation of Poland in a socio-economic aspect. Another goal is methodological: the potential model is introduced into empirical studies of the regional structure.

The structural regionalisation of Poland consists in the recognition of structural elements of the complex socio-economic reality that make up its regional system. Regions understood as such structural elements are concrete territorial socio-economic systems. They are complex territorial wholes distinguishable from their surroundings by their internal links. Hence, the complex system of socio-economic links connecting towns is studied to distinguish them (Chojnicki, Czyz 1992).

The starting point in the research procedure aiming at the structural regionalisation of Poland is provided by two assumptions. The first assumption is that the study of the structure of Poland's socio-economic reality consists in the analysis of relations among towns with populations of over 10 thousand. This approach presupposes a reduction in the information about this reality.

It should be stressed, however, that leaving a part of the country's settlement system out of the study and focusing on the system of major towns means disregarding mostly local relations that are of little significance for the formation of the regional structure. The other assumption is that Poland's regional system is composed of the nodal regions of its large cities. The group of the latter is taken to include 11 major towns with the largest populations.¹

An explanation is necessary at this point. Nodal regions of large cities are higher-order units than the traditional functional urban regions. They differ not only in their spatial scale, but also in the nature of their links. The range of a functional urban region is delimited by the spatial ranges of daily contacts of the town's residents. An urban region in this sense "plays the role of a bridge between the scale of the town's internal structure and the scale of the regional and national settlement structures" (Korcelli 1981: 190). Therefore, to avoid terminological misunderstandings, I propose calling nodal regions of Poland's big cities their macroregions. Macroregions are sub-national units; their set exhausts the national territory.

A MODEL OF A MACROREGION

The concept of a macroregion in a structural-systems approach may be described as follows.

The principal node of a macroregion is a city that belongs to the subset of the largest cities of the country. Apart from it, the macroregion has a network of lower-order urban places. The main node and the lower-order nodes are elements of the internal structure of the macroregion. Its shape is defined by binding and spatial relations holding among the nodal towns. Real binding relations, or interactions, are generated and polarised by hierarchically arranged nodes of the macroregion's settlement system. Interactions occur when the nodes are functionally complementary. A dominant role in generating interactions is played by the main node in the form of a big city. The result of this polarisation of interactions is a pattern of connections oriented towards the main node of the macroregion and defining its range of impact, or its hinterland. In the external aspect, the surroundings of a macroregion embrace other macroregions of the same level with which the given macroregion is connected through interrelationships. The question that appears at this point is how to distinguish a macroregion from the surrounding macroregions, or how to delineate it. As a rule, the boundaries of a socio-economic macroregion are not clear-cut; they are fuzzy influence zones.

The presented model of a macroregion assumes that big cities play a major role in the formation of regions; it is also related to the concept of a polarised region. A large city performs the function of a growth pole in a macroregion

¹ Worth noting is the fact that this is the same set of regional centres that was identified by Rykiel and Zurkova (1981) in their study of the regional structure of migration.

and exerts an influence on the surrounding area; this influence diminishes with the distance. The spatial irregularity in the growth of a macroregion is accounted for by the growth pole theory, which traces the process of concentration of socio-economic activity at the pole and the spreading out of development impulses to other nodes in the region.

COMPONENTS OF A MACROREGION

NODES

The starting point in the procedure of structural regionalisation of Poland is the identification of its main macroregional nodes.

The country's principal system of settlement nodes consists of 408 towns with populations of over 10 thousand. The criterion used to define which of them are hypothetical nodes is the population size. The criterion may be regarded as secondary, because its underlying assumption is that towns which are the largest in population terms also have highly developed socio-economic functions that determine the force of their spatial impact.

TABLE 1. Population growth in large cities of Poland in the years 1975-1992

	Population in thous.					Population in 1992 with relation to the year	
	1975	1980	1985	1990	1992	1975	1985
	in %						
Warsaw	1436.1	1596.1	1659.4	1655.7	1644.5	14.5	-0.9
Łódź	798.3	835.7	847.9	848.2	838.4	5.0	-1.0
Cracow	684.6	715.7	740.1	750.5	744.0	8.7	0.5
Wrocław	575.9	617.7	637.2	643.2	640.7	11.3	0.5
Poznań	516.0	552.9	575.1	590.1	582.9	13.0	1.4
Gdańsk	421.0	456.7	468.6	465.1	461.7	9.7	-1.5
Szczecin	369.7	388.3	392.3	413.4	416.4	12.6	6.0
Bydgoszcz	322.7	348.6	366.4	381.5	383.6	18.9	5.0
Katowice	343.7	355.1	363.3	366.8	359.9	4.7	-0.9
Lublin	272.0	304.4	327.0	351.4	350.4	28.8	7.0
Białystok	195.9	224.2	250.8	270.6	274.1	39.9	9.0

The biggest cities in Poland include: Warsaw, Łódź, Cracow, Wrocław, Poznań, Gdańsk, Szczecin, Bydgoszcz, Katowice, Lublin and Białystok. Their 1992 populations exceeded 300 thous. (with the exception of Białystok with its 274 thous. residents), but they differ widely in size (Table 1). They are the main centres of mono- or polycentric urban agglomerations in Poland in which higher-order functions ascribed to those agglomerations are concentrated.

Thus, they occupy the highest position, in functional terms, in the country's urban system. By the classification based on the kind of functional dominance, they are service-industrial centres (Warsaw, Szczecin, Lublin), or industrial-service ones (Cracow, Poznań, Wrocław, Gdańsk, Katowice, Białystok), or industrial ones (Łódź, Bydgoszcz). The analysis of the population growth in the cities carried out for the years 1975-1992 shows that the relative increase ranged from 5% (Katowice, Łódź) to 30% (Lublin, Białystok). All the cities registered a high population dynamics in the period 1975-1985. Then, as Poland grappled with a crisis in the years 1985-1992, most of them showed stagnation, and it was only in Białystok, Lublin, Szczecin and Bydgoszcz where the population increased perceptibly (5-9%). The distribution of the big cities reveals significant disparities between the western and the eastern part of the country (8:3), which is connected with spatial differences in the level of socio-economic development.

It might be useful at this point to quote the results of Rykiel (1985). He analysed the spatial distribution of migration links among the main cities (without Lublin and Białystok) in 1978, and demonstrated that in the national pattern of links of each principal city there was a substantial proportion of links with its own region. This, he concluded, might be evidence of the region-building role of the city. Recognising migration as a highly representative index of socio-economic links, we can treat the above finding as one of the arguments justifying the *ex ante* definition of Poland's main cities as macroregional centres.

In the research procedure proposed, we shall test those hypothetical macroregional centres using the criterion of polarisation of interactions as expressed by population potential.

INTERACTIONS

The next step in the procedure of the structural regionalisation of Poland is defining measures to be used in assessing interactions among nodes.

Interactions take the form of economic links in the spheres of production and services. They shape a community's standard of living and its level of economic development (Chojnicki 1961, Domański 1970). An important role is also played by social links, with journeys to work and migration thought to be their most significant manifestations, because they are representative of a wider set of social and economic relations (Korcelli 1981). The choice of these measures is mainly determined by the availability of statistical data (Chojnicki, Czyż 1978, Rykiel 1985, Czyż, Kotkowski 1987, Potrykowska 1989, Gawryszewski 1989).

Relations between nodes are also defined on the basis of theoretical variables taken from the gravity and potential models. An especially useful measure is population potential (Chojnicki 1966).

The population potential of node i is a measure of the influence of the populations of all the other nodes of the system on node i increased by the influence of node i on itself. It can be expressed in the formula:

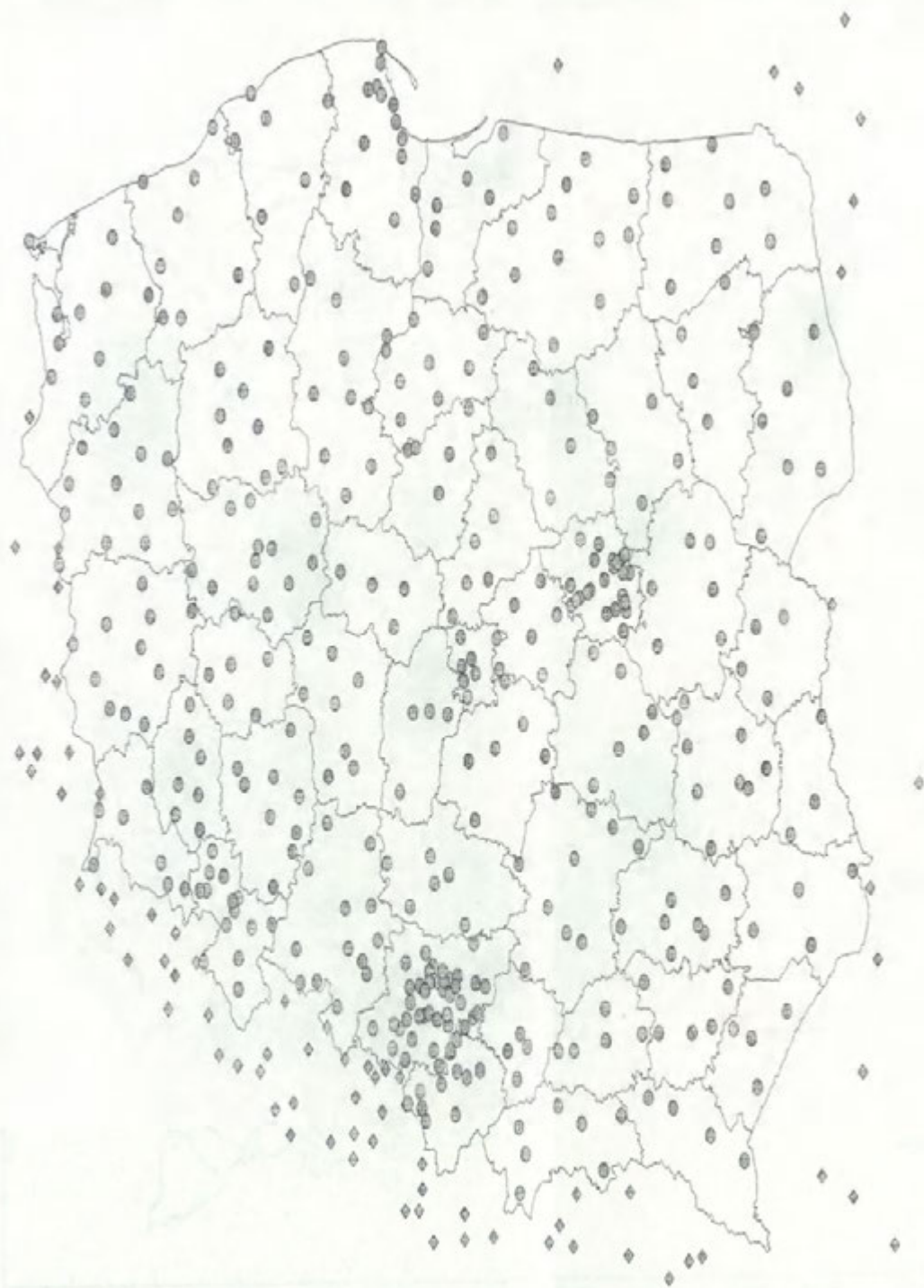


Fig. 1. The distribution of cities — reference points of population potential values

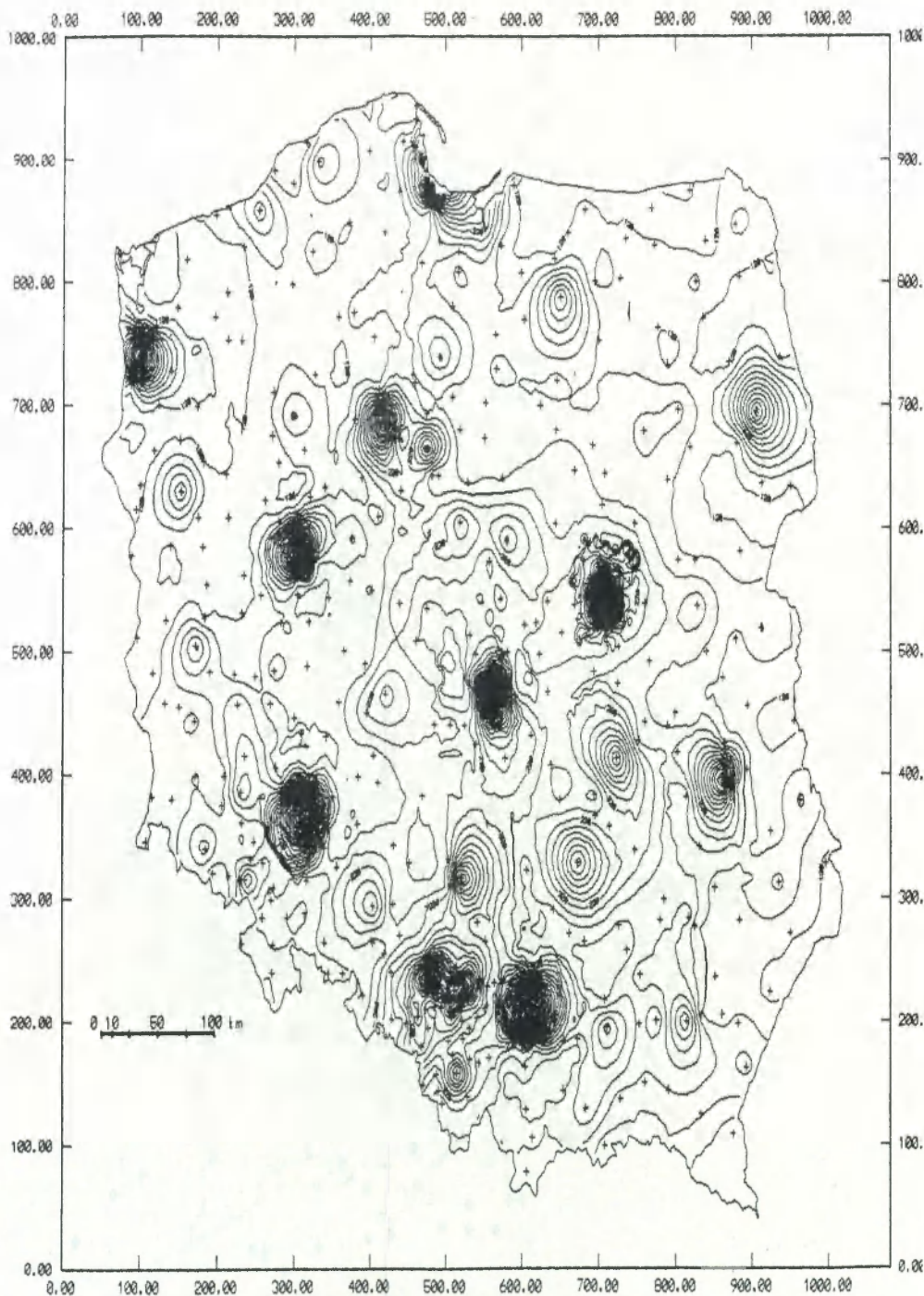


Fig. 2. The map of Poland's population potential in 1992

$$V_i = \frac{P_i}{d_{ii}} + \sum_{j=1}^n \frac{P_j}{d_{ij}}$$

where:

V_i = potential of node i

P_j = population size at node j

d_{ij} = distance between i and j

$\frac{P_i}{d_{ii}} = V_{ii}$ = self-potential of node i

In the context of the regionalisation procedure, potential is interpreted as a propensity for interaction, or as an indicator of possible interaction (cf. Rich 1980, Pooler 1987). Assuming each node affects another node, potential serves to measure the interaction. It defines the intensity of contact between the nodes, not only as dependent on their size, but also on their mutual locations, or the distance between them. It is a systemic measure, because in the model each node of the national system is characterised with reference to the other nodes (and itself).

Allowing for self-potential in the model equation means that the force of interaction is treated not only as a function of the 'emissiveness' of the origin, but also as one of the 'attractiveness' of the destination. The occurrence of self-potential as part of total potential clearly indicates a relationship between the potential model and the gravity model as a model of spatial interaction. However, the calculation of the self-potential of a node, or its potential with reference to itself, means adopting the assumption that the population at point i is at a finite distance from i . If the distance is equal to 0, or $d_{ii} = 0$, the value V_{ii} is infinitely large (cf. Chojnicki 1966). In the present research procedure it has been assumed that $d_{ii} = 1$.² As a result, the self-potential of a node (city) is equal to its population number, and is often a substantial part of its total potential. In this way, self-potential makes it possible to determine the degree of polarisation of the interaction within the node as measured by the spatial concentration of potential (i.e. the rate of self-potential to total potential).

In the present article, the population potential of cities is used as an interaction measure in the procedure of Poland's structural regionalisation.

It should be kept in mind that in the potential model the size of a node can be defined using a variety of indices. The most common ones are population and/or income, which leads to the definition of population potential and income potential.³ Studies of regional structure emphasise the greater cognitive value

² According to Pooler (1987), this means the introduction to the self-potential model of the exponential distance function, which helps avoid the problem of dividing by zero (i.e. by definition $e^0 = 1$).

³ In Polish geography, worth mentioning are the works in that field by Dziewoński et al. (1974), Czyż (1978), Andrejewska and Stryjakiewicz (1986).

of income potential than of population potential (cf. Isard, Freutel 1954, Chojnicki 1966, Coffey 1978). At the same time, however, the empirical research carried out to date has led to the conclusion that population potential shows a high correlation with a number of socio-economic phenomena. Spatial differences in many indices of the level of socio-economic development are related to the spatial variation in population potential (cf. Chojnicki 1966, Rich 1980, Pooler 1987). Population potential accounts to a high degree for the spatial pattern of goods, capital and information flows (Reed 1967, Warntz, Wolf 1971). Therefore, it can be treated as a substitute for many kinds of socio-economic interaction, which may perhaps justify its use in the study of regional structure.

It is also worth noting that a comparison of the maps of Poland's population potential and income potential, even though their reference is the country's voivodeship system, i.e. a system much more generalised spatially than the urban system, shows them to be closely similar (cf. Czyż 1985). In an analysis carried out for the 408 towns of Poland, positive and significant correlations have also been found between population potential and selected socio-economic indices for 1992 (industrial employment per 1,000 population, equilibrium on the labour market, the number of private commercial partnerships per 1,000 population). It seems, therefore, that population potential can be treated as an indicator of the level of socio-economic development. The reason why population potential was the sole magnitude used in the structural regionalisation of Poland was the lack of statistical data on income and other synthetic indices of socio-economic development in the pattern of the 408 towns.

STRUCTURAL REGIONALISATION OF POLAND USING THE POTENTIAL METHOD

The assumption made in the research procedure employed to arrive at Poland's structural regionalisation is that the application of population potential will help solve three research tasks. The first task is to specify the force of interaction among the basic settlement nodes of Poland. The second is to verify the macroregional nodes defined *ex ante*. The third is to assign all the basic nodes examined to the macroregional nodes, and to delimit macroregions.

The starting point is the calculation of Poland's population potential and its presentation in the form of a map of the potential. An analysis of the spatial distribution of the potential will help perform the three tasks, and as a result will lead to an outline of the regional structure of the country's socio-economic reality.

PROCEDURE OF POPULATION POTENTIAL CALCULATION AND CONSTRUCTION OF A POTENTIAL MAP

On a map of Poland at a scale of 1 : 700,000 a grid was superimposed in a Cartesian co-ordinate system (Y, X) with overall dimensions of 100 cm x 108 cm,

corresponding to a real area of 529,000 km². The grid co-ordinate system was used to determine the locations of the principal reference points of population potential. Each of them corresponded to town i from the set of 487 towns which embraced 408 Polish towns and 79 frontier towns of the neighbouring states belonging to the class of urban places with more than 10 thous. residents (Fig. 1). The inclusion in the set of towns situated across Poland's borders helped avoid deformations of the potential surface caused by the so-called 'boundary effect'.

Higher density of the reference points was obtained by the introduction of control points. To that end, a 150 x 150-vertex grid of rectangular basic units was generated in the co-ordinate system within the total area. The vertices formed a set of control reference points for which the potential created by the towns was to be calculated. A large number of reference points allows a more precise determination of the continuous potential surface.

The next step was to determine: (1) Euclidean distances between the 487 towns, and (2) Euclidean distances between each vertex k ($k = 1, 2, 3, \dots, 22,500$) and the 487 towns.

After the potential reference points and distance between them had been established, the population potential values were calculated in two stages:

(1) first, for the main reference points, i.e. the 487 towns, according to the formula:

$$V_i = \frac{P_i}{a_{ii}} + \sum_{\substack{j=1 \\ j \neq i}}^{486} \frac{P_j}{a_{ij}}$$

assuming $d_{ii} = 1$,

(2) second, for the control reference points, i.e. the 22,500 vertices of the grid, according to the formula:

$$V_k = \sum_{j=1}^{487} \frac{P_j}{d_{kj}}$$

As a result, a big number of reference points were obtained on the map of Poland ($408 + 22,500 = 22,908$) to which population potential values were assigned. With these points as a basis, equipotential lines were drawn using interpolation. The interpolation method employed was one, whose operational basis is the distance autocorrelation function. The isopotential lines were spaced at intervals of 20 thousand persons per km (Fig. 2).

A hypersurface of population potential was also obtained in the co-ordinate system (Y,X,V) (Fig. 3). In order to visualise isoline gradients, vertical profiles of the potential surface were made along lines joining peaks of potential (Fig. 4).

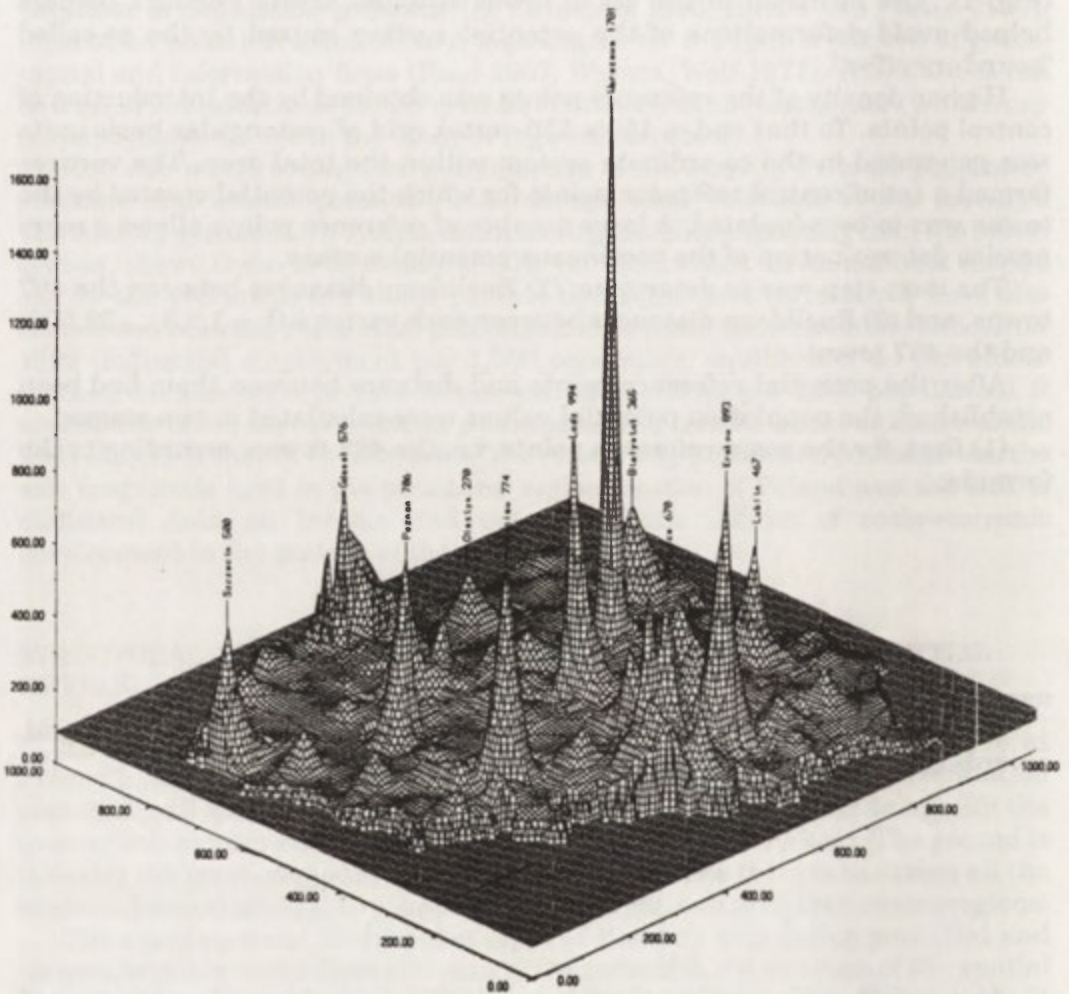


Fig. 3. The hypersurface of Poland's population potential (population potential in thous. persons per km)

The "POTENCJAŁ 1992" program which served to calculate population potential and Euclidean distances and to construct maps using computer-aided cartography was devised and executed by A. Mackiewicz and W. Ratajczak.

MACROREGIONAL NODES ON POLAND'S MAP OF POPULATION POTENTIAL

Population potential varies considerably in the pattern of towns, from 1,781,000 persons per km in Warsaw to 97,000 at Gołdap (the only town with a population potential of less than 100,000 persons per km), and averages 408,000 persons per km. There are 21 towns with potentials of over 400,000, including 14 where the index exceeds 500,000. For 26 towns the potential varies between 300,000 and 400,000 persons per km. 361 towns have population potentials of under 300,000 persons per km.

The pattern of equipotential lines on the map reflects the configuration of the potential surface⁴. Getting to know its relief is the starting point for a description of its complexity.

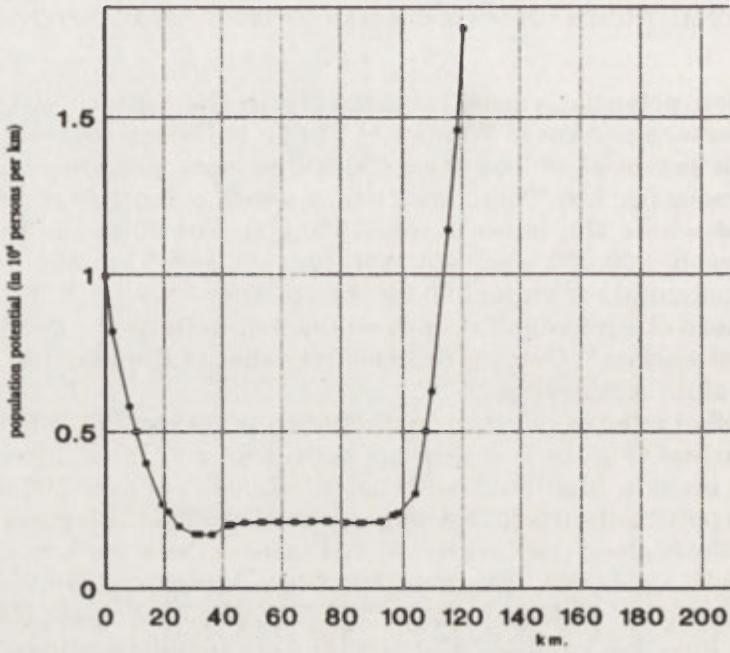
A diversified relief is a characteristic feature of the configuration of Poland's potential surface (Fig. 2). It consists of both large and small 'landforms'. The large forms include 'highlands' with potential peaks of over 500,000 persons per km. The potential surface is strongly peaked around the biggest cities, with Warsaw as the highest peak with its 1,781,000 persons per km. Other peaks include: Łódź (994,000), Cracow (894,000), Wrocław (774,000), Poznań (706,000), Gdańsk (577,000) Bydgoszcz (505,000) and Szczecin (500,000). All those cities have high indices of potential concentration, which express the ratio of self-potential to total potential. Their self-potential values are high, and range from 92% (Warsaw) to 75% (Bydgoszcz) of their total potentials. The highlands with peaks in those cities are clearly isolated, and the peaks are steep. Another major peak on the surface is Katowice with its total potential of 670,000 persons per km, but its potential concentration index is lower — 54%. It is the highest point of a massif with several peaks. The relation between the self-potential and total potential in this peak city is strongly influenced by the immediate or indirect neighbourhood of 13 Upper Silesian towns.

Isolated peaks of average potential values include Lublin (467,000 persons per km), Częstochowa (432,000), Radom (372,000), Białystok (365,000), Kielce (358,000) and Toruń (335,000). In this group only Lublin and Białystok have potential concentration indices equal to 75%; for the remaining peaks they vary between 60% and 62%.

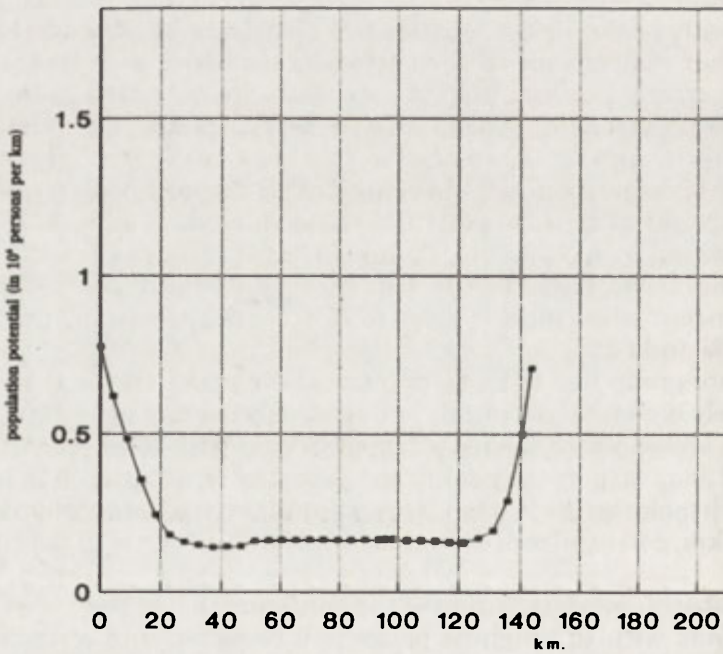
A separate group has to be distinguished for peaks on the potential surface with relatively high total potentials and relatively low self-potentials, and specific locations. It embraces 13 towns of Upper Silesia with total potentials between 637,000 and 385,000 persons per km and potential concentration indices from 9% to 40%, which make up the Katowice massif, and Gdynia (total potential of 379,000 persons per km, potential concentration index 66%), which is 'glued' to the Gdańsk peak.

In the subsequent description of the configuration of the potential surface, only highlands with the highest peaks will be taken into consideration. The

⁴ In the description of the configuration of the potential surface, terms describing the morphology of a physical surface are used by analogy. See Warntz (1964) and Chojnicki (1966).

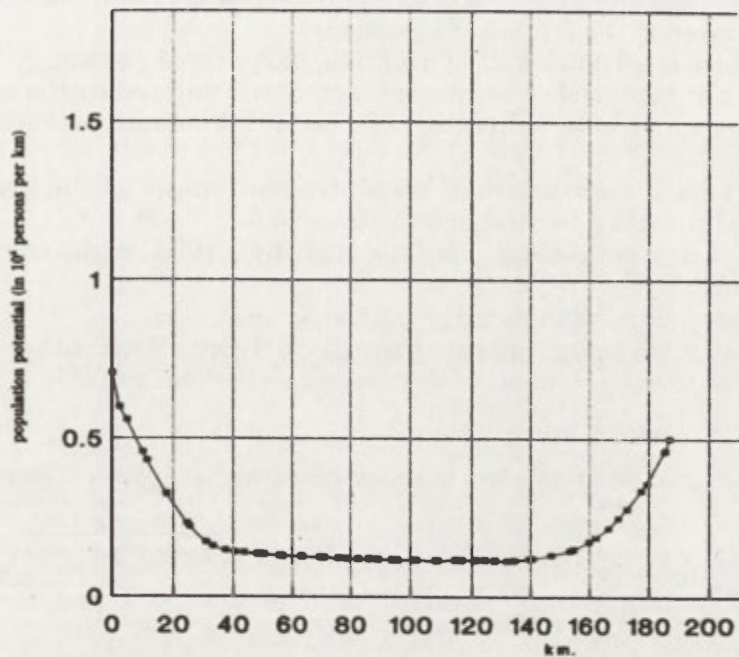


Łódź → Warszawa

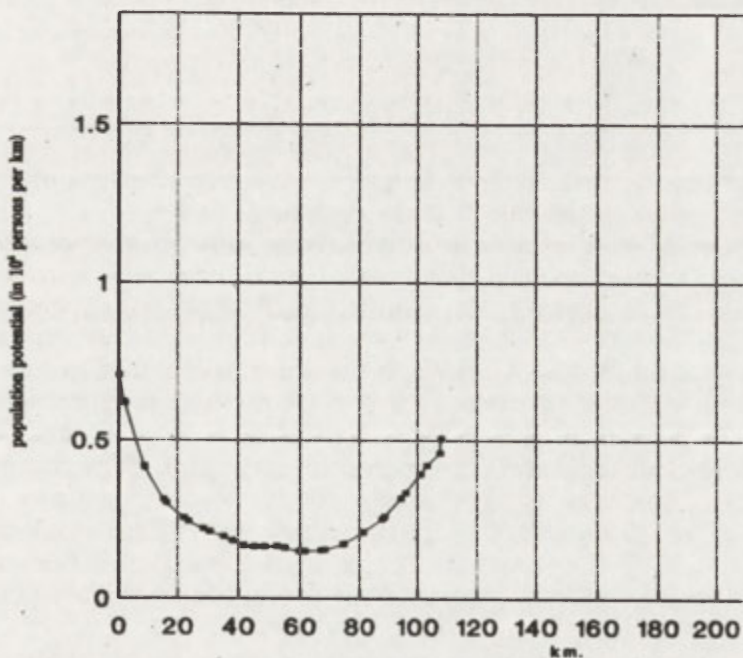


Wrocław → Poznań

Fig. 4. Vertical profiles of population potential surfaces — examples (1)–(4)



Poznan -> Szczecin



Poznan -> Bydgoszcz

class of high peaks of potential was eventually taken to include cities that fulfilled all three of the following conditions:

- (1) they had total potentials of over 500,000 persons per km,
- (2) their self-potentials exceeded the potentials induced by the other towns of the system, which meant that their self-potential/induced potential rate was greater than 1, and
- (3) as a result, their potential concentration indices as the proportion of self-potential to total potential had to exceed 0.5.

In this way, this class was formed by cities with the following characteristics:

- (1) a strong, more-than-average influence, and
- (2) the influence being generated largely by the city itself rather than by its relations with the other towns of the system under study (Table 2).

TABLE 2. Total potentials and potential concentration indices of large cities

	Total potential (in thous. persons/km)	Population (in thous.)	Induced potential	Self-potential Induced potential	Potential concentration index (in %)
Warsaw	1,781	1,644	137	12.0	92
Łódź	994	838	156	6.4	84
Cracow	893	744	149	5.0	83
Wrocław	773	640	133	4.8	82
Poznań	706	582	124	4.7	82
Katowice	669	359	310	1.2	53
Gdańsk	576	461	115	4.0	80
Bydgoszcz	505	383	122	3.1	75
Szczecin	500	416	84	4.9	83

By the above criteria, only 9 out of the 11 hypothetical macroregional centres could aspire to the role of main structural nodes.

Near the peaks, isolines are concentric. Areas in which the potential surface rises steeply towards a peak will be called round-the-peak surfaces. On the map, they take the form of very dense patterns of concentric equipotential lines drawn at constant intervals, and correspond to high potential gradients⁵. The boundary of a round-the-peak surface is the outermost closed isoline encircling the peak. Round-the-peak surfaces are most distinct on the highest peaks rising from the potential surface. Still, they differ in extensiveness, regularity of the isoline pattern, and the potential gradient. The boundaries of round-the-peak surfaces of high peaks are marked by isolines of varying potential values: from 360,000 persons per km (Katowice) to 180,000 (Szczecin). Generally, the value of the boundary isoline diminishes northwards, which is concordant with the main direction of slope of Poland's potential

⁵ A gradient is defined as the degree of change in potential (persons per km) per unit distance (i.e., persons per km²).

surface. Round-the-peak surfaces of high peaks are either regular or distorted. The most regular, concentric isoline patterns characterise those of Warsaw, Wrocław, Cracow and Bydgoszcz. The distorted round-the-peak surface of Łódź is elongated from the north to the south. Also Poznań has an asymmetric surface elongated from the south-west to the north-east. The patterns of equipotential lines of Katowice, Szczecin and Gdańsk are flattened along a south-north axis due to natural barriers and political boundaries. The extensiveness of the round-the-peak surface as measured by the mean from the longest and the shortest axes varies between 32 km for Warsaw and 53 km for Wrocław. The highest potential gradient (about 85,000 persons per km²) characterises the Warsaw elevation (or its round-the-peak surface) and the lowest, those of Bydgoszcz and Szczecin (about 20,000 persons per km²). Secondary towns situated within a round-the-peak area are 'torn apart' by the strong impact of the principal city. In other words, round-the-peak urban systems are dominated by centripetal forces (cf. Chojnicki 1966).

DELIMITATION OF MACROREGIONS

The high peaks around 9 big cities, together with their round-the-peak surfaces, are the most distinct forms of the 'relief' of the population potential surface. It is around them that the strongest interaction concentrates, and therefore they constitute core zones in any structural pattern formed by socio-economic reality. Beyond the core zone, as the distance from the main node increases, the potential surface slopes downwards slowly in all directions. This area, characterised by much weaker links with the node, is where a peripheral zone develops. Its equipotential lines start as concentric circles around the centre of the pattern, but as the surface settles they become more and more distorted and intricate. Still, they usually retain the characteristic elongation towards the peak. Within a peripheral zone, there are many deviations from the main downward tendency. They are peaks and elevation of medium height accompanying the highest peak of the pattern, separated by depressions on the undulating potential surface. The isoline surrounding a peripheral zone is usually not closed.

There are no clear-cut boundaries dividing peripheral zones of neighbouring structural patterns (Figs 2 and 4). Their boundaries, which are also limits of the structural patterns, are fuzzy. They do not mark a disjoint division, but are sets of points with an estimated degree of membership. The procedure of determining the membership of points (towns) of a contact zone to the peripheral zone of a structural pattern rests on the concept of relative potential.

The relative potential of town z is a fraction of its total potential generated at z by the principal city of the structural pattern A (or the neighbouring ones B, C). It is expressed by the formula:

$${}_zV_A = \frac{\frac{P_A}{d_{zA}}}{V_z}$$

where:

$\frac{P_A}{d_{zA}}$ = potential created at town z by city A ,

V_z = total potential of town z .

A comparison of the relative population potentials of a contact-zone town z created by the neighbouring main cities (A , B , C) allows the town to be 'assigned' to the appropriate structural pattern, on the assumption that the highest potential value reflects the strongest interaction (Fig. 5). By convention, the boundary of the peripheral zone, and simultaneously of the structural pattern, is the line separating towns belonging to different structural patterns.

TABLE 3. Minimum values of potential in the peripheral zones of interaction patterns defined on lines joining peaks (in thous. persons/km)

Peaks of potential	Szczecin	Poznań	Wrocław	Katowice	Cracow	Gdańsk	Bydgoszcz	Łódź	Warsaw	Value of peak potential	Value of outermost isoline of round-the-peak surface
Szczecin	X	130				120	120			500	180
Poznań	130	X	160				140	170		706	200
Wrocław		160	X	200				180		774	220
Katowice			200	X	260			260		670	360
Cracow				260	X			180	180	894	260
Gdańsk	120					X	160		160	577	200
Bydgoszcz	120	140				160	X	200		505	220
Łódź		170	180	260	180		200	X	200	994	260
Warsaw					180	160	160	200	X	1781	260

The range of potential values and the spatial extent of peripheral zones vary with the structural pattern. The most extensive is that of the Warsaw pattern, as it embraces the whole of Eastern Poland. The least developed is that of the Katowice pattern. Potential values vary within peripheral zones and from zone to zone in the different structural patterns (Table 3). In the lowest parts of the peripheral zone of the Łódź pattern, potential equals

170,000 persons per km on the border with the Poznań pattern, and 260,000 persons per km on the border with the Katowice pattern (Fig. 2). The Cracow structural pattern lacks a western peripheral zone; its border with the Katowice pattern runs along the Cracow round-the-peak isoline representing a potential of 260,000 persons per km, while on the border with the Łódź and Warsaw patterns the potential value drops to 180,000 persons per km. The lowest values are recorded in the peripheral zone on the border between the Szczecin pattern and the Gdańsk and Bydgoszcz ones (120,000 persons per km).

POLAND'S MACROREGIONS

The analysis carried out in the preceding sections shows that the structuring of the potential surface understood as a spatial organization of socio-economic reality at the level of population interaction takes the shape of 9 distinct structural patterns and leads to the recognition of 9 macroregions in Poland (Fig. 6). A macroregion is a distinct structural pattern at the sub-national level which consists of a macroregional node, its core zone (of the strongest links with the node), and a peripheral zone.

The spatial distribution of the macroregions shows that most distinct structural patterns that can be discerned in Poland's socio-economic reality occur in its western and central parts. The most extensive macroregions of Western Poland are those of Wrocław and Poznań. They each have a centrally located core and an interaction pattern of a roughly circular shape. Also, each contains smaller, isolated structural patterns. In the Wrocław macroregion these are the patterns of Opole and Wałbrzych, and in the Poznań macroregion, those of Gorzów and Zielona Góra. The macroregions of North-Western Poland, viz. Szczecin and Gdańsk, have cores characteristically located on the borders of the patterns which are also state boundaries. Hence, the interaction areas of the cores have a fan-like shape. The decline in the force of interaction towards their borders is distorted slightly, by the Słupsk pattern in the Gdańsk macroregion, and by the Koszalin pattern in the case of the Szczecin macroregion. The macroregions that have developed in Central Poland are those of Bydgoszcz and Łódź. The former has a distinct secondary nodal pattern of Toruń. In the latter, there is a secondary structural pattern connected with the influence of Częstochowa, on the border with the Katowice macroregion. The macroregions of Southern Poland: Katowice and Cracow, have contrasting internal organisations. The Katowice macroregion, which is the smallest in Poland, has a core zone embracing the city of Katowice and 13 large towns, and a miniature peripheral zone. The Cracow macroregion, in turn, has a well-developed peripheral zone with the Bielsko-Biała pattern in its south-western part and the Tarnów pattern in the east.

The Warsaw macroregion embraces the whole of Eastern Poland. The impact of the core, Warsaw, extends mainly to the north, east and south, because in the south-west it meets a barrier in the form of the Łódź nodal

pattern. In the peripheral zone, the impact of the Warsaw node tears apart the hinterlands of two weakly competitive centres, Lublin and Białystok, and reduces their areas of influence to narrow rings. Examples: in Puławy the influence of Warsaw is stronger than that of Lublin, and in Łomża it overrides that of Białystok. The superiority of the Warsaw node is also evident in its relation to Olsztyn, Radom, Kielce and Rzeszów. In these towns the influence of Warsaw is stronger than that of closer macroregional nodes, viz. Gdańsk and Bydgoszcz in the case of Olsztyn, Łódź and Cracow in the case of Radom and Kielce, and Cracow in the case of Rzeszów. A division of the peripheral zone of the Warsaw macroregion can only be carried out on the basis of the force of impact of the core node. The criterion of such an internal division is the value of relative potential defined with respect to the core node, i.e. Warsaw. As a result, three parts can be distinguished in the peripheral zone: the central, concentric ring around Warsaw, and two other areas, north-eastern and south-eastern (see Fig. 5).

The macroregions differ as to the number of towns (with over 10,000 inhabitants). Those of Western Poland have from 61 towns (the Wrocław macroregion) to 16 towns (the Bydgoszcz macroregion). In the eastern Warsaw macroregion there are 136 towns, including 53 in the region of Warsaw. In the Wrocław, Poznań, Szczecin, Gdańsk, Bydgoszcz and Warsaw macroregions, the majority of towns (74%-90%) have potentials ranging from 100,000 to 200,000 persons per km, that is, corresponding to the lowest class of potential, and their indices of potential concentration are usually low, too (<20%). In the Cracow and Łódź macroregions there is a predominance of towns with potentials from 100,000 to 300,000 persons per km, and either low indices of potential concentration (<20%) as in the Cracow macroregion, or low to average ones (20%-50%), as in the Łódź macroregion. The Katowice macroregion is exceptional in that it has the biggest number of towns with higher potentials, i.e. from 300,000 to 400,000 persons per km, but with indices of potential concentration below 20% or from 20% to 50%.

A comparison of the map of Poland's macroregions with that of its voivodeships helps establish correspondence relations between the macroregional and the administrative system. Macroregions are supra-voivodeship structures. For each of them, the node and the core zone lie within a single voivodeship, which can be called the core voivodeship. Apart from it, a macroregion can embrace several or even about a dozen neighbouring voivodeships or their fragments as its peripheral zone. The boundaries of macroregions do not coincide with those of voivodeships.

The nodal patterns of 9 macroregions are located in voivodeships which are best and highly developed economically at the national scale (per capita GDP exceeding 95% of the national average in 1992) (Fig. 7). This index is the highest in the Warsaw voivodeship (158%), which is also the easternmost highly developed voivodeship of Poland. Other highly developed units include Poznań (132%), Szczecin (126%), Cracow (117%), Bydgoszcz (117%), Katowice (116%), as well as Gdańsk, Wrocław and Łódź (105%-95%). The fact that the

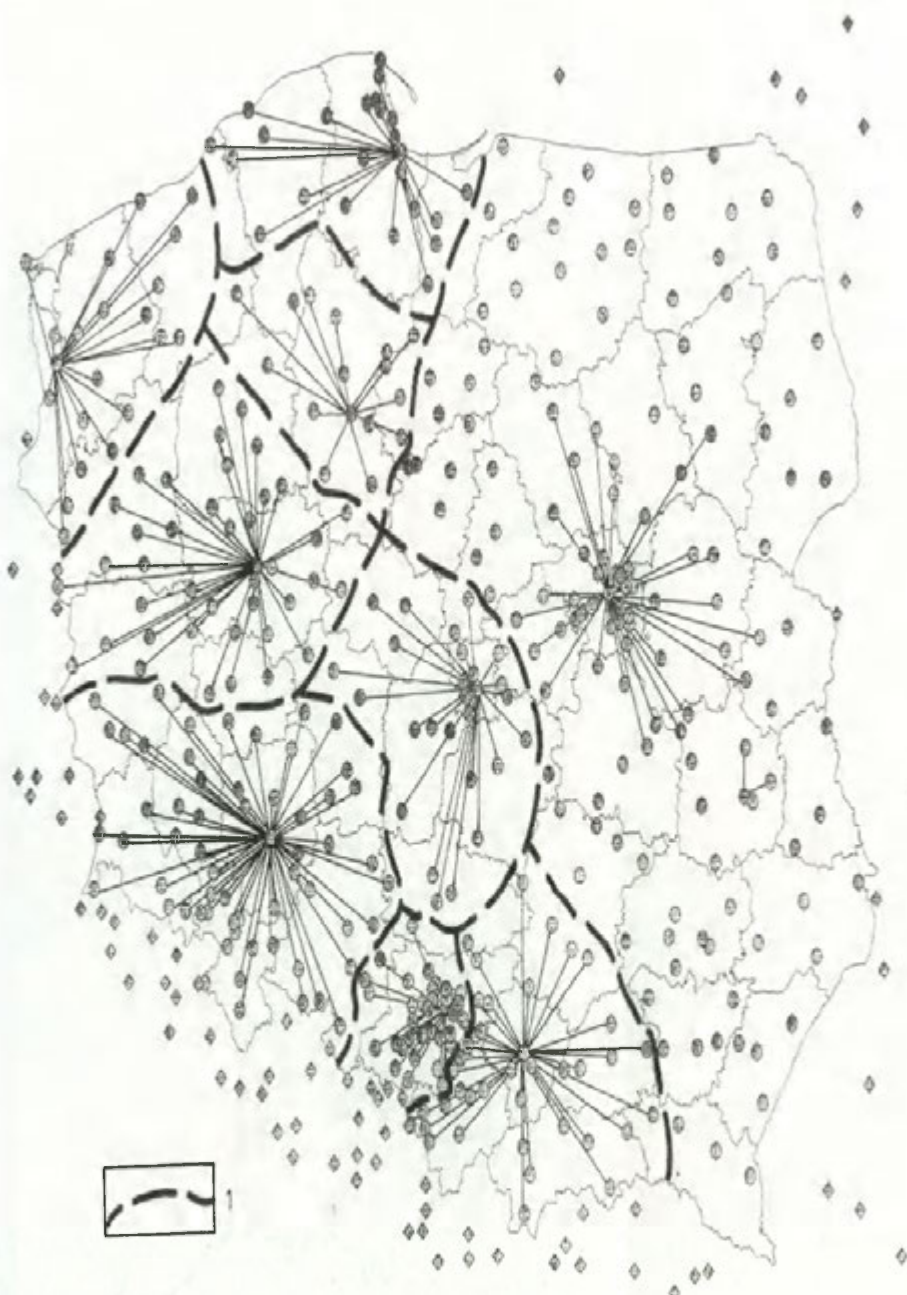


Fig. 5. Interaction patterns
1 — pattern boundaries

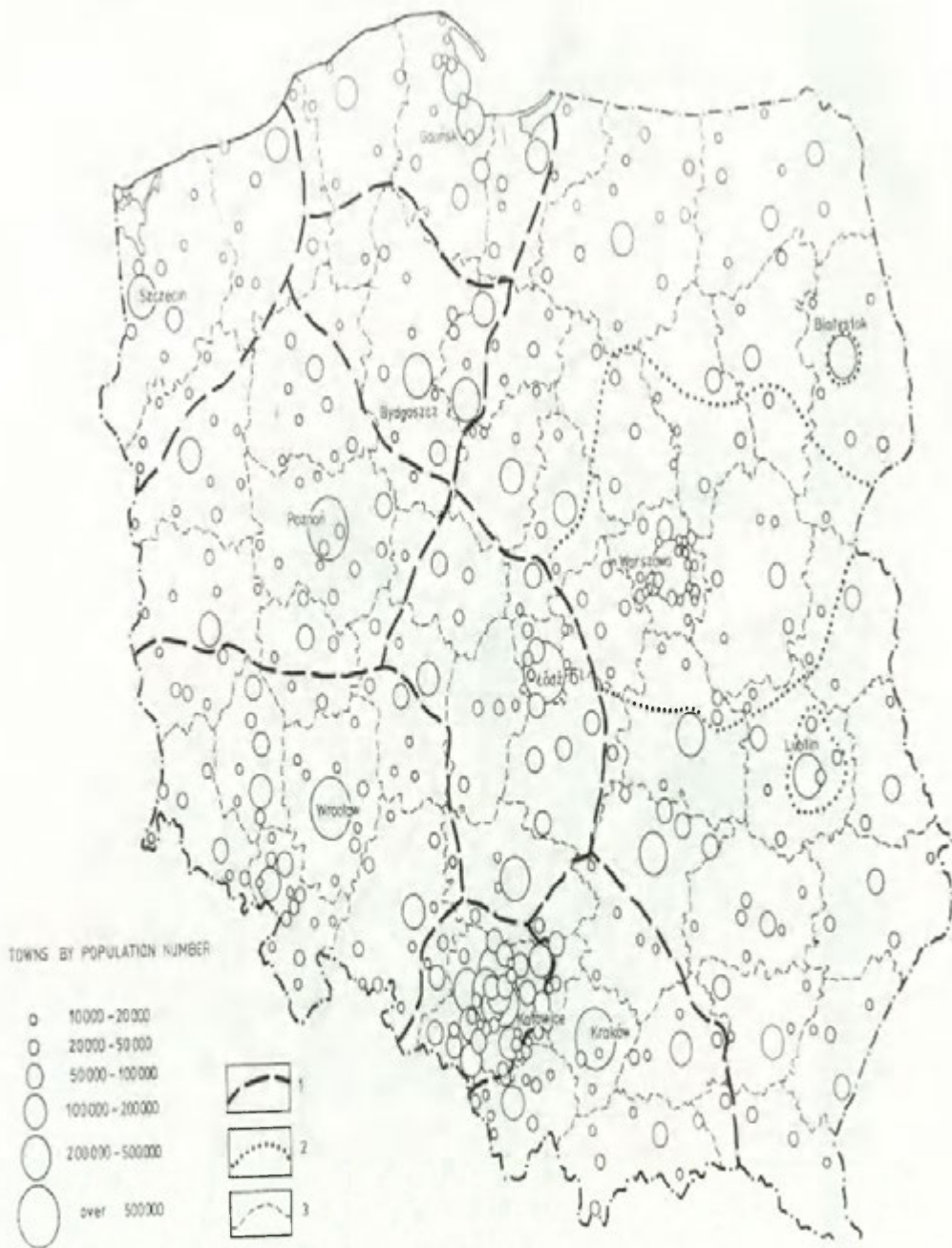


Fig. 6. The macroregions of Poland

- 1 — macroregion boundaries
- 2 — region boundaries
- 3 — voivodeship boundaries

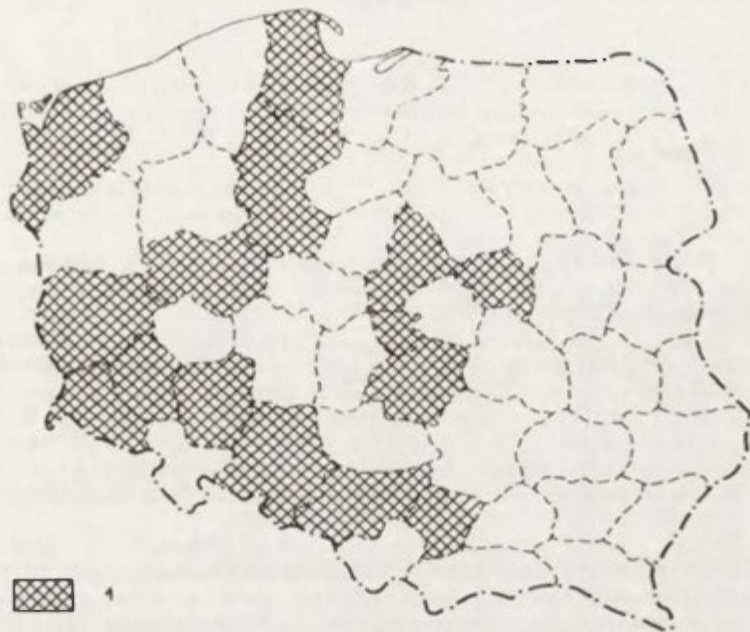


Fig. 7. Per capita Gross National Product in 1992

1 — over 95% of national average

Source: Produkt krajowy brutto i dochody ludności wg województw w 1992 r. Zakład Badań Statystyczno-Ekonomicznych GUS i PAN, Warszawa 1994.

nodal patterns of macroregions distinguished on the basis of population potential coincide with voivodeships having the highest per capita incomes, confirms the possibility of using population potential as an index of socio-economic interaction as well.

CONCLUSION

The system of Poland's socio-economic macroregions distinguished on the basis of analysis of the spatial distribution of the population potentials of cities can be treated as a hypothetical regional structure of the country. To test this hypothesis, the following steps should be taken: (1) an additional map of income potential should be constructed, (2) the degree of closure of the macroregions should be checked on the basis of the pattern of real socio-economic links between cities, taking the form of e.g. money and commodity flows, or migrations of students to higher schools, and (3) individual preferences as to regional belonging should be established by studying the sense of regional identity of residents. This extended procedure also provides the possibility of formulating successive, modified hypotheses concerning the regional structure.

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REGIONAL CITIES IN AUSTRALIA'S CHANGING URBAN SYSTEM

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ABSTRACT: Previous work on the urban system in Australia emphasised metropolitan primacy. Australia developed in the nineteenth century as six separate colonies with economic activity concentrated in the capitals, which also served as the principal ports. This pattern persisted into the twentieth century and was reinforced by national industry protection policies. There is evidence that Australia's urban system is changing. Since the mid-1970s there has been growth in the number and total population of regional cities. It is argued that this growth is a product of restructuring and the de-regulation of the Australian economy. Regional cities have become more prominent in the national economy as centres for manufacturing, as a consequence of the growth of tourism and recreation industries, through the decline in some areas of smaller urban settlements and as a result of new mining developments. The growth of regional cities challenges established notions on the nature and future development of Australia's urban system and suggests that these centres will become more prominent in Australian economic, social and political life.

KEY WORDS: Urban system, Australia, Regional cities growth, restructuring, national urban system.

Australia is a very large and sparsely populated country with a population that has concentrated in a few coastal centres. It is one of the most urbanised countries in the world, with over 40 per cent of its population resident in just two cities, Sydney and Melbourne. Less than 15 per cent of the population lives on farms or in towns of fewer than 1,000 persons. Research into the nature and functioning of the Australian urban system has emphasised the primacy of the state capitals and the absence of a 'middle tier' of urban settlement (see for example, Rose 1967; Logan Whitelaw and McKay 1981; Holmes 1987). Bourne (1975) noted that there was a gap in Australia's urban system with cities of between 250,000 and 600,000 much under-represented. Rose (1967) argued

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that the number of urban settlements with populations of 50,000 to 500,000 was lower than some urban theories would lead us to expect. This pattern of urban development was a product of economic conditions at the time of European colonisation, with its emphasis on mining activity and extensive pastoral and agricultural production for overseas markets. In this century, the high levels of industry protection afforded to manufacturers combined with the processes of cumulative causation both preserved and reinforced metropolitan primacy.

Australia, like most Western nations, has experienced extensive economic change and restructuring since the 1970s. Successive governments have pursued policies of deregulation that have opened the economy to international competition and encouraged Australian producers to seek international markets. Other changes have reflected developments common to advanced industrial economies. There has been rapid growth in tourism, recreation and retirement industries, and the services sector has emerged as one of the most dynamic components of the economy. Economic change has had a substantial impact on urban development. Much attention has focussed on the continued growth of Melbourne and Sydney and their potential to develop as world cities (Hall 1992; O'Connor 1993). While the growth of the very largest cities is important, there is also evidence that regional cities of 10,000 persons or more have grown and taken on new functions as a consequence of economic change. The examination of population and labour market data reveals rates of growth in excess of the national average. They have grown because of the development of national rather than regional markets for many manufactures and agricultural products, as a consequence of the growth of new types of industries and because of the renewed importance of 'locational' advantages in the siting of industry. It is argued this growth indicates a significant change within the Australian urban system.

URBANISATION IN AUSTRALIA

The pattern of urban development in Australia is the product of the geography of the continent, the economic structure of the nation and the historical period in which Australia was colonised by Europeans. When compared with other nations in the developed world, there are fewer non-metropolitan centres in Australia and a smaller proportion of the population lives within them. Many of the processes that shaped Australia's cities and towns operated in other nations developing at the same time (Frost 1991), but as Holmes (1987) noted, the remarkable feature of Australia's urban settlement pattern was the way in which it led the world with respect to the level of urbanisation and the types of urban settlements.

Australia is one of the most urbanised nations in the world with a very high concentration of the population in the capital cities. Logan et al. (1981) referred to this process as metropolitanisation and noted that by 1901, 70 per cent of the nation's population resided in towns of over 100,000 persons compared to only 16 per cent in towns from 10,000 to 100,000. Over forty per cent of the population live in Sydney and Melbourne, and Australia ranks only after Uruguay and the

city states of Hongkong and Singapore with respect to the proportion of the population resident in cities of 2.5 million or more (Burnley 1980). Neutze (1978) noted that in 1971 Australia had only five urban centres with populations between 75,000 and 600,000 containing only 6.6 per cent of the population, compared with the United Kingdom, France, Canada and the United States where between 15 and 18 per cent of the population lived in centres of this size.

Urban development in Australia took place as six separate units. From the British colonisation of Sydney in 1788 to the formal establishment of South Australia in 1836 economic activity was geared for production for export markets. Australia developed as a source of raw materials for Britain's growing factories and trade empire, it also served as an important outlet for surplus capital. Important exports in this early period included whale and seal products (Higgins 1989) and of course wool. Wool production was both capital intensive and space extensive and did little to encourage the growth of smaller settlements. Subsequent agricultural activities resulted in a more dense pattern of settlement, which had a profound impact on the growth of smaller towns and their larger regional centres. New technology, however, was able to maintain agricultural production despite a relatively small agricultural work force.

The combination of a mercantile economy, strong central administration by the colonial authorities, and a centralised transport system that reinforced the role of the capitals as the most important ports, gave rise to a pattern of urban development in which the metropolis dominated. Logan et al. (1981) noted that when the colony of Victoria was proclaimed in 1851 there were only three towns apart from Melbourne with a population greater than 500 persons. The gold booms that began in the 1850s resulted in a 40 year period of prosperity which reinforced the pattern of metropolitan dominance as the new arrivals concentrated in the major capitals where manufacturing and tertiary sector employment was available. Higgins (1989) noted that from the 1870s manufacturing in smaller centres shrank as transport costs fell and economies of scale won over the processes of dispersion. The expansion of the railways helped focus economic activity on the respective state capitals, and further encouraged manufacturers to locate in the port capitals as the best place to serve domestic markets and obtain imported components (Neutze 1989). Only in the colonies of Queensland and Tasmania did the capitals not achieve a pre-eminent position because they were not centrally located and because sea transport was a significant competitor with the railways.

Holmes (1987) considered that six features contributed to metropolitan primacy in Australia. The first was the recency of European settlement in Australia. Colonisation took place during a period in which economic activity was focussed on production for world markets, and a consequent emphasis on the development of specialised functions and activities. Second, the role of international links within the Australian economy and the part played by the capitals as an intermediary in internal commerce. The capital cities were the most important destination for immigrants. Third, the centralisation of political and administrative institutions. Holmes (1987) noted that the

colonisation of Australia was tightly controlled from London and the concentration of power was carried on to the independent administration of the colonies. In most instances the powers of local governments were limited and there was not a clear mandate for local regional development. Fourth, the development of Australia's pastoral lands resulted in only modest demand from rural consumers for the goods and services that would support a complex network of urban centres. Fifth, the persistence of the initial patterns of settlement. Sixth, the circular and cumulative processes of growth. That is, development resulted in compound advantages for the major centres.

Economic development in this century reinforced existing settlement patterns. There was an on-going concentration of population and economic activity in the capitals, in particular Melbourne and Sydney. The progressive industrialisation of Australia's economy was concentrated in the capitals. Between 1900 and 1930 their share of national factory employment rose from 70 per cent to 76 per cent (Berry 1984). Between 1922-23 and 1938-39, 85 per cent of growth in manufacturing employment in New South Wales was concentrated in Sydney and a further 13 per cent went to Wollongong or Newcastle (Linge 1975). By 1947 Sydney had 57 per cent of the State's employment but 78 per cent of the factory employment, while 63 per cent of Victoria's population and 83 per cent of its manufacturing activity was concentrated in Melbourne (Linge 1975). Tertiary sector employment and construction also fuelled employment growth in the capitals. Immigration patterns added to this process of metropolitan concentration: between 1911 and 1947, 57 per cent of the expansion of Sydney's population was due to migration, predominantly intra-state migration (Berry 1984).

THE CHARACTERISTICS OF REGIONAL CITIES IN AUSTRALIA

Previous research into urbanisation in Australia suggests that regional cities play a minor role in the urban system. However, a different picture emerges when population and labour market data are considered for all non-metropolitan centres that have 10,000 or more persons. These data show that regional cities are growing more quickly than the Australian population as a whole, and that their growth reflects an expanded role within the national economy. Perhaps most significantly, many of the fastest growing cities are specialised in those industries, such as tourism and recreation, that have recorded the strongest national growth rates.

Regional cities are a dynamic part of the urban system. At the 1991 Census there were 79 regional cities in Australia with a combined population of 1.9 million, 11.3 per cent of the national population (Fig.1). The pool of regional cities grew significantly, although unevenly, over the 15 years 1976 to 1991: in 1976 there were 60 non-metropolitan centres with a population of 10,000 persons or more, by 1981 there were 62 regional cities and in 1986 there were 70 regional cities. As a group their population rose from 1.51 million in 1976 to 1.65 million in 1981, and 1.78 million in 1986. The population of these centres

expanded by 25.8 per cent over the 15 years to give an average rate of growth of 1.72 per cent. Australia's population grew by 24.4 per cent over the same period at an average rate of growth of 1.62 per cent. Growth rates varied between the centres, some of the fastest growing centres such as Mandurah, Maroochydoore and Tewantin-Noosa could boast annual average rates of population growth of 12 to 15 per cent, while centres such as Lithgow, Goulburn and Whyalla recorded small rates of population loss between 1976 and 1991.

Regional cities have been growing with respect to their relative share of the national population, as well as their absolute numbers (Table 1). In 1947, 8.4 per cent of the Australian population lived in an urban centre with a population between 10,000 and 100,000 persons. By 1991 this had risen to 12.9 per cent. The data present an interesting picture of change within the Australian urban system over the post-war period. Urban centres with populations of over 100,000 persons rose from 52.8 per cent of the population in 1947 to 62.4 per cent in 1991 but this was balanced by a commensurate decline in the rural population, which fell from just under a quarter of the population in 1947 to 14.6 per cent in 1991. There are a number of features of particular interest. In relative terms the metropolitan population has expanded little since the early 1960s. The proportion resident in cities of more than 100,000 people peaked in 1976 at 64.8 and declined to 62.4 per cent at the 1991 Census. While the proportion of the population living in the rural areas and the capitals has undergone substantial and cyclical change, the regional cities experienced slow but steady growth. They appear to have been relatively unaffected by the substantial decline in the rural population and the rapid growth of the metropolitan areas through the 1950s and 1960s.

TABLE 1. Population distribution by size of urban centre, 1947-1991

Year	>100,000	<100,000 & > 1000	<10,000 & >1000	Rural	Total
1947	52.7	8.4	14.9	23.9	100
1954	55.6	10.8	11.8	21.8	100
1961	59.2	11.7	10.7	18.3	100
1966	62.3	10.3	10.3	17.1	100
1971	64.8	11.0	9.6	14.6	100
1976	64.9	11.3	9.6	14.2	100
1981	63.5	12.0	10.1	14.4	100
1986	63.4	12.4	9.5	14.7	100
1991	62.4	12.9	10.1	14.6	100

Source: Adapted from Bell 1992.

A second measure of the significance of regional cities is their share of the nation's work force, it is also a better indicator of the role these cities play within the national economy. It provides a crude measure of the proportion of economic activity located in these cities and also the nature of their economies. In 1991 regional cities contained 10.5 per cent of the national work force, a larger proportion than any state capital apart from Melbourne or Sydney. Importantly,

their labour force has grown more quickly than the national average, rising by 24.3 per cent between 1976 and 1991 compared with 22 per cent across Australia. Growth rates, however, declined over the period 1976 to 1991, in line with the national trend and as a consequence of economic recession.

There are significant gaps in the employment structure of regional cities. In smaller centres a higher proportion of their population is engaged in basic, rather than non-basic industries (Rose 1967). A comparison of the industry profiles of regional cities and the national economy shows that regional cities have a greater concentration in wholesaling and retailing, community services and entertainment and recreation industries. They are relatively weak in the business services sector covered under the industry category finance, insurance and real estate, in manufacturing and in mining. Regional cities lack higher order management and control functions. The growth of finance, insurance, real estate and business services between 1976 and 1991 readily illustrates this point. Nationally it was the fastest growing industry, expanding by 89 per cent over this period, but regional cities were unable to match this rate, with employment growing by 76 per cent over this period. This difference can be attributed to the concentration of employment in management and finance in the capitals, and in particular, Sydney and Melbourne.

The industry profiles for Australia and all regional cities do not accurately reflect the changing role of regional cities in a number of industries. For example, the proportion of workers in manufacturing in regional cities is lower than the national average, but their share of manufacturing jobs has grown despite contraction nationally. Manufacturing employment in Australia declined from 21 per cent of the total in 1976, to 14.2 per cent in 1991 — a loss of 200,000 jobs. In regional cities, the relative importance of manufacturing employment has also declined, but at a much lower rate. They lost 9,400 jobs between 1976 and 1991, and the proportion of their work force in this industry fell from 17.8 per cent in 1976 to 12.8 per cent in 1991. Over this period, however, their share of national manufacturing employment rose from 8.6 per cent to 9.5 per cent. It is likely that regional cities accommodate an even higher proportion of the nation's manufacturing capacity as the data does not include workers who commute to regional cities. The number of manufacturing employees in non-metropolitan areas (including small towns and rural areas) actually grew between 1976 and 1991.

Cluster analysis of labour market data for the 1991 Census provides a clearer picture of the nature of economic activity in regional cities (Fig. 2). It shows that while some regional cities have broadly based economies, a significant minority are highly specialised. Important groupings include specialist mining centres, cities in which power generation and manufacturing is prominent, entertainment and recreation centres and those centres that perform service roles. The cluster analysis also separates out those cities with substantial military and public administration facilities and a group with relatively high levels of employment in manufacturing (for more detail see Beer, Bolam and Maude forthcoming). One of the interesting outcomes is the cluster of

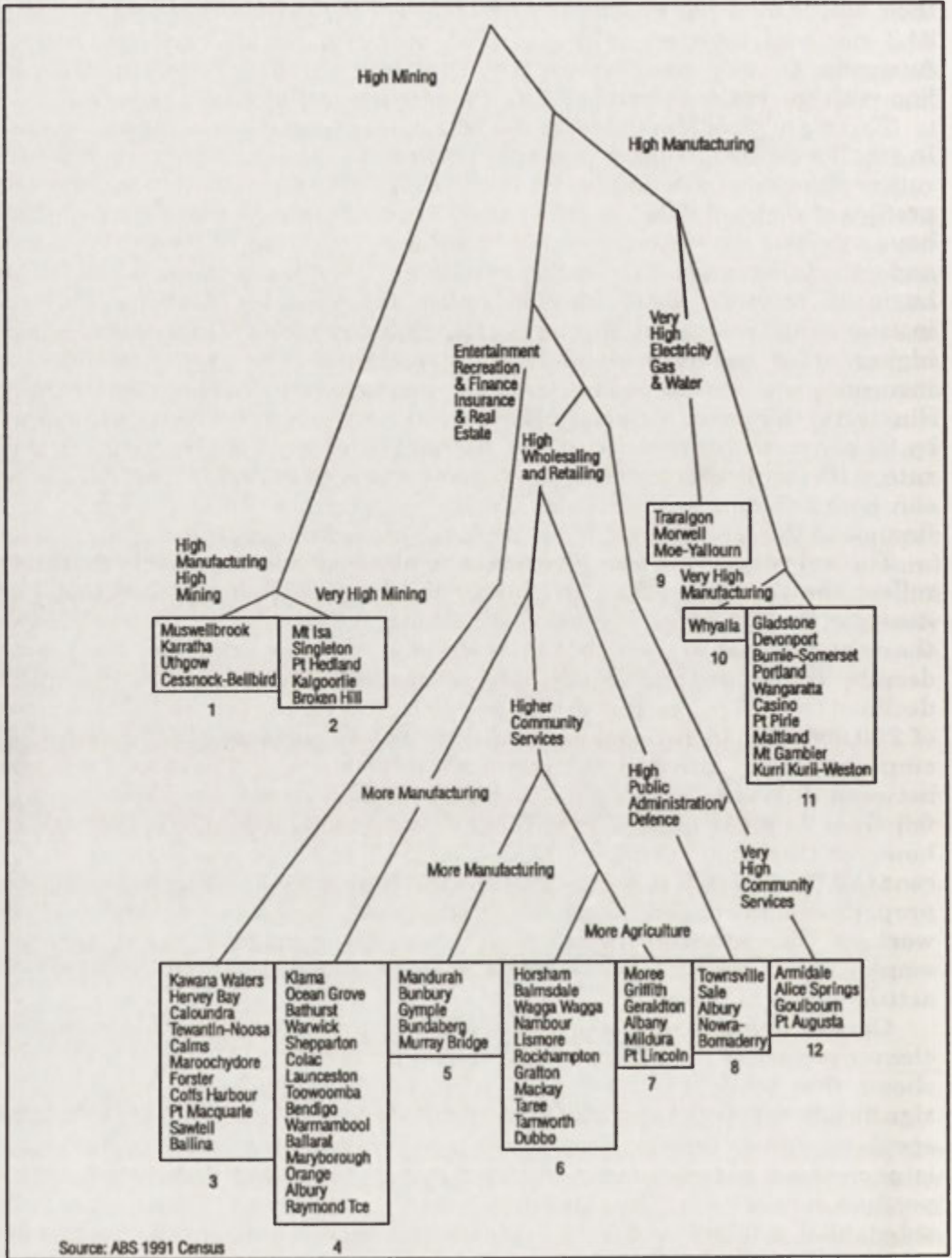


Fig. 2. Functional classification of regional cities, 1991

cities with high employment in the industry categories Entertainment, Recreation, Restaurants and Personal Services; and Finance, Insurance, Real Estate and Business Services. This group consists exclusively of coastal centres in New South Wales and Queensland. They are some of the fastest growing regional cities and reflect the growth of the tourism industry, and leisure-related migration.

As the cluster analysis has shown, regional cities perform a range of roles within the national economy. Some have diverse economies, but others have grown with a relative strength in one or two industries. The concentration in a limited range of industries is significant in three respects. First, it reflects the rapid growth of some centres in response to national and even international growth impulses. For example, those cities based on tourism and recreation are part of the nation-wide growth in these industries. Second, regional cities contain a sizeable proportion of the nation's industrial capacity in certain areas of economic activity. Power generation is concentrated in these cities, as is steel production and the production of alumina. Third, cities with specialised economies are vulnerable to changing economic conditions. Regional cities have a rate of unemployment above the national average and some centres have very depressed local economies.

THE CAUSES OF THE GROWTH OF REGIONAL CITIES

In common with other Western nations, Australia's economy has experienced profound change since the early 1970s with relatively high levels of unemployment, significant shifts in industry structure and a greater focus on international competitiveness. Restructuring has had a profound impact on the economic geography of Australia. It has been responsible for changes in the pattern of unemployment (Taylor 1992a), further concentration of high-order tertiary sector activities in the capitals (O'Connor 1992) and the growth of manufacturing in non-metropolitan areas relative to the capitals (BIE 1985). One part of this change has been the emergence of a national urban system which is replacing the existing state-based systems. Capital cities, small country towns, mining settlements and regional cities have been caught up in this change. This process of restructuring, both economic and spatial, has had a large influence on the economies of regional cities and in broad terms, their growth or non-growth has largely been determined by their position within this changing environment. Their share of employment has grown, the aggregate mix of industries has changed, and they have taken on new roles and functions with respect to their regional hinterlands and the national and international economies.

The Australian economy has experienced a sea-change over the last 20 years and national policy developments have been an important contributor to this shift. Major policy shifts have included the 25 per cent reduction in tariffs introduced by the Whitlam Labor Government (and continued falls in protection in many industries), the de-regulation of financial markets post-1984, micro-economic reform and public sector restructuring and the decline of real wages under the Prices and Incomes Accords. Average effective rates of assistance for

manufacturing have declined from 24 per cent in 1978-79 to 15 per cent in 1990-91 (Taylor 1992b), while the devaluation of the Australian dollar and wage restraint has increased the competitiveness of Australian manufacturing relative to international producers by between 10 and 20 per cent (BIE 1989). They have contributed to the relative decline of some industries, such as manufacturing, agriculture and mining, and the rise of others, including personal services, financial and business services, public administration and community services. There has been sustained growth in the proportion of the work force employed part-time or casually, and decline in the blue-collar work force (Taylor 1992a).

In part, this restructuring has reflected international trends. Hall (1992: 2) noted that 'percentages of the total work force in manufacturing are already down to some 20-25 per cent in all advanced industrial countries, and may be as low as 5-10 per cent by the early 21st Century (sic)'. Service industries and occupations have grown in advanced economies, while manufacturing has declined. Hall (1992: 2) estimated that typically between 65 and 75 per cent of all employment in advanced economies does not involve the handling of goods because of increased competition from developing nations in manufacturing and the expansion of tertiary sector activities. Business services and the professions have grown and new international functions have been established within the economy, for example, in finance (Daly 1988; Daly and Logan 1989). There has also been growth in tourism and personal services. In part this reflects factors that are intrinsic to the economy, such as the ageing of the population and the growth in the number of affluent people, but it is also a function of Australia's increasing role as a destination for international tourists. The take up of new technology and the increasing importance of information and knowledge-based industries has been a central part of this change.

These changes have infiltrated every part of the economy and affected the structure of economic activity. Cities and regions have grown or declined with their principal industries. Restructuring has affected individual enterprises. In his discussion of manufacturing change in Australia, Rich (1987) identified four broad responses that manufacturers pursued to ensure their survival and profitability. The strategies he observed included: first, a reduction in output to meet demand, but as Rich (1987: 63) noted, "this was only a short term solution since it generally increased unit production costs. A common variant was to abandon expansion in the light of reduced forecasts of demand growth and low profitability". Second, shifting company operations into other activities in order to secure greater profitability and long-term growth. Some firms ceased production and began importing, others moved production offshore, while prominent national companies such as BHP and CSR shifted their focus from manufacturing to mining. Third, the introduction of productivity improvements including investment in new technology, changes to work practices, reduced stocks of materials (through the introduction of Just in Time principles) and the streamlining of distribution networks. Fourth, the concentration of production on fewer sites. According to Rich (1987: 64) mergers and acquisitions throughout the 1980s resulted in potentially greater concentration of production which

allowed firms to "secure scale economies and optimum use of expensive new technology. In some cases this involves specialisation in a few stages of production with greater integration of plants into a single, sometimes international, production network".

Economic restructuring and greater exposure to international markets weakened the established state-based urban systems and contributed to the emergence of a truly national urban system. The rise in production for national markets has been an important part of this process. International competition significantly altered the economics of production in many industries, with producers forced to look to larger markets, either the national market or markets overseas. Productive capacity has been rationalised as firms have concentrated production on one or two sites. It has altered both the spatial distribution of economic activity and also the relative advantages associated with each location. In the past non-metropolitan producers were at a disadvantage because of poor access to markets, but the refocussing of economic activity on national markets has reduced the significance of distance from one capital. Firms producing for national markets are no longer tied to the metropolitan area as a substantial proportion of production will go beyond the state boundaries. Even firms that supply Melbourne and Sydney alone may be better located along the Hume Highway which connects the two.

THE GROWTH OF NATIONAL MARKETS

One of the most significant changes within the restructuring Australian economy has been the shift in many industries to production for national markets. This process has been most notable in manufacturing, and perhaps to a lesser degree, in agriculture. The shift to national markets has been concentrated in these industries because they are most exposed to international competition. On the other hand, they also have a better opportunity to extend their own activities. Tertiary sector activities, such as banking, have also concentrated in a limited number of centres, but this trend represents a continuation of historical trends, as Sydney and Melbourne have always been prominent in this area. There are legal and practical impediments to further centralisation in some services. For example, current arrangements require law firms based in Sydney to work through a local practice when representing their customers in Adelaide or Perth, while accessibility is critical to community services.

The rise of national markets and economic processes is of considerable significance, a fact reflected in O'Connor's (1988: 3-4) statement that "national level growth is now the most important source of growth for metropolitan areas and many of the activities that used to operate at a regional scale, can now be located in one city, and supplied to the nation at large".

The emergence of national markets for many products has made new forms of economic activity possible, and while new technology has assisted, economic restructuring has been the catalyst for this transition.

Greater competition from overseas, particularly in manufacturing has forced enterprises to search out ways to restore their profitability. Economic restructuring has been accompanied by the loss of over 200,000 manufacturing jobs but rising productivity. Rich (1987) showed that the relocation or concentration of capacity was one strategy used by firms undergoing restructuring. Many manufacturing industries underwent this process through the 1970s and 1980s. Industries were consolidated through the acquisition of competitors and the subsequent transfer of capacity (and importantly market share) or through the decision of an individual firm to concentrate on one site. Some firms shifted production in order to take advantage of more favourable labour markets, government assistance, new local markets, or in order to update capital equipment. The processes of relocation and consolidation have affected all parts of the urban system. Capital cities, regional cities and country areas have all gained and lost capacity. However, this change has generally worked to the advantage of non-metropolitan areas, and in particular regional cities. Manufacturing has grown in regional cities because firms have recognised locational advantages and because enterprises that developed in regional cities now find conditions that allow their continued expansion (Owen 1993).

The impact of acquisitions and the relocation of capacity are well illustrated by the white goods industry (Beer, Bolam and Maude, forthcoming). Before the 1970s, the white goods industry was centred in each major state capital, with individual plants essentially manufacturing for the market in their home state. This industry underwent massive rationalisation and by the late 1980s there were just 12 manufacturers compared with 34 in 1972 (Rich 1987). Restructuring was accompanied by a shift in the location of industrial capacity, a shift than in one instance favoured Orange in NSW. In the early 1970s, Email Ltd's plant in Orange (a product of post-War decentralisation policies) was Australia's only non-metropolitan white goods plant. The company's success resulted in the factory's growth as it has favoured the Orange plant over its factories in other cities and over plants acquired through mergers and acquisitions. The plant is now one of only two domestic producers of refrigerators, and was responsible for 70 per cent of national production by the late 1980s. Email Ltd closed its only other white goods factory, in Adelaide, in 1993.

The location of manufacturing capacity has also changed in firms that have consolidated and restructured their activities. Allowrie Foods have maintained a dairy processing plant in Murray Bridge for a number of years. Restructuring within the company in the 1980s and 1990s led to reinvestment in Murray Bridge and an emphasis on the production of one or two products for the national market. Fagan (1988) showed that the developments within this firm mirror changes within the food and beverages industry generally. From 1981 the industry experienced merges which led to corporate diversification rather than increased power in specific markets, and many mergers were followed by extensive rationalisations of either plants or whole divisions. These changes resulted in keen competition for "national rather than regional markets" (Fagan 1988: 32). Firms maintained their competitive position within the national

market by reducing their demand for labour and reducing other costs. In a number of instances restructuring strengthened the relative position of regional cities as employment losses were concentrated in Adelaide and Melbourne (Fagan 1988).

EXPORTS

Restructuring has encouraged export activity which in turn has given a fillip to the economies of many regional cities. National exports have grown from \$32.7 billion (\$1993) in 1976-77, to \$60.8 billion in 1992-93 (ABS 1982 and 1993a). It has brought with it investment in manufacturing equipment, hotels, recreation facilities and mines that has fuelled economic growth in many regional cities. It has been estimated that in 1991-92 roughly three quarters of Australia's export earnings came from industries that are predominantly, and sometimes exclusively, located outside the capitals, and other sectors have significant non-metropolitan components (Beer, Bolam and Maude, forthcoming).

The importance of regional cities for export activity can be seen in the major categories of exports. In 1991-92 the food and live animals sector contributed 17.8 per cent of total commodity exports. Regional cities were directly and indirectly involved in primary production and increasingly involved in secondary processing. Over the last fifteen years enterprises involved in meat and its preparation for export have concentrated in the country, especially in regional cities. The preparation of meat for export is no longer undertaken in Sydney, Melbourne or Adelaide. A similar pattern is evident in other industries. Sydney, for example, has lost its two sugar refineries to the regional cities of Cairns and Grafton which are located in cane-growing regions.

Over half of Australia's export earnings come from commodities the Australian Bureau of Statistics categorises as Crude Materials, Mineral Fuels, and Commodities Not Elsewhere Stated. They respectively comprised 25.6 per cent, 20.4 per cent and 9.1 per cent of Australian exports in 1991-92. They are dominated by wool and cotton exports, metalliferous ores and coal-related exports. Regional cities play a significant role in all three export sectors: the production and processing of wool and cotton (7.1 per cent of exports) is an almost exclusively non-metropolitan activities. Cotton growing and spinning is based in and around towns such as Moree and six of the seven wool cleaning plants in Australia are based in regional cities. Nearly 16 per cent of Australia's export earnings are a product of the mining of metalliferous ores. The production, and in many cases the direct export, of metalliferous ores is based around regional cities. Gold contributes a further 6.9 per cent of national earnings and comes from cities such as Kalgoorlie. Both the coal and natural gas industries are located in non-metropolitan areas, while there are significant petroleum related activities in regional cities, for example the La Trobe Valley in Victoria.

The export category "material goods" comprises 12.2 per cent of exports by value and includes industries such as paper manufacture, textiles and aluminium. It is another sector that is predominantly non-metropolitan. The paper industry, for example, is located in three regional cities while textile yarns and fabrics also have an important non-metropolitan component. This category is dominated, however, by non-ferrous metal production. Aluminium processing is the most significant of the non-ferrous metals, with 3.5 per cent of national export commodity earnings. The aluminium sector is an exclusively non-metropolitan activity. There is an alumina plant in Gladstone and refineries in regional cities in four states. A \$500 million aluminium rolling plant is under construction in Bendigo. Other regional cities accommodate the processing of other non-ferrous metals, such as the lead industry in Port Pirie.

Finally, it is worth noting that considerable foreign investment, especially productive investment, is directed into industries in which regional cities are prominent. In 1992 direct international investment in Australia totalled \$104 billion (ABS 1993b). Of this investment almost \$40 billion went to construction, finance, business services and most importantly, real estate. However, mining accounted for \$14.1 billion, the food, beverages and tobacco industries \$8.4 billion, \$2.3 billion was invested in paper products and publishing, and \$3.2 billion in basic metal products.

LOCATIONAL ADVANTAGES

National economic restructuring has ensured that changes will occur in regional cities, but individual outcomes have been determined by more localised factors. The relative growth or non-growth of regional cities is a product of the degree to which these cities possess locational advantages which have helped them to attract business investment and population during this period of economic, governmental and social change. The role of local conditions is a growing theme in studies of regional and urban development (Illeris 1993; Chisholm 1990), and this section concentrates on those conditions which have influenced business and individual decisions on where to invest and where to live.

The location of raw materials has been important in the growth of some regional cities, particularly those involved in the processing and export of minerals and fuels for which there has been a rise in world demand, such as coal, alumina, nickel and natural gas. However, this growth is not self-sustaining, and comes to an end when the development phase of each mining project ends. Raw materials have also been important in the location of agro-processing industries, but growth in these industries, and the cities in which they are located, has generally been limited by poor national and international markets and strong international competition. Nevertheless, raw material supplies are seen by a number of firms as one of the cost advantages of a regional city location (see the example of Murrumbidgee Milling, Wagga Wagga, in NSW Country Mayor's Association 1993: 84-85).

The environmental and lifestyle attractions of coastal cities for retirement settlement has been important for their rapid growth. Movement of people in the retirement and early retirement ages is an important component of in-migration and population growth in coastal cities in Western Australia, Victoria, New South Wales and Queensland, as well as in smaller coastal towns in all states. Over 20 per cent of in-migrants between 1981 and 1986 to cities like Mandurah, Kiama, Coffs Harbour, Ballina, Maroochydore-Mooloolaba, Tewantin-Noosa and Hervey Bay were aged 55 years and over (Salt 1992). The reasons for this movement are non-economic in the sense that retirees are not moving for employment, but are motivated by the pull of the environmental and lifestyle attractions of these cities, and by the push of the environmental disamenity and social problems of their place of origin (Burnley 1988; Drysdale 1991; Murphy and Zehner 1988). However, retirement migration creates employment for younger people in construction, real estate, retailing, and community services. In coastal cities in northern NSW and Queensland the same attractions have created rapid growth through the tourism and recreation industries. This trend is sufficiently strong for Mullins (1988) to argue for the growth of "consumption cities" along Australia's eastern seaboard. He considers that these cities are dominated by non-productive industries and that they represent a new phase of urbanisation in Australia.

A more widespread advantage of regional cities, especially for manufacturing, is the possibly lower cost of operations in regional cities compared to metropolitan cities. The labour force advantages of regional cities have been widely reported (NSW Country Mayor's Association 1993; Industry Commission 1993; Murphy et al. 1991; Owen 1993). In the area of industrial relations, these advantages encompass a more productive labour force, lower rates of staff turnover, more co-operative employer-employee relationships and, the ability to attract some staff to cities with perceived lifestyle advantages. Other benefits include lower land costs, a positive community attitude to economic development, including assistance from local government in the processing of development applications and the siting of factories; site advantages such as access to deep water ports, an attractive environment or proximity to major markets.

CONCLUSION

This paper has argued that Australia's regional cities are taking a more prominent role within the Australian urban system. Their share of the nation's population has risen and they accommodate an increasing proportion of the country's productive capacity. They are central to Australia's exports. In proportionate terms, regional cities are the fastest growing component of the urban system. Cities with populations of between 10,000 and 100,000 have increased their share of the national population from 8.4 per cent in 1947, to 12.9 per cent at the 1991 Census. This growth is at odds with the literature on

urbanisation in Australia which has emphasised the primacy of the capitals and the advantages they enjoy relative to other parts of the urban system.

The growth of regional cities is indicative of more fundamental change within the Australian urban system. The relatively rapid growth of regional cities between 1976 and 1991 is a function of the growing importance of national markets. They have contributed to the decline of the established state-based urban systems and the emergence of a national urban system. National economic change, including the reduction of tariff protection and financial de-regulation, has encouraged enterprises to look to national or international markets, rather than the market within their home state. This change has eroded the accessibility advantages traditionally associated with a location in one of the capitals, and encouraged the growth of businesses, such as manufacturers, in regional cities. Manufacturers in particular have moved to regional cities because the loss of industry protection has forced them to seek competitive advantages. The expansion of tourism and recreation industries has been a second important cause of growth.

Regional cities in Australia have increased their standing within the national urban system because of a new and distinctive set of economic conditions. Greater exposure to national and international markets has encouraged their growth, often as specialist centres. It is likely that these trends will have a profound and persistent influence on economic activity and urban development, and effectively reshape the pattern of settlement in Australia.

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THE NATIONAL SETTLEMENT SYSTEM OF ITALY AT THE BEGINNING OF THE 1990s

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ABSTRACT: The Paper presents recent changes in the Italian settlement system and variations in urban hierarchical relations. Functional classification of towns and their new position compared with the situation at the beginning of 1980s, is newly proposed in terms of three categories of cities, medium-sized towns and small towns. The analysis and verification attempted in this study have revealed a marked reduction in the number of small towns as well as shifts in functional characteristics within urban areas in Italy.

KEY WORDS: Urban system, urban functions, Italian towns, urban geography, development services in towns.

In the light of recent changes in the Italian settlement system due to demographic behaviour and variations in urban hierarchical relations, it seemed appropriate to return to past studies on this subject (Cori, 1984, 1986). To do this we based our research on the classification of towns and cities drawn up at the beginning of the 1980s. Proposing once again the three broad categories — “cities”, “medium-sized towns” and “small towns” — we analysed each centre with respect to the presence of different functions and, comparing these to the previous situation, applied a functional score to each one in order to establish its new position in the urban hierarchy.

AIMS OF THE RESEARCH: OBJECTIVES AND METHODS

The most recent population movements on the territory and, more generally, the processes of spatial reorganisation, which have also been taking place in Italy for several decades now, have caused major transformations in the settlement system.

Apart from being linked to demographic behaviour, many of the current changes are related to the qualitative variation in urban hierarchical relations which has led one to talk of a progressing substitution, within the spatial

organisation, of the Christaller model with a reticular structure of strongly inter-connected centres (Dematteis 1990). If we exclude on the one hand the highest urban levels, which correspond more or less to the national and regional capitals, and on the other, the less important centres of the urban network usually situated in rural contexts, we find a group of intermediate centres characterised by close ties of interdependence, as well as by a marked productive specialisation, with phenomena of functional complementarity.

The main aim of this work is therefore, considering the need for a new picture of the settlement order of the country, to update the already existing research on the Italian urban network and in particular the so-called "Bellucci list", that is a classification of Italian towns and cities carried out at the beginning of the 1980s (Bellucci 1983).

Taking as still valid the division of the centres into three broad categories of "cities", "medium-sized towns" and "small towns" and, below this threshold, into a heterogeneous group of communes with no distinct urban characteristics (those defined by us as "non-towns"), we have especially tried to verify to what extent these classes affect the present settlement system; that is, to verify their power, both absolute and in relation to the other groups, to determine the general order at the national level. Once the functional assets of the centres had been calculated, expressed with a qualitative points system, each one was checked in order to verify the today's validity of Bellucci's classification of the centres into one of the four categories: "cities", "medium-sized towns", "small towns" and large centres of an elementary level. Having made a comparison between the functional scores and the positions occupied previously in the urban hierarchy by each centre, it was possible, by means of a system of promotion and relegation, to revise the size of the dimensional classes on which the classification of the towns and cities is based.

The primary category of analysis in our study, as in all previous research, is the **commune**, this being the smallest administrative unit of territorial reference, and the basic statistical measurement for the official survey bodies. Particularly useful in our case were the data supplied by the Istituto Nazionale di Statistica (Istat) regarding the last population census carried out at the end of 1991, provisional results of which were available to us. Out of a total of 8100 communes, 2192 were analysed. This number was determined by the decision to impose a minimum demographic threshold of 5000 inhabitants, a figure also present in previous investigations which, although also considering centres below this threshold, believed the reaching of this level to be indispensable in order to have a sufficiently high urban potential in each locality.

The methodology used in this work was that of breaking down the functional-city system, in itself multifunctional and with strong internal synergic relations, into many monofunctional entities through the individualisation of the spatial elements which constitute the projection on the territory of the various functions (schools, hospitals, shopping centres, etc.). The aim of this operation is to reach a definition of the rank of a town or city in terms of its individual functions, which will then allow us to establish the functional

level. This procedure is in practice made possible by appointing of a certain score to each of the variables examined in order to be able to compare and to group together the results thus obtained.

Research into, and the study of urban functions is therefore fundamental in establishing the position of a city or a town within the urban hierarchy, its capacity of spatial polarisation, and more generally its ability to give rise to autonomous forms of development. Among the various services which could have been considered, only those groups of functions already used in the numerous studies on urban typologies of a functional dimension were analysed (Costa et al. 1976; Cori et al. 1980). In particular, the presence of administrative, health, educational, financial and commercial services was examined, and for obvious reasons the same five functions have been evaluated as principal indices in our analysis, although these were supplemented at a later stage of the research by a further two groups of services regarding transport and the mass-media.

All seven of the functions studied, measured in absolute values, derive from statistical surveys, as does the resident population. The data was collected entirely through the consultation of various kinds of specialised publications (Annuario Seat, ABI, Guida Monaci, Annuario Generale del TCI, etc.), as well as the official sources of statistics (Istat, Ministry of Education). As regards the functions taken individually we used the following sources: for the **administrative function**, besides the offices related to a centre's role as regional and/or provincial capital, the services relative to the legal structure and public order, as well as the categories of intermediate administrative bodies (Tax Office, Registry of Deeds, Local Health Authority) and that of church-related institutions (episcopal seat). The data regarding such a heterogeneous functional whole were obtained respectively from the Dizionario dei Comuni, the Guida Monaci publication on the Local Health Authorities (Usl) and from the Calendario Atlante De Agostini.

As regards the **health function**, public and private hospitals were taken into consideration, with reference to the number of beds and clinical specialisations available, as recorded by Istat health statistics. This last source also formed the basis for the analysis of the **educational function**, especially for the data on university structures differentiated by student and faculty numbers. Also consulted for this sector were the ministerial publications on secondary schools and "special" institutions (music and art schools).

As for the **financial function**, the Annuario Bancario Italiano (ABI) was consulted for data regarding the number of bank counters in each centre, while for the **commercial function** we referred to the Seat yearbooks of various economic categories: the "food" and "clothing" catalogues for services to families, and the "business services" catalogue for production support activities. The latter type of documentation proved extremely useful for our purposes considering the lack of official surveys giving an overall picture of the structure of economic activities, though it also presented some objective limitations. In fact, none of the surveys carried out by private bodies, which aim to meet the advertising needs of the individual companies, offer a complete

picture of the activities present on the market. Besides, seeing as they respond to a specific request, they do not always place an activity in a category appropriate to what that activity offers (for example, it is common to find big supermarkets and small grocery shops under the same heading, both being retailers belonging to the same distribution chain).

Once the collection of all the data had been completed, a homogeneous unit of measure was searched for, to allow the elaboration of a functional classification list of the 2192 communes arranged on the basis of their supply potential. For this purpose, an “**index of infrequency**” was adopted which inversely correlated the existence of a service with the frequency of the same service within the territory. This can be synthesized in the following formula: $I = C_{tot}/C_s$, where the numerator is the total number of communes and the denominator the number of communes where the service is present. It then follows that the less frequent the service, and therefore the lower the number of communes is found in the denominator, the higher the value of the index. Given that the index represents the score awarded to a locality capable of offering the service in question, if the service does not exist then the index value will be zero. The application of the index, and of some of its variants, made it possible to draw up the list of all the communes in descending order of importance, first within each function and then taking the five main functions as a whole. This in turn has allowed us to verify the classification of the early 1980s.

RESULTS OF THE RESEARCH: A CLASSIFICATION OF THE ITALIAN TOWNS AND CITIES

To arrive at the elaboration of a new “list” of Italian centres, with reference to their typology of a functional dimension (“cities”, “medium-sized towns”, “small towns” and large non-urban centres), an analytical procedure was introduced which allowed us to move from the simple list mentioned above to a real classification of the centres. Starting from the data for the individual functions, suitably standardised beforehand, we proceeded to a verification of the rank of the various services in the communes, as checked by Bellucci with reference to the 1981 data, taking her list of 15 “cities”, 168 “medium-sized towns” and 352 “small towns” as still valid. There was also a sizeable group of large communes (here also the limit of 5000 inhabitants was set as a threshold of the survey) which, not having the functional assets to entitle them to be listed even among the “small towns”, remained at the level of simple centres.

With the intention of verifying, and if necessary updating this classification, a comparison was made between the towns, cities and centres studied previously and the positions occupied by the 2192 communes of our analysis for each of the five functions; this was done through classification of the centres in descending order of importance and the subsequent elaboration of this for each function. If it was found on the basis of this detailed study that for a given function,

a centre occupied the same position on the scale as that determined by Bellucci, or a position still within the same category, it was given a neutral value. However, if the position varied to the extent that the centre changed category, the centre was given a positive value in case the movement was towards a higher category of the urban hierarchy, and a negative value in case it was towards a lower one.

Let us give an example in order to make the procedure clearer, with reference to some towns and cities belonging to the urban network of Tuscany: Florence, which was a "city" according to the "Bellucci list", should be found among the first 15 positions of the scale of the function being examined; Pisa, a "medium-sized town", should instead be found in the section of the scale which includes position numbers 16 to 183 (168 "medium-sized towns" plus the 15 "cities"); finally, Portoferraio should be included between the 184th and the 535th position. If these conditions do not occur, a positive "+" or negative "-" value is given (remembering that if the condition is satisfied a zero value is given) depending on whether the shift is upwards or downwards in the urban hierarchy.

Once this operation has been repeated for each of the five functions (administration, health, education, banking and services) we have a picture of the total variations of each centre. The results show a great heterogeneity of situations, as it was to be expected: there are examples of towns characterised by five neutral values so that they remain by right in the category assigned to them by Bellucci, and of others having five "-" values so that they are automatically relegated to the category below; much more frequently there are less well-defined situations which need to be weighed up one by one according to the category to which the centre belongs. Broadly speaking, we can say that variations within the group of "cities" were minimal while those concerning the other two categories were more numerous, especially that of "small towns" which was reduced by more than 100 units.

As far as the first category is concerned, all those cities established as such in the past were reconfirmed as still belonging to this category, although there was some discussion over Trieste which gained five negative values and therefore a substantial loss of position — and class — in all of the functions examined. In order to individualise the "medium-sized towns" with the requisites necessary to justify a promotion to "cities", it was decided that two upward movements (two "+" signs out of a total of five) were sufficient: this was the case of only two towns, namely Brescia and Messina, which resulted in an increase of the number of "cities" from 15 to 17. Out of all the other "medium-sized towns" several registered a positive movement in one of the five functions, but this (as we have seen) was not enough for them to reach the next category.

On the contrary, there were quite a number of centres which dropped to the lower category of the urban hierarchy in one or more functions. All those towns defined as "medium-sized" by Bellucci which showed a loss of position in all five functions as well as in four out of five, were moved into the group of "small towns". The other centres with negative shifts of three or two points were evaluated carefully, each value being looked at within each function and, if necessary, the centre was declassified. On the whole only the position of those settlements which registered a single variation, whether positive or negative, were considered valid

and therefore not subject to verification, in this category as in the others. Therefore, having decided that all variations of 1 point were valid, the analysis of the class of intermediate centres, reduced by 39 units, ended. The original list of 168 "medium-sized towns" classified by Bellucci contracted to 129 in this study.

In the examination of the last of the three dimensional classes slightly different criteria were adopted. It was considered no longer sufficient to have a double positive sign (two "+" signs out of a total of five) in order to be promoted from the class of "small" to that of "medium-sized" towns, as had been the case for centres of intermediate size. In fact, following the ever more rapid processes of spatial diffusion of many of the services, a progressive lowering of the urban threshold is taking place: this phenomenon led us on the one hand to consider in our survey many high level services, and on the other to "expect" improvements in several functions for a centre to be able to be qualitatively promoted.

From this it follows that if only two positive signs were necessary for an urban centre to be promoted from "medium-sized town" to "city", in the lower hierarchical levels at least four or three are needed (obviously five "+" automatically authorises a change of category). The result of this is that only 10 "small towns" were promoted into the higher category which therefore loses 39 centres overall because of the substantial number of relegations. Still within the class of the "small towns", those communes which showed a strong tendency towards a downwards functional movement, that is with five, four or three negative signs, were declassified to simple centres. For the more uncertain cases, for example the towns with a loss of position — and consequent demotion — in two out of five functions, an analysis was carried of the individual scores gained by the centre for the various services examined previously.

Once these cases had been closely examined one by one, there were 222 towns left in the category of "small towns" compared with the 352 identified by Bellucci, a difference of 130 centres. Such a considerable decrease can only be justified by the great changes taking place in the economic system and in the settlement order of Italy. These changes can be explained on the one hand by the processes of spatial diffusion of the higher order functions, until recently a prerogative of the urban dimension alone and whose range of supply is currently undergoing increasing development; on the other hand by the fact that the most common services are at the same time becoming more and more frequent.

The small number of promotions of some communes — to be precise, seven, already included in the 222 total units — from the mere level of centre to that of town were not sufficient to balance the great reduction in the category of "small towns". The small number is easily explainable by the fact that in this case the criteria for promoting a centre were even more selective than in the preceding categories : the large non-urban communes had in fact to present at least five or four positive signs to be promoted to the level of town, so that a marked urban character was clearly evident from the rank of the various functions present. If the situation of three or two upward movements was registered, the usual analysis of the functional equipment of the single centre was carried out.

CONCLUSIONS

At this point in our research, having updated the classification of the Italian towns and cities, it is necessary to go on to the verification of the new "list" of settlements through the application of methodologies capable in some way of confirming or invalidating its accuracy. Dispersion measures were introduced in particular in order to see the distribution of the phenomenon in an attempt to determine sudden "jumps" relative to a change of category: the presence of interruptions in the continuous presence of a function would allow us to easily identify the passage from one level to another of the urban hierarchy.

Before beginning this verification stage it was decided to add other two variables to the already considered five functions; in this way the study gains further means of evaluating and assessing the real functional potential of a settlement. The functions chosen were **transport** and the **mass-media** which represent some of the main aspects of relations between a centre and the outside world. Once these two new functions had been added to our research, work began on the verification of the updating of the "old" classification which, as we have seen, can give rise to some perplexity and criticism because of the substantial variations introduced by this study — I refer here above all to the marked reduction in the number of "small towns" (Fig. 1).

It was decided in particular to apply certain statistical methodologies to measure the role played by each settlement in the urban system of Italy; their roles should be expressed not so much and not only in demographic terms, but with reference to their respective functional importance. The final objective is to see whether the centre under examination really belongs to the dimensional class to which it has been assigned; in other words, whether a town defined as "small" is really such with regards the range of services it offers. At the end of this verification the new elements already introduced in the first comparison with "Bellucci list" were substantially reconfirmed, in particular the marked reduction in the number of Italian towns and cities which decreases from the 535 centres previously identified to 368. (Fig. 2).

In fact, the only category which showed a slight increase was that of the "cities" while for the other two an overall loss was recorded, above all for the "small towns" which were reduced by more than a third. Going into more detail, the hypothesis of including Brescia and Messina among the "cities" was reinforced, bringing the category of centres to 17, while towns like Parma (which stands out in almost all the checking stages), Perugia, Ancona and Salerno, although functionally well-equipped, did not make it into this category. It is also worth noting that the town of Taranto, which has more than 200,000 inhabitants and which in an exclusively demographic evaluation would appear among the "cities", remains in quite a low position in the new functional classification.

The results concerning the group of "medium-sized towns" were also confirmed (129 in our survey compared with 168 in Bellucci's); among the newly-promoted are the towns of Chioggia, Lugo, Fabriano, Civitanova Marche, Aversa, Torre del

Greco, Andria, Martina Franca, Mazara del Vallo and Olbia. Among those relegated (47 in total) there are some rather “illustrious” names like the provincial capitals of Imperia, Isernia and Nuoro, and other well known towns, including: Verbania, Saronno, Castelfranco Veneto, Piombino, Orvieto, Senigallia,

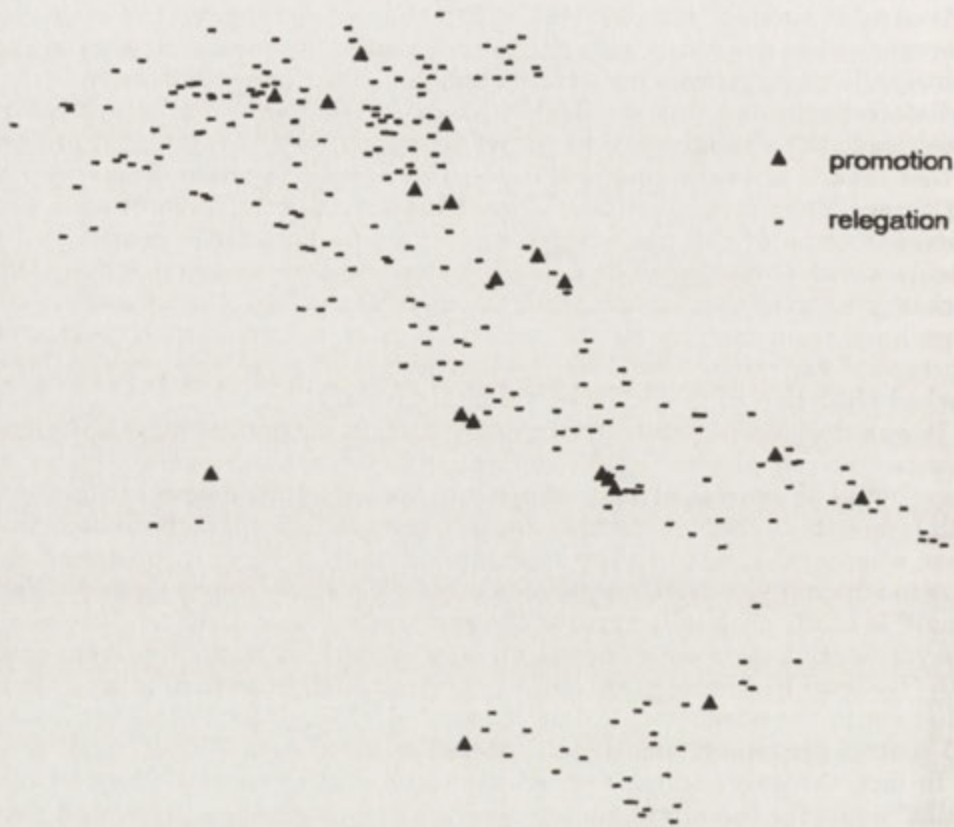


Fig. 1. The changes in rank within the urban hierarchy: towns and cities promoted and relegated

Cassino, Torre Annunziata and Caltagirone. As a result of the various relegations and promotions (including of course those of Brescia and Messina which moved up into the higher category) the category of “medium-sized towns” was significantly reduced, showing an overall loss of 39 centres.

It is interesting to note that three provincial capitals appear among the relegated towns; even though they undoubtedly represent less important urban centres, their downwards slide is nevertheless significant. In fact a phenomenon of progressive weakening of the urban hierarchy is now quite evident, linked above all to the loss of importance of the smaller towns and of

some of intermediate level centres such as Imperia. The disappearance of hierarchical relations between centres of different functional orders, and the contemporary development of reticular structures which allow new centres to emerge and grow autonomously, has actually determined on the one hand the

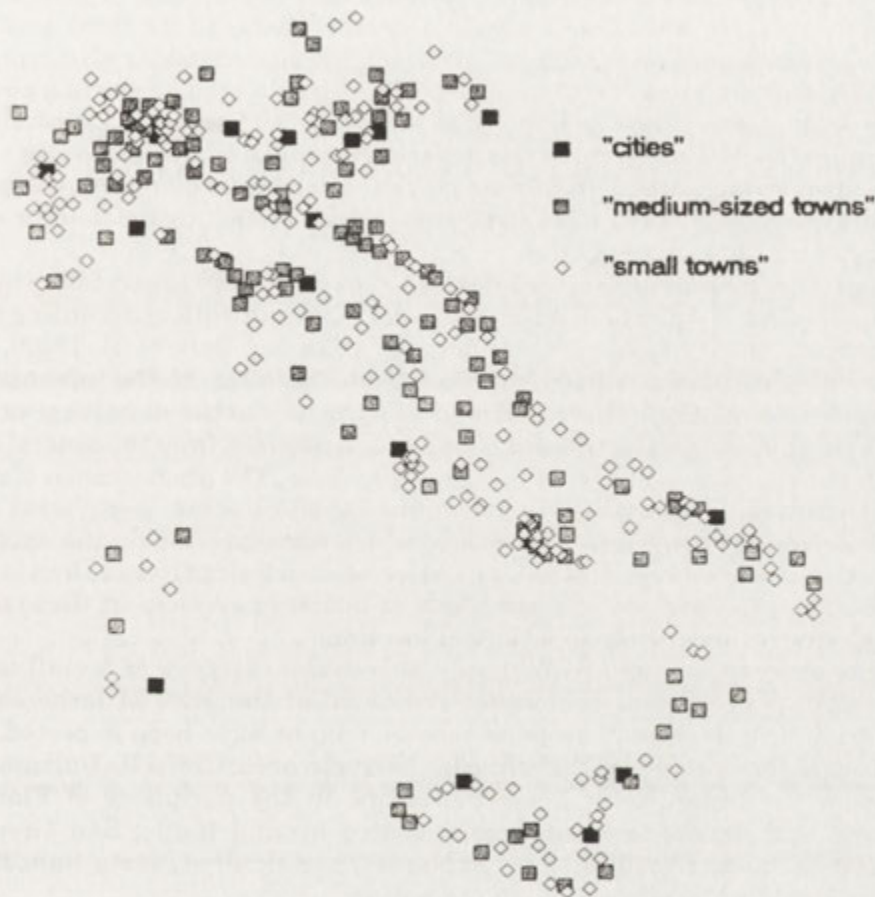


Fig. 2. The new Italian settlement system

formation of areas of functional complementarity, and on the other growing processes of ruralisation of the smaller towns.

Considering all this, it seems only natural that towns like Imperia, Isernia and Nuoro, which developed mainly as organisms of administrative decentralisation of the State — and which still retain an important position in the organisation of the territory because of this function — should greatly lose their capacity in the process of spatial polarisation as regards the majority of services. This loss can

be explained by the formation of an extended urban structure which determines processes of locational indifference of residence and manufacturing activities, therefore facilitating expansion even into areas considered marginal and now having multiple functions, something which was once only the prerogative of urban environments.

As regards the analysis of the intermediate settlements it is also worth noting the relegation to "small town" of Sesto San Giovanni, a large centre in the Milan area. It was declassified not so much owing to its final score but following a more general consideration which led us to consider all communes situated in the outskirts of the country's large urban systems to be in a position of close dependence upon the respective metropolitan 'core'. This is confirmed furthermore by the analysis of the functional assets of these centres which show a strong commercial and financial character but are underdeveloped in terms of general administrative structures, which almost seems to indicate an inability of autonomous growth.

In fact, these communes which developed as dormitory towns following the phenomena first of suburbanisation and later disurbanisation, according to the most famous "theory of the urban life cycle" (Van den Berg et al, 1982), have subsequently become equipped with numerous services, to the advantage of the resident population. This in turn opened the way to the massive processes of demographic and productive decentralisation directed from the central areas towards the peripheral areas of the big metropolises. The phenomenon of urban deconcentration has particularly determined the influx into peripheral areas of a whole range of services to families, which were previously the exclusive prerogative of the centre. The delocalisation of economic activities has instead favoured the proliferation of some kinds of business services in these areas, although many have retained a central location.

These observations naturally apply also to the category of "small towns" where several peripheral communes remained at the level of large centres without gaining the qualification of town, as might have been expected. This was the case for example of Nichelino in the Turin area; Cinisello Balsamo and Corsico in the Milan area; Sesto Fiorentino in the periphery of Florence; Ciampino and Guidonia Montecelio, situated around Rome; San Giorgio a Cremano in the metropolitan area of Naples, and finally Quartu Sant'Elena, now absorbed by the urban growth of Cagliari.

More generally speaking, the group of "small towns" includes just 222 settlements (previously 352); compared to the countless relegations, there were only seven centres upgraded to the "small towns" category: Pergine Valsugana, Bussolengo, Cervia, Falco, Nara Marittima, Pomezia, Aprilia, Casoria. The new "arrivals" are of course also include the 47 towns previously in the "medium-sized towns" category.

However, as the figures show, as many as 173 communes were declassified and brought to the level of simple centres; some interesting cases are those of Saló, Asiago, Cortina d'Ampezzo, Sestri Levante, Chianciano Terme, Follonica, Recanati, Tarquinia, Atri, Maglie, Nardó and Paola. In fact, the centres mentioned,

as well as several others, were classified in an earlier study on the hierarchy of Italian towns and cities (Da Pozzo et al, 1983) in the category of the so-called "small strong centres" or in that of the "small normal centres". Hence, their relegation to non-town category was not foreseeable. However, in the case of the "small weak centres", now urban centres of marginal importance in the territorial organisation, a relegation could have been predicted.

FUNCTIONAL CLASSIFICATION OF THE ITALIAN TOWNS AND CITIES

	COMMUNES	cat.		COMMUNES	cat.	COMMUNES	cat.	
1	Rome	G	55	Arezzo	M	109	Merano	M
2	Milan	G	56	Treviso	M	110	Vigevano	M
3	Naples	G	57	Siena	M	111	Casale Monferrato	M
4	Turin	G	58	Latina	M	112	Enna	M
5	Bologna	G	59	Lucca	M	113	Viareggio	M
6	Florence	G	60	Chieti	M	114	Gallarate	M
7	Palermo	G	61	Aosta	M	115	San Benedetto del Tronto	M
8	Bari	G	62	Avellino	M	116	Voghera	M
9	Genoa	G	63	Forlì	M	117	Barletta	M
10	Padua	G	64	Frosinone	M	118	Avezzano	M
11	Cagliari	G	65	Pesaro	M	119	Rovereto	M
12	Catania	G	66	Caserta	M	120	Ivrea	M
13	Venice	G	67	Macerata	M	121	Rho	M
14	Messina	G	68	Viterbo	M	122	Pinerolo	M
15	Trieste	G	69	Cesena	M	123	Aversa	M
16	Brescia	G	70	Rovigo	M	124	Legnano	M
17	Verona	G	71	Benevento	M	125	Civitavecchia	M
18	Perugia	M	72	Monza	M	126	Bassano del Grappa	M
19	Parma	M	73	Cuneo	M	127	Fano	M
20	Ancona	M	74	Matera	M	128	Marsala	M
21	Salerno	M	75	Pordenone	M	129	Foligno	M
22	Catanzaro	M	76	Trapani	M	130	Civitanova Marche	M
23	Pisa	M	77	Savona	M	131	Lamezia Terme	M
24	Trento	M	78	Brindisi	M	132	Conegliano	M
25	L'Aquila	M	79	Gorizia	M	133	Lugo	M
26	Pavia	M	80	Prato	M	134	Andria	M
27	Lecce	M	81	Verceli	M	135	Jesi	M
28	Udine	M	82	Pistoia	M	136	San Dona' di Piave	M
29	Modena	M	83	Asti	M	137	Chioggia	M
30	Sassari	M	84	Caltanissetta	M	138	Gela	M
31	Potenza	M	85	Teramo	M	139	Torre del Greco	M
32	Bolzano	M	86	Biella	M	140	Martina Franca	M
33	Foggia	M	87	Terni	M	141	Mazara del Vallo	M
34	Bergamo	M	88	Oristano	M	142	Fabriano	M
35	Vicenza	M	89	Ragusa	M	143	Molfetta	M
36	Cosenza	M	90	Ascoli Piceno	M	144	Chiavari	M
37	Ferrara	M	91	Agrigento	M	145	Olbia	M
38	Pescara	M	92	Busto Arsizio	M	146	Empoli	M
39	Campobasso	M	93	Imola	M	147	Urbino	P
40	Taranto	M	94	Belluno	M	148	Fermo	P
41	Reggio nell'Emilia	M	95	Grosseto	M	149	Bisceglie	P
42	Reggio di Calabria	M	96	Rieti	M	150	Nuoro	P
43	Alessandria	M	97	Carrara	M	151	Imperia	P
44	Como	M	98	Faenza	M	152	Tivoli	P
45	Piacenza	M	99	Massa	M	153	Cassino	P
46	Siracusa	M	100	Crotone	M	154	Lanciano	P
47	Ravenna	M	101	Lecco	M	155	Castelfranco Veneto	P
48	Novara	M	102	San Remo	M	156	Saronno	P
49	Livorno	M	103	Lodi	M	157	Monopoli	P
50	Varese	M	104	Capri	M	158	Spoletto	P
51	Mantova	M	105	Castellammare di Stabia	M	159	Feltre	P
52	Rimini	M	106	Sondrio	M	160	Isernia	P
53	Cremona	M	107	Crema	M	161	Adria	P
54	La Spezia	M	108	Vibo Valentia	M	162	Cava de' Tirreni	P

163	Alba	P	220	Poggibonsi	P	277	Lissone	P
164	Caltagirone	P	221	Pescia	P	278	Cecina	P
165	Manfredonia	P	222	Cernusco sul Naviglio	P	279	Desenzano del Garda	P
166	Sesto san Giovanni	P	223	Borgomanero	P	280	Castiglione delle Stiviere	P
167	Riva del Garda	P	224	Fossano	P	281	Bitonto	P
168	Moncalieri	P	225	Augusta	P	282	Gubbio	P
169	Termoli	P	226	Cerignola	P	283	Palmi	P
170	Nola	P	227	Darfo Boario Terme	P	284	Brunico	P
171	Treviglio	P	228	Galatina	P	285	Ozieri	P
172	Sulmona	P	229	Portogruaro	P	286	Francavilla Fontana	P
173	Bressanone	P	230	Trani	P	287	Legnago	P
174	Acireale	P	231	Arona	P	288	San Lazzaro di Savena	P
175	Thiene	P	232	San Donato Milanese	P	289	Bagheria	P
176	Mondovì	P	233	Montepulciano	P	290	Villafranca di Verona	P
177	Rossano	P	234	Barcellona Pozzo di Gotto	P	291	Bussolengo	P
178	Sora	P	235	Anzio	P	292	Mirano	P
179	Sassuolo	P	236	Putignano	P	293	Seregno	P
180	Frascati	P	237	Cantu'	P	294	Camerino	P
181	Sciacca	P	238	Gaeta	P	295	Merate	P
182	Capua	P	239	Mirandola	P	296	Ventimiglia	P
183	San Severo	P	240	Albano Laziale	P	297	Castrovillari	P
184	Tortona	P	241	Giulianova	P	298	Casarano	P
185	Desio	P	242	San Giovanni Rotondo	P	299	Partinico	P
186	Schio	P	243	Montecatini-Terme	P	300	Portici	P
187	Pontedera	P	244	Noto	P	301	Ischia	P
188	Alghero	P	245	Piazza Armerina	P	302	Terracina	P
189	Pozzuoli	P	246	Volterra	P	303	Carbonia	P
190	Senigallia	P	247	Ostuni	P	304	Vignola	P
191	Eboli	P	248	Chieri	P	305	Sessa Aurunca	P
192	Modica	P	249	Assisi	P	306	Omegna	P
193	Fidenza	P	250	Monfalcone	P	307	Alcamo	P
194	Formia	P	251	Milazzo	P	308	Tradate	P
195	Albenga	P	252	Dolo	P	309	Cefalù	P
196	Vittorio Veneto	P	253	Vimercate	P	310	San Miniato	P
197	Velletri	P	254	Giarre	P	311	Guastalla	P
198	Verbania	P	255	Nicosia	P	312	San Giovanni in Persiceto	P
199	Acqui Terme	P	256	Domodossola	P	313	Osimo	P
200	Città di Castello	P	257	Riccione	P	314	Casoria	P
201	Piombino	P	258	Cento	P	315	Monselice	P
202	Nocera Inferiore	P	259	Codogno	P	316	Gioia del Colle	P
203	Locri	P	260	Acquaviva delle Fonti	P	317	Viadana	P
204	Bra	P	261	Tempio Pausania	P	318	Melfi	P
205	Saluzzo	P	262	Rapallo	P	319	Ortona	P
206	Vittoria	P	263	Montebelluna	P	320	Paterno'	P
207	Novi Ligure	P	264	Cittadella	P	321	Scandiano	P
208	Altamura	P	265	Ariano Irpino	P	322	Chivasso	P
209	Iglesias	P	266	Canicattì	P	323	Orbetello	P
210	Lucera	P	267	Lentini	P	324	Montichiari	P
211	Vasto	P	268	Tolmezzo	P	325	Giuliano in Campania	P
212	Magenta	P	269	Gallipoli	P	326	Fasano	P
213	Santa Maria Capua Vetere	P	270	Savigliano	P	327	Pomigliano D'Arco	P
214	Rivoli	P	271	Castelvetrano	P	328	Torre Annunziata	P
215	Sarzana	P	272	Patti	P	329	Portoferraio	P
216	Battipaglia	P	273	Termini Imerese	P	330	Manduria	P
217	Pomezia	P	274	Este	P	331	Correggio	P
218	Orvieto	P	275	Melegnano	P	332	Fiorenzuola d'Arda	P
219	Abbiategrasso	P	276	Valdagno	P	333	Pergine Valsugana	P

334	Borgosesia	P	346	Canosa di Puglia	P	358	Corigliano Calabro	P
335	Licata	P	347	Motara	P	359	Sorrento	P
336	Oderzo	P	348	Falconara Marittima	P	360	Romano di Lombardia	P
337	Cirie'	P	349	Valenza	P	361	Marcianise	P
338	Cortona	P	350	Taormina	P	362	Carmagnola	P
339	Sacile	P	351	Corato	P	363	Morbegno	P
340	Erba	P	352	Alatri	P	364	Fondi	P
341	Cervia	P	353	Sansepolcro	P	365	Ribera	P
342	Tolentino	P	354	Cesenatico	P	366	Luino	P
343	Marino	P	355	Figline Valdarno	P	367	Cattolica	P
344	Aprilia	P	356	Cividale del Friuli	P	368	Todi	P
345	Arzignano	P	357	Afragola	P			

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CORPORATE SPACE AND EMERGING SPATIAL ORDER IN JAPAN

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ABSTRACT: Following the economic growth in Japan after second world war the urban population has increased from 37% to 77% of the total in 1990. Three major metropolitan areas account for about half of the total population of the country. Location of corporate headquarters leads to an emergence of the new spatial order in the country. Corporations seem to have their spatial preferences for headquarters, central and that for sub-branches: this results in the emergence of a specific spatial pattern. Along with the government offices they create Administered Space, a construction serving the whole system of capitalist economy.

KEY WORDS: Japan, urbanization, functional spatial units, functional order, corporate organizations, formation of urban system.

INTRODUCTION

Since the Second World War, Japanese economy has achieved phenomenal growth in relatively short period of time. In these processes, socio-economic maps in Japan has drastically been changed (see Table 1).

In 1950, more than 48 percent of working population were engaged in primary sector, 22 percent in secondary and 30 percent in tertiary sectors respectively. By 1990, the percentage in primary sector had rapidly decreased to only about 7 percent and concomitantly great changes had also taken place in other sectors, putting 34 percent of the working population in secondary and 59 percent in tertiary sector.

Figures for classes of workers show that 39 percent were employees, 26 percent were self-employed and 35 percent were unpaid family workers in 1950. A fairly equal distribution among the sectors can be recognized. By 1990, however, these percentages had altered dramatically, that of employed workers climbing to 78 percent while those of self-employed and unpaid family workers had dropped to 14 percent and 8 percent.

Due to these shifts, the urban population, which had been only 37 percent in 1950, grew to 77 percent by 1990. Especially, the three major metropolitan areas of Tokyo, Osaka and Nagoya, which together account for about half of the total population, expanded rapidly. The concentration on the Tokyo Capital Region has been particularly eminent and caused the serious city problems there. By contrast, the rural areas occupying most part of the national land lost their economic importance and were abandoned to the mercy of national development projects.

TABLE 1. Socio-economic Changes in Postwar Japan

Index	1950	1970	1990
Workers by industry sectors			
Primary sector	48.2%	17.4%	7.2%
Secondary sector	21.9	35.1	33.6
Tertiary sector	29.7	47.5	59.2
GDP by industry sectors			
Primary sector	26.0	11.4	2.5
Secondary sector	31.8	37.1	39.3
Tertiary sector	42.2	51.5	58.2
classes of workers			
Employees	39.3	65.0	77.6
Self-employed	26.2	19.2	14.1
Unpaid family workers	34.5	15.8	8.3
Populations by urban & rural			
Rate of urban population	37.3	72.1	77.4
Rate of rural population	62.7	27.9	22.6
Total	84.1 mil.	104.7 mil.	123.6 mil.

Source: Nihon Kokusei Zue Kokuseisha.

Under these rapid economic changes, Japanese way of looking at things and their sense of value had dramatically been changed. These were deeply concerned with the disorganization of traditional social and economic systems built upon traditional ideas, and brought about a highly capital oriented social and economic systems. As a result of these, functionally and rationally unified spatial order has emerged clearly in Japan.

Though these processes apparently took on a chaotic aspect at each local phase, these were the very processes in a larger sense to incorporate individual regions into the whole spatial system rationally, based on economic functions and importance.

In this paper, the actual conditions of changing spatial systems in Japan will be made clear by analyzing the behavioral pattern of 1,138 major manufacturing corporations and 20 insurance companies. The number of manufacturing corporations covered in this research reach more than 90 percent of the corporations listed in the Tokyo, Osaka, Nagoya and other local stock exchange markets in Japan.

Also, in this paper, a logic of the ways of organizing space and a key to grasp the contemporary meaning of spatial reorganization will be discussed.

SOME IDEA ON AN ACTUAL CONDITIONS OF SPATIAL SYSTEM

As the driving forces for forming spatial system, including urban system, or as the organizers of spatial system, we have to consider the corporate behavior. Why did they build up present system. What kind of system do they want to finally construct. How do they manage the system.

Japan is a country which has probably the most clear-cut spatial order in the world. It takes a huge pyramid type which connotes highly centralized and hierarchical structure which reflects the corporate strategy in itself. So, when we take up spatial systems at any regional level such as national, international or even local level, the evaluation of corporate spatial behaviors becomes important.

Their huge spatial organizations cover the whole country and even beyond the national boundaries to all over the world. If we think of the subsidiaries and other related companies, their spatial organizations become even more gigantic. As a corporate size grows, the spatial division of labor within corporate organization gains its importance. We can see a part of this point concretely in a set of arrangement of 'spatial units'¹. Through the arrangement of spatial units, a more organizationally linked urban system came to the fore. Therefore, by analyzing these corporate behavior, the mechanism and the contemporary meaning of the formation of urban system can be made clear.

THE CHARACTERISTICS OF HEADQUARTER LOCATION

SINGLE-HEADQUARTER SYSTEM

Figure 1 shows an actual conditions of the concentration of headquarters in the very limited number of cities. A city in which major corporate headquarters are located generally has very much implication on space and imprints itself as the largest node of economic flow, since it situates on the top of the huge hierarchically organized spatial systems which are constructed by sub-spatial units.

The largest concentration of headquarters can be seen in Tokyo. Of 1,138 corporations, about half of them have a headquarter within the city of Tokyo. This number has increased from 552 in 1977 to 587 in 1991.

Conversely, Osaka, with second largest concentration, shows a decrease from 157 to 153. Nagoya, with third largest concentration, also decreased in number from 38 to 32. Kyoto 27 to 23, Kobe, Yokohama and Kawasaki 22 to 21. There are 8 cities which have more than 10 headquarters, 12 cities have 4 to 9, 17 cities

¹ The 'Spatial units' is a functional unit: headquarter, branch offices, sub-branch offices, research and development centers and plants.

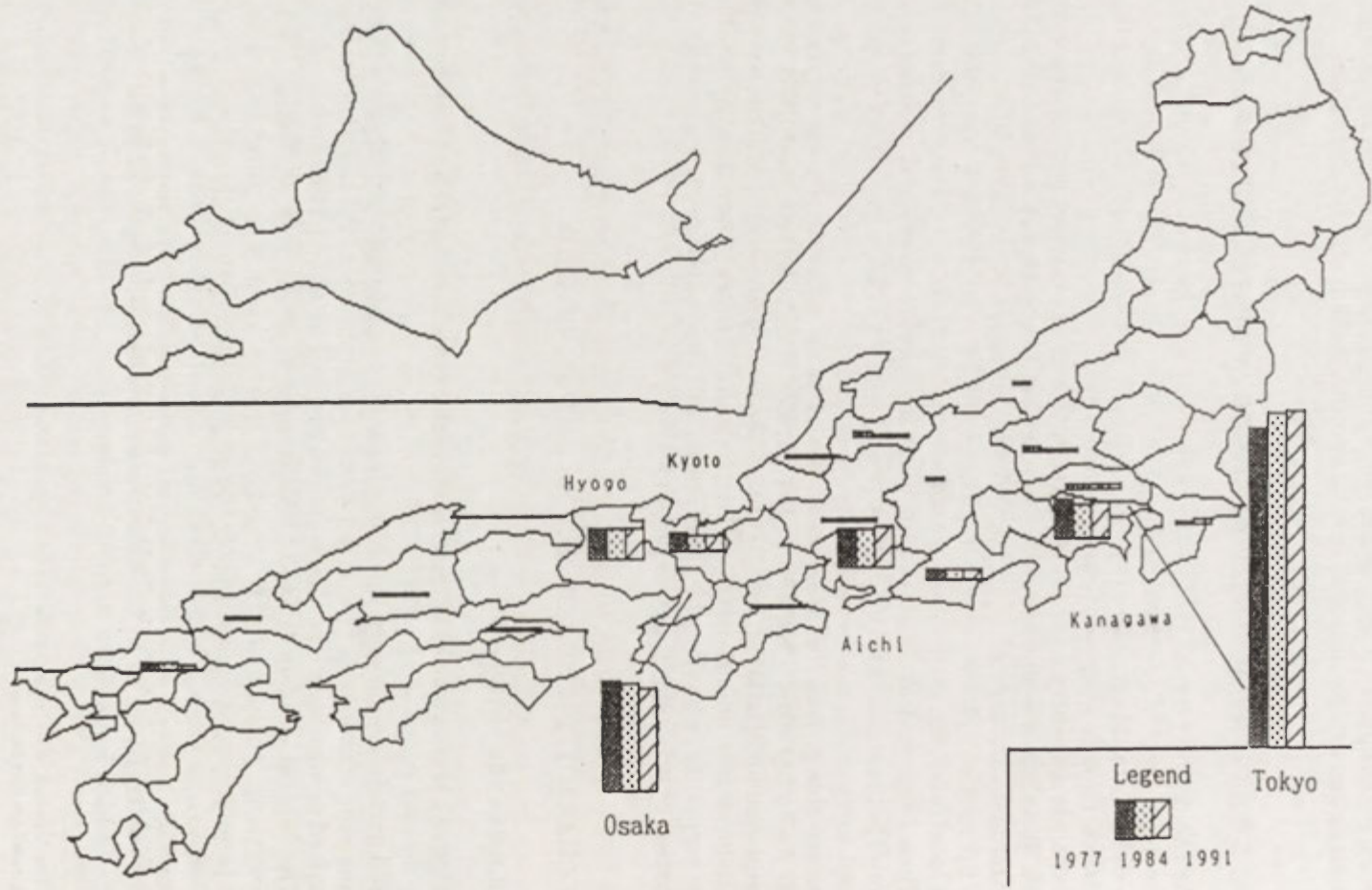


Fig. 1. Locational Pattern of Headquarters of Major Manufacturing Corporations

<http://rein.org.pl>

have 3, 27 cities have 2 and 105 cities have 1 headquarter each. Altogether, the number of cities which have at least one headquarter of major manufacturing corporation equals 169 which correspond to about 5 percent of the total number of municipalities in Japan.

The headquarter relocation is substantially more dynamic. When we look at the history of each corporation, of 1,027 corporations for which data are available, 341 corporations moved their headquarter at the inter-city level. Of them, 53 percent, i. e. 181 corporations moved their headquarter to the city of Tokyo from other part of the country. 47, corresponding to 14 percent moved out of the city of Tokyo, mainly to its suburbs. If we look at this more in detail, we find that the corporations become larger in size, they tend to show higher concentration in the city of Tokyo.

For example, out of 124 corporations that belong to the largest group with a capital of more than 100 million US-dollar. 51 corporations have changed headquarter location; 78 percent of them, i. e. 40 corporations moved their headquarter to the city of Tokyo, while 7 to the city of Osaka. Out of 139 corporations that belong to the next largest group, with a capital from 50 to 100 million US-dollar, 56 corporations changed headquarter location. About 66 percent of them, i. e. 37 moved to the city of Tokyo and 9 to the city of Osaka. The number of corporations that belong to the third group, with a capital from 10 to 50 million US-dollar amount to 522. 163 of them changed headquarter location; 78, about 48 percent moved to the city of Tokyo and 25 to its suburbs, while 10 to the city of Osaka and 4 to its suburbs. The number of corporations that belong to the fourth group, with a capital of less than 10 million US-dollar, are 242. 71 of them changed headquarter location: 26, about 37 percent of them moved to the city of Tokyo and 19 to its suburbs, while 3 to the city of Osaka and 3 to its suburbs.

Thus, we can point out that the locational change of corporate headquarters becomes more dynamic in the larger size groups and takes clearer concentrative form in very limited areas within the Capital space.

Figure 2 shows that the location of corporate headquarters is spatially limited to very central part of Tokyo such as Chiyoda-ward, Chuo-ward and Minato-ward areas. About two third of major corporate headquarters are located in these parts of the city.

DOUBLE-HEADQUARTER SYSTEM

There emerged another movement which reinforces the control and administrative functions of Tokyo. That is the adoption of two-headquarter system. 42 corporations had adopted this system within the period of 1955 to 1982. Of them, 36 corporations have newly established the second headquarter in Tokyo, so-called "Tokyo Honsha (=Tokyo Head Office)". This trend becomes eminent particularly in the larger size corporations.

As a result of these trends, the substantial component ratio of Tokyo in each group went up to 38.4 percent in IV, 49.7 percent in III, 58.4 percent in II and 76.9 percent in I category.

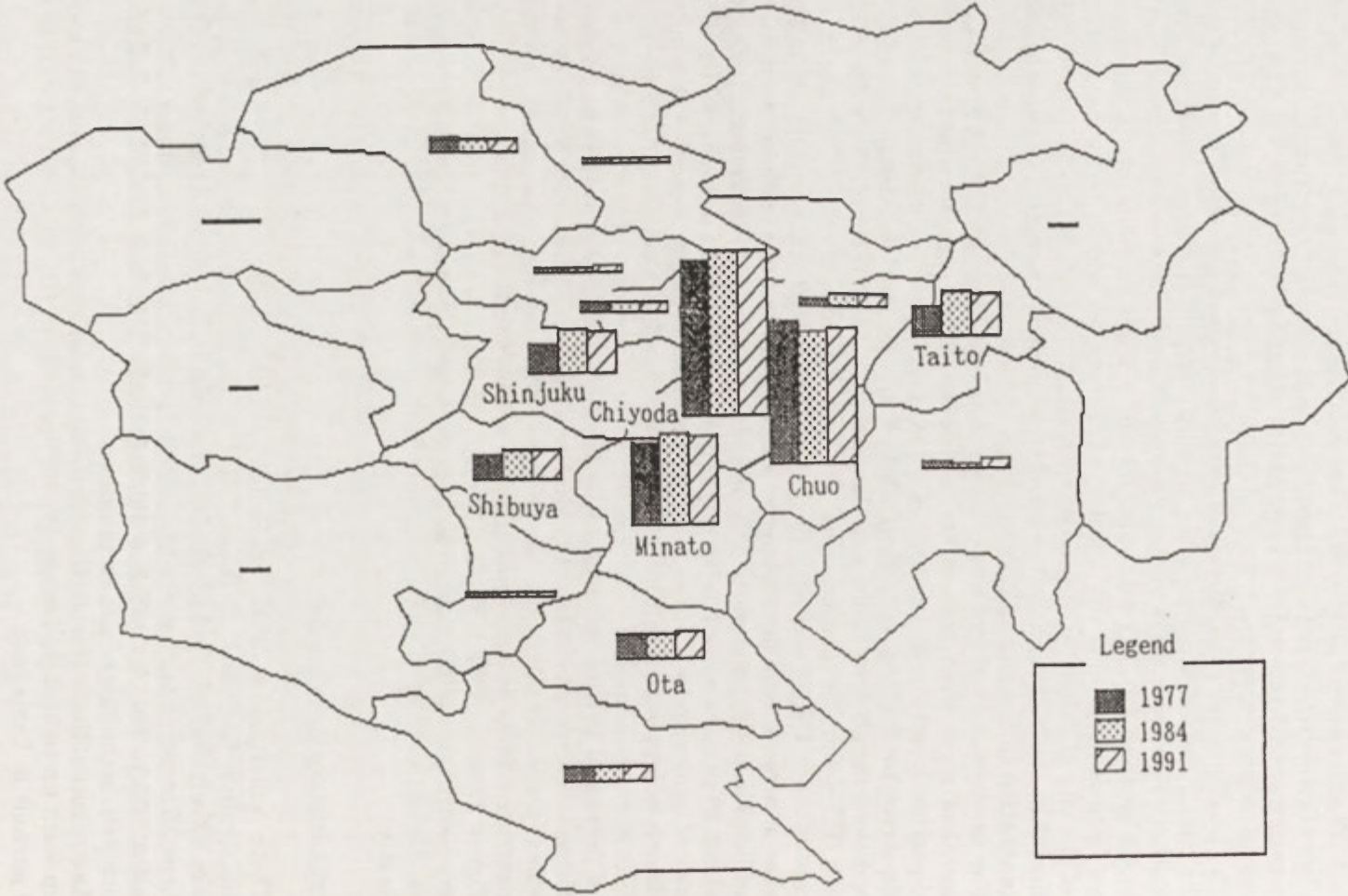


Fig. 2. Spatial Characteristics of Headquarter Location within the City of Tokyo

TABLE 2. Locational pattern of corporate headquarters by numbers and cities in 1955

	IV		III		II		I		Total
Tokyo	69	(47.3%)	201	(48.4%)	71	(46.0%)	4	(40.0%)	345 (50.6%)
Osaka	12	(8.2)	69	(16.6)	19	(17.1)	1		101 (14.8)
Kobe	7	(4.8)	10	(2.4)	5	(4.5)	1		23 (3.4)
Nagoya	8	(5.5)	12	(2.9)	1				21 (3.1)
Yokohama	7	(4.8)	7	(1.7)	2	(1.8)			16 (2.3)
Kyoto	2	(1.4)	9	(2.2)	1				12 (1.8)
Kawasaki	2	(1.4)	6	(1.4)	2	(1.8)	1		11 (1.6)
Amagasaki	2	(1.4)	7	(1.7)			1		10 (1.5)
Sakai	2	(1.4)	5	(1.2)	1				8 (1.2)
Kariya			6	(1.4)					6 (0.9)
Others	35	(24.0)	83	(20.0)	9	(8.1)	2	(20.0)	129 (18.9)
Total	146	(100.0)	415	(100.0)	111	(100.0)	10	(100.0)	682 (100.0)
No. of city & town	(42)		(76)		(17)		(7)		(108)

Note:

1) Corporations are classified into four groups by capital size.

I = 50 mil. US-dollar ~ II = 10 ~ less than 50 mil. US-dollar

III = 1 ~ less than 10 mil. US dollar IV = 0.1 ~ less than 1 mil. US dollar

2) Numerical values enclosed in parenthesis below Total show number of cities which have at least 1 headquarter of major corporation.

Source: Historical record of each corporation listed on the Tokyo, the Osaka and the other Stock Exchanges, Kaisha Nenkan published by the Nippon Keizai Shinbunsha and author's own hearings.

TABLE 3. Locational pattern of corporate headquarters by numbers and cities in 1982

	IV		III		II		I		Total
Tokyo	137	(36.8%)	232	(46.5%)	70	(56.0%)	79	(67.5%)	518 (46.5%)
Osaka	46	(12.4)	60	(12.0)	23	(18.4)	17	(14.5)	146 (13.1)
Nagoya	15	(4.0)	18	(3.6)	1		2	(1.7)	36 (3.2)
Kyoto	10	(2.7)	14	(2.8)	3	(2.4)	1		28 (2.5)
Kobe	8	(2.2)	10	(2.0)	2	(1.6)	3	(2.6)	23 (2.1)
Yokohama	7	(1.9)	12	(2.4)	4	(3.2)			23 (2.1)
Kawasaki	5	(1.3)	11	(2.2)	1		2	(1.7)	19 (1.7)
Amagasaki	6	(1.6)	7	(1.4)	1				14 (1.3)
Sakai	6	(1.6)	3	(0.6)	1		1		11 (1.0)
Higashi-Osaka	3	(0.8)	3	(0.6)	1				7 (0.6)
Others	129	(34.7)	129	(25.9)	18	(14.4)	12	(10.3)	288 (25.9)
Total	372	(100.0)	499	(100.0)	125	(100.0)	117	(100.0)	1,113 (100.0)
No. of city & town	(115)		(104)		(25)		(18)		(189)

Note:

1) Corporations are classified into four groups by capital size.

I = 100 mil. US-dollar ~ II = 50 ~ less than 100 mil. US-dollar

III = 10 ~ less than 50 mil. US-dollar IV = 1 ~ less than 10 mil. US-dollar

2) Another note and source are same as Table 1.

Osaka has still kept strategical importance in headquarter location of lower ranking groups. However, the city had already lost its importance in upper ranking groups, i. e. the corporations with capitalization somewhere around 100 mil. US-dollar at present.

Other large cities do not have so much importance in headquarter location. Regional capital cities as Sapporo, Sendai, Hiroshima and Fukuoka have little importance in this term. Under these circumstances, the cities located in the suburbs of Tokyo and Osaka have gradually increased their weight for the headquarter location of lower ranking corporations.

Thus, the locational characteristics of corporate headquarters can be summarized briefly as the process of reinforcing even more concentrated pattern centering on the capital city Tokyo.

LOCATIONAL CHARACTERISTICS OF SUB-SPATIAL UNITS

The development of rational and effective network of sub-spatial units is a prerequisite to corporate existence and its further growth under severe competition. The structure of their arrangements is closely connected with the formation of spatial order of national economy.

BRANCH OFFICES — A FUNDAMENTAL UNIT OF SELF-SUPPORTING ACCOUNTING SYSTEM WITHIN CORPORATE ORGANIZATION

662 corporations listed in the First Stock Exchange Market and selected for analysis had 882 branches located in 60 cities in 1955. In 1982, the number of branches increased to 2,151. They are located in 242 cities.

Their locational characteristics are shown in Figure 3 and Figure 4. In IV group, the rate of branch arrangement was still very low in 1955. Even Tokyo and Osaka, the values remained only 46.8 percent and 27.8 percent respectively. All other cities were insignificant with the rate of less than 10.0 percent. In 1982 the value has risen to 89.4 percent in Tokyo and to 52.4 percent in Osaka. Also the rate went up to the 20 percent level in Nagoya and to the 10 percent level in Fukuoka, Sendai, Sapporo and Hiroshima.

In III group, Tokyo had already reached 62.7 percent value in 1955, while Osaka still remained at 39.0 percent. The rate for other cities was very low. In 1982, the rate became 78.3 percent in Tokyo and 63.8 percent in Osaka. Also, the rate has remarkably risen to 39.2 percent in Nagoya and to the 20 percent level in the regional capital cities. The rates for other cities were not eminent.

In II group, the rate for Tokyo and Osaka has already reached such a high level as 81.0 percent and 67.5 percent in 1955. Other cities with the rate of more than 10.0 percent were Nagoya, Fukuoka, Sapporo and Sendai. In 1982 the rate for Tokyo and Osaka went up even more to 85.7 percent and 71.1 percent. Nagoya broke the 50 percent line, Fukuoka reached the 40 percent

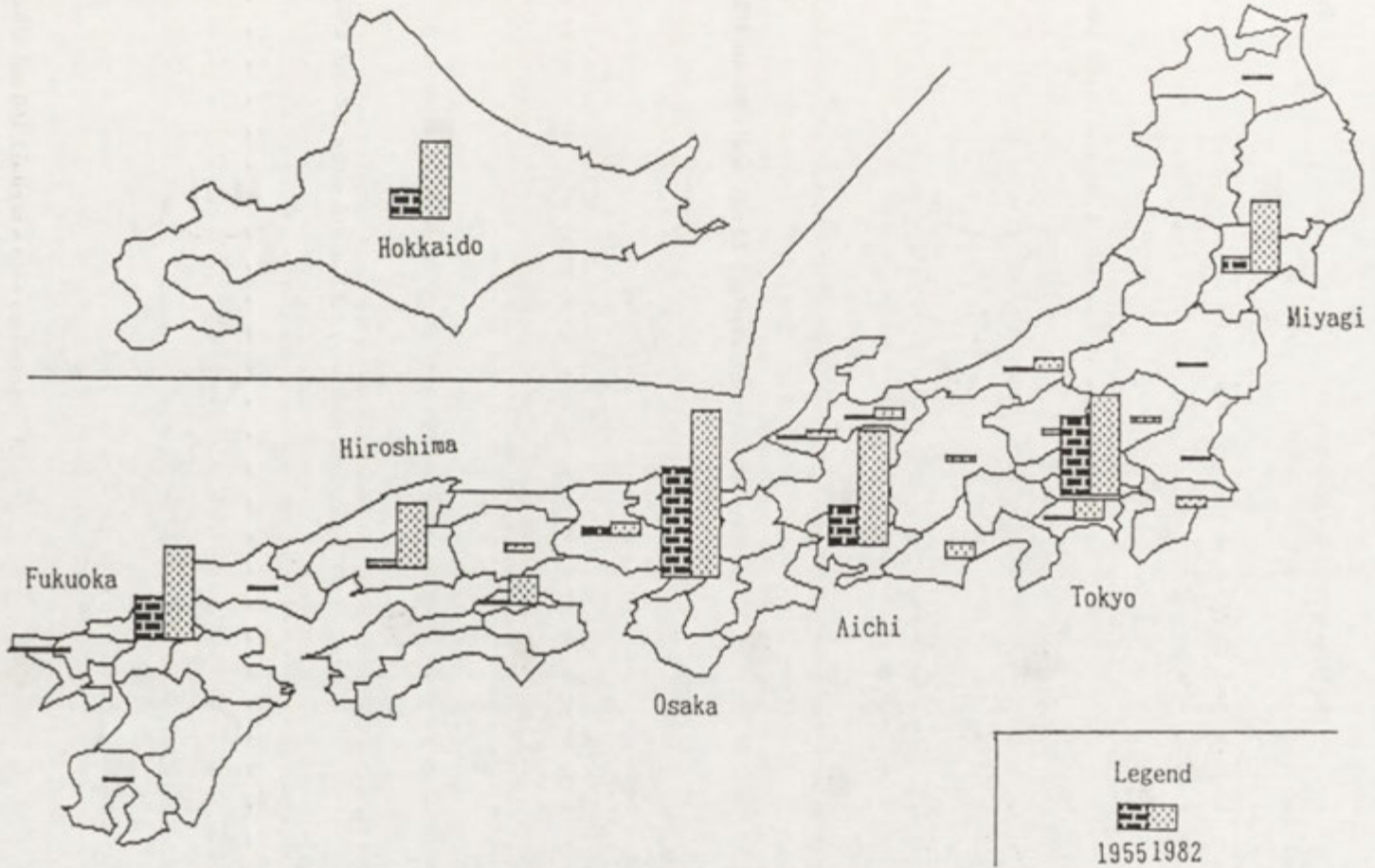
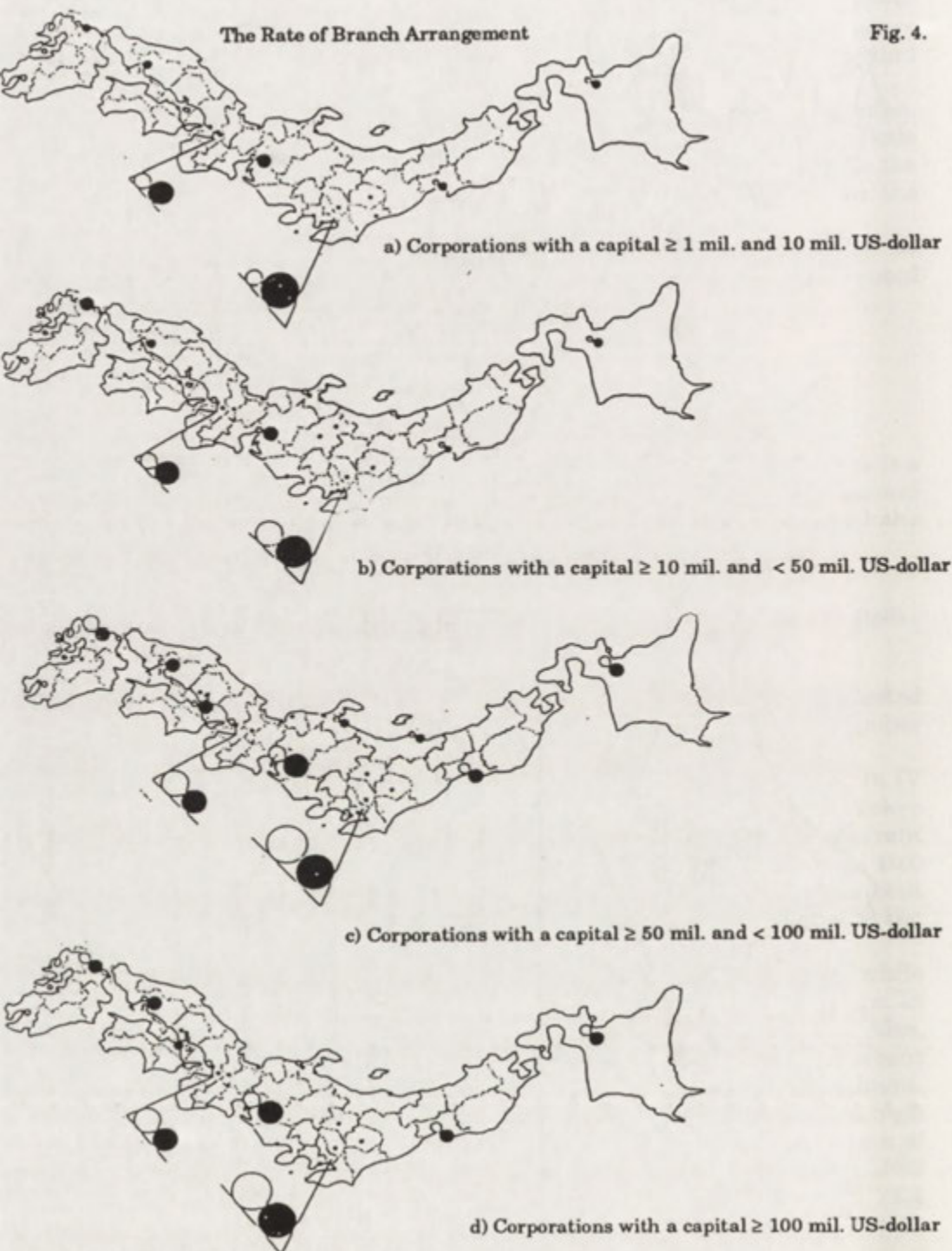
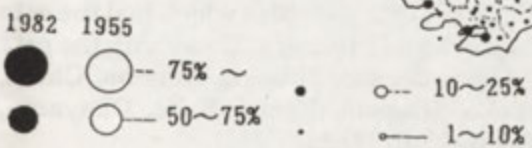


Fig. 3. Spatial Arrangement of the Branch Offices of Major Manufacturing Corporations





level, Hiroshima, Sapporo and Sendai showed the 30 percent level. In addition, Takamatsu rose up to the 10 percent level.

In I group, Tokyo got 97.5 percent even in 1955. Also, Osaka attained 70.1 percent. The cities with the rate above the 20 percent level were Nagoya, Fukuoka and Sapporo, while Sendai remained at the 10 percent level. Others cities had the rate of less than 10.0 percent. In 1982, the rate of the two largest cities did not show so much change. However, Nagoya exceeded the 50 percent line, Fukuoka, Sapporo and Sendai cities the 40 percent level, Takamatsu reached the 20 percent level, Niigata and Toyama have newly emerged as cities with the rate more than 10 percent.

Thus, the larger corporations have established the more extensive and dense networks from the earlier time across the country. However, it can be said that branch locations have been mostly confined to only 7 cities.

SUB-BRANCH OFFICES

The location of sub-branch offices showed more dispersed pattern in comparison with that of upper ranking branch offices (see Fig. 5). The number of branches of this level increased from 547 to 2,706 during the period. Accordingly, spatial scope of its location expanded and number of cities in which a sub-branch office is located increased from 140 to 500.

As to IV group, no noticeable trend can be seen in 1955, because the number itself was very small. On the contrary, such cities as Nagoya, Sendai, Hiroshima, Fukuoka and Sapporo were characterized by the rate above the 10 percent level.

In III group, only Nagoya reached the 10 percent level in 1955. In 1982, the rate for such 5 cities as Nagoya, Hiroshima, Sapporo, Sendai and Fukuoka went up to the 20 percent level. The cities that reached the 10 percent level were: Shizuoka, Niigata, Takamatsu and Okayama.

As to II group, relatively high rate of sub-branch arrangement had been attained even in the earlier time. For examples, Sapporo was at the 20 percent level, Nagoya, Fukuoka and Hiroshima showed the 10 percent level even in 1955. And the number of cities which hold relatively high rate of sub-branch arrangement increased in the period between 1955 and 1982. 6 cities had the rate at the 20 percent level. Those were Nagoya, Sendai, Sapporo, Fukuoka, Hiroshima and Takamatsu. Also, the following cities: Shizuoka, Kobe, Okayama, Niigata, Osaka, Toyama, Kanazawa and Chiba reached the 10 percent level.

The trend was shown more clearly in I group. Nagoya and Sapporo had already attained the 20 percent level. Hiroshima, Fukuoka, Kitakyushu, Sendai and Takamatsu had the 10 percent level in 1955. In 1982, the cities which had the rate of more than the 20 percent level were Sapporo and Fukuoka. Those with the rate at the 10 percent level were: Aomori, Akita, Sendai, Niigata, Nagano, Chiba, Yokohama, Toyama, Kanazawa, Shizuoka, Nagano, Kyoto, Kobe, Okayama, Hiroshima, Takamatsu, Kitakyushu, Nagasaki and Oita.

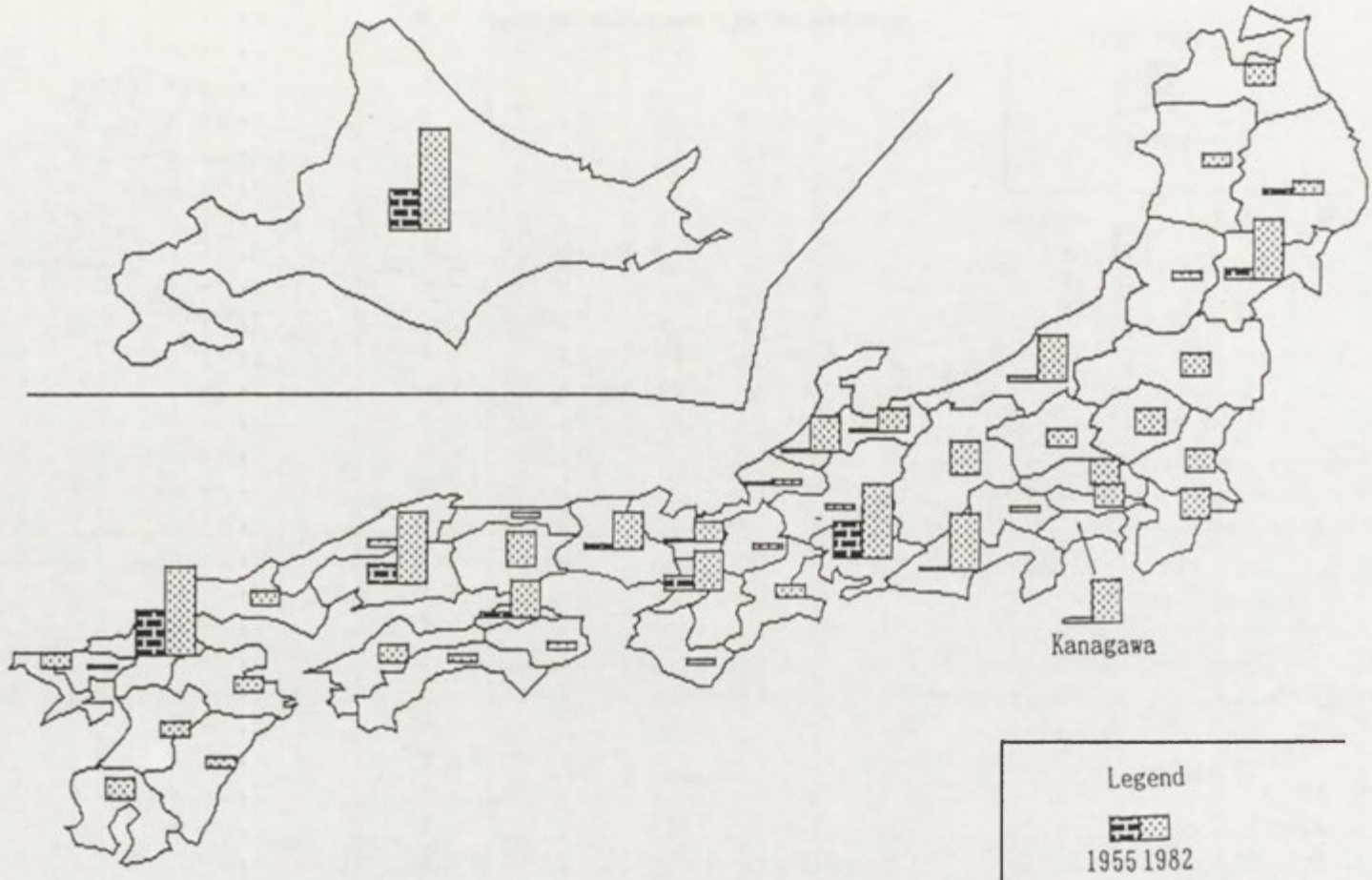
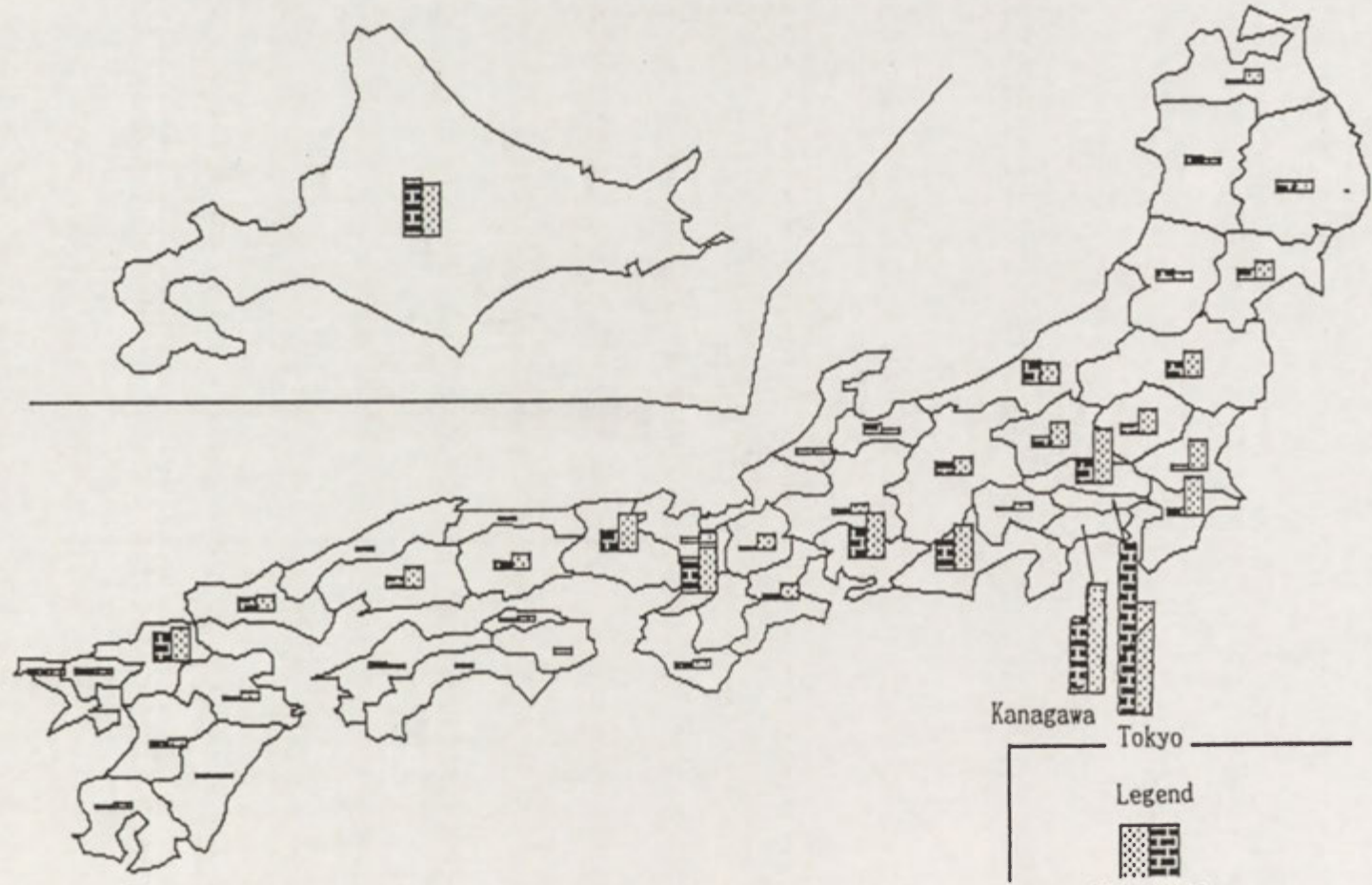


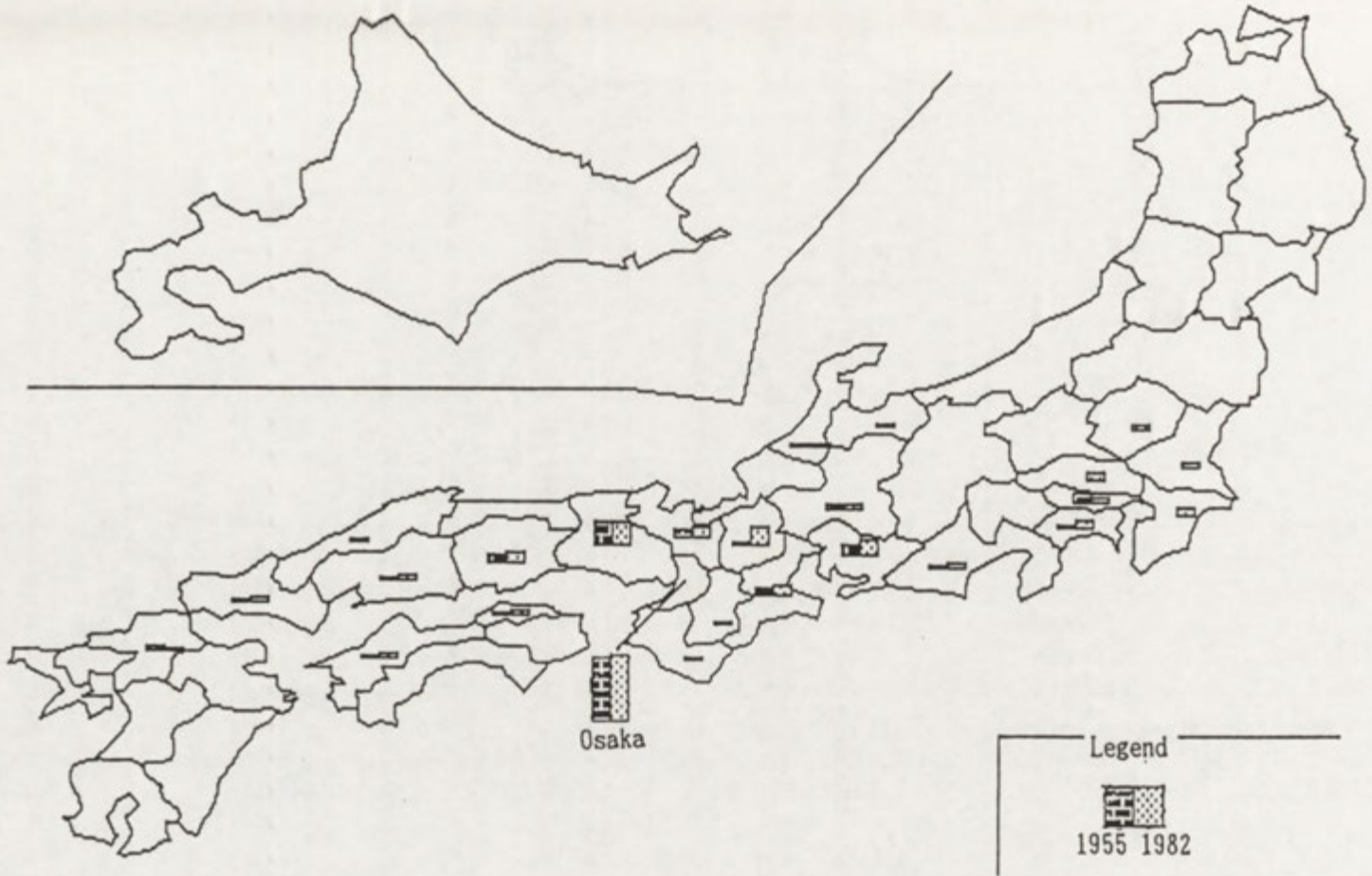
Fig. 5. Spatial Arrangement of Sub-branch Offices of Major Manufacturing Corporations

<http://rcin.org.pl>



Note: The corporations of Tokyo-headquarter

Fig. 6. Trends of the Plant's Location of Major Manufacturing Corporations (1)



Note: The corporation of Osaka-headquarter

Fig. 7. Trends of the Plant's Location of Major Manufacturing Corporations (2)

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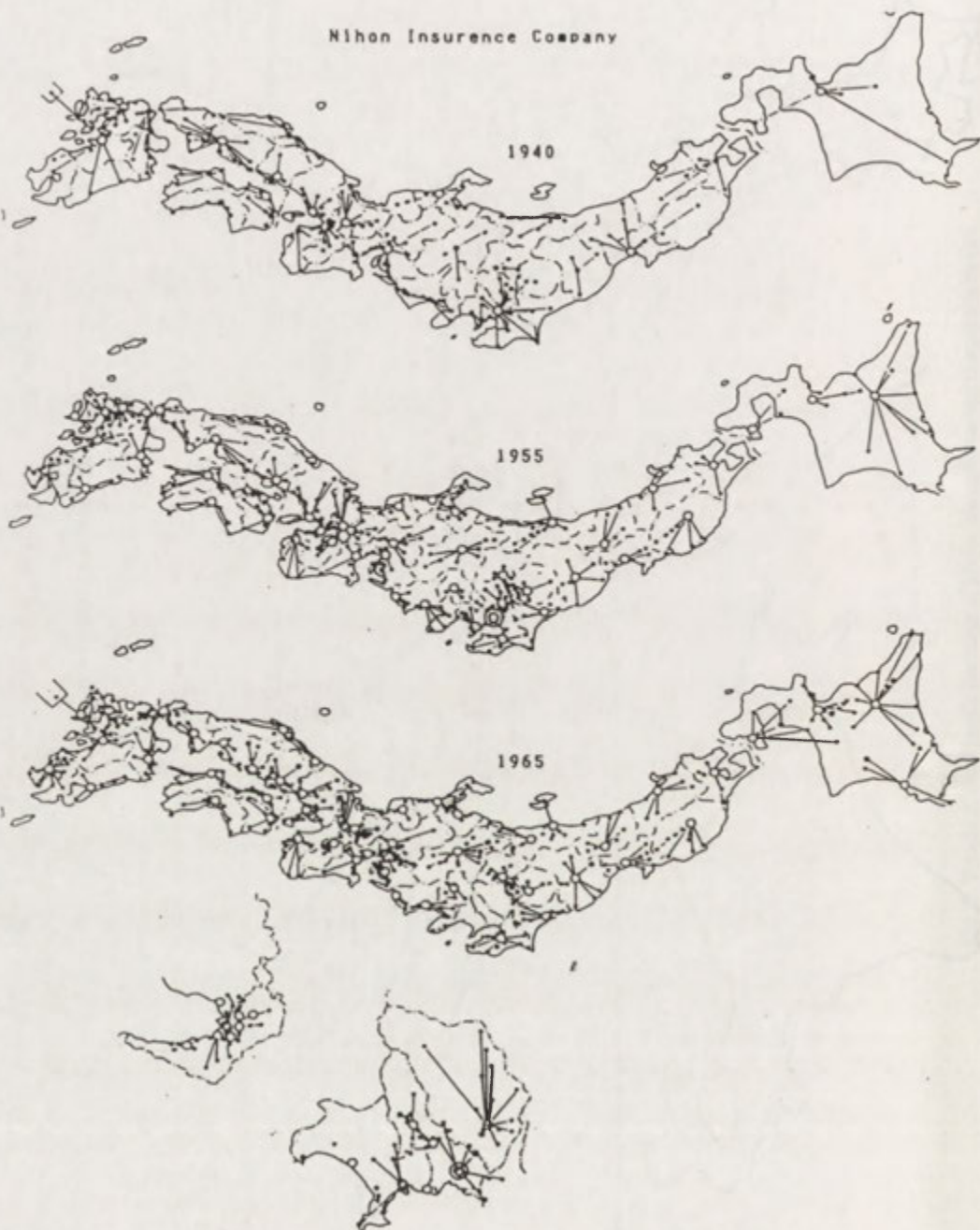
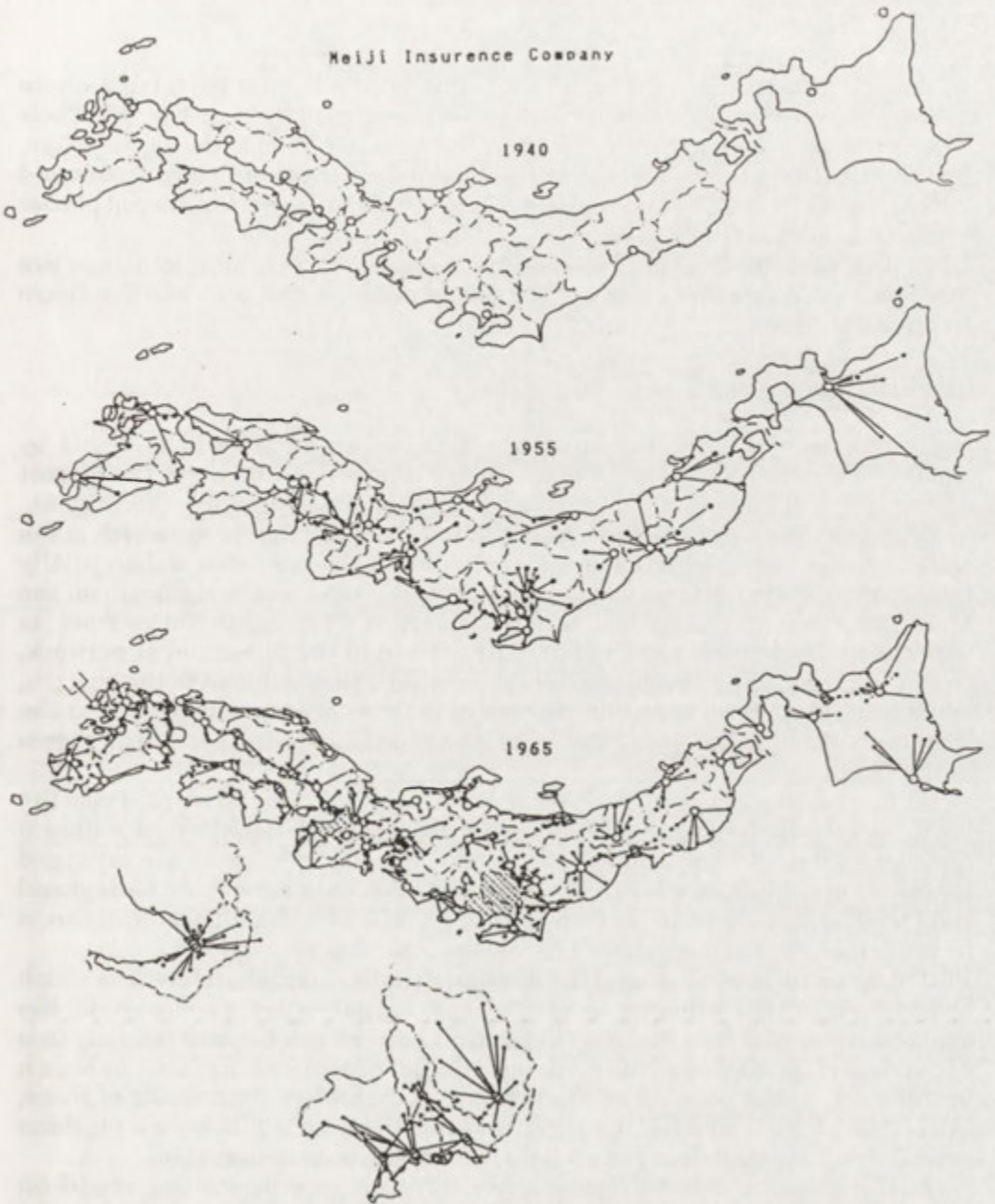


Fig. 8. The spatial organization of major insurance companies



Thus, the development of branch office network at this level mainly covered prefectural capital cities.

PLANTS

As for plant location, Tokyo still accounts for the largest part, but a share in the total number of plants has declined very rapidly (see Fig. 6). Their locations can be seen mainly in the areas immediately outside the city of Tokyo. By contrast, locational areas have extended to the fringe of the large cities and further out to the peripheral regions. Some moved beyond the national border to the foreign countries.

In the case of Osaka — corporations (see Fig. 7), plant locations are concentrated in two main regions: the Osaka metropolitan area and the Tokyo metropolitan area.

INSURANCE COMPANIES

The answer to the question on how is space organized will be found by looking at spatial organization of insurance companies which are the largest and developing their own dense network throughout the country (see Fig. 8).

Three maps on the left show how Nihon Insurance Company, which is the world largest (once with its headquarter in Osaka and now substantially relocated to Tokyo), has organized space. Three maps on the right are on the Meiji Insurance Company which is the oldest and located in Tokyo from its foundation. Both have initially different pattern in the formation of network. Nihon Insurance had developed from the western part of Japan to the eastern, while Meiji developed from the eastern to the western part. However, at the certain stage of growth, they reached almost the same spatial pattern as shown in the maps.

At least 4 functional unit levels can be recognized from the maps. From the lowest level, the units have been arranged at sub-divisional areas within a metropolitan area or at a major city level. The next level units are arranged for covering a prefecture level. The next level units are arranged at a regional level which covers several prefectures. And a unit with the highest function, a headquarter, covers the national as well as international space.

Thus, the corporations tend to have quite similar spatial preferences which brought about the emergence of clearcut spatial order as shown in the explanatory model (see Fig. 8). This spatial pattern can be seen not only in a network of most major private corporations and institutions, but also, as shown in Figure 9, in the network of the national government. As a result of these, 'ADMINISTERED SPACE', emerged and functions so as if it were a machine socially built for sustaining the whole capitalistic economic system.

L. Hakanson, a Swedish geographer, built up very interesting model on corporate space which is very much applicable to the Japanese case, by showing how expand their spatial units in accordance with the corporate growth.

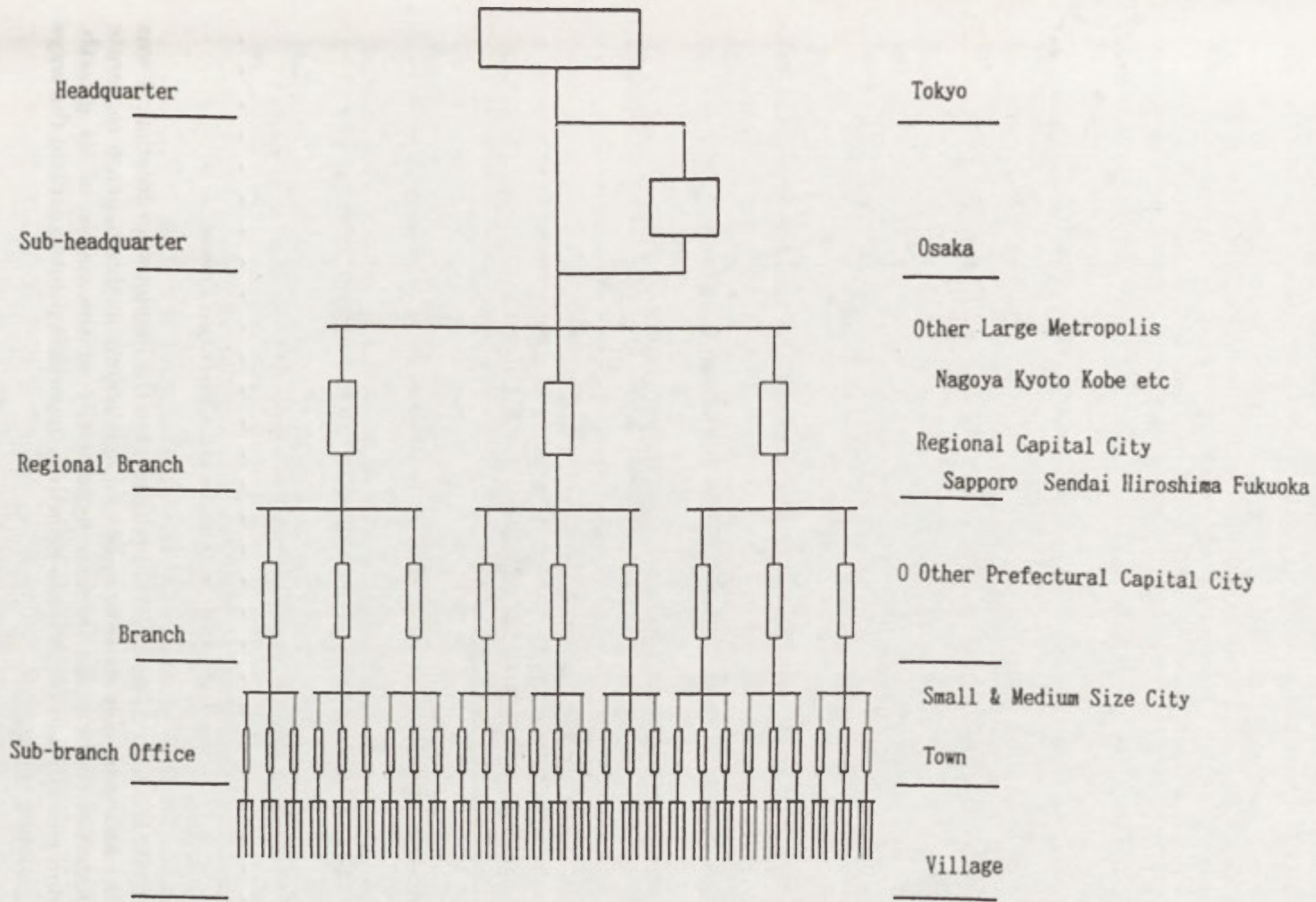


Fig. 9. Corporate Spatial System and National Urban System



Fig. 10. Spatial Organization of the Ministry of Finance

However, the model has several problems. On the headquarter location, it was treated as immovable existence. But as it is shown in this paper, a corporate headquarter changes its location dynamically in the course of its growth. Changing location in response to growth is important point to explain the ways of organizing space.

CONCLUSION

Several characteristics concerning the location of "spatial units" were made clear in this paper. Idea of central place theory is applicable to this.

1. For Japanese corporations, financial institutions, foreign affiliated companies and the national government, the space of capital city Tokyo is strategically important in terms of headquarter or central office location. This is especially true of the larger size corporations and institutions.

2. Osaka has still kept importance in headquarter location of lower ranking corporations and sub-headquarters of major corporations which used to be located in Osaka; conversely, no national government central offices, almost no foreign affiliated companies are located in that city.

3. Nagoya, Yokohama, Kyoto and Kobe have even more limited numbers of headquarters of major corporations. Also, these cities are relatively less important for branch location. But they have relatively large agglomeration of headquarters of medium size corporations and financial institutions.

4. In regional capital cities such as Sapporo, Sendai, Hiroshima and Fukuoka, no major corporate headquarter except regional oriented companies, for example electric power and so on are located. This space is strikingly important for branch locations and the regional offices of national government. They have also a certain level of agglomeration of small-medium size corporations and financial institutions.

5. In prefectural capital cities are the space for sub-branch locations there is smaller number of major corporate branches.

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DEVELOPMENT PATTERNS OF POLISH TOWNS
IN THE YEARS 1950-1990
(A synthesis of the postwar urbanisation process)

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ABSTRACT: The article presents the results of studies of the development of Polish towns by size categories. They allowed a synthetic evaluation of the process of urbanisation based on a multivariate analysis of the growth dynamics of 60 largest towns and an analysis of the development trajectories of the particular size groups of towns.

KEY WORDS: Postwar urbanisation in Poland, dynamics of town development, factors of urbanisation in Poland, negative outcomes of intensified urbanisation.

INTRODUCTION

In the political propaganda idiom of the not-too-distant past, the years 1950-1990 were defined as a period of building the foundations of socialism (1950-1970) and a period of formation of a mature socialist society (after 1970). To a student of economic development and other social processes, this time span is a closed whole, a period during which an attempt was made to put into practice the so-called "socialist" model of the organisation, structure and operation of the state, society and economy. The attempt has ended in utter failure, because the economic and social inefficiency of measures implemented, as contrasted with the steady development of the Western countries, could not be offset by visions of a world Communist system with a better future, or by the "fight imperialism" slogans.

In the Polish conditions, the building of a new political system forced on the country with a tacit consent of the Western states, meant a deep transformation of those social and economic structures which had survived the Second World War. It was to be based primarily on a newly created economic structure with industry as the core, especially the heavy industry geared to the military-industrial complexes of the USSR and the other Warsaw Pact

states. Industrialisation was supposed to be accompanied by the introduction of new social relations in rural areas, where backward private farming was to be replaced with socialised agriculture of the kolkhoz and sovkhoz types (cf. Tymowski, Kieniewicz, Holzer 1990; Parysek 1992a, 1992b). All this was to be implemented in a country whose national property and population had suffered serious damage during the war and in the struggle for power that took place in the first years after the liberation. The damage was not only quantitative, but also qualitative. Thus, there could be no doubt that such fundamental social and economic changes in a country where a mere 33% of the population lived in ruined towns, had of necessity to initiate a spontaneous, uncontrollable urbanisation process whose pace and directions would also be affected by factors other than the transformation of the economic structure.

The aim of the present study is to reconstruct and give a synthetic evaluation of the process of Poland's urbanisation over the years 1950-1990. To achieve it, an analysis will be made of the development of towns by particular size classes, both in a univariate and a multivariate approach. The multivariate analysis will be of a rather specific kind, being based on a greater number of features of the same category, namely the index of population growth.

The results of the study are used to provide answers to the following questions:

- what were the characteristics of the process of Poland's postwar urbanisation?
- what was the role of the particular size groups of towns in it?
- which years were significant for the urbanisation process, both treated as a whole and with respect to towns of specific size classes?

RESEARCH ASSUMPTIONS

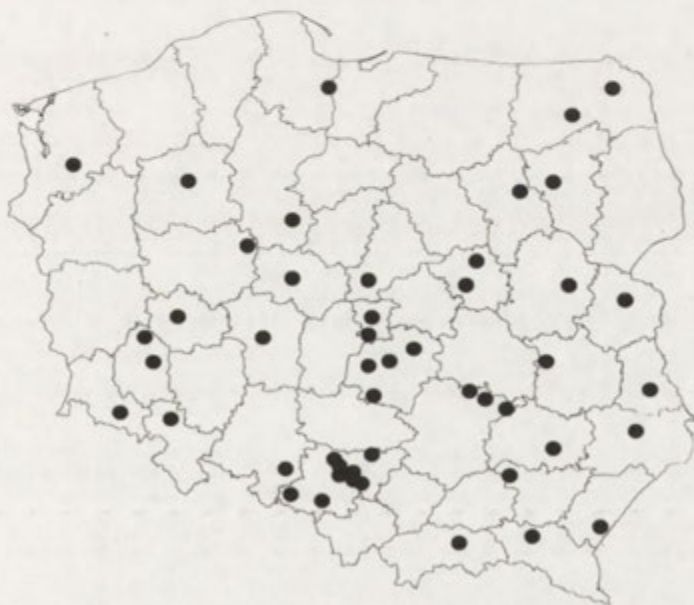
A fairly simple model of analysis was adopted. It assumed the study and comparison of the population growth dynamics of Polish towns over the years 1950-1990. The investigation covered an aggregate set of towns divided into seven size categories:

- 1) the smallest towns (up to 5 thous. population)
- 2) very small towns (5-10 thous.)
- 3) small towns (10-20 thous.)
- 4) medium-sized towns (20-50 thous.)
- 5) large towns (50-100 thous.)
- 6) very large towns (100-200 thous.)
- 7) the largest towns (over 200 thous.)

Their distribution is presented in Fig. 1. The classes were adopted as a constant basis of the division of towns throughout the period studied. Hence, the relative growth in the town sizes, as measured by, e.g., a mean quantity and standard deviation, was not taken into account, which may have its advantages and drawbacks. Moreover, the analysis ranged over aggregate

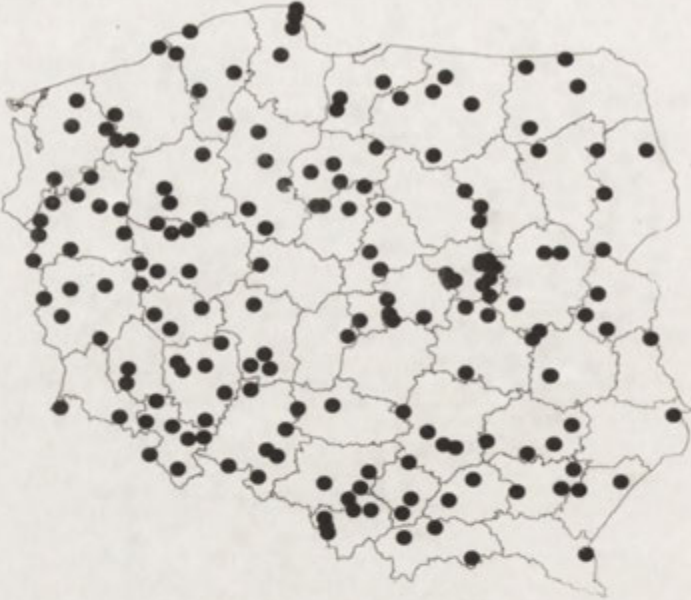


10 000 inhab and over



50 001 — 100 000 inhab

Fig. 1. Polish towns by the size categories distinguished (1990)



10 001 — 20 000 inhab



100 001 — 200 000 inhab

Fig. 1. (cont.)



20 001 — 50 000 inhab



200 001 inhab and over

Fig. 1. (cont.)

numbers assigned to the particular classes, which meant that the 'migration' of towns among individual categories was ignored, even though this must have involved very many Polish towns. Thus, a comparative statistics model was adopted, with all the consequences of such an approach.

Interest was focused primarily on urban growth dynamics in eight 5-year intervals, and over the whole of the four decades. Absolute increases in population numbers were also taken into consideration. After the largest towns were found to have played a decisive role in the urbanisation of the country, further, more detailed analysis centred on population growth in Poland's 60 largest cities.

Univariate and multivariate approaches were adopted. In the first, use was made of single indicators of the demographic development of the particular towns (town size categories), and in the other, principal components were used with reference to 8 elementary variables. By employing principal components, it was possible to trace variations in the process of urbanisation over space and time.

Very helpful was also a time series analysis, due to which a synthetic development trajectory was determined for each town size group.

The analytical material used in the study was taken from the yearbooks of the Central Statistical Office.

GENERAL CHARACTERISTICS OF POLAND'S URBANISATION IN THE POSTWAR PERIOD

The basic factor of postwar urbanisation in Poland was unquestionably the so-called socialist industrialisation. This process implied large-scale industrial investments, mainly in the heavy industry connected with the formation of the industrial-military complexes of the Warsaw Pact states. New plants were located either in those areas where the levels of industrialisation and urbanisation were fairly high, or in 'new' places known as 'the constructions of socialism'. In the latter case, industrial investments were part of the creation of whole new industrial districts. To give the reader an idea of the scale of the investment, suffice it to say that during the 6-year plan (1950-1955) over a million new jobs were created in industry alone (Tymowski, Kieniewicz, Holzer 1990, Enyedi 1990, Parysek 1992a).

Contrary to the assumptions of the locational policy stressing the necessity of an even distribution of industry throughout the country, industry kept concentrating in the old industrial districts and centres (cf. Kukliński 1983, Turowski 1994). This model had led to anomalous, uneven urbanisation of Poland. This process could not be reversed by changes in industrial policy following social protests (popularly known as 'the early Gomułka' and 'the early Gierek' periods); nor could it be arrested by periods of crisis with their characteristic dramatic slump in industrial investment.

An extremely influential factor in urbanisation immediately after the war was the colonisation of the Western and Northern Territories. Highly urbanised before the war, they offered conditions for a rapid increase in the urban population despite the devastation and plunder they had suffered. The

urbanisation level of the whole country improved also due to the rebuilding of the remaining towns (especially Warsaw) — they soon started to attract old residents, the inhabitants of the eastern, formerly Polish, territories, and of young country people. The inflow of the latter group of population to towns was caused by the hard conditions of country life as well as by the process of collectivisation in agriculture. Those two factors were closely linked, anyway. The very high dynamics of urban population growth characterising the years 1950-1960 slowed down noticeably between 1960 and 1970. It was only in the period 1970-1980 that it accelerated slightly again (cf. Tables 1 and 2).

TABLE 1. A defective process of Poland's urbanisation
(in terms of basic urbanisation indices)

	years						
	1950	1960	1970	1975	1980	1985	1990
per cent urban population	36.9	48.3	52.3	55.7	58.7	60.1	61.2
per cent population supported from non-agricultural incomes	52.1	60.6	74.9	74.3	78.5	58.7	61.2
difference	-16	-12.3	-22.6	-18.6	-19.8	1.4	0

Source: Statistical yearbooks.

TABLE 2. Dynamics of Poland's population growth in the years 1950-1990

years	1950/1955	1955/1960	1960/1965	1965/1970	1970/1975	1975/1980	1980/1985	1985/1990
total	110.0	108.2	105.9	103.5	104.7	104.5	104.5	102.3
towns	128.2	121.5	108.9	109.0	111.4	110.2	107.2	105.0
contryside	99.4	98.1	103.1	98.1	97.3	97.4	100.7	98.1

Source: Authors' calculations.

The urban population growth rate can hardly be expected to continue at the same level. Slackening dynamics is another sign of normalcy of this process. In the Polish conditions, however, the rate was discontinuous and irregular. With the gradually diminishing population growth rate and high dynamics of the urban population increase, one might expect a steady drop in the rural population growth rate (cf. Fig. 2). That the urbanisation process was defective, however, is clearly indicated by a comparison of the percentage of urban population and that of population supported from non-agricultural incomes. These two urbanisation indices should have been roughly similar, but they were not (cf. Table 1).

Urbanisation in postwar Poland started from a very low level (in 1946 a mere 33% of the population were town residents). That is why this process was highly dynamic immediately after the war. As the years passed, it started to slacken, first in a monotonic and then a clearly cyclical way.

Two characteristic stages can be distinguished in this process: one embracing the years 1946-1965 and another, 1965-1990. The first can be identified as dynamic urbanisation, the other, as suburbanisation. Both were

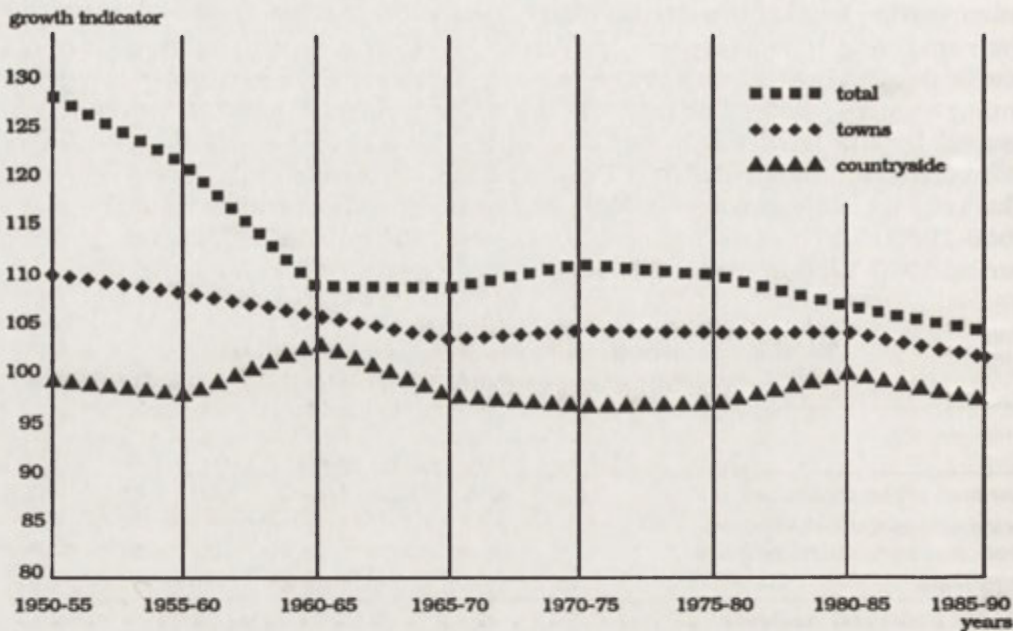


Fig. 2. Dynamics of Poland's population growth in the years 1950-1990

characterised by first an increase and then a decline in population growth dynamics. During the first stage, the upward tendency covered the years 1946-1955 and was largely due to the establishment of the new state boundaries, high demographic dynamics, the rebuilding of towns from war ruins, and the introduction of the Stalinist model of economic development and industrialisation. The slackening took place between 1955 and 1965, and was caused by a crisis in the economy unable to bear the burden of development, especially armaments. In the suburbanisation stage, the years 1965-1975 were a more dynamic period, mainly as a result of the economy progressing to the second ('selective') industrialisation phase based on foreign credit. Contrary to declarations of the authorities, industrial policy of that period was also geared to the Warsaw Pact military-industrial complex. The urbanisation process of this stage was reinforced by the development in residential construction (predominantly co-operative, private only to a lesser degree). The dynamics was lost in the years 1975-1980, however, with a new wave of economic, this time more complex, problems. As has already been mentioned, with the passing of time the dynamics of urbanisation decreased monotonically in Poland. While the development of towns was decisive for the rate of the process, it should be kept in mind that it was also determined by the depopulation of rural areas. Until 1985, a characteristic feature of Poland's population growth was that the curves of the urban and the rural population dynamics were mirror images of each other (with the curve of total population growth as the mirror). After 1985 the development started to become proportional (cf. Fig. 2).

URBAN DEVELOPMENT BY SIZE CATEGORIES

We can assume that three kinds of factors control urban development:

- deterministic (internal), which can be taken to be a town's self-potential, or its demographic dynamism defined by the natural increase in its population;
- deterministic-stochastic (external), which can be identified as migrations to towns; and
- stochastic, which is the inclusion of more and more new suburban areas into city limits by administrative decisions.

Although it is possible to determine the contribution of each factor by making suitable studies, in the present work their joint impact is considered as expressed by the increase in the population numbers in towns of the particular size categories. The basic features of the growth dynamics of towns in each group over the period 1950-1990 can be described as follows (cf. Table 3). In the years 1950-1955 the fastest growth rate was recorded in the largest, small and large towns (155.7%, 144.4% and 138.6%, respectively). Very large towns and the smallest ones can be said to show a tendency towards depopulation (85.6% and 89.2%, respectively). There was a slight decline in the rural population (99.4%). These differences stemmed from a variety of reasons: the stabilisation of socio-economic and administrative structures of the state, the rebuilding of towns from wartime ruin, the implementation of the 6-year plan (big investments in the heavy industry), and collectivisation in agriculture. They also resulted from the biggest natural increase in Europe and the re-emigration process.

The years 1955-1960 were marked by rapid growth of all the towns. The fastest rate characterised very large towns (134.3%), which thus reversed their previous downward tendency, and small towns (125.9%) continuing their upward trend. As in the previous period, the rural population kept decreasing (98.1%). Some influence on this course of the urbanisation process was exerted by the so-called 'post-October thaw' following the 1956 workers' revolt, which marked a period of departure from the Stalinist model of economic development (at least in the years immediately after the unrest) and promised the country a more balanced spatial development. The growth of small towns resulted from the influx of the rural population, as these places offered work and relatively good living conditions, for example in the newly created industrial districts (which also embraced small towns). It was there that single-family, low-standard houses started to be built.

In the years 1960-1965 large cities were the fastest to grow (128.4%), while the smallest towns continued the depopulation trend (92.9%). For the first time after the war, the rural population increased (103.1%). The urbanisation process of that period reflected the increasing concentration of economic activity in large towns, which was the effect of agglomeration factors of location, and the dwindling job opportunities to be found in small ones. This curbed the flow of country people to towns. It was also a period of a considerable natural decrease of the urban population.

The period of 1965-1970 was good for medium-sized towns (124.8%). The declining smallest towns (97.8%) were joined by very small ones (90.1%). Rural population was on the decrease again (98.1%). With a still declining natural increase and heavy restrictions on the development of housing in large cities, growth was recorded in medium-sized towns, mainly due to their service functions. This role was not available to small towns serving stagnant agriculture. This period also marked the end of the investment boom. The time was ripe for the first of the series of mass social protests (the coastal cities 1970).

The years 1970-1975 were a period of regression for several categories of towns. High population growth rates were characteristic of large (132.7%) and very large cities (127.6%), as well as medium-sized towns (115%). Towns of other size groups and the rural population were on the decrease. This was a consequence of the economic and social crisis as well as the effect of the Party 'wooing' the working class of large enterprises. Thus, a clear division could be noticed between larger towns, where the working class concentrated and which were given preference in development schemes, and smaller ones deprived of such a chance.

In the years 1975-1980 the decline of small and very large towns stopped. The latter even entered a phase of dynamic development. Also in the largest cities the population increase was quite rapid. A decrease was again recorded in the smallest (89.5%) and very small towns (93.9%) as well as in rural areas (97.4%). This state of affairs was largely due to the new administrative division of the country and the promotion of 32 towns to new voivodeship capitals, as well as loans granted by the West and allocated to regional centres or Upper Silesia and other industrial areas. While ineffectively used, the credit helped to slow down the economic decline for a while, but did not prevent social unrest, which erupted in protest against the ineffectual totalitarian system in 1976, and on a really massive scale in 1980.

The years 1980-1985 resembled the 1970-1975 period in the pattern of town growth. Medium-sized, large and the largest cities showed the same population increase (112%). The population of very small towns grew slightly. Very large cities as well as small and the smallest towns recorded a decline (97%, 97.8% and 97.3%, respectively). The rural population increased very slightly (100.7%). The urbanisation process of that period reflected the socio-political and economic situation of Poland under martial law. With the deepening economic crisis and the martial law regulations applying more or less equally to all towns, larger cities developed better than smaller ones owing to their economic potential. The natural increase, once a decisive factor in the rate of urbanisation, kept declining.

During the period of 1985-1990 the growth rate of all towns slackens markedly. Large cities and small towns are the fastest to grow (10.9.4% and 109.2%, respectively). Populations of very small towns (96.2%) and the countryside (98.1%) are on the decrease again. In very large cities the population increase is only slight (100.5%). The economic crisis gets worse. The political and economic systems of "realistic", or "feasible" socialism break down.

The factors of urban development characteristic of this system stop operating. Housing collapses, and society becomes poorer and poorer (cf. Table 3).

Obviously enough, the high urbanisation dynamics of the years 1950-1960 had to slacken with time. The level of urbanisation attained over the analysed period was not very high, although all the particular urbanisation factors had been exhausted in the process. Moreover, it was defective from the start, and had only a quantitative rather than a qualitative dimension. The economy, based on the command model and unable to face competition from the Western states, could not sustain this process, nor change its nature.

The growth rate curves plotted for towns of the particular size groups show how diversified and turbulent their development trajectories have been. The largest cities (of over 200 thous.) as well as small (10-20 thous.) and large towns started off from a very high level. Very small and medium-sized towns had an average growth rate, while the smallest (up to 5 thous.) and very large ones (100-200 thous.) had a low rate. In the following years different size groups played the leading role. Only the smallest and small towns enter a deep crisis which hits bottom in the years 1970-1975. The years 1980-1985 are characterised by an exceptional equalisation of the growth rate. Large, the largest and medium-sized towns are slightly more dynamic than the rest. 1985-1990 is again a period of diversified growth rates, though the differences are not as big as before 1980.

An analysis of the maximum values of growth indices shows that the following categories of towns have alternately played the leading role in the process of Poland's urbanisation, starting with the period 1950-1955: the largest, small, very large, large, medium-sized, large, very large, the largest, large, and small and large ones again (cf. Fig. 3 and Table 3).

TABLE 3. Dynamics of Poland's urban and rural population growth in the years 1950-1990 (towns by size group)

years	country-side	up to 5 thous.	5 to 10 thous.	10 to 20 thous.	20 to 50 thous.	50 to 100 thous.	100 to 200 thous.	over 200 thous.
1950/1955	99.4	99.2	125.6	144.4	120.1	138.6	85.6	155.7
1955/1960	98.1	114.3	118.1	125.9	113.8	110.4	134.3	133.3
1960/1965	103.1	92.9	105.4	111.1	111.9	128.4	103.8	113.8
1965/1970	98.1	97.8	90.1	107.1	124.8	114.2	111.7	107.5
1970/1975	97.3	80.1	87.2	97.9	115.0	132.7	99.2	127.6
1975/1980	97.4	89.5	93.9	109.3	103.7	105.6	141.8	111.3
1980/1985	100.7	97.3	101.4	97.8	112.1	112.9	97.0	112.3
1985/1990	98.1	104.9	96.2	109.2	102.1	109.4	100.5	106.7

Source: Authors' calculations.

In the process of analysis of the growth rates of the particular size groups of towns, their development trajectories have been generalised in a way (the

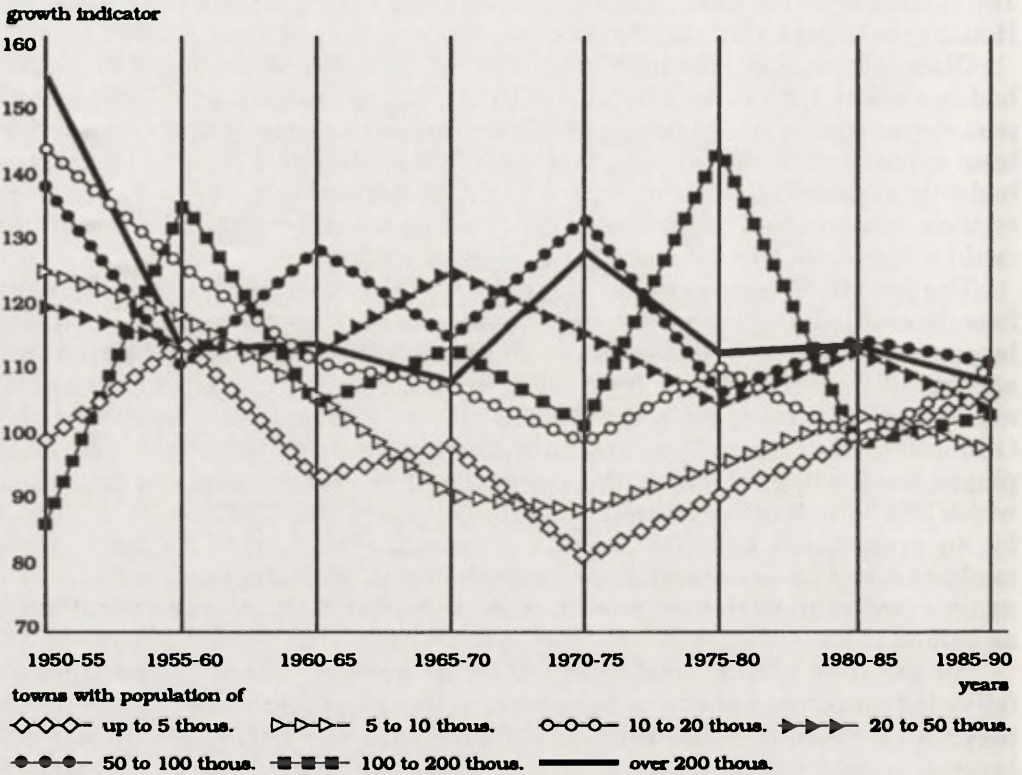


Fig. 3. Dynamics of Poland's population growth by the town size categories distinguished

curves plotted for the population growth of the distinguished town classes have been smoothed by using appropriate curvilinear functions). This operation has made the specific development path of each size group more distinct. And while there is some similarity between the development trajectories of very small and small towns, they do differ in their growth dynamics, always higher and positive for small towns. The situation is similar in the case of development trajectories of the smallest, large and largest towns. They each have a wave-like development curve, with the waves being very flat for large cities, bigger for the smallest towns, and very big for the largest ones. Besides, unlike the remaining groups, the wave-like development of the smallest towns includes periods of depopulation. Thus, each size category of towns is found to have its own characteristic development trajectory. Those similarities that can be observed concern the qualitative rather than the quantitative aspect of growth (cf. Fig. 4).

The differences in the growth dynamics of the particular town size groups and their changing shares in the total urban population number indicate further characteristics of Poland's urbanisation.

The characteristic process of population concentration in towns is not unequivocal. While each size category (with the exception of the smallest

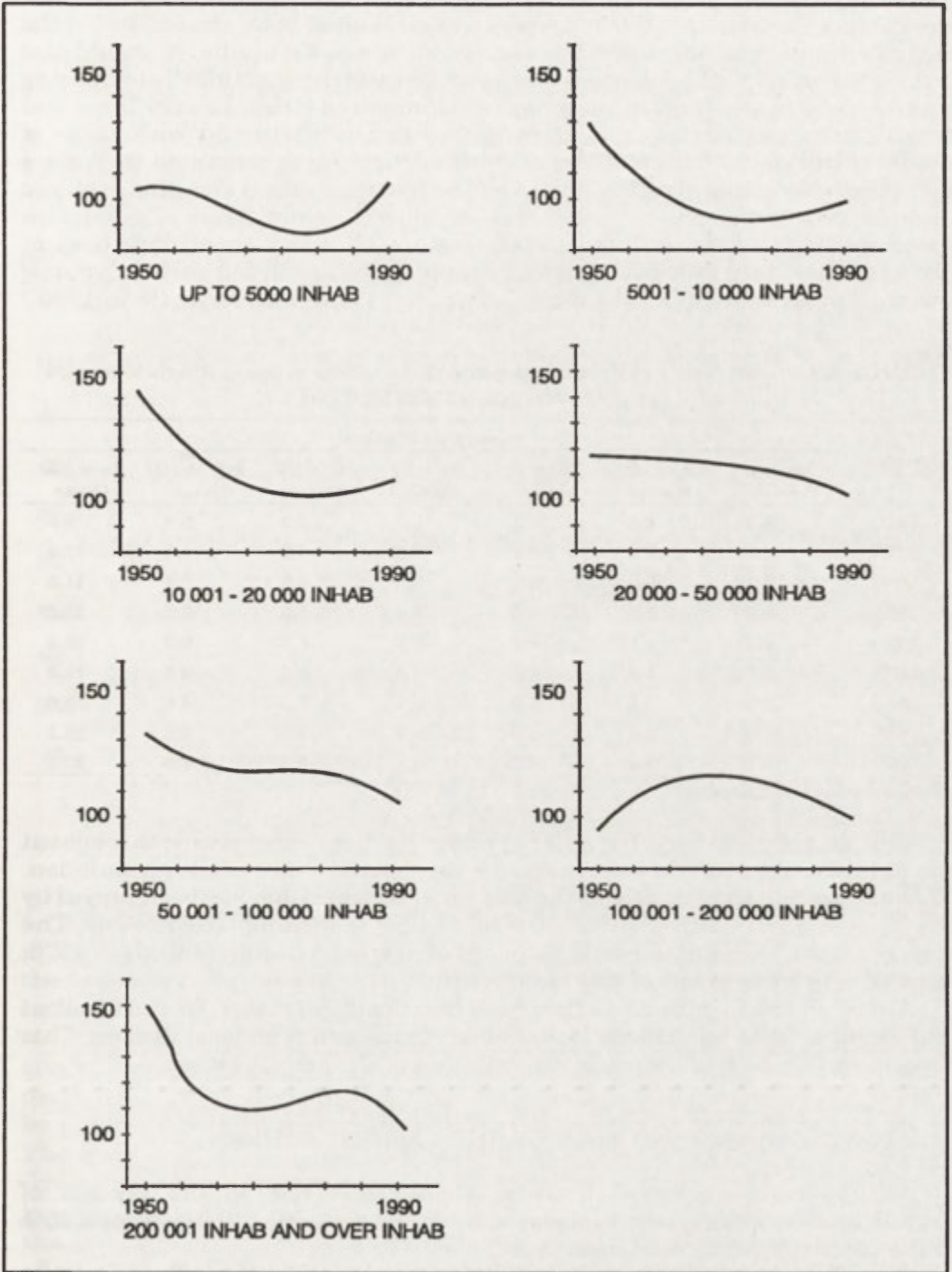


Fig. 4. Development trajectories of towns in the particular size categories (the years 1950-1990)

towns) has experienced it, this process was a result of both, the outflow of the rural population to towns and the decline of the smallest units. It should also be borne in mind that population concentration was a monotonically increasing process only in the largest, large and medium-sized cities. In very large and small towns, periods of population concentration alternated with those of deconcentration (cf. Table 4). An analysis of the figures presented in Table 4 and population concentration curves for the particular town size groups shows unambiguously that the largest cities have been the main places of population concentration in Poland. It is in them that nearly every fourth Pole lives at present. Also, only that particular size category has recorded such a dynamic increase in its share of total population: from 9.4% in 1950 to 23.1% in 1990.

TABLE 4. Concentration of Poland's population in towns of the distinguished size groups in the years 1950-1990 [%]

years	urban population						
	up to 5 thous.	5 to 10 thous.	10 to 20 thous.	20 to 50 thous.	50 to 100 thous.	100 to 200 thous.	over 200 thous.
1950	4.2	4.4	4.1	6.0	3.3	6.4	9.4
1955	3.8	5.0	5.4	6.6	4.2	5.1	13.4
1960	4.1	5.6	6.3	7.0	4.3	6.4	14.3
1965	3.6	5.5	6.6	7.4	5.2	6.2	15.2
1970	3.4	4.8	6.9	8.9	5.7	6.7	15.9
1975	2.6	4.0	6.4	9.8	7.2	6.4	19.3
1980	2.2	3.6	6.7	9.7	7.3	8.6	20.6
1985	2.0	3.5	6.3	10.4	7.9	8.0	22.1
1990	2.1	3.2	6.7	10.4	8.4	7.9	23.1

Source: Statistical yearbooks.

One should also stress the still big role of medium-sized towns; throughout the period under study they preserved a substantial share of total population. This means that the key role in the process of urbanisation has been played by the largest cities, with a subsidiary role going to medium-sized towns. The latter fact is a result of the establishment of new voivodeship capitals in 1975, most of which are towns of this size group.

Although urbanisation has embraced practically all towns, for the smallest and small ones it has meant loss of importance and a general decline. This process in Poland has been 'the urbanisation of the largest cities'.

THE DEVELOPMENT AND ROLE OF THE LARGEST CITIES

As has been emphasised above, the biggest role in the process of urbanisation in Poland has been played by the largest cities. Today, almost 25% of the country's population lives there.

Over the years 1950-1990, the number of residents of Poland's ten largest cities increased by more than 3,252,000. In Warsaw the population grew by

852,000, in Cracow by 407,000, in Wrocław by 334,000, in Gdańsk by 207,000, in Poznań by 296,000, in Łódź by 228,000, in Bydgoszcz by 219,000, and in Białystok by 202,000. This was 22.6% of the total increase in urban population.

A detailed analysis was made of the 60 largest towns in 1990 (by the population number). The highest growth rates among them were recorded for Tychy (1,486.0%), Konin (663.6%), Jastrzębie Zdrój (576.1%), Koszalin (575.1%), Rzeszów (544.5%), Jaworzno (398.0%), and Białystok (395.0%).

A characteristic feature of the demographic development of Polish towns after the war was lack of correlation between the absolute increase in population (numbers) and the relative one (dynamics) (cf. Fig. 5).

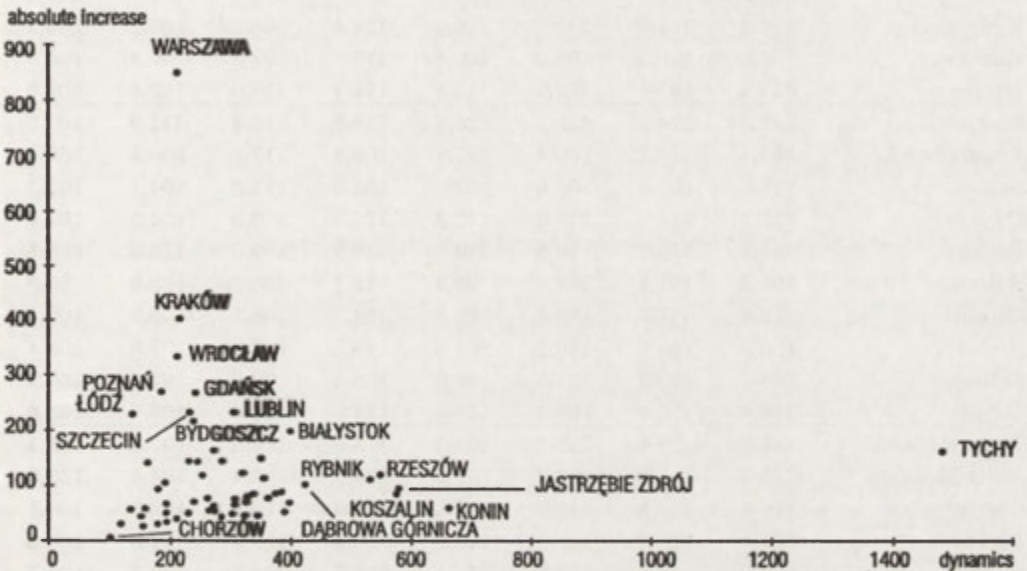


Fig. 5. Absolute and relative population increase in Poland's 60 largest towns

It is worth mentioning in this connection that in 1950 there were only six towns in Poland with populations exceeding 200,000, that is, falling into the category of the largest cities, while in 1990 their number had increased to eighteen. The growth rates of this size group over the period in question are presented in Table 5.

When analysing the development of the 60 largest Polish towns, a synthetic study was also made using principal components analysis. On the basis of properties of the principal components, it was possible to classify urban places by growth rates and distinguish characteristic periods in their development. The transformation of 8 variables, which were growth rates of towns in the five-year periods distinguished (from 1950-1955 to 1985-1990), was carried out in such a way that the first component accounted for 36.4% of the variance of the set, the second for 23.8%, and the third for 13.1%. This gives a total of 73.3% of the variance and allows the first three principal components to be treated as meta-variables defining the growth dynamics of the towns (cf. Table 6).

TABLE 5. Population growth dynamics of Poland's 60 largest towns

Tbwns	1950- 1955	1955- 1960	1960- 1965	1965- 1970	1970- 1975	1975- 1980	1980- 1985	1985- 1990
1	2	3	4	5	6	7	8	9
Warszawa	124.5	113.9	110.3	104.7	109.2	111.1	103.9	99.8
Łódź	108.7	105.4	104.7	102.5	104.7	104.6	101.4	100.1
Kraków	124.6	112.4	108.1	113.3	116.1	104.5	103.5	101.4
Wrocław	122.6	114.1	110.0	110.9	109.5	107.3	103.2	100.9
Poznań	117.2	108.9	107.4	107.7	109.3	107.2	104.0	102.6
Gdańsk	124.8	118.2	80.6	158.0	115.3	108.5	102.6	99.3
Szczecin	128.3	117.5	115.8	108.3	109.4	105.1	101.0	105.4
Bydgoszcz	124.3	114.9	110.6	110.0	114.4	108.1	105.2	104.1
Katowice	88.9	135.2	105.9	106.6	112.7	103.3	102.3	100.9
Lublin	113.4	137.1	112.7	116.7	114.1	111.8	107.4	107.5
Białystok	142.6	124.4	115.8	120.4	116.3	114.4	111.9	107.9
Częstochowa	133.4	110.1	106.4	107.4	106.4	117.2	106.1	103.6
Sosnowiec	129.0	105.9	106.6	103.7	135.0	125.8	104.1	101.1
Gdynia	125.2	115.9	110.6	115.3	115.7	106.9	104.3	102.0
Radom	147.1	110.2	110.5	110.9	109.9	109.0	113.3	105.5
Bytom	104.2	101.1	104.6	98.2	125.1	100.00	102.0	96.8
Gliwice	112.3	111.4	108.8	105.3	114.7	100.2	106.2	100.1
Kielce	120.6	126.7	110.1	123.3	119.1	122.3	109.8	105.4
Zabrze	106.0	103.9	104.5	99.2	103.4	96.2	101.2	103.3
Toruń	114.8	113.4	109.2	113.5	114.9	116.8	109.7	105.8
Bielsko-Biała	116.9	129.5	111.9	109.3	113.8	136.5	107.4	103.1
Ruda Śląska	110.4	108.0	107.2	101.3	104.6	106.4	104.4	103.0
Olsztyn	126.7	122.3	110.6	126.2	118.9	118.3	112.5	108.7
Rzeszów	185.4	120.0	110.9	119.9	115.3	126.6	117.0	107.8
Rybnik	109.9	114.1	112.0	114.4	235.7	119.1	112.1	104.7
Wałbrzych	117.6	109.0	104.2	99.9	102.2	104.3	103.9	101.7
Tychy	206.2	187.6	128.1	111.9	189.7	122.9	110.2	104.3
Dąbrowa Górnicza	127.2	134.7	108.8	102.2	129.3	177.2	97.6	99.2
Opole	144.4	120.9	112.6	114.8	121.9	110.1	108.1	101.8
Chorzów	109.2	103.7	104.8	98.8	102.9	96.0	94.7	92.9
Elbląg	137.0	116.1	110.5	106.6	107.9	113.3	107.5	106.4
Płock	113.3	117.3	125.0	131.5	121.4	116.9	111.8	107.6
Gorzów Wlkp.	136.6	131.0	114.7	111.1	116.6	121.4	109.3	107.4
Włocławek	114.9	106.1	108.4	113.5	116.7	118.0	109.3	104.7
Tarnów	157.2	120.4	109.9	110.4	113.9	107.5	110.3	104.6
Zielona Góra	125.0	137.5	115.7	117.0	114.6	120.1	108.7	103.8
Koszalin	198.4	118.4	119.8	122.6	119.0	120.5	108.3	107.3
Kalisz	119.1	107.6	106.6	107.5	107.1	113.3	105.3	102.1
Legnica	132.8	123.9	112.1	105.6	108.0	109.1	110.0	106.7
Jastrzębie Zdrój	133.3	120.8	306.9	275.3	371.0	108.4	102.0	103.2

1	2	3	4	5	6	7	8	9
Grudziądz	126.3	113.3	110.6	105.6	108.6	109.6	105.5	107.6
Słupsk	133.5	120.8	111.2	116.0	112.6	111.0	108.1	108.7
Jaworzno	124.4	170.7	113.7	105.3	117.1	119.9	107.5	103.6
Mysłowice	112.9	99.8	108.2	102.8	138.0	129.3	110.5	106.3
Jelenia Góra	128.6	110.2	108.3	104.1	105.2	147.8	10.7	106.3
Wodzisław Śl.	116.9	130.4	187.8	152.1	396.5	103.5	103.5	102.6
Lubin	151.9	134.1	250.9	209.4	165.1	140.7	110.1	104.7
Konin	117.4	145.1	126.7	156.3	122.1	135.9	112.0	111.4
Piotrków Tryb.	114.4	109.1	108.1	104.7	107.4	112.3	110.3	105.9
Nowy Sącz	113.7	113.4	110.7	110.4	117.7	131.9	109.8	101.9
Siemianowice Śl.	112.1	105.1	105.9	102.0	107.0	106.6	105.6	111.1
Ostrowiec Św.	156.2	120.2	115.2	114.1	114.4	113.6	112.1	99.6
Inowrocław	112.6	110.7	107.8	107.4	108.7	110.7	109.4	107.7
Tarnowskie Góry	113.4	109.2	111.2	108.2	181.1	107.1	109.3	107.5
Pabianice	105.9	108.7	105.7	105.1	107.1	105.5	103.0	101.6
Piła	129.9	123.4	113.6	114.6	112.0	119.5	114.6	103.6
Ostrów Wlkp.	119.5	108.7	108.2	107.8	108.9	115.5	109.4	107.1
Głogów	165.8	146.0	137.0	163.5	166.0	157.0	126.7	155.3
Siedlce	113.8	113.2	109.2	110.4	112.7	123.7	118.6	110.8
Tomaszów Maz.	111.4	110.5	107.0	106.0	106.0	108.4	104.9	105.1

Source: Authors' calculations.

TABLE 6. Per cent of total variance of 8 variables of population growth dynamics of Poland's 60 largest towns accounted for by particular principal components

Principal components	variance (%)	
	individual	cumulative
V1	36.40	36.40
V2	23.76	60.16
V3	13.11	73.27
V4	8.77	82.04
V5	6.92	88.96
V6	5.87	94.83
V7	4.08	98.91
V8	1.09	100.00

Source: Authors' calculations.

An analysis of the correlation coefficients of the first three principal components and the initial variables (growth rates) indicates that differences in the growth rates of the largest Polish cities at three variation levels (cf. Parysek, Ratajczak 1978; Parysek 1982) originated mainly from:

— at the first level: the development dynamics of the urban population in the years 1960-1975;

— at the second level: the polarity in the development dynamics of the urban population in the years 1950-1960 and 1975-1990, and 1960-1975; and

— at the third level: again a polarity in the development dynamics of the urban population in the years 1955-1960 and 1985-1990 (cf. Table 7).

The study made of the 60 largest Polish cities provides an additional confirmation of the hypothesis about the two stages in the postwar urbanisation of the country.

TABLE 7. Coefficients of correlation between the principal components and the variables of population growth dynamics of Poland's 60 largest towns

original variables — population growth dynamics in the years	principal components		
	V ₁	V ₂	V ₃
1950-1955	0.5256	-0.4937	0.2700
1955-1960	0.5692	-0.3624	-0.799
1960-1965	0.8347	0.4627	0.1062
1965-1970	0.8495	0.3625	0.1129
1970-1975	0.7088	0.5122	0.0352
1975-1980	0.4307	-0.5309	-0.1810
1980-1985	0.3948	-0.6793	0.2708
1985-1990	0.2256	-0.4179	0.7835

Source: Authors' calculations.

Naturally, the above analysis allows many interpretations. Anyway, its results, that is, a multi-faceted, generalised classification (cf. Table 8), are very interesting. Thus, in the case of the first principal component (V₁), class I comprises towns with a low population growth rate in the years 1960-1975, class II those with an average rate, and class III those with a high rate. This component defines the first level of variation in urban development dynamics. It is worth noting that a particularly low growth rate was recorded in the old industrial centres (Chorzów, Zabrze, Bytom, Łódź, Pabianice, Wałbrzych, Siemianowice Śląskie, Ruda Śląska), while a particularly high rate characterised totally new ones (Konin, Tychy, Wodzisław Śląski, Głogów, Jastrzębie) or those developing rapidly (Rzeszów, Koszalin, Rybnik, Jaworzno, Dąbrowa Górnicza).

In the case of the second principal component (V₂), class I consists of urban places with high growth rates in the years 1950-1960 and lower ones in the years 1960-1975, as well as those with low ones in the years 1950-1960 (including towns for which 1950-1960 was a period of stagnation or decline, e.g. Bytom and Chorzów). Class II embraces towns whose growth rates were diversified, but also more even, between 1950 and 1990. The remaining towns make up class III.

By the third principal component (V₃), class I contains towns with high growth rates in the years 1955-1960 and low ones in the years 1985-1990, while class III is formed by those showing a reverse development pattern: a low rate in the years 1955-1960 and a high rate in the years 1985-1990. Class II comprises towns with more diversified growth rates in the time intervals distinguished (cf. Table 8).

TABLE 8. Classification of Poland's 60 largest towns by variables of their population growth dynamics (principal components)

Class	Principal components		
	V ₁	V ₂	V ₃
I V _i < -1	Chorzów, Zabrze, Bytom, Łódź, Pabianice, Gliwice, Wałbrzych, Poznań, Ruda Śląska, Siemianowice Śl., Tbmazów Maz., Katowice, Kalisz	Głogów, Rzeszów, Tychy, Ostrów Wlkp., Koszalin, Siedlce, Piła, Jaworzno, Ostrowiec Św.	Dąbrowa Górnicza, Chorzów, Jaworzno, Tychy
II -1 ≤ V _i ≤ 1	Warszawa, Kraków, Wrocław, Gdańsk, Szczecin, Bydgoszcz, Lublin, Nowy Sącz, Sosnowiec, Gdynia, Częstochowa, Radom, Toruń, Opole, Elbląg, Włocławek, Legnica, Grudziądz, Jelenia Góra, Inowrocław, Piotrków Tryb., Tarnowskie Góry	Białystok, Bielsko-Biała, Częstochowa, Dąbrowa Górnicza, Elbląg, Gorzów Wlkp., Konin, Jelenia Góra, Kielce, Legnica, Lublin, Mysłowice, Nowy Sącz, Olsztyn, Opole, Piotrków Tryb., Płock, Radom, Toruń, Słupsk, Tarnów, Włocławek, Zielona Góra, Inowrocław	Warszawa, Bielsko-Biała, Bydgoszcz, Katowice, Bytom, Częstochowa, Gdańsk, Łódź, Gdynia, Gliwice, Gorzów Wlkp., Konin, Jastrzębie Zdrój, Kalisz, Kielce, Opole, Koszalin, Kraków, Lublin, Nowy Sącz, Pabianice, Radom, Wrocław, Tarnów, Sosnowiec, Rzeszów, Szczecin, Wałbrzych, Zielona Góra
III V _i > 1	Konin, Tychy, Głogów, Wodzisław Śl., Lublin, Jastrzębie Zdrój, Siedlce, Bielsko-Biała, Tarnów, Ostrów Wlkp., Kielce, Piła, Płock, Zielona Góra, Gorzów Wlkp., Olsztyn, Ostrowiec Św., Dąbrowa Górnicza, Białystok, Rybnik, Jaworzno, Koszalin, Rzeszów, Grudziądz, Sosnowiec, Bydgoszcz, Kalisz, Tbmazów Mazowiecki, Warszawa, Rybnik, Gdynia, Lubin, Wałbrzych, Szczecin, Siemianowice Śl., Ruda Śląska, Poznań, Łódź, Wrocław, Gliwice, Kraków, Tarnowskie Góry, Gdańsk, Pabianice, Katowice, Chorzów, Zabrze, Bytom, Wodzisław Śl., Jastrzębie Zdrój	Głogów, Poznań, Elbląg, Legnica, Ostrowiec Św., Białystok, Jelenia Góra, Rybnik, Piła, Wodzisław Śl., Tbruń, Piotrków Tryb., Ruda Śląska, Słupsk, Zabrze, Olsztyn, Tarnowskie Góry, Tbmazów Maz., Siedlce, Grudziądz, Włocławek, Lubin, Płock, Inowrocław, Mysłowice, Siemianowice Śl., Ostrów Wlkp.	

Source: Authors' calculations.

To visualise the development of the 60 towns that were the largest in 1990, a scatter-diagram was plotted in which the positions of towns are determined by the first two principal components as co-ordinates (cf. Fig. 6). It clearly shows the specific development pattern of such towns as Konin, Tychy, Wodzisław Śląski,

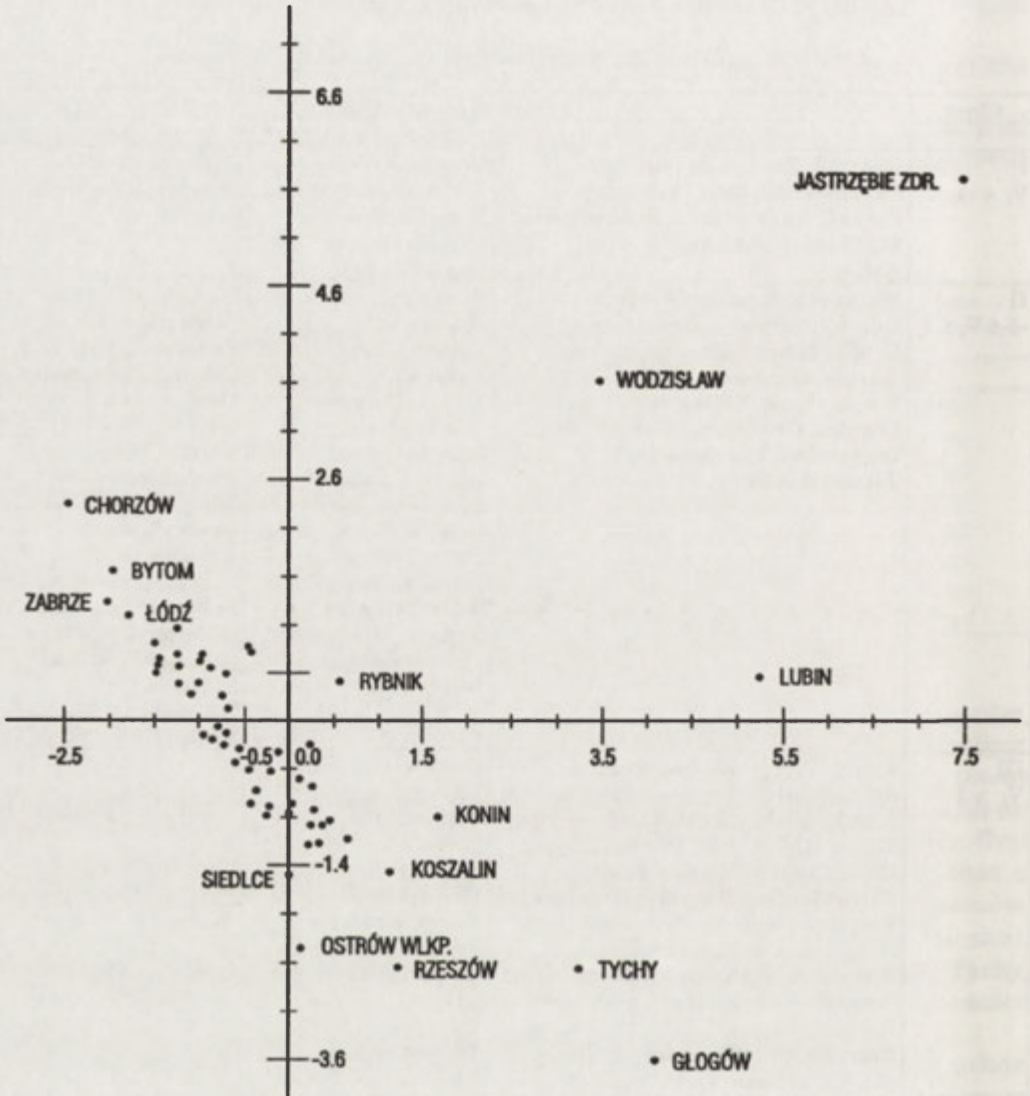


Fig. 6. Growth dynamics of Poland's 60 largest towns by the first two principal components

Głogów, Lubin, Jastrzębie Zdrój, Chorzów, Bytom, Zabrze, Łódź, Rybnik, Koszalin, Ostrów Wielkopolski, Rzeszów and Siedlce.

With some towns, especially new industrial centres, a high rate of population growth has led to their very extensive development. However, progress in the urbanisation of Poland was determined primarily by the absolute increase in the population of the largest cities, even though their growth rate was not a high one at all (cf. Table 9).

TABLE 9. Absolute and relative population increase in Poland's
60 largest towns over the four decades 1950-1990

Towns	Population increase in the years 1950-1990	
	Absolute (thous. persons)	Relative (%)
1	2	3
Warszawa	851.8	206.0
Łódź	228.0	136.8
Kraków	406.9	218.4
Wrocław	334.3	208.2
Poznań	269.4	184.0
Gdańsk	270.5	239.0
Szczecin	234.5	231.1
Bydgoszcz	219.0	234.8
Katowice	142.0	163.2
Lublin	234.8	301.4
Białystok	202.1	395.0
Częstochowa	145.8	229.9
Sosnowiec	163.0	269.1
Gdynia	148.0	243.0
Radom	148.2	284.6
Bytom	57.8	132.9
Gliwice	94.2	178.5
Kielce	152.9	349.4
Zabrze	32.6	118.9
Tbruń	121.6	250.9
Bielsko-Biała	123.9	315.9
Ruda Śląska	60.6	154.9
Olsztyn	119.1	371.9
Rzeszów	124.9	544.5
Rybnik	116.8	529.4
Wałbrzych	47.2	150.3
Tychy	178.8	1486.0
Dąbrowa Górnicza	104.5	422.5
Opole	89.9	333.5
Chorzów	2.4	101.9
Elbląg	78.0	262.2
Płock	90.3	372.8
Gorzów Wlkp.	91.5	379.0
Włocławek	70.4	235.9
Tarnów	83.7	324.1
Zielona Góra	82.5	361.2
Koszalin	89.8	575.1
Kalisz	50.7	191.4
Legnica	66.2	269.7
Jastrzębie Zdrój	101.9	576.1

1	2	3
Grudziądz	53.0	225.8
Słupsk	68.1	305.7
Jaworzno	74.5	398.0
Mysłowice	58.1	262.7
Jelenia Góra	58.4	266.9
Wodzisław Śl.	105.9	189.5
Lubin	79.6	304.8
Konin	68.2	663.6
Piotrków Tryb.	38.7	191.5
Nowy Sącz	52.0	298.5
Siemianowice Śl.	28.1	153.0
Ostrowiec Św.	58.3	387.2
Inowrocław	39.7	204.5
Tarnowskie Góry	51.0	320.8
Pabianice	26.4	154.1
Piła	51.2	342.7
Ostrów Wlkp.	73.4	323.8
Głogów	69.5	192.9
Siedlce	46.7	284.6
Tomaszów Maz.	30.5	177.4

Source: Author's calculations.

CONCLUSION

In the light of the research presented above, the following conclusions can be drawn:

1. The pace of the postwar urbanisation process was rather high, though diversified, and declined steadily.

2. Two characteristic stages can be distinguished: one described as dynamic urbanisation (1946-1965) and one of suburbanisation (1965-1990), each subdivided further into a phase of increase and a phase of decrease in the growth rate.

3. In the process of urbanisation the different size categories of towns have played various roles. They were reflected in their growth rates and population concentration levels varying from period to period.

4. Although practically each of the particular size groups had the highest growth rate at one time or another (the largest cities in the years 1950-1955, very large ones in 1955-1960, large ones in 1960-1965, medium-sized ones in 1965-1970, large ones in 1970-1975, very large ones in 1975-1980, large, very large and medium-sized ones in 1980-1985, and large and small ones in 1985-1990), the process of population concentration took place mainly in the largest cities. Thus, Poland's urbanisation has been basically a process of population concentration in the largest cities.

5. The postwar years have been a period of decline of the smallest Polish towns, which were going through a depopulation phase in many of the time intervals distinguished.

6. Each size category of towns has had its own development trajectory. Still, a characteristic feature of large and the largest cities has been wave-like development (in stages), while of the smallest ones, a wave-like decline.

7. The development of towns was a turbulent process. It has been more steady only since 1980, when the growth rates of the particular town classes slackened markedly. Also, disparities in growth dynamics have narrowed since then.

8. Poland's urbanisation has been primarily a quantitative process, which is what made it so unbalanced, if not pathological at times.

Thus, Polish towns entered the period of socio-political transformation with equalised growth dynamics. This is a good starting point for structural change which should result from the transformation.

The new period of development of Polish towns also means a slowly diminishing role of industry as the basic factor of urbanisation. One might venture the statement that Polish towns entered the period of post-industrial development back in the 1980s. This is the kind of development in which only high-tech industry counts, and the key role is played by services, especially those related to the market economy, trade, education, science, culture, telecommunications and informatics, and with the rising standard of living, also personal services.

For the towns, the period of socio-political transformation will mean a qualitative rather than quantitative change, also in the process of urbanisation. There are sure to be many units undergoing de-urbanisation (industrial centres), while others will gain a new impetus to develop (multifunctional towns with the benefit of location at international routes as well as service, scientific and cultural centres).

Qualitative change will manifest itself in Polish towns in the creation of new commercial and service centres, the development of business districts in the hearts of towns with supra-regional functions as well as large centres of wholesale and retail trade on the peripheries, improvement of the aesthetic aspect and organisation of downtown districts, and the development of peripheral residential areas.

However, it is to be expected that unwanted developments will appear or intensify: transport problems (congestion in towns), growing social disparities and an expanding sphere of poverty, substandard housing, the spread of pathological phenomena and processes, a lowering level of personal safety, and the deterioration of the living environment. One can only hope that the present high development rate of these processes which threaten the wellbeing of the urban population will slacken and their impact will be limited.

All these processes, it seems, will give a new, different aspect to urbanisation in Poland at the close of the 20th century.

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POLISH CORE AND PERIPHERY UNDER ECONOMIC TRANSFORMATION

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ABSTRACT: Core-periphery concept is discussed in the paper and the invalidity of the simple dichotomy is stressed. This concept is applied to the Polish economic space on the national scale. Changes in the Polish spatial-economic system are analysed during the changes in the political-economic transformation in Poland. Three periods are analysed: (1) the top of the developmental potential of "realistic socialism" in the late 1970s; (2) that of the system's transformation and the development of the basic market mechanisms in the early 1990s; and (3) that of the developed market economy in the early 2000s.

KEY WORDS: Core, sub-core, periphery, semi-periphery, core region, frontier region, depressed region, underdeveloped region, development axis, economic transformation.

INTRODUCTION

The core-periphery concept is a useful descriptive tool of political and economic regional structure (Szul 1988). This concept can be discussed in different spatial scales and from different perspectives. The main spatial scales include global, continental, national, regional and local. It was the national scale that both was first analysed and focused the students' highest interest.

The core-periphery concept can be analysed from three main perspectives, i.e. political, economic and socio-cultural. Even though the political perspective was the earliest developed, it was the economic perspective that turned out to be the most interesting to investigate.

THE CORE-PERIPHERY CONCEPT

The concept of the core is more deeply rooted in socio-spatial sciences than that of the periphery. The former concept stems originally from political

geography and more specifically from F. Ratzel (1896) who understood the core as a territorial origin of a much more extensive contemporary state (Mall 1956). D. Whittlesey (1939), however, argued that three notions should be identified:

- (1) a nuclear core, i.e. one which gave rise to a contemporary state;
- (2) an original core which was not nuclear, i.e. one which gave rise to a state until a new core was created;
- (3) a contemporary core, i.e. an area which is now politically or economically the most important.

Other authors argued, however, that the distinction between the two former of the three notions is not based on a clear enough logic (Pounds, Ball, 1964).

Interestingly, D. Whittlesey applied the notion of the core both to political and regional geography. In further approaches (Platt 1943, Philbrick 1957, Zaidi 1966, de Blij 1967) more economic than political meaning was given to the notion, however. It was in this context that J. Friedmann's core and periphery concept was developed.

He began his considerations with the first industrial revolution and found that after the period of initial industrialization economic activities tended to concentrate in one or a few centres, for different reasons to be discussed on. The rapid growth of these centres changed the prevailing spatial economic pattern considerably. The centres drain "the more dynamic elements" from more static regions (Friedmann, Alonso 1964: 3). In this way the rest of the country was changed into secondary peripheral areas. They are related to the core by semi-colonial links, and characterized by negative net migration and net outflow of the capital and resources. This is underlain by the advantageous situation of the core, with its rapid, stable and sustainable economic development. As a result, the differences in incomes between the core and periphery increases (Friedmann, Alonso 1964).

Periphery can, however, include the areas which were important centres of settlement and production in the pre-industrial period and still concentrate a considerable part of national population and often also the political power. The power can be used to make the policy of economic development which would weaken the narrow interests of the new core — the growth region (Friedmann, Alonso 1964).

Within the given territorial socio-economic system J. Friedmann (1967) distinguished core regions and peripheral regions. This distinction is non-overlapping and exhaustive. The core regions are defined as poles of change, located in places of high potential interrelationships. Development, understood as the innovation process, which originates in relatively few poles of change, is propagated, as far as possible, outside the poles, towards the areas of the lower probability of interrelationships, referred to as peripheral regions. The periphery is defined by its dependence on the core. The domination of the core region results from the earlier innovations which were institutionalized by the administrative or market pattern, mainly supply. The domination of the core region over the periphery tends to be self-reinforced (Friedmann 1967).

J. Friedmann and W. Alonso (1964) concluded, however, that for the policy of regional development the simple core-periphery dichotomy is not sufficient.

They argue that distinction between four classes of areas is more sufficient. These are:

- (1) core regions (growth poles, metropolitan regions),
- (2) development axes,
- (3) frontier regions,
- (4) depressed regions.

The core regions basically represent the centre, and depressed regions — the periphery. The development axes are extensions of the core regions and take the shape of elongated belts following the main transportation routes interconnecting the regions. The frontier regions are development areas in the periphery and can include origins of the would-be core regions.

E. L. Ullman (1958) provided an empirical example of the core and periphery in the United States. According to the data from the early 1950s, the industrial core, which covered 7.7% of the national territory, concentrated 43% of the population, 52% of incomes, 70% of industry employed and 70% of those included in “Who’s who”.

Importantly, the core-periphery dichotomy is relative and depends on the spatial scale of the analysis: regional, national or international (Darwent 1969); in a dynamic approach a dialectic between the core and periphery can be identified. The contemporary cores need not be such forever, as well as today’s periphery need not be such for ages, even though the spatial polarization tends to be stable, which results from the inertia of socio-spatial structures.

THE CORE AND PERIPHERY IN CONTEMPORARY POLAND

The subject of this paper is to apply the core-periphery concept to the Polish economic space on the national scale. The aim of the paper is to outline the change in the Polish spatial-economic system during the political-economic transformation in Poland. The Polish spatial economic system is discussed in the core-periphery terms in three periods: (1) the top of the developmental potential of “realistic socialism” in the late 1970s (the retrospective approach); (2) that of the system’s transformation and the development of the basic market mechanisms in the early 1990s (the diagnostic approach); and (3) that of the developed market economy in the early 2000s (the prognostic approach).

THE CORE AND PERIPHERY UNDER COMMUNISM

The late 1970s were taken as the top of the developmental potential of “realistic socialism” as it was in the turn of the 1970s and the 1980s that the most serious structural crisis of the communist economy in Poland emerged. The crisis, in its economic, social and political aspects, questioned the legitimacy of the system, and the reforms of the 1980s indicated that hardly any successful

reform of the system was possible other one which led to a change in the system itself. All proportions regarded, this also applied to space economy.

Generally, two main features were characteristic of space economy under communism, viz. (1) its strong dependence of fixed assets and (2) on labour resources. The former of the two implied that it was the location of industry, especially heavy industry, that determined the economic, if not social and political, space of Poland. The latter of the two, on the contrary, implied that the general distribution of population played an important part in space economy. This was related to the fact that in the economic system which was aimed at extensive out-dated heavy industry it were unskilled and semi-skilled workers who were highly needed. Special programmes were developed in state-owned enterprises to recruit workers who would fill job vacancies. With the relatively low average level of education, the general distribution of population was highly correlated with that of unskilled workers.

In this context, two main factors accounted for the location of the core and periphery, viz. the location of the largest industrial districts and the distribution of population, measured by population potential.

What was referred to as the agglomeration of industrial districts, concentrated around the Upper Silesian Industrial District, could be recognized as the core of the Polish economic space under communism. This area included a few industrial districts and extended from Opole to Cracow and from Częstochowa to the southern border (Fierla 1969). It was of this area that the highest values of population potential was characteristic throughout the communist period, with a clear tendency of the growing concentration (Dziewoński *et al.* 1977). It was also this area that indicated the highest scores of the demographic-economic principal component of Poland's socio-economic space. The component was loaded by the variables of economically active women in agriculture, deaths, women, and double job holders (Rykiel 1978).

According to the 1965 data, the Katowice voivodship, within its then boundaries, covered 3.0% of Poland's territory while it concentrated 11.2% of population, 16.1% of the employed in the "socialized" sector, 20.9% of global industrial production, and 27.7% of the gross fixed assets in industry and "socialized" construction (Atlas 1971), as well as 87.5% of those members of the Political Bureau of the Central Committee, Polish United Workers' Party, in the 1970s who were relegated from the party during the 9th extraordinary congress in 1981.

As sub-cores or growth poles, identified with the local concentrations of the population potential, scored over 250,000 persons/km, the Warsaw and Łódź agglomerations could be identified (Dziewoński *et al.* 1977). These were the two largest industrial district outside the agglomeration of industrial districts, with their considerable ideological role as large concentrations of the working classes. The equally high ideological role involved, however, a rather differentiated political role: a considerable one in the case of Warsaw and rather marginal in the case of Łódź throughout the communist period.

The location of the periphery could be identified by the spatial pattern of the population potential. The areas located outside the 150,000 persons/km

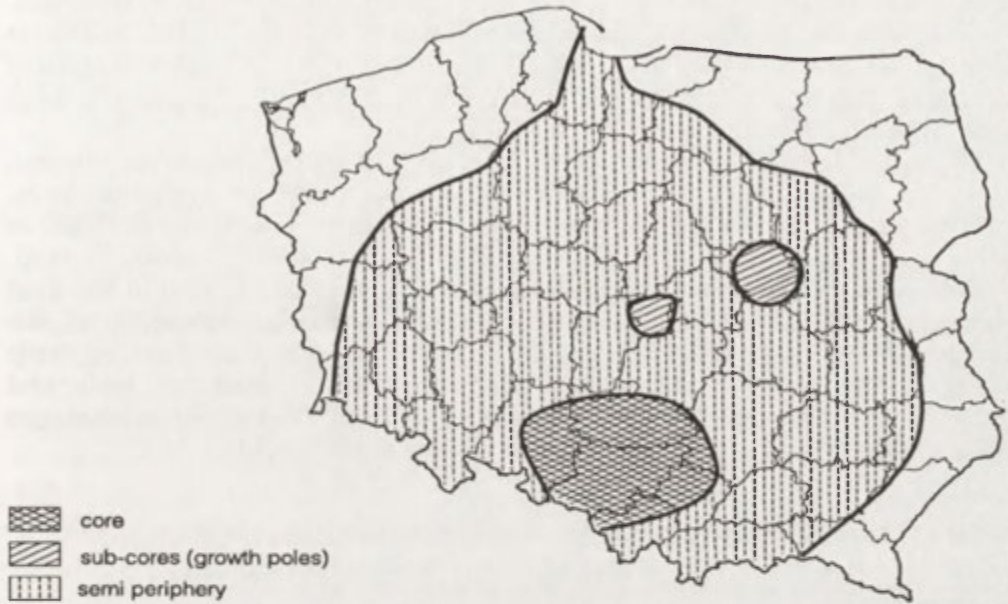


Fig. 1. Polish core and periphery in the late 1970s

contour could be, therefore, identified with the periphery. Geographically, those areas were located outside the triangle with its vertices in Gdańsk, Prague and Lviv/Lvov, and included the North-West, North-East and East (Dziewoński *et al.* 1977). Two large cities, sized 250,000 or over, were located in the periphery. These were Szczecin in the North-West and Białystok in the North-East.

This pattern indicated a general peripherization of the North. This development resulted from two main reasons. One was the stress on the, already pointed to, heavy industry, especially mining, which has been concentrated in the South. This was conditioned both geologically and economically, including the agglomeration advantages and the inertia of spatial structures.

The other reason of the peripherization of the North was the historically conditioned distribution of population. This development included two main phenomena, i.e. rural overpopulation and the postwar resettlement. The former was traditionally characteristic of southern and south-eastern Poland and was related to the undersized farm pattern. The latter pattern, i.e. the postwar resettlement, applied to Poland's new territories from which Germans were resettled in the late 1940s. Not only the Polish new territories formed a more extensive fraction of the North than the South but also more Polish settlers expelled from the USSR annexed areas arrived in the South than the North. The latter development resulted from the fact that, in line with the Polish resettlement programme, the population shift was intended to be made

parallelly while, however, much more Polish people were forced to leave the new Ukrainian territories than it was the case of Lithuania and Byelorussia.

Generally, therefore, the 1970s programme to shift the Polish economic potential northward failed as it was in the 1970s that the agglomeration of industrial districts (in the South) expanded considerably and grew in both economic and political power.

The areas located between the 150,000 and 250,000 persons/km contour, i.e. within the triangle but outside the three main industrial agglomerations, could be categorized as the semi-periphery. Five large cities, size 250,000 or over, were located in the semi-periphery (Fig. 1). These were: Wrocław, Poznań, the Gdańsk agglomeration and Bydgoszcz in the West and Lublin in the East (Dziewoński *et al.* 1977). The considerable economic potential of the semi-peripheral large cities, especially those in the West, could not be made use of in the communist economy for which the economy of scale and agglomeration advantages were of higher value than the location advantages under the state controlled (and subsidized) transport tariffs.

THE CORE AND PERIPHERY DURING THE ECONOMIC SYSTEM'S TRANSFORMATION

After the political change in 1989, Poland entered the period of the system's transformation and the development of the basic market mechanisms. The early 1990s seem indicative of this period.

Under the transformation of the system and the development of basic market economy regulations, different features are characteristic of space economy than it was the case under communism. It is especially economic efficiency, innovatory attitudes, initiatives, high qualifications of the employees, diversity of the labour market and the access to information that grows in importance. Under the considerable centralization and etatization of the economy, which are characteristic of the period under discussion, also the access to governmental and non-governmental centres of administrative and financial decisions is rather important. During the rather limited political stability, social rest, related to the social integration on the local level, should not be underestimated, either.

In this context, the location of the core and periphery in the early 1990s seems to be determined by three main factors: (1) the adjacency to the central administration; (1) the accessibility to education and science; (3) low social disorganization.

While the adjacency to the central administration is self-evident, the accessibility to education includes the location of universities and rapidly developing non-public colleges, as well as the distribution of the cadres with tertiary and secondary professional education completed. The low social disorganization, in turn, includes the common observance of the law and high

social integration on the local level, low voting absenteeism, especially in local elections, being an important measurement of this phenomenon.

The Warsaw agglomeration forms an evident core, as it is of this area that high spatial accessibility to the central political and economic administration is characteristic, as well as a concentration of prestigious universities, non-public colleges, scientific institutes and a high percentage of the tertiary educated. It is there, especially in the city of Warsaw itself, that new economic phenomena have first appeared.

As new economic phenomena, those are categorised which, although obvious or common in the market economy, did not exist in the communist system, were limited in number or at least performed rather different functions. The following can be recognized as the most typical new economic phenomena: commercial banks, stock exchange, stockbrokers' offices, commercial insurance companies, exchange counters and hire shops in finance; network marketing in commerce; non-public colleges, schools and kindergartens in education; local press, independent TV networks, cable TV companies, and professional advertising in media; private taxi companies and private suburban bus service in transport; sex shops, peep shows, "social" agencies, and call girls in sex services; security agencies and weapon shops non-profit organizations and foundations, and benevolent organizations in social services.

Some of the largest metropolitan areas, i.e. Poznań, the Gdańsk agglomeration, Cracow and Wrocław, form sub-cores or growth poles. It is to these areas that the characteristics of the Warsaw agglomeration, except for its adjacency to the central administration, apply.

The sub-cores make use of their location advantages in developing their economic potential. Free transport tariffs in the market economy makes location advantages superior to the economy of scale and agglomeration advantages. The location advantages should be considered in the context of the changed economic relationships with foreign countries. The collapse of the Comecon discontinued much of the former economic relationships with the East (CIS) while the transferability of the Polish currency opened the Polish economy to the world. Of this, economic relationships with the European Union, especially Germany, gained importance. In this context, western Polish regions, else generally highly developed, have more advantageous location now.

Of both the core and sub-cores, low unemployment rates, high privatization indices, as well as a relatively high foreign investment are characteristic (Gorzelać 1993). It is innovative attitudes, initiative, high qualifications of the employees, diversity of the labour market and the access to information that explains the high rank of these areas.

The belt of regions that cover what was in the inter-war period referred to as the Polish western frontier can be identified as a development axis, being a case of semi-periphery. It is referred here to the post-Prussian areas, extending from Gdańsk through Bydgoszcz and Poznań to Opole, in which a major fraction of the local population was not submitted to the postwar resettlement

programme and massive migration. As such, of this area relatively low, even though regionally differentiated, percentage of in-migrants is characteristic. This fact is responsible for the preservation of regional and, especially, local social ties throughout the communist period and this development explains the local/regional thrift, social self-organization and law-abiding behaviour. These characteristics, internalized as part of the system of values, are to some extent underlain by the Prussian constitutional model of the state, with its stress on the regional self-government, a regulation unique within the Polish national territory.

Those areas are among the most highly ranked in per capita gross domestic product (Gorzela 1993). A considerable part of the product is made in highly productive agriculture. The latter development is explained by the market orientation and is independent of the quality of soil. It is economic efficiency, innovatory attitudes, initiative and the high qualifications of the employees that provides additional explanation to the economic development of those regions.

Two other areas can be categorized as semi-peripheries, even though not included in the development axis. The Wrocław region is one of the two. Its highly productive agriculture and high per capita gross domestic product make this area an enclave in the periphery.

The other of the two includes the northern, southern and eastern fringe of the former agglomeration of industrial districts, somewhat extended eastward. The fringe of the ex-communist core, because of its thinner industrialization, avoided the most acute problems of the transformation which happened to the Upper Silesian Industrial District. The eastward extension of the area in question includes the piedmont areas of dispersed development. The economic development of this area is based on three main sources, i.e. (1) dispersed industrialization, (2) tourism and (3) growing small business supported by transfer of money from North America, following the nineteenth-century based kinship and family ties referring to the overseas emigration.

The remaining Polish areas form the periphery now. Within this, three categories can be distinguished, i.e. (1) frontier, (2) depressed, and (3) underdeveloped regions.

The frontier regions are growth areas in the periphery and can become nuclei of the would-be core areas. The Szczecin, Białystok and, perhaps, Zielona Góra regions can be included in this category. All of them can be included in the periphery because of their location in relation to core regions. Each of them takes, however, advantage of its location next to the national boundary in the economic conditions that have changed considerably since the communist period. The Szczecin and, to a lesser extent, Zielona Góra regions take advantage of the adjacent German border, and thus the EU's market. Szczecin itself, or the agglomeration, fulfills the criteria of a sub-core but its peripheral location. As such it has good chances of economic development. The Białystok region, on the contrary, seems to take advantage — again within the 150 years period — of the adjacency of the Eastern (CIS) market. The economic chances of

this region can grow after the possible market-oriented transformations in the East (CIS).

The depressed regions are ones of a considerable if not dominant role under communism which in the changed economic conditions lost much of its economic base and need major restructurization. These mainly applies to three heavy industrial districts, i.e. the Upper Silesian Industrial District (USID), the Central Industrial District (CID), the Legnica-Głogów Copper Belt (LGCB), and the Wałbrzych district, but also to the rest of the Sudete Mountains and the Łódź agglomeration. It is these regions of which fairly high unemployment and rather frequent social unrest has been characteristic in the early 1990s.

Three types of the depressed regions can be distinguished. The first type includes the CID and the Wałbrzych district of which monofunctional towns are characteristic. The bankruptcy of the single large industrial enterprise during the transformation or a recession in the respective branch involves the loss of the economic base by the respective urban place. This makes the situation of the respective local populations dramatic and involves social unrest.

The second type is represented by the USID which is highly dependent on heavy industry and coal mining which are in recession now, if not about to bankrupt. Even though not very diversified functionally, the regional labour market is, however, extensive enough to manage with the economic transformation. The absolute, even though not per capita, indices of privatization and foreign investment, per capita gross domestic product and relatively low unemployment locate this region still among the most successful in Poland (Gorzelać 1993). The problem of the USID is, however, more social than economic. The local frustration is based more on the relative than the absolute socio-economic indices vis-a-vis other Polish regions and even more so vis-a-vis the region's economic and, especially, political position in the former system. Economically, the USID could perhaps manage without mining, socially, however, not so. It is because a considerable part of the regional population, and since 1990 also the regional government, is represented by ethnic Upper Silesians whose regional culture is deeply related with mining. Giving up Upper Silesia of mining is for them to liquidate the regional ethnic culture. The intrinsic regional frustration is, therefore, one of the former economic and political core area which lost its position during the transformation to turn into a depressed region. The frustration is accompanied by social unrest, violent occasionally.

The third type of depressed regions is represented by the Łódź agglomeration. Even though highly dependent on textile industry which has been in a deep recession after the loss of the ex-Soviet market, this region has an extensive enough labour market to manage during the transformation. Like other urban agglomerations, Łódź indicates successful absolute economic indices but relatively high unemployment rate (Gorzelać 1993). By the mid-1990s, the area seems to enter the process of the development of alternative economic base, especially commerce, which resulted in a limited scale of the social unrest.

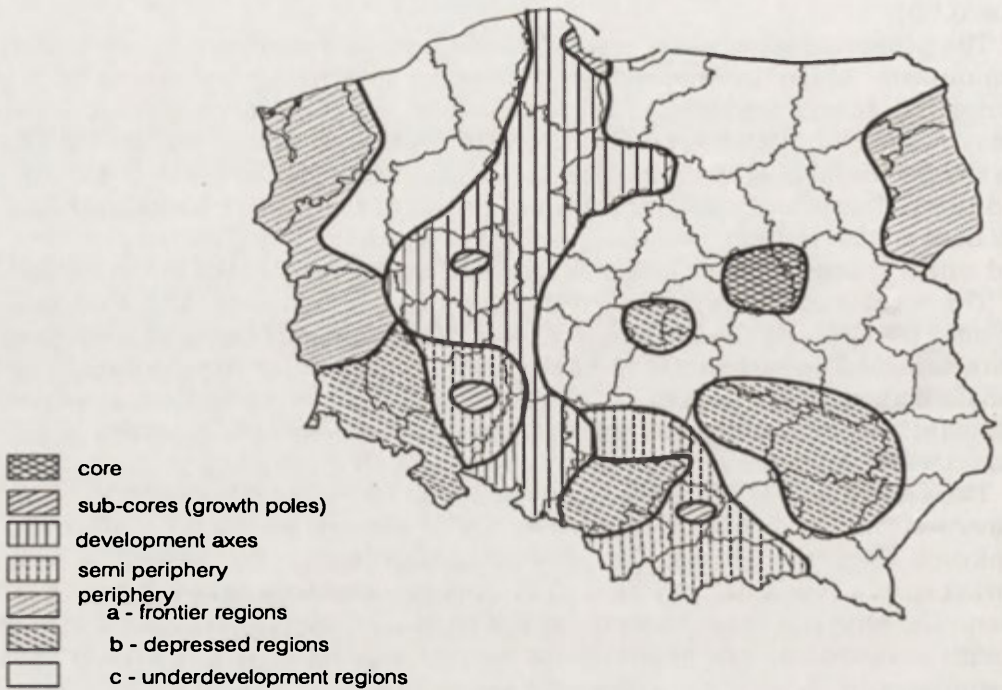


Fig. 2. Polish core and periphery in the early 1990s

The underdeveloped regions cover the areas which have never been included in the economic core. The traditionally underdeveloped eastern half of Poland (outside the already mentioned industrial districts and urban agglomerations) should be included in this category, as well as a considerable part of the North-West. In the case of the latter and the Olsztyn region in the North-East, the peripheral economic location (Fig. 2) even worsened as compared with the communist period because of the bankruptcy of the state-owned farming, dominant regionally under communism, while producing massive unemployment now (Gorzelak 1993).

THE CORE AND PERIPHERY IN THE EARLY 21ST CENTURY

The prognostic approach provided in this section is viewed in a 15-20 years' perspective, i.e. the spatial pattern in 2010-2015 is discussed. In this time perspective, four main assumptions are made: (1) that the market economy becomes developed in Poland; (2) that the state power will be decentralized; (3) that Poland will be about to enter the European Union; (4) that

market-oriented economic transformation will be advanced in the East, mainly Russia and the Ukraine, the countries which, however, will not be about to enter the EU.

If the assumed transformations are completed, they will fulfill the assumptions of what can be referred to as the optimistic scenario of the transformation. If the assumed transformations are failed, what can be referred to as the pessimistic scenario will be implemented. In the pessimistic scenario, the spatial pattern of Poland's space economy will generally not change. In the optimistic scenario it will change. The changed pattern is discussed herein.

If the system's transformation succeeds and the market economy is developed, economic efficiency, innovatory attitudes, the flexibility of the production profile and that of the employees' qualifications, as well as the diversity of the labour market will be essential for space economy. Within the decentralized private economy, the adjacency to governmental agencies will not be so important while the cost of labour as well as the accessibility to the hi-tech and markets can grow in importance.

In this context, the location of the core and periphery will be determined by three main factors: (1) the distribution of the cadres with the tertiary and secondary professional education completed; (2) the mobility and high qualifications of the employees; and (3) the access to technology and markets.

The distribution of the professionally educated cadres will be related to the accessibility to prestigious education in public and non-public universities, colleges, and modern secondary schools. Main metropolitan areas, but also non-metropolitan areas with a long tradition of high prestige given to education, are likely to concentrate a considerable part of these facilities.

The high qualifications of the employees and their mobility will apply to: (a) the areas in which non-university professional education will have traditionally been essential; (b) in which dispersed small business rather than massive industrialization will have dominated; and (c) in which massive commuting to work will have prevailed.

The access to technology will be related to the distribution of technical universities and industrial research centres. Metropolitan areas are likely to be among the top locations which will fulfil the criteria under discussion. When access to markets are discussed, in turn, the Eastern rather than Western markets are likely to grow in importance.

Within the 15 years' perspective, the process of a shift of the core from Warsaw agglomeration to Greater Poland will be in progress. While Warsaw is likely to keep its position as the main core, Greater Poland, especially the Poznań agglomeration, could grow as an alternative core. The Gdańsk agglomeration, Cracow, and perhaps also Wrocław and Szczecin, are likely to keep their positions as sub-cores or to develop as such.

A parallel development axis is likely to emerge between Warsaw and Poznań, with its highly probable extension westward up to the Słubice/Frankfurt boundary crossing. The axis can embrace Łódź, as it is gaining impetus in the

privatization process in the mid-1990s. In a somewhat longer perspective, say 25 years, i.e. up to 2020, the axis can reach as far East as the Terespol/Brest boundary crossing. With the change in the developmental factors, the parallel development axis is likely to replace rather than supplement the prevailing post-Prussian quasi-meridian axis. The new development axis would make use of the accessibility to a few metropolitan areas as centres of education, science and technology, as well as the accessibility to foreign markets: initially the Western markets and then also the Eastern markets.

Another parallel development axis can emerge along the Carpathians in the South. The developmental potential of the possible Cieszyn — Bielsko-Biała — Nowy Sącz — Krosno — Sanok axis results from the dense settlement network in this area, its cultural and self-governing traditions (even though applying more to the local than regional level) and socio-economic structure. The latter includes education as part of the internalized system of values, workers' high qualifications, a relative domination of dispersed small business, and the mobility of labour interrelated with massive commuting to work. These provide a potential background for diffusional industrialization, as those in Würtemberg, Midi-Pyrénées or Languedoc-Rousillon (Szul 1991). The western part of the potential axis, i.e. the Bielsko and Nowy Sącz voivodships, are already in the mid-1990s among the macro-regional, if not national, leaders in privatization and the absorption of foreign investments.

New semi-periphery can emerge in those parts of the contemporary post-Prussian quasi-meridian development axis which will not be included in new parallel development axes nor growth centres. It applies to most of the Gdańsk, Bydgoszcz and Opole regions, as well as the Wrocław region.

Within the periphery, which would cover the rest of Poland, frontier, depressed and underdeveloped regions can be identified. After the possible joining the EU by Poland, the contemporary frontier regions in the West are likely to lose their functions as a result of the de facto liquidation of the Polish-German boundary. This applies to the Zielona Góra and Szczecin regions, even though not so the city of Szczecin, which is likely to preserve its position as a nationally important growth pole (sub-core).

Because of the expected growth in the role of the Eastern markets, the border location will be an important factor of development. This factor may be, however, limited by the perspective of joining the EU by Poland, and even more so by the actual joining. If the border between Poland and the post-Soviet states becomes the eastern border of the EU, it is the eastern side of the border that will grow in importance as an attractive location for business, as it has always been the case in relatively open borders between countries of unequal levels of economic development.

In this context, a growth in the role of Białystok can be expected as the centre of a frontier region next to the CIS border. The growth is, however, more likely in the initial period of the transformation in both Poland and the East, i.e. until Poland enters the EU and the relatively open border between Poland and the CIS emerges. After that, Białystok can lose its role of a growth pole in the periphery

to locations on the other side of the border, especially Grodno. A similar path of development may be expected in the case of Kaliningrad in Russia and Lviv in the Ukraine. The two are likely to hamper the development of Olsztyn and Przemyśl, respectively, as centres of potential frontier regions in Poland.

Most of the prevailing depressed regions are likely to remain such for decades even though spatially differentiated developmental processes would certainly touch local areas. These mainly applies to the Upper Silesian Industrial District (USID), the Central Industrial District (CID), the Wałbrzych district and the rest of the Sudete Mountains, as well as the Legnica-Głogów Copper Belt, extended to the Zielona Góra region which is expected to lose its advantageous border location.

Also most of the prevailing underdeveloped regions are likely to remain such. There are differential developmental chances for the four main underdeveloped areas, i.e. (1) Mazovia outside the Warszawa agglomeration, (2) the North-West, (3) the North-East, and Central and Eastern Poland (Fig. 3).

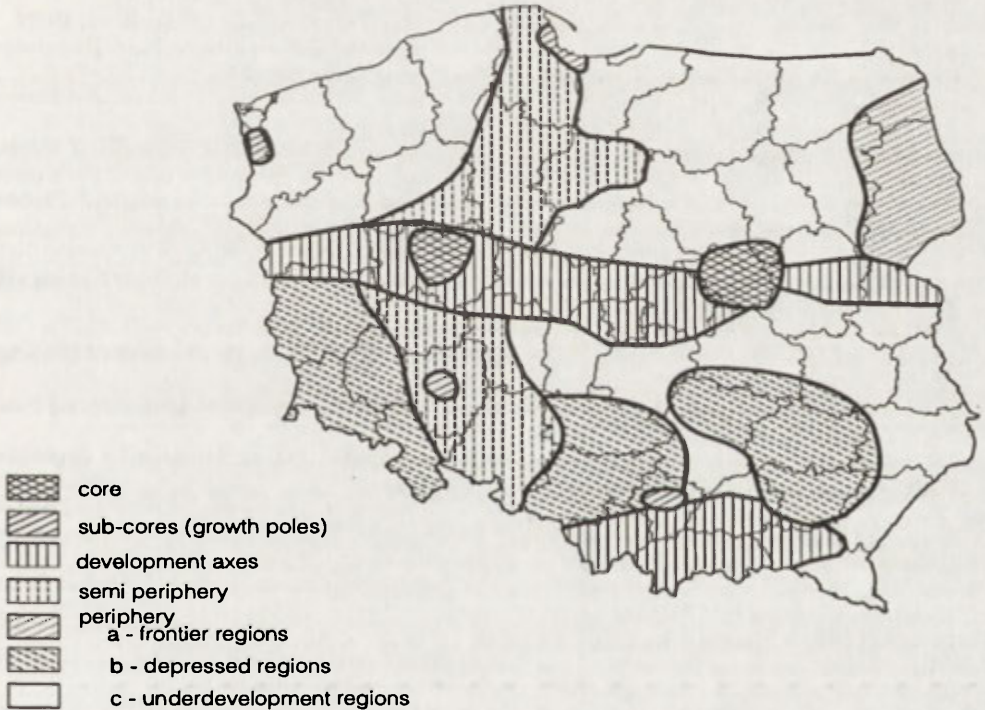


Fig. 3. Polish core and periphery in the 2010s

It is the North-East which seems to have relatively best perspectives of development. Its chance might be in developing tourism, perhaps also agrotourism. Another chance would be the location of the region next to the

Russian border if the Kaliningrad area were given better chances of development than the rest of Russia.

The other three underdeveloped areas have much worse chances of development. Oil could, of course, be found in northern Mazovia and the post-Soviet military bases in the North-West could be re-used as military training areas or highly specialized recreation areas. These perspectives are, however, too distant to build scenarios of economic development upon them.

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SOUTH-NORTH MIGRATION. THE CASE OF SPAIN

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ABSTRACT: International migrations caused by socio-economic and demographic reasons, especially from underdeveloped countries to the rich and prosperous areas of the globe are discussed with the focus on Western Europe and particularly on Maghrebi immigration to Spain. Emigration of the people from a backward region even increases the deterioration of local economy, provoking stagnation and inflation. Therefore emigration only can not be seen as an economic take-off for sustained economic development over the frontier areas between developed and depressed territories. Related social questions as well as economic, religious and political may add factors affecting the structural balance of the societies concerned.

KEY WORDS: International migrations, Spain, Maghreb, cheap labour force, Mediterranean world imbalance, Moroccan community in Spain.

INTRODUCTION: SOUTH-NORTH MIGRATIONS

In today's world, the concept of South-North migrations has a precise meaning: viz., the global migratory flow originating in the less developed countries which end up in the more prosperous areas of the globe. The expression seems quite appropriate when used cautiously, given that it reflects the general direction of migratory flows.

On the other hand, it is quite confusing to combine the terms South-North and East-West, as is done frequently today. Migrations which have occurred since the crumbling of the political regimes of Eastern Europe are not substantially different from those, for example, taking place between North Africa and Western Europe, or between Latin America and the United States. For this reason, the term South-North migrations will be used throughout this paper to refer to any kind of international movement caused by socio-economic and demographic variables.

The order of the words in the expression South-North migrations is

significant. In the inverse order, North-South migrations, the expression can be used to describe the flow of middle-class populations. They move to areas of great climatic comfort but scarce economic viability in a traditionally productive framework: in order to find work or for vacation.

In spite of the obvious macroeconomic advantages of the immigrant-receiving society which, in this way, obtains a more flexible and inexpensive labor force, the native lower-class workers are affected on the microeconomic level, by the direct social and economic competition represented by immigrants.

THE CASE OF WESTERN EUROPE

Within the global panorama of South-North migrations, Western Europe, because of its characteristics, is the most outstanding case. The reason is evident: the contrast between the social and economic development of Western Europe and that of North Africa or Eastern Europe is quite dramatic because of their proximity. The border between Mexico and the United States is one of the few regions — and perhaps the only one — comparable to our area of study.

The classic explanation of migrations as a movement which adjusts social imbalances as well as economic and demographic ones (Table 1) is still valid today. However, this extreme optimism on the part of classical economists is not shared by everyone. Every imbalance produces an opposite effect — but this does not necessarily reestablish the original balance. If the basic economic resource of any area is man himself, then the movement of inhabitants to an area does not resolve the problem of territorial imbalances.

In most cases, once international migrations begin, they exacerbate existing differences between the regions of origin and of destination. In this way, exporting regions lose their most dynamic individuals. Conversely, the money they are paid, once received, tends to be spent on consumer goods, sometimes even on those produced outside the country. In the most serious cases, emigration decapitalizes the country of origin, provoking inflationary processes in the already deteriorating economies. In times of economic expansion, emigrants occupy job positions upon arrival which natives of that country do not wish to fill. However, in times of recession, both groups compete for the same types of job.

It is evident today that the factors causing emigration outweigh those of immigration, especially in the case of the migrations across the Mediterranean (Golini et al. 1991). In other words, what really provokes migratory flows in this area are important demographic, socio-economic and political-religious imbalances within the sending countries, rather than the need for foreign manual labor in the developed countries which in fact continues to exist (Table 1). These imbalances impel great numbers of Southerners to move North, fleeing from misery and determined to take part in the exchange of economic goods in societies of developed countries.

TABLE 1. Economic and demographic imbalances in the Mediterranean world

	RPC \$ 1983	Pop. 1985	Proj. pop. 2000	Proj. pop. 2020
Portugal	2,190	10	11	12
Spain	4,800	38	42	43
France	10,390	55	57	57
Italy	6,350	57	58	55
Greece	3,970	10	11	12
Morocco	750	24	37	59
Algeria	2,400	22	35	53
Tunisia	1,290	7	10	13
Libya	7,500	4	7	11
Egypt	700	48	67	94
Turkey	1,230	52	71	97

It is unfortunate that South-North migrations occur while there is high unemployment in the countries of Western Europe. The explanation must be sought in the nature of the European job market. The unemployment which has characterized the European Community (E.C.) countries since the first oil crisis persists today along with a general lack of highly qualified manual laborers. Most emigrants tend to find employment on the fringes of the job market, or, worse yet, in unregulated parallel job markets which are beyond any support from the collective bargaining system. The relationship between the underground economy and clandestine immigration, which feed each other, should be better analyzed. In many instances, structural necessities of the economies of host countries have not been taken into account. Rather, attempts have been made merely to correct imbalances in the job market at the lowest levels of demand. This, in turn, allows the retention of invalid production and labor relations which are unacceptable for the local worker.

In its most recent publications on the establishment of one social space, the European Community has analyzed the problem of internal migratory movements. The E.C. upholds the principle of absolute freedom of movement and employment for its citizens and considers migration as a way of redistributing manual labor to optimize the marginal productivity of human labor. The analysis is correct, but it is incomplete since it ignores the presence of citizens from other countries. Two conclusions are reached: first, that the era of massive movements of unqualified workers within the E.C. is over; secondly, that the problem is not one of locating enough manual labor, but rather, locating qualified workers. European workers must become professionally qualified, their spatial mobility and the migrations of small groups of qualified personnel must be encouraged, so that they will act as representatives of the single market in Western Europe, of the single European social space.

The 1985 the Schengen agreement between Benelux, France and Germany — to which Italy, Portugal and Spain were later incorporated — constitutes

the codification of the principles mentioned in the previous paragraph. The agreement defines a single border with respect to other countries, abolishes internal borders and establishes the technical means of achieving this, as well as a system of information and of mutual judicial assistance. The implementation of this agreement has provoked a lot of criticism, since in the background there are two serious contradictory fears: on the one hand, that of a "strainer" Europe which opens up itself to all the migratory flows and, on the other hand, that of a "fortress" Europe which erects a wall to the East and another one to the South. All the analysts agree that the problem of South-North migrations has an important political component and that the North will have to institute changes in the power structure or will be forced to accept such changes.

The economy of the South should be restructured. An economic takeoff in the South, or at least in part of the South, will greatly alleviate the current situation. To achieve this, it is necessary to invest in those countries and to find a realistic, yet appropriate solution to the current debt. In the meantime, we have to facilitate the integration of current immigrants, although many may return to their country after a couple of years. To act any other way would be to go back in time several centuries in the history of Western civilization; to act as if the worker was once again nothing more than a slave bought at a ridiculous price would be radically unfair (Power 1979: 157).

THE CASE OF SPAIN

Spain has been traditionally a country of emigrants. Since the 19th century, the migratory movement from Spain to the external world followed a process similar to the one that occurred in other European countries. The demographic growth that followed the industrial revolution produced, in some countries, a greater demographic pressure on the job market. Furthermore, the desire to improve one's economic status as well as, in some cases, political or religious motivations, persuaded almost 50 million European inhabitants to abandon the continent between 1850 and the beginning of the first World War.

Spain was also part of this migratory current. Although large numbers of conquistadores, first, colonizers or settlers later and, as always, some adventurers had left the country since the Discovery of America, and although this has continued since the 16th century, this emigration was limited in number compared to the two great waves which occurred in the 19th and 20th centuries, mainly since 1830 to 1960.

The first massive emigration of Spaniards went to the north of Africa, to the territories under the Protectorate of Spain. This movement stopped in the last decade of the last century, in its last years joining and coinciding with the great migratory wave overseas, primarily to Cuba and Argentina, as well as other countries of the South American continent, and, to a lesser degree, to North America and Australia.

The second massive exodus of Spaniards occurred between the end of the Second World War and the beginning of the 1970s, this time toward the

industrialized countries of Europe: France, Germany, Switzerland, Great Britain, Belgium and Holland. Parallel to this exodus of Spanish workers, there was the rural exodus in Spain which depopulated great areas of the interior and overcrowded the more developed cities.

Spain's political and economic panorama has changed substantially since the 1970s. The social and political opening on the one hand, and the global economic crisis of 1973 on the other, made the country the center of attraction for the international movement of people.

There are many reasons why Spain became a migration receiving country in the 1970s. There are both internal and external reasons but are all intimately related.

Among the internal reasons are the political and economic opening of the country, the end of the rural exodus, which made it possible for employment offers to be made for low qualified jobs in the big cities, and the increase of tourism which helped potential immigrants enter the country.

Among the external causes we should mention the anti-immigration policies of the industrialized countries of Europe, the strikes existing in the countries of origin and the triumph of authoritarian governments in Africa and Latin America, which forced political dissidents to emigrate.

The distribution of resident aliens in Spain according to continent of origin is shown in Table 2.

TABLE 2. Resident aliens in Spain in 1990, by continent of origin

Continents	Absolute No	%
Total	407,647	100
Europe	270,022	66.2
Asia	29,116	7.1
Africa	25,854	6.3
North & Central America	31,087	7.8
South America	48,751	11.9
Oceania	1,103	0.2
Expatriates & w/o nationalities	994	0.2

Source: N.I.S. 1991. Author's elaboration.

As we can see, most of the official immigration in Spain is based on the great numbers of Europeans, with 66.2% represent the most numerous contingent. Of those, 19.1% come from Great Britain, 11.2% from Germany, 8.1% from Portugal, 7.0% from France, followed by smaller percentages of Dutch, Belgian and Swedish immigrants. The four countries have contributed as many as 18,535 immigrants, which represents 68.7% of the European immigration contingent and 45% of the total.

The foreign community in Spain is formed by people from industrialized and economically powerful countries, with the exception of Portugal; logically, because of its geographical situation. The economic conditions of these countries of origin mark the characteristics of their emigrants. These people

seek residence in the Mediterranean where they can spend their retirement; or they establish a small business in the coastal tourist zones where they have guaranteed customers, even some from their own country; or they establish themselves in the most developed areas for professional reasons.

The American continent (North and South) occupies the second place in terms of continent of origin with 14.1% of the total, although not all the countries are equally represented. The United States (16,092), Argentina (17,679), Venezuela (9,320) and Cuba (5,126) contribute the greatest number of American immigrants, in a sense reversing the wave that America received from Spain.

Of the rest of the countries, only the Phillipines (7,416) and China (4,090) have significant figures.

Looking at the location of immigrants within Spain, Table 3 and Map 1 show their numerical distribution by Autonomous Communities and Provinces. Andalusia, Baleares, Canary Islands, Catalonia, Valencia and Madrid are the Communities which receive almost all of the resident aliens: 348,487, representing 85% of the total for Spain.

The spatial concentration is even greater if we consider the provinces. Seven of the provinces forming the previously cited Autonomous Communities have a total number of 294,174 resident aliens, which in relation to the national figures is 72.8% (Malaga 12.1%, Baleares 8.0%, Las Palmas 4.8%, Santa Cruz de Tenerife 7.8%, Barcelona 11.4%, Alicante 12.8% and Madrid 14.9%).

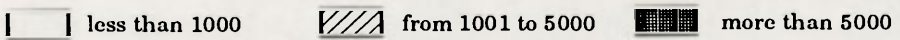
TABLE 3. Resident Aliens in Spain, 1990

Autonomous Communities	Total	%
Total	407,647	100
Andalusia	72,543	17.7
Aragon	3,988	0.9
Asturias (Principality of)	4,198	1.0
Baleares (Islands)	32,646	8.0
Canary Islands	51,955	12.7
Cantabria	1,751	0.4
Castile and Leon	10,047	2.4
Castile-La Mancha	1,992	0.4
Catalonia	65,990	16.1
Valencia	64,451	15.8
Extremadura	2,273	0.5
Galicia	15,062	3.6
Madrid (Community of)	60,902	14.9
Murcia (Region of)	3,422	0.7
Navarre (Foral Community of)	1,920	0.4
Ceuta and Melilla	740	0.1

Source: N.I.S. Author's elaboration.



Source: I.N.E. Authors' design



Map 1. Resident aliens in Spain. 1990. Absolute figures

Up to now, we have been speaking only of the number of “resident aliens” which represent the official figures published by the National Institute of Statistics (N.I.S.).

One should add approximately 25% more to the figures to account for the foreign population living legally in our country but in a different situation from that of a resident. This is the case of minors and the handicapped who are included on their parents’ or guardians’ documents, those who have resident permits, students and refugees.

Nevertheless, the real character of Spain as a country of immigrants is evident when one considers the number of men and women who live illegally in the country. This number varies according to the source used. Furthermore, many of the organizations and institutions working on the problem of foreign immigration use estimates, in the majority of cases, to obtain approximate figures of the real number.

The General Management of the Spanish Institute of Immigration (1990) offers the figure of 172,682 foreigners in irregular situations in Spain for 1989, following the estimates of the technical group PASS. In contrast, the collective Ioé estimates that the number of illegal aliens for a previous year (1986) was 366,500. Table 4 reflects the continent of origin of this population according to

both estimates. The fact that stands out the most when we combine the geographic frame of reference of both sources, excluding the important difference between the figures, is the role the African continent plays in the illegal immigration to Spain compared to the small number of foreigners coming from the so-called "First World".

TABLE 4. Foreign immigrants in irregular situations in Spain, by country of origin. (Estimates)

	Ioé (1986) Absolute Figures %	PASS (1989) Absolute Figures %
Europe & North America	50,000	
Latin America	102,000	37,959
Asia	82,500	9,227
Africa	132,000	106,823
Oceania	-	18,673
Total	366,500	172,682

Source: Ioé & PASS. Author's elaboration.

If viewed by country, the one with the largest representation according to both sources is Morocco, with 34.0% of the total number of irregular immigrants, according to PASS estimates of 58,775, and 23.7%, according to Ioé estimates.

In the second place, both sources emphasize Portugal (13.8%, according to PASS, and 12.3%, according to Ioé) and the Phillipines (10.8%, according to PASS, and 11.7%, according to Ioé).

The destinations of the illegal immigrants follow the pattern of legal immigrants, reinforcing the attraction of the Community of Madrid and of Catalonia (Table 5).

In general terms, the immigrants in Spain can be classified into 3 large groups:

1) Those from developed countries, basically Europe and the United States. These are legal immigrants. If employed, they hold administrative positions and those requiring qualifications, or they own small businesses or restaurants in the mediterranean coastal regions. Among these people, there is a high number of retirees from Northern European countries.

2) Those from Latin America, with an average age lower than the previous group and composed of students, independent professionals and others dedicated to ambulatory vending.

3) African and Asian emigrants. This group has the lowest economic indicators and holds the jobs requiring the lowest qualifications (domestic service, agriculture and construction). The greatest number of illegal aliens of the total number of emigrants belong to this group.

TABLE 5. Foreign immigrants in irregular situations in Spain, by Community of destination. (Estimates)

	Absolute Numbers	%
Andalusia	6,226	3.6
Aragon	539	0.3
Asturias	6,521	3.7
Baleares	3,369	1.9
Canary Islands	82	0.0
Cantabria	378	2.1
Castile-Leon	7,686	4.4
Castile-La Mancha	49	0.0
Catalonia	53,899	31.2
Valencia	10,334	5.9
Extremadura	110	0.0
Galicia	8,659	11.9
Madrid	65,121	37.7
Murcia	1,373	0.7
Navarre	288	0.1
Basque Country	437	0.0
Rioja	86	0.0
Ceuta & Melilla	7,525	4.3
Total	172,682	100.0

Source: General Management of the Spanish Institute of Immigration.

MAGHREBI IMMIGRATION IN SPAIN

Until the popularly called "Foreigner Law" appeared in 1985, there was no single domestic judicial body in Spain to regulate the rights and responsibilities of the foreign population in the country. The need for a law arose from the strong and continuing immigrant pressure within the country. The main objectives of the law were: to systematize the entry and residency procedures of foreigners in Spain; to protect the national job market; to guarantee acceptable working conditions for foreigners and helping them to integrate, avoiding illegality and marginalization; and lastly, to harmonize Spanish legislation with the rest of E. C. member countries, working within the framework of the E.C. unification process.

The law — of which three articles were found unconstitutional in July of 1977 — has been difficult to apply in many cases because of its technical complexity and the deficient infrastructure of a "country unfamiliar with the administrative actions of immigration" (O.C.D.E.).

Most of the protest over the law has been directed at its discriminatory character: Spain prefers European immigration policies which facilitate freedom of movement within Community member countries but restricts the

entry of non-member country populations, especially those of the Third World. The justification of the means for self-sufficient are clearly discriminatory measures taken against economic immigrants, who, to a large degree, involuntarily become illegals.

On the other hand, in the case of the Moroccans, discrimination exists in relation to other ethnic groups, like Ibero-Americans, Portuguese, Phillippines, Andorrans, Ecuadorians, Sephardies and the original inhabitants of the city of Gibraltar. These groups are treated with preference over other foreigners when obtaining or renewing a work permit (art. 18 of the Law) or when working in Spain (art. 23). Nationals of Morocco, Spanish protectorate until 1956, do not benefit from this preferential treatment.

The rest of the Maghreb countries (Algeria, Tunisia, Libya and Mauritania), since they are not historically bound to Spain, do not receive preferential treatment either. However, as it will be pointed out later, the flow of emigrants from these countries to Spain is weak in comparison to the magnitude of the Moroccan movement.

Applying the Law (starting in 1986) has not weakened the Moroccan flow of immigrants into the country. In fact, over the last few years, it has risen and the volume of illegal aliens has increased. Geographic proximity and easy access to Spain as tourists has been the fundamental cause.

The E.C.'s concern over these gaps along its border provoked the introduction of visa requirements for the countries of North Africa; this fundamental measure would help to control the flow of illegal immigrants. The measure went into effect on May 15 of 1991.

THE IMPORTANCE OF THE MOVEMENT

The proximity of the African coast to Spain, combined with the ease in communications, has facilitated the access of peoples from the North of the neighboring continent to our country over the last few years. Figures for the movement of foreigners across Spanish border posts as registered by the Police during 1990 are extremely representative (Table 6).

TABLE 6. Movement of Maghrebis during 1990

	Entries	Departures	With Passes
Algeria	183,287	178,886	3,528
Libya	1,719	1,280	96
Morocco	5,466,855	5,422,378	6,854
Mauritania	6,239	5,707	253
Tunisia	14,488	25,665	1,566
Total Maghreb	5,672,588	5,633,916	12,297
Total foreigners	54,640,688	53,610,955	786,786

The Maghrebis stand out with 10.4% of the entries and 10.5% of the total number of foreigners. The easy access to Spain with only a tourist passport

may explain the importance of this movement. Morocco stands out with 96% of the total number of entries and departures across Spain's frontiers.

Using the same police sources, the Maghrebi population stands out significantly with regard to the number of rejections at the border in the same year: 88.3% of the foreigners not admitted; Morocco with 84% of the total (Table 7).

TABLE 7. Foreigners not admitted during 1990, by nationality

Algeria	2,296
Libya	4
Morocco	62,021
Mauritania	21
Tunisia	952
Total Maghreb	65,294 (88.28% of the total)
Total foreigners	73,959

Source: Bureau of Police.

The recently adopted measure of imposing visas on the people coming from Maghreb countries is designed to prevent movements of great magnitude. Beginning May 15 of 1991, the flow of Moroccans crossing the Strait of Gibraltar was cut and the entry of people without the proper documentation was reduced, in most cases, to a small number of youths risking their lives and undertaking an adventure by themselves. Many of them have sold all their belongings in their country and after waiting for a day when the sea is calm, have begun the "great escape". On the other side of the Straights lies Europe and they are determined to reach it, piling themselves up on small fishing boats called "pateras", with motors of only 50 horsepower which do not resist the force of the sea. Because of this, many of these youths will die before getting to Europe (we read about such accidents too frequently in the newspapers).

The police figures on the movement and border rejection of the Maghrebi population and its importance in the group of foreign populations which enter Spain contrast with the small percentage of "official" residents coming from Maghreb countries (Table 8).

TABLE 8. Maghrebi residents in Spain as of December 31, 1991

Algeria	1,069
Libya	262
Morocco	28,186
Mauritania	91
Tunisia	355
Total Maghreb	29,966 (6.20% of the total)
World total	483,907

In 1991, the last date for which we have any figures, only 6.20% of the total number of foreigners with resident permits were Maghrebis, from which a

great majority (94%) came from Morocco. This is because a great number of the resident Maghrebis in Spain are illegal aliens.

The number of undocumented Maghrebis would be greater than the number of legal residents.

The magnitude of the Moroccan flow has helped to estimate the volume of the colony now living illegally in Spain. In 1986, the collective Ioé estimated this at 87,000 people, compared to 11,000 from Algeria-Libya-Tunisia. In this way, a total of 94,553 Moroccans and 11,902 Algerians-Libyans-Tunisians were calculated for the whole of Spain on that date. The estimate included the undocumented population as well as the naturalized population, residents and permanent citizens in a legal situation. Afterward, the technical group PASS (1990) summarized the number of Moroccan immigrants in illegal situations as 58,775 in the whole country.

The estimates as well as the official figures place the Moroccans at the head of the Maghrebi migratory movement toward Spain. The reasons are evident: the proximity, the easy and direct communication, the historical connections and even, in part, the access to Spanish television channels in Moroccan territory, producing familiarization with the Spanish language and customs. These are the reasons for the special attraction of Moroccans to Spain. Nevertheless, noticeable demographic and economic imbalances exist between Spain and Morocco that are fundamental factors behind the Moroccan migrations.

This year's United Nations Report on Human development places Spain in 23rd place with an index of 0.916/1. Morocco, on the other hand, is in 106th place with an index of 0.429/1. The demand for flexible manual labor in Spain, in such sectors as construction, seasonal agriculture or domestic service, is also a factor of primary importance. The absence of regulation until this year has, without any doubt, facilitated the presence of Moroccans in the country (many authors affirm that Spain, a country of emigrants, was caught by surprise by the arrival of foreigners who came to work in "doing whatever").

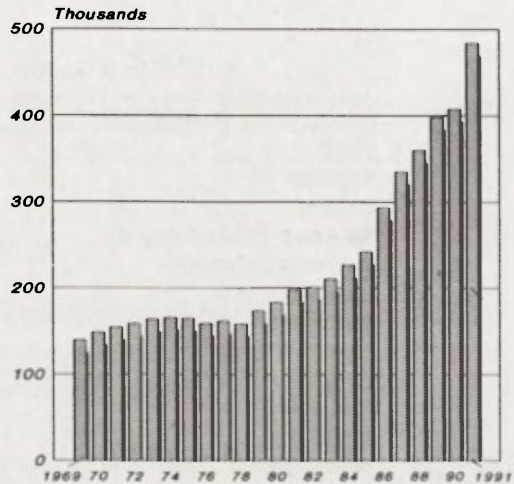
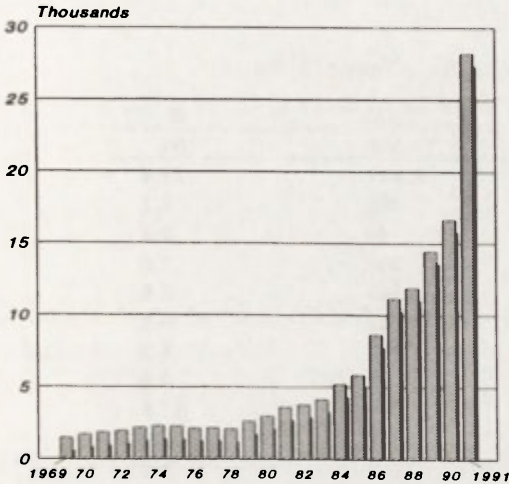
The process of registering the foreign population that took place in 1991 has made clear, once again, the importance of the Moroccan colony in Spain: according to data provided by the Bureau of Migratory Affairs for this project, 44,938 citizens from Morocco have passed from clandestine status to legal status up to now (provisional figures to May 15, 1992). This number includes 43% of the total of registered foreigners. The rest of the Maghrebi population comprise only 3,279 registered people: 2,880 attributed to Algeria, 199 to Tunisia, 188 to Mauritania and 12 to Libya.

According to these figures, Moroccans are in the first position among foreign immigrants by nationality. The introduction of visa requirements for the Moroccan population beginning in May of 1991 ended a certain phase in the immigration of this group to Spain; on that date a new phase of marked restrictive character, following "European" inspiration has began.

RECENT EVOLUTION OF THE MOROCCAN POPULATION IN SPAIN

The little significance that the populations from Algeria, Libya, Mauritania and Tunisia have in terms of the share in the total number of the Maghrebi colony in Spain (6%), and the insufficient data produced by this, makes it advisable to analyze only the Moroccan group as representative of the whole category.

Figures 1 & 2 graphically reflect the temporary evolution of the Moroccan and foreign populations in Spain, respectively, which have residency permits.



Source: Bureau of Police

Source: Bureau of Police

Fig. 1. Moroccan residents in Spain 1969-1991

Fig. 2. Alien residents in Spain 1969-1991

The tendency of both groups, even following an ascending line in both cases, is significantly different because of the spectacular increase of the number of Moroccans in the last few years and the much more gentle rise in the group of foreigners.

We can observe two important occurrences concerning the Moroccan colony. The first corresponds to 1986, a date which coincides with the first registration of illegal aliens in Spain, before the Foreigner Law went into effect. In 1991, the second and most numerous registration was brought about, and with it, the number of Moroccan residents skyrockets. However, most of the people that had obtained their residency permits during the last process are not included in the 1991 figures, but rather, in the following year, making the 1992 increase even more noticeable.

One should keep in mind that there is only an information on the resident population. The evolution of the numbers of clandestine Moroccan population is unknown. Nevertheless, the heavy increase of Moroccan immigration is known to be a recent phenomenon.

LOCATION OF THE COLONY: MAIN CENTERS

Map 2 and Table 9 show the location of the Moroccan colony with residency permits by province in Spain, and their numbers by the different Autonomous Communities. The mediterranean coastline and Madrid in the interior of the peninsula are generally the preferred zones for settlement. At the provincial level, Barcelona, Madrid and Malaga have the greatest number of Moroccans, in absolute figures, with 3,181, 3,075 and 2,494 people respectively.

TABLE 9. Resident Moroccans in Spain, 1990

Autonomous Communities	Total	%
Tbtal	16,665	100
Andalusia	3,906	23.4
Aragon	193	1.1
Asturias (Principality of)	40	0.2
Baleares (Islands)	505	3.0
Canary Islands	867	5.2
Cantabria	17	0.1
Castile & Leon	214	1.2
Castile-La Mancha	99	0.5
Catalonia	5,260	31.5
Valencia	840	5.0
Extremadura	203	1.2
Galicia	141	0.8
Madrid (Community of)	3,075	18.4
Murcia (Region of)	310	1.8
Navarre (Foral Community of)	36	0.2
Basque Country	607	3.6
Rioja	57	0.3
Ceuta & Melilla	295	1.7

Source: N.I.S. Authors' design.

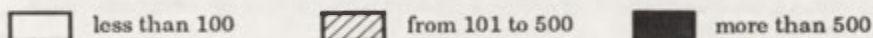
The estimates given by PASS for the group of clandestine Moroccans follow the same pattern, although the figures emphasize Catalonia's role as a receiving region, with 51% of the total.

The estimates given by the Ioé group for the location of the whole Moroccan community in Spain (including those nationalized, those with documented and those without documents) show similar tendencies. The Spanish towns of Ceuta and Melilla in the North of Africa stand out as the main points of concentration of Moroccans, followed at a distance by Catalonia and the Community of Madrid¹.

¹ The relevance of Ceuta and Melilla is clear for the great number of nationalized Moroccans that exist in these areas on the frontier with Morocco. The rest of the sources which we collect do not investigate/study this group.



Source: I.N.E. Authors' design



Map 2. Moroccan residents in Spain. 1990. Absolute figures

TABLE 10. Moroccans in Spain in irregular situations (1989).
(PASS estimates)

Autonomous Communities	Total	%
Total	58,775	100
Andalusia	2,132	3.6
Aragon & Rioja	141	0.2
Catalonia	30,124	51.2
Valencia	6,087	10.4
Extremadura	55	0.1
Madrid	11,075	18.8
Murcia	1,373	2.3
Basque Country	98	0.2
Ceuta & Melilla	7,516	12.8
All others	174	0.3

Source: PASS — N.I.S. Author's design.

The Moroccan community definitely tends to be located in the most important industrialized cities of the country, in agricultural regions and in tourist areas.

Despite the fact that not all the figures on the registration of foreigners completed in 1991 have been statistically analyzed yet, Table 11 shows the volume of Moroccans living in those provinces which have received the greatest numbers of immigrants. It is important to note that this represents clandestine Moroccan migrants, who become legal residents.

TABLE 11. Moroccans registered in 1992. Location by province (provisional data)

Total	44,938	%
Alicante	752	1.67
Baleares	999	2.22
Gerona	3,045	6.77
Barcelona	10,572	23.52
Madrid	9,912	22.05
Malaga	2,001	4.45
Murcia	4,037	8.98
Palmas (Las)	737	1.64
Tarragona	1,639	3.64
Valencia	856	1.90
Other provinces	10,388	23.11

Source: Bureau of Migratory Affairs. Results of the March 10, 1992 registration. Author's design.

Of the fifty provinces of Spain, the ten that have been investigated up to now — located mostly on the Mediterranean coast — account for 76.9% of the total number of legalized Moroccans. Barcelona and Madrid, the most important urban areas of the country, stand out as fundamental centers of attraction with almost 50% of the Moroccan colony.

CHARACTERISTICS

The best and most recent source of information on the socio-demographic characteristics of the Moroccan population is the Bureau of Migratory Affairs which provides provisional data (of May of 1992) on the immigrants regularized by December of 1991.

The population is predominantly young (55.5% between 20 and 31 years), single (65.5%) and male (85.3%). We should keep in mind that the source consulted provides data for the population legalized through joint work and residency permits; therefore, it concerns the working population. Nevertheless, the Bureau of Migratory Affairs considers that the opportunities provided by the process enabled many inactive people to join the process. A process for regrouping families, related to the registration process, opened for the dependents of workers already legalized; nevertheless, the number of Moroccans applying for the legalization has been limited: 1,557 for all of Spain. This fact makes one suppose that the majority of registered people do not have

any family dependents. It also tells us of the importance of the group we are studying as representative of the whole Moroccan colony in Spain, although we should be cautious when analyzing the rate of activity for reasons already mentioned.

TABLE 12. Moroccan population regularized in December of 1991, by gender

		%
Men	38,320	85.3
Women	6,618	14.7
Total	44,938	100

Source: Bureau of Migratory Affairs. Author's design.

TABLE 13. Moroccan population regularized in December of 1991, by year of birth

Groups of Ages	Absolute figures	%
From 0 to 11 years	-	-
From 12 to 16 years	116	0.3
From 17 to 21 years	4,225	9.4
From 22 to 26 years	13,200	29.4
From 27 to 31 years	11,743	26.1
From 32 to 36 years	7,350	16.3
From 37 to 41 years	4,289	9.5
From 42 to 51 years	2,958	6.6
From 52 to 61 years	935	2.1
From 62 to 81 years	117	0.3
Unspecified	3	0.1
Total	44,938	100

Source: Bureau of Migratory Affairs, Author's design.

Table 14. Moroccan population regularized in December of 1991, by civil state

	Absolute figures	%
Single	29,416	65.5
Married	14,802	32.9
Divorced	362	0.8
Widowed	261	0.6
Legally separated	97	0.2
Total	44,938	100

Source: Bureau of Migratory Affairs. Author's design.

Tables 12, 13 and 14 reflect the demographic characteristics of this group. As pointed out, the population is, above all, young and male: the majority of

its members are between 17 and 51 years and is highly active. Although most of them are single, a high proportion of them are married (a third of them); they tend not to come with their spouses, but instead, it seems that generally the head of the household "goes first" to look for work and comfortable living conditions, so he can "haul" the rest of the family over later. In the worst of cases, his savings are crucial to support his family and are sent regularly to his country of origin. Finally, there is a great number of women from urban areas among the divorced, whose strategy is similar to that of married men.

Table 15. Moroccan population regularized in December of 1991

Code and Description	Number	%	
1	2	3	
4	5	6	
1	Agricultural production	11,298	26.14
2	Cattle raising	580	
3	Agriculture & cattle services	271	
4	Hunting and animal raising	12	
5	?	145	
6	Fishing	872	
11	Treatment of combustible solids	2	
12	Oil & natural gas extraction	0	
13	Oil refinement	2	
14	Radioactive mineral extraction & processing	0	
15	Energy production & distribution	30	
16	Water obtainment, treatment & distribution	7	
21	Metallic extraction & processing	1	
22	Metal production & transformation	191	
23	Non-metallic mineral extraction	18	
24	Non-metallic mineral production industry	38	
25	Chemical industry	113	
31	Metal products manufacturing	328	
32	Machinery construction	36	
33	Office & computer machinery construction	0	
34	Machinery & electrical material construction	45	
35	Electronic materials manufacturing	9	
36	Automobile & parts manufacturing	25	
37	Nautical manufacturing & repairs	4	
38	Transportation manufacturing (other)	2	
39	Precision instruments manufacturing	1	
41	Food, beverage & tobacco production industry	707	
43	Textile industry	592	
44	Leather industry	115	
45	Clothing & shoe industry	449	
46	Wood, cork & furniture industry	681	
47	Paper & graphic arts industry	78	
48	Rubber products industry	32	
49	Manufacturing industry (other)	90	
50	Construction	11,121	24.74

1	2	3	4
61	Wholesale businesses	191	
62	Product recall	107	
63	Middle businesses	44	
64	Retail businesses	3,254	7.24
65	Restaurants & cafes	72	
66	Lodging industry	3,157	7.02
67	Repairs	321	
71	Railroad transportation	1	
72	Other surface transportation	197	
73	Martime transport & other - ? -	5	
74	Air transportation	1	
75	Transportation related activities	60	
76	Communications	8	
81	Financial institutions	1	
82	Insurance	1	
83	Financial & insurance services	2	
84	Corporate services	1,906	
85	Rental property -?-	5	
86	Real estate rental -?-	8	
91	Public admin., national defense & social, security	2	
92	Sanitation, transportation & public works	97	
93	Education & research	43	
94	Health & veterinary services	36	
95	Social services & -?-	36	
96	Recreational & cultural services	245	
97	Personal services	128	
98	Domestic services	6,882	
99	Diplomatic representation & intern. org.	2	
100	Unclassified activities	231	
999	****	0	
Total		44,938	

Source: General Management of Immigration.

Table 15 reflects the composition of the colony by area of activity. Moroccan immigrants prefer be active on agricultural production and construction. Secondly, a high number of them hold domestic service occupations. Lastly, other activities chosen by the group are small businesses and hotels. These five areas occupy 80% of the Moroccan population in Spain. The areas require little qualifications and, for this reason, are held in low regard by the native population which has acquired a higher level of education and socio-economic status over the last several years.

The fundamental occupations of the Moroccan population living in urban zones — primarily Madrid and Barcelona — are construction and domestic service. On the other hand, those living in tourist zones are active by working in hotel-keeping and running small businesses, especially ambulatory vending, as well as construction.

A great number of the Moroccan population living in the rural Mediterranean areas, especially Catalonia and Levante, is active in agricultural production.

The data on the characteristics of the Moroccan population are unpublished; they have been furnished by the Bureau of Migratory Affairs for this project. The data are considered representative of the whole Moroccan population in the country. Nevertheless, it would be interesting to complete them with information from the Population Census of 1991, which presumably covered the foreign population residing legally in Spain — illegal residents try not to be registered in any official statistics. However, the census data are not yet available.

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SCIENCE PARKS IN WESTERN EUROPE: CAN THE MODEL BE REPLICATED IN CENTRAL-EASTERN EUROPEAN COUNTRIES?

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ABSTRACT: In recent years, at both local and national levels, various initiatives have been promoted with the aim of creating specific environments and conditions which may favour the creation and development of high-tech activities and/or organise new spaces and structures to locate these activities. Examples of such environments are science and technology parks and other types of high-tech concentrations. The purpose of this paper is to describe the characteristics of Western European initiatives and to suggest possible analogous development patterns for Central-Eastern European countries.

KEY WORDS: Science and Technology Parks, technopoles, innovation centres, East-Central Europe, high technology centres.

SCIENCE PARKS: THE WESTERN EUROPEAN EXPERIENCE

It is well known that the emergence of new technologies and the development of innovative products and services based on them have both had a relevant impact on the division of labour on national and international bases as well as on spatial organisation at regional and local levels. The importance of several traditional locational factors (such as raw materials) has decreased, while new factors (knowledge, human resources, specialised services, etc.) and new organisation processes of economic activities have emerged (Cori 1990).

Technology-based and other innovative activities are characterised by greater flexibility in comparison to more traditional ones: for example, they are less influenced by spatial constraints. Among the most important new factors which determine the birth and development of innovative and economic activities we can mention the following: the presence of universities and highly qualified research laboratories, the availability of skilled labour force, the existence of efficient infrastructural systems, the presence of favourable environmental conditions, the presence of financial, consultancy and marketing

services, the existence of urban economic bases with adequate administrative, commercial and cultural functions (Jowitt 1988).

Conti (1990) argues that innovative activities do not develop only due to the presence of these factors, but through their mutual functional interaction, at both local and regional level. As a consequence, it is important to identify factors which determine areas' attractiveness not only in terms of locational choices of high-tech companies, but also with regard to local, regional and national policies of innovation. In fact, one of the most important objectives of urban and regional strategies seems to be that of attracting new innovative economic activities and create environments which can themselves become sorts of entrepreneurs and incubators of innovations (Aydalot 1986; Aydalot and Keeble 1988; Maillat and Lecoq 1992).

With these purposes, in recent years, in Europe, the US and Japan, at both local and national levels, various initiatives have been promoted with the aim of creating specific environments and conditions which may favour the creation and development of high-tech activities and/or organise new spaces and structures to locate these activities; examples of these environments are science and technology parks (STPs) and other types of high-tech concentrations (Luger and Goldstein 1991)¹.

The generally accepted premise behind STP strategy is that regional long-term economic development depends on the ability to generate and maintain a concentration of businesses capable of developing new products and processes which can penetrate international markets. Regions characterised by mature industries can see STPs as facilitators of economic restructuring; regions which have been performing well can consider investments in STPs as long-term insurance policies. In both cases, R&D-led economic development strategies, if successful, almost always lead to more than just employment growth and new business formation, but bring change in occupational mix, political culture and spatial patterns of development.

Even if the various STP experiences differ among themselves, since they refer to spatial contexts with heterogeneous characteristics to which specific and not generic answers have been formulated, it is possible to define some categories of concentration of high-tech activities, in relation to the main characteristics of science park experiences and to the actors who promoted the various initiatives, and to their impact in geographical terms².

At European level it is possible to identify different development models of the technopolitan phenomenon; the most important and well defined ones are

¹ Many definitions are given to describe this kind of environments and concentrations of innovative activities. For a valid description and a commonly accepted taxonomy see the EU document C.186.16 (1990) which lists: science park, research park, technology park, innovation centre, business incubator, commercial/business park. In this paper we will simply refer to them as Science and Technology Parks (STPs); nonetheless, differences among the various categories are often quite evident.

² Many research organizations, and the EU itself, are working on the evaluation of STPs. Some preliminary results are being published, though their description is not part of the purposes of this paper.

commonly believed to be the English, the French and the German ones. We will now try to describe their main characteristics; attention will also be placed on the Italian experience, which is relatively more recent but presents some peculiarities.

In Great Britain, science parks are interpreted as delimited areas, usually situated close to Universities where tenant firms have strong relationships with Universities and research centres (Avveduto and Silvani 1986; UKSPA 1991). The definition given by the United Kingdom Science Park Association is that Science Parks are "(i) property based initiatives, (ii) with formal and operational links with a University or other Higher Education Institute or other major centre of research, (iii) designed to encourage the formation and growth of knowledge based businesses and other organisations normally resident on site, (iv) with management functions actively engaged in the transfer of technology and business skills to the organisations on site". In the promotion of these initiatives, Universities have played a fundamental role, but not an exclusive one, since they have often acted jointly with regional development agencies or private institutions (Formica 1991). Moreover, in the UK experience, it is possible to highlight the existence of first and second generation science parks. The first ones (such as Heriot-Watt Science Park and Cambridge Science Park), which were built up in the mid 1970s, firstly favoured the localisation of high-tech firms and R&D units of multinational companies, and secondly sustained a more endogenous development policy, encouraging the growth of small local high-tech firms. Second generation parks, from the 1980s, gave priority to the creation of new innovative firms and for this reason they include "incubator" structures and venture capital initiatives.

In France, technopolitan initiatives have involved a broader range of activities than in other European countries. Their objective has not only been the organisation of areas where high-tech activities could be located; rather, they tried to have a positive influence on the whole of the urban and regional structure (Lazzeroni 1993). It is especially in France that the debate is about technopoles, interpreted as science cities, that is real cities, with all typical urban services, such as residential, educational, recreative ones, etc. (Benko 1991). This kind of cities are supposed to be able to support the birth and development of high-tech and other innovative economic activities. The promoters of most French technopolitan initiatives are regional or local communities, adequately supported by central authorities in the planning phase and by Universities, research laboratories, Chambers of Commerce and firms in the implementation phase; all of them form what French call *syndacats mixtes* (Spyridakis 1991).

Moreover, in France, planners and promoters tend to attract to these areas large and consolidated national and international firms and/or state-owned research laboratories, according to decentralisation policies proposed by the French government since the 1950s. These new initiatives are also given the task to promote the development of innovative activities through the attraction

of new spin-off firms, or through the stimulation of cross fertilisations, thanks to the creation of networks between Universities and other actors (Sunman 1986).

With regard to the German model, the most widely used instruments to promote innovative activities are the so-called Business and Innovation Centres (Staudt, Boch and Mhlemeyer 1994). These Centres are located especially in large cities such as Berlin, Munich, Koln, Stuttgart, Hannover, etc. and all have similar characteristics: they represent relatively small size, and are often defined as incubators or microparks. The functions they perform are (i) the provision of adequate infrastructures for high-tech companies; (ii) the provision of consultancy, marketing and education services; (iii) the creation of other bridge structures for the transfer of technologies from academia to industry and for the flow of informations among actors in the area (Fiedler 1989).

Innovation Centres are often associated with Business Centres, which represent a sort of "business incubators", where newly born firms can be located and supported for a few years. These centres have the function of incubating new initiatives, promoting the development of SMFs and favouring the exchange of informations and the diffusion of knowledge not only within the Centre, but also outside of it, especially through contacts with larger and more consolidated companies.

SCIENCE PARKS: THE ITALIAN EXPERIENCE

In Italy, the debate and the action about STPs started several years later than in Great Britain and Germany. More precisely, the planning and development of technopolitan initiatives starts only during the 1980s, following the success of American experiences such as Silicon Valley in California or Route 128 in the Boston metropolitan area. These initiatives grew spontaneously in the US, whereas in Italy STPs are mainly considered as regional policy instruments, capable of rejuvenating declining economic systems and favouring new development opportunities in less developed regions. These objectives characterised the two first Italian science parks: Area in Trieste (1980) and Tecnopolis Novus Ortus in Bari (1984). In recent years, this type of policy was considered a way of stimulating the modernisation and development of Southern regions³.

Nevertheless, this new development model has been widely appreciated and sustained throughout Italy, where a fairly large number of science park initiatives are being launched. In some cases, it is even possible to talk about a STP syndrome which characterises local administrators who wish the promotion of STPs in their areas without any feasibility study or concrete analysis of the economic situation.

³This view has been widely criticised by people who argue that the constitution of STPs cannot be successfully centrally planned and financed for areas where necessary conditions are not present.

Three types of actors are usually involved in initiatives promoted in Italy: research and higher education institutions, which consider STPs a possibility for translating the results of their research activities into products and/or process innovations; local and regional public agencies which support planning and promotion phases; other economic operators, composed of large industrial groups and financial organisations.

Other objectives are linked to the possibility of renewing and restructuring areas characterised by more ancient industrialisation, often in declining sectors, such as steel production, ship building, etc. (such as the Science and Technology Park of Genova Ponente and the Science Park in the metropolitan area of Naples) and of supporting the growth of less developed regions, mostly in the Mezzogiorno of Italy. Also, with the promotion of science and technology park initiatives the problem of urban requalification is addressed, in an effort of using dismissed industrial structures in large cities; this is the philosophy which has characterised the Lingotto Park in Turin and the Technological Pole of Milano-Bicocca.

If we analyse in more details the various Italian initiatives, it is possible to distinguish between organizational type initiatives (TecnoCity in Turin, Bicocca Project in Milan) and actions to create R&D and innovative activities in defined areas (Area in Trieste and Tecnopolis in Bari) (Maglione 1988). Organizational type initiatives mainly concern metropolitan areas (Turin, Milan), considered as "milieux" capable of fostering and incubating innovations; in these cases it is particularly important to rationalise and further develop existing innovative activities, increasing the efficiency of R&D-based organisations (Ciciotti 1986, 1993).

From the analysis of these experiences, it can be argued that even in the more developed areas of Italy the conditions are not present for regional "Silicon Valleys". In fact, the main obstacle to the success of the various technopolitan initiatives seems to be the existence of a gap between the objective of increasing the efficiency of the industrial system and the real equipment of instruments to reach it, both on the side of the improvement of communication infrastructures and on that of the relationships between the supply of innovation and the demand from the productive system (Bonaccorsi and Piccaluga 1994).

Actions to create R&D and innovative activities in defined areas have the objective of promoting R&D activities through the provision of qualified services and the setting up of physical infrastructures for the incubation and the development of high-tech activities. This kind of initiatives differ from previous ones because they do not aim at rationalising existing innovative resources, but at creating equipped areas for the location of R&D, education, and other services activities. As a matter of fact, these projects do not reach the necessary critical mass which leads to the creation of technology-oriented areas. This happens because some basic conditions are often missing which would otherwise allow a spontaneous development of R&D and entrepreneurial activities. Moreover, the creation of STPs sometimes runs the risk

of having a very limited area as its only target, without having broader effects on a larger surrounding area and the whole productive context.

Since the Italian experience is still in the first stages, it is very difficult to express a precise evaluation of the economic and geographical effect of these industrial policy instruments. The enthusiasm which characterises new purposes will be probably followed by positive, but not exceptional results. A positive characteristic is that STPs are proposed in different economic environments: those characterised by SMFs in traditional sectors as well as those in which large companies are present, well developed metropolitan areas as well as university cities in the Third Italy (Varaldo 1991).

However, it is important to emphasise the fact that beyond the main objective of STPs — that of promoting the development of innovative activities and fostering the co-operation between research and manufacturing activities — other objectives are cited which are often misleading and somehow disturbing for the achievement of basic goals. For example, excessive expectations are often expressed with regard to the impact of STPs as effective instruments of industrial development policies and to the possibilities to transfer high technologies to SMFs operating in mature sectors. As a consequence, such initiatives are sometimes planned in regions where the basic prerequisites for success are not present; this is for example the case of spatial systems based on SMFs operating in traditional sectors, where it is probably more important to implement actions directed to specific local needs (such as services for firms, etc.), rather than initiatives with goals which are too broad and poorly defined, as it may be the case for some STPs.

Moreover, within the framework of Italian STPs projects, a crucial point seems to be represented by linkages with the local economic systems; for this reason it is necessary to respect and attribute adequate value to local scientific and technological characteristics and to define fields of intervention which are strictly linked, or at least compatible, with pre-existing factors (Gros-Pietro 1992; Camagni 1992).

Often, in STPs planning stages, primary aims are neglected and more emphasis is placed on property or financial speculations, as it is sometimes the case in Great Britain (Massey, Quintas and Wield 1992). Consequently, in several Italian initiatives, the need is felt for emphasising immaterial aspects, that is the relationships between involved actors through telecommunication networks and the intensification of interpersonal contacts. In some cases, scholars talk about a process of “de-materialisation” of STPs (Cappellin and Ciciotti 1992), as in the case of Tecno Rete Piemonte⁴.

From the point of view of really consolidated experiences, the Italian framework is still less developed in relation to the earlier mentioned European cases; this could be however exploited as a positive factor if previous errors will be avoided and success factors replicated as much as possible. In general, the

⁴The main objective of this initiative is to define specific telecommunication techniques which can strengthen regional linkages, favour the transmission of voices, data, texts and images and advanced services (banking, etc.).

Italian experience seems rather complex because many — often too many — actors are involved in every single case, and heterogeneous because many different intervention strategies are adopted (Pasquini 1995)⁵.

THE TECHNOLOGICAL AND SCIENTIFIC SYSTEM IN CENTRAL EUROPE

Central planning has been generally considered ineffective in promoting innovation because — among other factors — bureaucratic structures are too heavy to manage science and immobility of scientists (Malecki 1991). In the past, the absence of a market-pull effect has most probably inhibited innovation in Central-Eastern Europe. This was the case, especially at factory level, where there were little incentives for managers to improve product designs, quality, or efficiency beyond that demanded by central planning authorities. However, the traditional stumbling block for innovation in Central-Eastern Europe is not a lack of R&D, but weak links between research and production. Factories generally do not have engineering facilities, and R&D organisations typically lack production engineering capability or pilot production plants. The interaction with suppliers and repeated incremental changes common in market economies are very difficult under central planning.

The generally accepted failure of centrally planned economies and the abandonment of centrally defined decisional and managerial systems — in favour of more distributed ones — have given origin to cases of creative destruction. These cases have represented the opportunities to reorganise strategic economic activities on the basis of new criteria. Particular interest has been given — in Central-Eastern Europe — to the need of reconverting whole manufacturing sectors, of changing organisational structures and of re-defining economic policies.

Until recent years, state-ownership of manufacturing activities implied a complete State control on production objective and on the allocation of revenues, without any precise rule established according market trends. As a matter of fact, large manufacturing complexes worked with atypical — at least for Western standards — budget constraints, since the final aim was to reach quantitative production targets, to expand — possibly — the labour force and to accumulate raw materials without specific economising or strategising criteria (Vella 1993).

During what we might define as the first period of transition from Communist regimes⁶, Central-Eastern European countries had to face the complexity of private initiative and the difficulty of making precise strategic and managerial choices which had inevitable short and medium term negative

⁵ Only a few years ago, in 1991, the Italian Science and Technology Park Association (APSTI) has been formed with the purpose, among others, of organising and giving organisational support to emerging initiatives.

⁶ Many people also identify a second phase, which is characterised by the fact that elections have been recently won by politicians who were somehow involved with the previous communist regimes. It is sometimes suggested that a sort of "pendulum process" will take place, and that different political movements will be alternatively given the power until economic stability will be finally reached.

effects. The abandonment of a model based on the centralisation of the decisional process and the crumbling of the rules which had characterised communist regimes in the past have determined a certain degree of disequilibrium among Central-Eastern countries and economic systems. One of the first needs was to build up a legislation for new economic activities (in many cases involving foreign companies) and the organisation of an efficient distributive network for raw materials, food and other manufactured goods. The absence of a real logistic distributive infrastructure and the nonexistence of efficient intermediaries between production and final markets, have caused distortions because of a lack of knowledge about market needs and, as a consequence, serious problems in matching supply and demand from a qualitative and quantitative point of view. The effects of this situation have been drastic decreases in output (which is in some countries growing again in the last years) and increases in unemployment; on the whole, the technological gap in relation to Western European countries varies, on average, between five and fifteen years.

In Central-Eastern Europe heavy industries have been among the most important manufacturing sectors; these industries, generally located close to sources of energy and raw materials, are at present object of restructuring actions through privatisations, riconversions, etc. In these sectors, the level of automation is lower than in countries of older industrialisation: in Central-Eastern Europe the various processes which have had an impact of Western manufacturing activities (total quality, lean production techniques, specialised services, suppliers' networks, etc.) have not been applied yet and firms' competitiveness is still unsatisfactory.

We can therefore argue that the productive system of these countries is characterised by an inefficient allocation of human and financial resources; it is heavily undercapitalised; it suffers from low labour productivity, especially because of redundant labour force, old manufacturing systems and low specialisation of human resources.

But there are some strengths, too. Among the most evident ones, the abundancy of raw materials, which can be exchanged with other European countries; the enthusiasm which characterises new entrepreneurial initiatives (such as the stock market in Poland); and the presence of important competences in some scientific and technological fields.

In the next few years, many efforts are likely to be made to modernise the industrial system, to reconvert military-based activities and to define market-oriented objectives through the improvement of product quality, strengthened services and SMFs-based economic development.

Central-Eastern European countries have traditionally devoted relatively high percentages of their GNP to R&D activities (a large part of which were military activities). In general, they were ahead in space and defence equipment, welding equipment, cooling technologies for blast furnaces, electromagnetic casting of copper, and surgical instruments. Many of these were — and in some cases still are — best-practice technologies and have been

licensed to Western companies. However, this knowledge base was not used as much as it could have been to satisfy market needs with better and innovative products.

Since in the future the role of immaterial resources will become more and more important, economic planning will have to take into account existing scientific and technological potentials and foster collaboration between University and industry to achieve knowledge transfer.

A relevant amount of the restructuring potential of the economic system within Eastern Europe may well be the existence of Universities and other research centres, which still possess important scientific and technological competences despite the serious brain drain which is taking place in favour of countries which can offer scientists higher wages and more favourable living and working conditions.

From a spatial point of view, not so much in Central-Eastern Europe but especially in the former USSR, a typical tendency was to concentrate research activities in science cities, which were established to provide accommodation to scientists and then developed other complementary urban functions. From this perspective, in these countries there was the perception that research activities had peculiar characters and needed specific environments. Only researchers and their families lived in these cities: their interpersonal relations were supposed to be more destructured than in other working situation and their residential conditions more favourable than those commonly enjoyed in industry and agriculture.

As a matter of fact, the reorganisation of research activities, with all the economic and geographical consequences, will also need adequate mechanisms and laws to rule the processes of carrying on and implementing the research results.

POSSIBILITIES OF REPLYING THE STP PHENOMENON IN CENTRAL-EASTERN EUROPE

According to analyses of Western experiences, it is possible to make some hypotheses with regard to the validity and usefulness of the STP phenomenon — with its various national interpretations — in the context of Central-Eastern European countries.

These are characterised by economic conditions which are very different from those which favoured STPs in the West and it would only be wishful thinking to suppose that STPs could spontaneously grow where the industrial system is striving for survival and where regional planning and administration are still undergoing a period of relative instability and change. However, through specific industrial policy mechanisms, STPs — adapted to specific local contexts — might gradually sustain — if not lead — the process of renewal of the industrial structure, the growth of more technologically advanced sectors and the development of innovative services.

In the following paragraphs, some proposals are made which are to be interpreted as mere incentives to encourage administrators, regional agencies, universities and entrepreneurs to think about the introduction of STPs in Central-Eastern Europe.

a. *Services*

Among the main objectives of Science Parks is that of the creation of service centres, with the functions of giving market orientation to firms and translating the national, scientific and industrial local potential into real economic value. The provision of specific services (such as finance, marketing, logistics, but also even simpler ones, such as translations, secretaries, telecommunications, etc.), might satisfy the demand for innovative restructuring which characterises Central-Eastern Europe.

b. *The German model*

Among the various models which have been proposed, the most adequate for Central-Eastern European contexts seems to be the German one. This model is characterised by Business and Innovation Centres which provide consultancy services to firms; facilitate technology transfer from universities; help to modernise the economic system. Moreover, and most important, these centres carry out in-house applied technological research to satisfy demands from the manufacturing sectors.

From this model, small-sized STPs would emerge, with competencies gradually transferring science and technology inputs towards the manufacturing context. They would also filter knowledge generated in universities and adapt it to the needs of small and large manufacturing units, with relevant possibilities of success in traditional sectors. This type of activity — at least in the first stages — should however be financed by central authorities to a relevant degree and gradually pushed towards self-funding.

Another important objective should be that of promoting the birth and development of new entrepreneurial initiatives which then become suppliers for larger companies, both domestic or attracted from foreign countries owing to favourable cost conditions⁷.

c. *Physical infrastructures vs. "immaterial" initiatives*

STPs involving physical infrastructures and relevant investments might be promoted at a later stage, when traditional sectors will have been rejuvenated and when collaborations between university and industry will be

⁷ This is for example the case of several British medium-sized companies, which improved their quality and productivity as soon as they realised that they would not have been accepted as suppliers by newly localised Japanese transplants in the automobile industry.

more than just potential opportunities. So far, it would be far too risky to try and realise such projects in areas which do not have the necessary conditions, thus creating a gap between planned objectives and concrete outcomes. At first, new initiatives should focus on existing manufacturing activities: reorganise them and therefore build a more solid basis to start intersectoral collaborations and cross fertilisation processes.

d. Dismissed industrial facilities

Another specific objective which might be pursued by STPs related initiatives in Eastern Europe might be that of using large industrial areas which are now redundant, after a general decrease in the volume of activities. These areas might be easily used as incubators or as possible location for commercial or productive units of foreign companies.

e. Foreign companies

Large foreign companies should be encouraged to find location in STPs and similar areas, where the provision of services would be guaranteed. From this point of view, emphasis should not be placed in attracting specific high-tech business, but rather, an effort should be made to create a positive opinion about new sites, somehow according to French model. The presence of foreign firms is in some cases absolutely necessary, since it allows to keep and make more efficient some manufacturing activities, foster technology transfer and finance internal renewal.

f. Communication

Communication is another very important issue for STPs-related initiatives. It is well known that communication in Western Europe represents a problem because of great territorial extensions and poor services. The scientific community is slightly better connected with the rest of the world, but relevant improvements are still necessary.

STPs might represent an occasion to strengthen some points of the telecommunication network through the provision of some services within structures which have to serve specific areas. As a matter of fact, the very first step would be to encourage communication between people — in different countries — who speak the same professional languages, such as academics or entrepreneurs.

In conclusion, STPs might represent important industrial policy instruments in Central-Eastern European countries. Many necessary conditions do exist, such as scientific and technological competences in research centres, a good research culture, a strong catch-up feeling in many fields, low labour costs for qualified human resources. These are the bases for

STPs contributions to economic restructuring and development, especially in technology-based industries. At the same time, many obstacles have to be considered, such as the lack of fundamental services, low productivity in many industries, excessive bureaucracy, lack of business culture and dynamic SMFs.

As a matter of fact, STPs can only be considered part of a broader industrial innovation policy integrated in a broader framework for economic development. STPs might diffuse entrepreneurial culture in a rather soft way, with high compatibility with urban environments, which would not be negatively influenced by this kind of economic activities.

From the point of view of Western European contributions, it should not be difficult to find financial resources at both EU and private level in order to transfer competences with regard to STPs development and to find new tenant companies wishing to open representatives in Eastern European countries.

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SPECIFIC FEATURES OF REGIONAL DEVELOPMENT IN CENTRAL AND EASTERN EUROPE — THE INHERITANCE OF SOCIALISM

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ABSTRACT: It is argued that regional development issues in Central and Eastern Europe differ in many respects from those in Western Europe. Generally, in Central and Eastern Europe regional economies are less developed and the economic geography is shaped according to another spatial logic, related to the inheritance of socialism. Territorial fragmentation comes to the fore and the degree of integrational vacuum at the national level develops. This is above all in the larger successor states of the Soviet Union. Regional and local authorities should focus on furthering endogenous development potential rather than on lobbying for external financial assistance. It means above all furthering a networking economy and furthering innovative activities.

KEY WORDS: Central and Eastern Europe. Regional development, Economic geography. Networking economy.

One of the surprising consequences of the fall of communism was the rich variety of the human landscape in Central and Eastern Europe which came to the fore. It was not only the removal of the grey coat of state socialism which made this variety visible, but this variety was also emphasized by the rise of nationalism and regionalism¹ all over the Eastern half of the continent. The role of public authorities at the local and regional level increased in the process of transformation from a vertically structured society and economy towards one in which horizontal coordination mechanisms are more important. Many new tasks arose for municipal and regional authorities in the context of an overburdened national government, the not well functioning economic coordination mechanisms at the national level and the urgent need to act in a situation of economic and social crisis. Often, supply chains were broken, due to the collapse of the socialist division of labour. New clients and suppliers had to be sought, often nearer to the place of production. In many post-socialist countries, especially the large and multinational ones, this has led to a

regional drive for self-sufficiency.² Apart from this, emerging civil society on the regional level and the need for collective identification contributed to an enhanced regional identity³, even in the countries which are ethnically homogeneous.

In this article some changes in the role of regions in late socialism are described. Subsequently, specificities of regional development in post socialism are analyzed. Then the question is considered to what extent with the change to market economy a new spatial organisation of industry may emerge, also in the context of the changing world economy. Finally, the role of local and regional actors is considered.

THE INHERITANCE OF SOCIALISM

The notion of a region became more important as the crisis of state socialism progressed. Often, regional party bosses began to rule their territories like feudal lords, under the condition of strict loyalty towards the national party-leadership. The feudalization of the political system was an outcome of the erosion of the stalinist way of ruling. Since Stalin's death, gradually, other recruitment mechanisms for the elite developed, more based on anciennity, and another political culture emerged, with the result of more stability and predictability for the elite. This had the consequence of an ossification of the political system and the development of a gerontocracy, also in the regions. At the same time regional authorities got more scope of manoeuvre under the condition of strict loyalty towards the centre.

In the Soviet Union under Breznhev, especially since the late 1970s, this process of feudalization has led to very different political cultures in the various Soviet republics. It seems that also in the smaller socialist countries similar processes were at work. In the GDR, after the breakdown of the Berlin Wall, the widespread existence of clientele relations at the regional level has been revealed.

Ding noticed for China that local and regional state authorities increasingly began to represent local and regional interests while for the government the major function of these administration levels remained that of transmission belt.⁴

Other factors which contributed to above mentioned hidden territorial fragmentation and regionalization of the political system were the erosion of marxist-leninist ideology and the gradual development of a civil society and a second economy.

Thus, under socialism, the party leadership often allowed power structures at the regional level to develop.

It is important to know about this pre-history of present regionalism in order to understand the roots of present territorial fragmentation in a larger part of what used to be the socialist world.

SPECIFICITIES OF POST-SOCIALIST REGIONS

Nowadays, in many respects, regions in Central and Eastern Europe differ from regions in Western Europe.⁵

— Regions in the administrative sense are in Central and Eastern Europe weakly developed.

— Mostly, administrative units on the regional level in most cases do not coincide with historical regions.

— Under socialism a de-regionalization took place and few inter-sectoral and intra-sectoral links at the regional level could develop.⁶

— In the regions and localities social life is often centred around one or a few large enterprises.

— Relatively few small and medium sized enterprises exist.

— In the regions the infrastructure, especially with regard to communications, is underdeveloped.

— Generally, regions in Central and Eastern Europe are less diversified in their economic structures. There is a strong regional specialization in traditional mono-industries.

— In Central Europe, discrepancy in development between capitals and other towns, and between regional urban centres and the lagging countryside, is much larger than in Western European countries at a similar level of development.

— Due to socialist rule, society became atomized and social and economic life became organized vertically. This complicates the emergence of a region as an organic entity.

— Networks between public authorities, Research and Development institutions and enterprises are in Central and Eastern Europe weakly developed.

Of course, regional development issues over the Eastern half of Europe varies very much between and within the countries, as related to development level, ethnic composition, level and nature of industrial development and so on. Nevertheless, it makes sense to try to generalize, in order to avoid mistaken comparisons, and also to understand the specificities of each of the regions.

With the abandonment of central planning, many former tasks of government and central state bureaucracy became redundant, although this did not become reflected in a reduced size of ministries.⁷ At the same time the state bureaucracy became overburdened with the changeover to a new social and economic system. Many new laws had to be elaborated and many new state institutions created.

Due to overburdened government and the concomitant inactivity of government in a number of fields an increased scope of manoeuvre for the local and regional authorities emerged. There was also the pressure of the population upon these authorities to act. But local and regional authorities often lacked the means to fill the vacuum. For instance, in Poland voivods are appointed by government and fulfill mainly administrative functions. Moreover,

in most post-socialist countries, there is a power struggle between political forces at the national level and regional and local forces about the degree of autonomy of regional and local authorities. Even with the liberal governments in power, centralist tendencies were very strong with regard to autonomy of regional and local authorities.⁸

With the dissolution of central allocation of resources and the emergence of a market economy there are more demands towards the local and regional authorities in new fields. They may regulate the privatization process, especially in the sphere of housing and retail trade. They make take over care for infrastructural services for which big local enterprises were in charge. They may further the establishment of new institutions, like regional development corporations and innovation centres.

Thus, many new tasks arose for public authorities which can only be adequately dealt with on the micro and meso level. So, it is natural in the process of dismantling the hierarchical party-state structures that a functional de-centralization takes place. At the same time the dismantling of the vertically structured party-state reveals a fundamental lack of horizontal integrative mechanisms. The lack of cohesion on all levels may be considered as one of the most fundamental problems of post-socialist societies.⁹ The integrative mechanisms, have as they are developing now in the post-socialist countries led to a very limited cohesiveness in the sense that they can not easily support disequilibria and resist disruptions. The asynchronous collapse of old and development of new integrative mechanisms has created integrational vacuums at various levels. Weakening state authority gave scope to organized crime.¹⁰

There is a tension between the need to decentralize and the need to maintain a minimum degree of cohesion at the national level. Central state authorities should try to avoid fragmentation and disintegration.

In this contradictory situation it is difficult to identify the point where functional decentralization turns into disfunctional disintegration. Especially in the large post-socialist countries the disintegration of the economy contributes to territorial fragmentation. In Russia and the Ukraine regional authorities try to safeguard supplies of basic consumer goods for the population in barter deals with other regions and enterprises. In this process of territorial fragmentation, regions often assume the qualities of a state, conducting their own foreign trade and withholding tax payments to the national authorities.¹¹

Often there are fears, that more autonomy for regions bordering neighbouring countries, may lead to centrifugal tendencies. Even in Poland, there was the fear that some regions in the West may develop, in the context of so-called Euroregions, too close relationships with Germany.

Another element that is specific for regional development in Central and Eastern Europe is the changed interrelationship between the international, the national and the regional level. With the demise of socialism the relatively closed regions were suddenly confronted with an integrational vacuum at the national and international level that offered numerous new possibilities to

shape external relations. Under socialism regions could usually not maintain relations at the international level. All international relations were channeled through the ministries and organizations at the national level. Nowadays, regions have the opportunity to further networking at the international level. Here belong not only contacts with foreign enterprises, but also twin city relations, international inter-regional cooperation, exchange between professional groupings. However, there is also a negative side in the sense that regions are also exposed to the threats of processes of globalization. There are problems that are also felt at the national level: brain drain, capital flight, import competition etc.

The opening up of regions internationally is above all in relation to Western countries. It is telling that trade between the Visegrad countries has almost halved since the end of the 1980s to a level between 4.5 and 7 per cent of total trade turnover for each of the countries.¹² Already under socialist conditions borders were quite opaque and during the 1980s border crossing became more difficult due to the developing customs war. It is telling to see, for example, that the industry in the region of Lwow, which is close to the Polish and Slovak border and is part of the historic region of Galicia, exported only 3 per cent on international markets, and more than 50 per cent on the market of the former Soviet Union.¹³ Borders between post-socialist countries are still relatively opaque, with existing. The regions in Central and Eastern Europe would profit a lot from more transparent borders in half of the continent.

A NEW GEOGRAPHY OF ECONOMIC DEVELOPMENT IN CENTRAL AND EASTERN EUROPE?

In a longer time perspective, it appears that in Europe, spatial patterns of economic development are rather inert. Over the last 500 years, most of the dynamic economic regions were located in the big banana stretching from the North of Italy to Paris, London, Manchester, the Netherlands, Ruhrgebiet and Bavaria.¹⁴

For specific economic activities concentration tendencies and the reproduction of spatial patterns are even more pronounced. The laboratories and enterprises which are involved in research and development projects in Western Europe are mostly located on a few "Islands of Innovation". The "Major European Islands of Innovation" are counting only ten "islands": Greater London, Rotterdam/Amsterdam, Ile de France, the Ruhr area, Frankfurt, Stuttgart, Munchen, Lyon/Grenoble, Turino and Milano. The "European Archipelago" of a few "Islands of Innovation" work intensively together in a highly exclusive network cooperation. Up till 90% of cooperation partners are situated in the "islands".¹⁵

The socialist revolution in Eastern Europe seemed to have disrupted the centuries old patterns that developed in Europe. In a very short time, the lagging regions on the Eastern half of the continent became industrialized and

the economic gap between those regions and Western regions shrinkened.¹⁶ However, as it appears now, the basis of this rapid industrialization was rather fragile and nowadays massive de-industrialization takes place, though geographically unevenly spread. Traditional spatial patterns of economic development come again to the fore in Central and Eastern Europe. Those regions tend to recover more easily which had a long history of industrial development.¹⁷ Despite being faced with orthodox style socialism and having been one of the most etatized economies in the region, the Czech Republic is now among the best performing transitional economies.

The geographic differentiation is even more pronounced if we only look at foreign direct investment which is concentrated in a very small area comprising the axis Gyor-Budapest, the Czech lands around Prague and some Polish towns, all areas which were already industrialized before World War II. Important location factors for investors are a law governed economy, predictability, that means for instance political and economic stability, trust, the quality of the material and immaterial infrastructure, the availability of local suppliers and so on. These location factors are not to be easily changed in the short run.

Another element behind the new economic geography in Central and Eastern Europe is that the logic of spatial organization has changed. Under socialism location decisions in industry were in principle taken by the central planning authorities. They were often motivated politically and less by economic reasons. Now a multitude of actors determine locational decisions and economic criteria play a more important role. Especially the role of private enterprises and local and regional authorities has become important.

Under the new circumstances it is often the industrial districts that emerged under socialist conditions and that are strongly specialized, that suffer most, whereas the more diversified capital regions, the regions around ports and the older, more diversified industrial regions, are doing relatively better.

In this respect it should be noticed that spatial economic differentiation is affected by changes in industrial organization and the introduction of new technologies. The revolution in communication technology has meant further miniaturization, progressive use of wireless solutions, integration to an extensive level, rising capacities of networks, increasing transmission capacities of networks, new software solutions or generations and different and new architectures on the hardware side. Will this revolution enhance the chances for backward regions to catch up with the richer ones, if they succeed in installing the necessary hardware and instruct the labour force to make use of the new software, provided that they get access to the new software? Or will it lead to a new system of exclusion, excluding those regions which do not have access to the electronic highways and which do not possess the knowledge to make use of it. A major issue with respect to the electronic highways will be the power and access to information systems. Research done suggests that the introduction of advanced communications risks to increase, rather than to reduce the gap between more and less developed regions.¹⁸

REGIONAL ACTORS AND REGIONAL ECONOMIC RESTRUCTURING

The account given above about the forces shaping the new economic geography in Central and Eastern Europe leads to the question to what extent can local and regional authorities influence the fate of their regions.

In principle, regional and local authorities can do a lot. However, these authorities are part of a social context and reflect a specific local social habitus that is rather inert.

Given the specificities of regions in Central and Eastern Europe, local and regional authorities should above all further a networking economy. It means helping to create institutions which may further horizontal interaction between various economic agents and which may help to better articulate various interests.

Regional and local authorities should focus on furthering endogenous development potential rather than on lobbying for external financial assistance. For example, regional and local authorities can reorganize public services in such a way that they become more efficient and cheaper. With an innovative policy they may enhance the attractiveness of the locality or region as a place to invest. An innovation policy may free the accumulated energies.¹⁹

Special importance should be attached to international networking. In Western Europe it is common practice for regions to develop relations at all levels internationally. Sometimes, regions, like the German Länder, have representations abroad. Thus, Central and East European regions should become part of the broad movement of the 'Europe of the regions'.

CONCLUSION

The regional development issues in Central and Eastern Europe differ in many respects from that in Western Europe, although, at first sight, there are many similarities. Generally, regional economies are less developed. Territorial fragmentation comes to the fore to the degree in which an integrative vacuum at the national level develops. This is above all the case in the larger successor states of the former Soviet Union. In the post-socialist countries that are most advanced in the transition a functional decentralization takes place. The opening up of the regions towards the external world occurs above all in relation to the Western countries.

With respect to regional economic differentiation within Central and Eastern Europe, it is conspicuous that pre-socialist patterns come to the fore again. In the new economic geography, history matters a lot.

Regional actors can further economic development although they have to act within a set of constraints. Constraints include, for example, the inertia of local social habitus and the conditions imposed by the world economy. It is especially the furthering of a networking economy in the region, nationally and internationally, that may contribute to regional economic development.

NOTES AND REFERENCES

¹ Here, regionalism is a conscious collective movement aiming at preserving or promoting a region's autonomy or specificity in one or more of the following fields: politics (including administration, migration rules, international relations etc.), economy (including ecology), culture (including religion, symbols of cultural specificity, etc.), language. (see R. Szul, *Some Problems of Regionalisms in Contemporary Europe, With Special Reference to Eastern Europe*, in G. Gorzelak, B. Jalowiecki, *Regional Question in Europe*, Warsaw, University of Warsaw, 1993, p. 344).

² This drive for regional self-sufficiency appeared in the former Soviet Union after the dissolution of the Soviet Union and in Yugoslavia after the republics got more autonomy, since the mid Seventies. See for Yugoslavia R.H. Linden, *Communist States and International Change. Romania and Yugoslavia in Comparative Perspective*, Allen and Unwin, Boston, 1987 and H. Lynden, *Yugoslavia in Crisis*, Clarendon Press, Oxford, 1989.

³ Regional identity is an emotional attitude of people towards a given region (as a whole or towards some elements, like people, institutions, landscape, symbols etc), feelings of emotional belonging to it, identification with interests of people or institutions of this region. Szul, R. op.cit., p. 345.

⁴ X.L. Ding, *Institutional Amphibiousness and the Transition from Communism: the Case of China*, *British Journal of Political Science*, 24:3, July 1994.

⁵ See H. van Zon, *Towards Regional Innovation Systems in Central Europe. FAST Occasional Papers*, 308. Commission of the European Union, Brussels, 1992.

⁶ Mertlik noticed for the case of socialist Czechoslovakia a process of a deep cross-industry disintegration, a disintegration of integrated 'nests' of related and supporting industries, when administrative concentration took place under communist rule. P. Mertlik, *The Czech Economy in Transformation*. Institute of Work and Technology, Gelsenkirchen, 1995, p. 23, 24.

⁷ The number of Polish civil servants, working in the ministries and state administration, rose by 57% between 1989 and May 1993. J. Hausner, *Negotiated Strategy in the Transformation of Post-Socialist Economy*, Cracow Academy of Economics, 1994, p. 33.

⁸ See H. van Zon, *Towards Regional Innovation Systems in Central Europe*, 1992.

⁹ See H. van Zon, *The Lack of Cohesion as the Critical Problem for Post-Socialist Societies*, *AI&Society*, October 1994.

¹⁰ Where the state and society can not organize trust, protection by organized crime becomes a substitute for it, albeit a poor and costly one. So the mafia has become in many regions of Central and Eastern Europe an economic enforcement agency.

¹¹ This process can not only witnessed in large post-socialist countries but also in China. "Provinces increasingly squabble among themselves on economic issues, sometimes seeking to exclude each other's products from their markets, with Beijing apparently powerless to prevent such internal protectionism". *Financial Times*, 8 March 1994.

¹² The share of trade with the Visegrad countries in total trade turnover declined for Czechoslovakia from 9.4 per cent in 1985 to 6.7 per cent in 1992. For Hungary the respective figures were 9.1 per cent and 4.5 per cent and for Poland 8.4 per cent and 4.8 per cent. (A. Inotai, *Economic Integration of the Visegrad Countries, Facts and Scenarios*, Institute for World Economics of the Hungarian Academy of Sciences, 1993, Budapest, Table 8.9. 10., pp 57-59.)

¹³ M. Sieburger, *Regionale Aspekte des Transformationsprozesses der ukrainischen Wirtschaft. Die Gebiete L'wiv, Odessa und Donezk. Berichte de BIÖst*. 38, 1993, p. 17.

¹⁴ see U. Hilpert, D. Hickie, *Archipelago Europe — synthesis report. Prospective Dossier nr. 1, Science, Technology and Social and Economic Cohesion in the Community*, Vol. 18, *FAST Occasional Paper*, 242, Commission of the EC, November 1991.

¹⁵ A. Hingel, *RTD and the European Space or the 'Chemins de Compostelle' of modern times*, *DG XII News*, 1992.

¹⁶ However, this can not be said of the regions that were already industrialized before the advent of socialism, for example Silesia and the Czech lands.

¹⁷ Nowadays, the following post-socialist countries show signs of bottoming out or recovery: Poland, Czech Republic, Slovakia, Hungary, Slovenia, Estonia, Latvia and Lithuania. See P. Havlik et al., *Transition Countries: The Economic Situation in Early 1994 and Outlook Until 1995. WIIW Research Reports*, 207, July 1994.

¹⁸ *Perspectives for Economic and Social Impact of Advanced Communications in Europe, PACE 1994*. Brussels, Commission of the EU, p. 13.

¹⁹ One can take this very literal. For example, it is still a very widespread practice that there are no heating regulators in the individual houses and the tenants regulate temperature by opening windows. Here, municipal authorities can take measures to curb energy consumption by installing heating regulators in each house. There are many other examples with respect to the more rational use of energy. See H. van Zon, *Towards Regional Innovation Systems in Central Europe*, 1992, p. 80.

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