URBAN CHALLENGES.

REPORT TO THE COMMISSION ON METROPOLITAN PROBLEMS

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Förord

Europa integreras och gamla strukturer faller sönder. Städer och regioner utvecklar nya förbindelselänkar. Ekonomi och näringsliv präglas på sina ställen av dynamisk omvandling, på andra av stagnation. Expansion frestar på miljö och resurser. Människors levnadsförhållanden, attityder och livsstilar ändras.

Europas förändring sätter djupa spår också i Sverige. Det är i Europa våra viktigaste konkurrenter och handelspartners finns. Det är dit vi i första hand reser och det är där vi har våra betydelsefullaste informationskanaler. Det går inte längre att bedöma nationella och regionala utvecklingsmöjligheter och förändringsrisker utan fördjupad kunskap om tillstånd och processer i omvärlden.

Storstadsutredningen har givit en grupp forskare, på olika sätt knutna till Centrum för regionalvetenskaplig forskning i Umeå (CERUM) och Expertgruppen för forskning om regional utveckling (ERU), i uppdrag att ge en samlad bild av stadsbildningar och stadsutveckling internationellt, och då särskilt i Europa. Gruppen representerar olika forskningsområden och har följande sammansättning:

Professor Gunnar Törnqvist, ekonomisk geografi, Lunds universitet, professor Janerik Gidlund, statsvetenskap, Umeå universitet, professor Börje Johansson, nationalekonomi, Umeå universitet, professor Jan-Evert Nilsson, företagsekonomi, ERU, projektledare Gösta Oscarsson, Statens industriverk (SIND) och ekon dr Charlie Karlsson, nationalekonomi, Högskolan i Karlstad.

Gruppen presenterar sitt arbete i tre rapporter. I boken "Staden" (SOU 1990:32) diskuterar gruppen synsätt och principer i anslutning till stadsbildningar och stadsutveckling. I översikten "Stadsregioner i Europa" (SOU 1990:34) redovisas ett omfattande empiriskt material över tillstånd och utvecklingsdrag i funktionella stadsregioner. Gruppen har utnyttjat ett internationellt kontaktnät i sitt arbete. En rad framstående forskare har inbjudits att utifrån sina specialkunskaper och olika geografiska utsiktspunkter diskutera internationell stadsutveckling. Diskussionerna fördes under två seminarier i Stockholm i november 1989. Föreliggande rapport rymmer de inbjudna forskarnas bidrag.

Den vetenskapliga trilogin bildar underlag för storstadsutredningens fortsatta arbete.

Jan O Karlsson

Contents

Preface

In the European integration process, old structures are falling apart and cities and regions are developing new links. In some cases, the industrial and economic spheres are characterized by dynamic transformation, while in other cases there is stagnation. Expansion places strains on resources and on the environment. People's living conditions, attitudes and life-styles change.

Changes in Europe are also having widespread repercussions in Sweden. Europe is where our major competitors and trading partners are based. Europe is our primary destination when we travel; our major information channels are in Europe. It is no longer possible to attempt to assess national and regional development opportunities if we do not have a deeper understanding of circumstances and processes in the world around us.

The Swedish Commission on Metropolitan Problems (Storstadsutredningen) has asked a group of scholars to provide a comprehensive picture of urban formations and development in an international context. The researchers who form this group are linked or associated in one way or another with the Centre for Regional Science Research in Umeå (CERUM) and the Expert Group on Regional and Urban Studies (ERU) and they represent a wide range of research areas. The members of the group are:

Professor Gunnar Törnqvist, Economic Geography, University of Lund; Professor Janerik Gidlund, Political Science, University of Umeå; Professor Börje Johansson, Economic Science, University of Umeå; Professor Jan-Evert Nilsson, Business Studies, ERU; Gösta Oscarsson, Project Manager, National Industrial Board (SIND); Dr. Charlie Karlsson, Economic Science, Karlstad University College.

This group has presented its work in the form of three reports. In "Staden" ("The City") (SOU 1990:32) the perspectives and principles relating to urban formations and development are discussed. "Stadsregioner i Europa" ("Urban Regions in Europe") (SOU 1990:34) is a survey which presents extensive empirical documentation of development characteristics and conditions in functional urban regions.

The group has had access to an international network of contacts and a number of prominent researchers have been invited to discuss international urban development from the standpoint of their own expert knowledge and from various geographical perspectives. These discussions were conducted in the course of two seminars held in Stockholm in November 1989. The contributions of the

researchers who participated are collected in this report, which is entitled "Urban Challenges".

This research trilogy provides a foundation for the continued deliberations of the Commission on Metropolitan Problems.

Jan O. Karlsson

THE POLITICS OF TERRITORY AND IDENTITY

by

Derek W. Urwin

In recent years the study of the politics of territory and the politics of identity in Europe has been particularly associated with the upsurge or reawakening of regional and territorial politics that occurred in several European countries in the 1960's and 1970's, an upsurge that was repeated in other Western states such as Canada, Australia and New Zealand. Spearheading this assault on the state structure of the continent were movements which visibly and explicitly voiced separatist sentiments, as for example in Belgium, Spain and the United Kingdom[1]. The ferment, however, went beyond straightforward issues of perceived ethnic, nationalist or linguistic differences and discrimination: it could be argued that an equally striking example was the political cleavage engendered in Norway by the 1972 EEC referendum, in which symbols of emotive nationalism were effectively hijacked by the anti-European movement, and which brought back to the surface and the political agenda a more historical pattern of politics and a level of passion and acrimony not seen in the country in modern times. Similarly, the ferment went beyond the responses of states to regionalist demands: it was linked to a much broader concern with the territorial structure of the political state and the decentralisation of decisionmaking and responsibility, including questions of local government reorganisation.

The late 1960's and the 1970's, of course, are now typified as an era of new politics - for instance, feminism, terrorism, ecology and perhaps 57 other varieties of "isms", and like them it was directed against the modern state, especially the centralising state with its stress upon Keynesian techniques of economic management, bureaucratization, and welfare state paternalism. Like most of these other isms, the new territorial politics, variously referred to as political regionalism, regional nationalism, peripheral nationalism and the like, seemed to take politicians by surprise. It also came as a surprise to most academics. In the mid-1960's the agenda of the modern state could be defined as "the politics of consensus in an

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1 See the listing of organizations in J. Blaschke, ed., **Handbuch der westeruopäischen Regionalbewegungen**, Frankfurt: Syndikat, 1980. See also M. Stephens, **Linguistic Minorities in Western Europe**, Llandysul: Gomer Press, 1976; D. W. Urwin, *Harbinger, Fossil, of Fleabite?: 'Regionalism' and the Western European Party Mosaic*, in H. Daalder and P. Mair, eds., **Western European Party Systems: Continuity and Change**, London & Beverly Hills: Sage, 1980. pp. 221-256.

age of affluence".[2] Before then, if anyone had thought about regionalism and territory, it was as an umbrella term that referred to a great variety of geographically-based practices and structures that related essentially to management and that had few, if any, political implications. The place of cities in the order of things and their problems were also considered in this light, and local government reforms, where introduced, were almost always justified in terms of efficiency, even if this meant ignoring, abolishing or merging historical local identities and units. Fundamentally, all this was because since the French Revolution the two concepts of *state* and *nation* had gradually become synonymous, to the extent that by the first half of the twentieth century the concept of the nation-state had become widely accepted as a norm and ultimate goal for territorial organisation, with Western Europe being regarded as the spiritual home of the concept and the model which the rest of the world should strive to emulate.

The most obvious manifestations of this territorial protest against regimes and political centres in Western Europe seemed to have a brief blossoming: at least in many countries it seemed by the 1980's to have sunk back into relative obscurity. With it there has also seemed to occur a consequent decline of interest in the broad implications of the topic within academic circles which, like many other social groups, are nothing if not slavish followers of fashion. But the protest of the 1960's and 1970's did provide a real service in that it placed the territorial structure of the state, in all its aspects, firmly on the political and research agendas. And to some extent the question of territorial structure has remained on these agendas, at least as an unspoken item, ever since. Several developments have served to keep it there:

1. The increasing permeability of state boundaries through the internationalisation of networks: economic markets, industrial companies, the media, and tourism are some of the factors which have played a role here. In particular, the revolution in the electronic media, with deregulation and satellite developments, is one which could have a significant effect upon localities and the prototypic man in the street, eroding the nationalizing effect of the earlier years of broadcasting.[3]

2. The critique that the new politics of the 1960's and 1970's levelled against the structure of the state, especially perhaps that coming from the more radical elements of the green movements with their demands for new forms of participatory democracy and political organisations, as well as because of their demands for resource conservation.

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2 R. Lane, *The Politics of Consensus in an Age of Affluence*, **American Political Science Review 59** (1965), pp. 874-895.

3 On the extent of the potential impact of the electronic media on individuals and locations, see J. Meyrowitz, **No Sense Of Place: The Impact of the Electronic Media on Social Behavior**, New York: Oxford University Press, 1985. The possible limitations of the impact do, however, tend to be downplayed.

3. The impact of the so-called new "economic realism" and the structural economic change which has followed on from the oil crisis of 1973, which has led, among other things, if not to the kind of rolling back of the state that Mrs Thatcher might ideally desire, then certainly to a broader reassessment of the state's ability to provide all things to all men, of its ability to act as a bottomless cornucopia.

4. The flood of immigrants from other parts of the world into Europe which has, at least for some commentators, given a new meaning to the phrase, "the multicultural society", and which everywhere, even in Britain where the formal legal situation is rather different, raises questions about the meaning of citizenship.[4]

5. The impetus which the EEC has received from the Single European Act and the Planned drive towards 1992. The perhaps as yet unforeseen *political* consequences of this may go well beyond the member states. It could have significant effects upon territorial identity and upon metropolitan areas as nodal points in a European territorial grid.

Furthermore, one net effect of the analyses of territorial politics that have been done over the past two decades is the addition of two useful elements to the conventional wisdom of political science:

1. that the state is a territorial as well as a legal entity. In other words, that territory is integral to the state. We can have, indeed have had, governments in exile. We can even perhaps conceive of nations in exile. But can we really have a state in exile? For without territory, a state ceases to exist. To understand the state, therefore, we have to understand the linkages and networks that have developed across territory.

2. that most, if not all, states in Western Europe fall far short of the simplistic classical definition of the nation state. As that definition states that all members of a particular ethnocultural group are to be found in only one state, where, moreover, they form the overwhelming majority of the population, then very few such states actually exist.[5] But over and above any relatively simple ethnic classification, it is better to regard almost all states as being "multi-ethnic" in the sense of more than one identity being present,

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4 See Z. Layton-Henry, ed., *The Political Challenge of Immigration in Western Europe*, special issue of the **European Journal of Political Research 16:6** (1988).

5 This is the definition employed by G. P. Nielssen, *State and 'Nation Group': A Global Taxonomy*, in E. A. Tiryakian and R. Rogowski, eds., **New Nationalisms of the Developed West**, Boston: Allen & Unwin, 1985, pp. 27-56. Nielssen identifies only 31 such states in the world, 12 of them being in Europe. Such taxonomies, however, overlook the simple fact that even very small minorities and localities can be extremely troublesome, as for example Northern Ireland, the Alto Adige, or the Fourons.

with these identities sometimes overlapping or being layered on top of each other, sometimes being mutually incompatible.

Any identity can have a political expression which can affect the networks and linkages that states use to achieve territorial integration and consolidation, and in that way raise questions about what is meant by citizenship in a given state.

To understand these situations more thoroughly, we would, from a political perspective, have to seek to integrate at least three rather different traditions of political research:

1. the *political geography* of centre-building, networks and boundary demarcation.

2. the *political economy* of territorial integration or fragmentation - an analysis of the costs and payoffs of alternative policies for coping with territorial strains.

3. the *political sociology* of identity, of its formation, accentuation and mobilisation.

If we were to begin by seeking to understand the recent assertions of peripheral, regional and local interests against the national centre, and the several claims for cultural autonomy and/or separate powers of territorial decision-making, we might look no further than some of the recent developments I have already mentioned, and point to two parallel processes of change that have affected Western Europe since 1945:

1. the erosion of national sovereignty through the continuing internationalisation of territorial economies and their interdependence within a global market place, along with the further erosion of inter-state boundaries through the persistent increase in the volume and diffusion of messages, ideologies and styles of organisation.

2. the increasing visibility of the state through its acquisition of responsibility for practically all aspects of socioeconomic life has led first to an increasing volume of demands on and expectations of the resources and manpower of the machineries of the state - demands, for example, to expand welfare and educational services, or to intensify aid to the less productive sectors and areas of the economy have all placed further pressure on the costs of infrastructural requirements - and second to challenges against the primacy of the state and the emergence of new forms of collective activity outside the traditional structures and avenues.[6]

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6 See the comments in S. Berger, *Politics and Antipolitics in Western Europe in the Seventies*, **Daedalus 108** (1979), pp. 27-50. See also several of the contributions in D. W. Urwin and W.

We might - and indeed some published work has done so - posit a simple model whereby the changes in the international environment have a direct impact upon the control capacity of central territorial authorities, with a further causal flow from the decreased resources for central control to an increase in protests against the state and its current organisation. Such a model might be useful in looking at trends over time, country by country, but its utility in a comparative perspective, without significant elaboration, is more doubtful.

What would be required in the first instance is to adopt a broader historical perspective that would seek to link geography with both politics, economics and culture. Indeed, much of the literature on the politics of identity of the present has a strong historical cast, inferring that current territorial issues and problems are but a revival of the kind of concerns that were manifest in "pre-modern" times, and which were once thought to have been effectively eliminated with the so-called "victory" of the nation-state.

To some extent this is true, if not obvious. Many of the current regional and territorial political disputes can trace a pedigree back to the opening phases of mass political mobilisation, and often far beyond even that. One important point to note, however, is that this survival of historical arguments has not persisted everywhere. In terms of the past, what we find is that only in a few instances has there been either a persistence or a reawakening of conflict

There is, in short, great comparative variation in Europe. To understand that - important, as I say, because no state conforms to the classic definition of a nation-state - one has to understand the context of mobilisation or its absence. And that context is historical. The brief message that one can see scrawled on walls and other surfaces throughout Northern Ireland - "1689" - is a simple reminder of the potentially deep strength of historical roots, of what can be called the *lore of the land*, or more simply, folklore. More specifically, the historical context is the processes of state-building and nation-formation, of the pressures and processes of centralisation and of the resistance to them.

These were the general thoughts which guided us in our earlier explorations of the territorial structuring of the politics of Western Europe.[7] Very briefly, what we tried to do was to create a model of territorial structuring which, utilising in a fairly

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7 E. Paterson, eds., **Politics in Western Europe Today: Perspectives, Policies and Problems since 1980**, London: Longmans, 1990.
S. Rokkan and D. W. Urwin, **Economy, Territory, Identity: Politics of West European Peripheries**, London & Beverly Hills: Sage, 1983. See also S. Rokkan and D. W. Urwin, eds., **The Politics of Territorial Identity: Studies in European Regionalism**, London & Beverly Hills: Sage, 1982.

flexible manner the concepts of centre and periphery, would bring together the three important dimensions of territorial integration: political-cum-administrative control, economic dominance, and cultural standardisation. What we sought to do was to develop a typology of territorial structures that would combine information on the historical sources of territorial strains with information on the strategies of unification pursued by state-building elites.

Again, very briefly, and oversimplifying somewhat, we suggested that we can distinguish two sources of territorial strain:

1. *cultural distances* - based upon language, religion and other artefacts and stigmata of identity - between core areas seeking greater territorial control and expansion, and "less privileged" regions or peripheries. As indicators of cultural distance, one can use, for example, the grammatical structures of languages, variations in religious belief systems and organisational practices, the ease or difficulty of communication, the ease or difficulty of elite integration across different cultural communities, etc.

2. *economic conflicts* between territorial units competing for the control of trade and productive resources. As indicators of economic distance, one could use, for example, the centralisation of economic transactions, measured by distribution of wealth, differential economic activities, the extent of market networks, and the rank size structure of city networks across territory.

These dimensions of strain have to be related, as I said earlier, to the political dimensions of the style of territorial organisation and control. We envisaged style as a continuum. At one pole there are *centralising strategies* where the state, as it expands, incorporates all areas, regions, peripheries - no matter what their cultural or economic status - into a single system of standardisation. This, of course, would be the ideal unitary state, of which political legend has made France the prototype. At the other extreme are strategies of *federalising accommodation*, where all areas, regions or peripheries may be incorporated within a single territorial political unit, but where the extent of collective decision-making is extremely limited, at a minimum to defence and foreign policy, and where all areas retain some significant guarantees and resources for the protection and advancement of their own distinctiveness and an ability to take their own decisions in a wide array of policy sectors. In between these two ideal-type poles, there is a huge grey area of mixed strategies: for example, standardisation only within the original core or across most of the territory of the state; separate and varying arrangements for some areas, but not others; standardisation of legal rules, but provisions for distinctive treatment of different language and/or religious standards, and so on.

The objective of this exercise was to produce what we called a conceptual map of Western Europe, which would combine topology and typology in such a way that we could both classify, compare and analyse state building strategies, patterns and outcomes across the continent, and classify, compare and analyse what we called the predicament of those areas (or peripheries) which in one or more dimensions had created problems for or resisted the state-building attempts to construct centralised networks. Cities were an integral and important part of these developments. They were, or could serve as, the focal points of territorial expansion and control, of centre-building, a process which has been described as "temporal imperialism", or the development of privileged locations within a spatial system of authority and subordination with the ability to wield influence beyond their immediate boundaries.[8] As socioeconomic development progressed across the centuries these central nodal points were further distinguished by the proportion of their population employed in the tertiary sector of the economy.

The net result of the analysis was to confirm that the territorial map of Western Europe is a veritable mosaic, with an incredible number of permutations across politics, economic and cultural networks, which makes it rather difficult to disentangle the relationship between on the one hand territorial regions and localities which can be defined in terms of political and economic networks, and on the other those groups of people who are territorially concentrated within or across the political boundaries of states and who claim some form of distinctive identity for themselves. This is particularly important if we wish to consider the political mobilisation of such groups. For what ultimately distinguishes them from the mass of political movements is the nature of their claim upon the state. They identify with, and make claims upon central government on behalf of, *both* territories *and* groups that are not coincident with state boundaries and state populations. While not all people in a territory may identify with or support such a political movement, the essential point is that the latter invariably demands control of, or at the least adjustments in the control of, the territory with which it identifies, and hence over all those who live there, irrespective of their opinions, sociostructural characteristics, the size of the group or territory, or the specific content of their demands.

The point is that the politics of identity involves identity with both a territory and a group. We therefore have to deal with two interrelated spatial dimensions, which may be termed *membership space*, that is membership of a group that possesses, and is aware of possessing, some common sociocultural stigmata, and *territorial space*, that is identification with and occupation of a specific geographical area. These are ideal-type constructs, and in terms of their generative definitions are rather similar to the classical *Gesellschaft-Gemeinschaft* dichotomy. The problem is that in the West European mosaic of state and nation building the two are rarely coincident.

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8 On the notion of temporal imperialism, see **H. Innes, The Bias of Communication**, Toronto: University of Toronto Press, 1951, pp. 92-131.

On the other side of the fence, we have the state as it has historically developed. The boundaries of any state are contingent: the state map of Europe has changed over time - it is not some kind of God-given eleventh commandment. This means that for any state its continued survival is dominated by two prime imperatives: to preserve the *integrity* of its territory; and to ensure within these boundaries the *legitimacy* of its existence through obtaining popular support for and acquiescence to its political authority from all those who reside within its self-proclaimed boundaries. Any challenges to its integrity and legitimacy within this membership/territory syndrome, whenever they arise and no matter how weakly they may be expressed, simply emphasise the potential conflict that can arise between full territorial integrity and complete political legitimacy. At the extreme, when a territorially concentrated population chooses adamantly to reject compliance with the authority of the regime, the state might be pushed towards one of two difficult alternatives, both extremely costly: to introduce coercive measures in order to satisfy the imperative of preserving existing territorial integrity, or by ceding the demands made upon it, to violate that integrity in order to guarantee full legitimacy within territorially truncated boundaries.

This perhaps is the ultimate implication of the politicisation of identities that are not consistent with the boundaries and territory of the state. And where such tensions lead towards demands for some kind of territorial adjustment, the final outcome can perhaps be evaluated in terms of the *resources* available to an area or a population, and the *price* that the state is willing to pay for maintaining the status quo or for reaching some kind of acceptable settlement.

Two kinds of resources would seem to be necessary for this kind of mobilisation: territorial identity, and group or membership identity.[9] Territory is perhaps a *sine qua non* of identity politics, and certainly occupation of the identified territory could be a powerful resource. The English proverb says that possession is nine points of the law, and any group that is not geographically concentrated in its identified territory will not only find it more difficult to push territorial claims; it could also experience more difficulty in attempting to mobilise on identity grounds - even perhaps finding itself more exposed to a long-term erosion of its perceived identity.

By contrast, the salience and consciousness of group membership is much more variable over time, and its indicators, or stigmata, can and do differ from group to group. This is too complex a subject to discuss here, but broadly speaking we can identify language as playing an important (though not allembracing role - witness the case of Scotland). But language is the basic means of communication, and as such is a powerful political resource, and one which can easily lead to conflict, and not only because to be brought up speaking one language raises the costs to you if

9 For further elaboration of these concepts, see S. Rokkan and D. W. Urwin, **Economy, Territory, Identity**, passim; D. W. Urwin, *The Price of a Kingdom: Territory, Identity and the*

you are obliged to learn another one, but also because language ability does not just involve speaking, but also being understood. After all, the classic definition of an idiot is a person who speaks a language which nobody else understands. In that sense, language as an element of identity and territorial politics is a *collective good* that must be shared by all, including at the extreme everyone else within the state. Moreover, as Aristide Zolberg shrewdly remarked in the 1970's in a classic analysis of Belgium, a state can pretend, sometimes successfully, to be blind, but it *cannot* pretend to be deaf-mute.[10]

It is worth mentioning that language can be buttressed by, or replaced by, other cultural stigmata - most obviously religion, which in the past has been a powerful motor force of identity in Europe, frequently providing territorial minorities with a major, if not sole, means of indigenous elite recruitment, among other things. Although religious issues may have largely disappeared from the West European agenda, it is a belief system backed by a more or less effective organisational structure. And membership in such a structure, which in a sense implies some degree of commitment, may be at least as important as speaking a distinctive language. With the new version of multiculturalism that characterises modern Europe, particularly its cities, one might even suggest that religion could reappear as a political issue of identity, as the Salman Rushdie affair might indicate, though albeit as yet without any obvious territorial connotations beyond those of inner city ghettoes.

However, resources, which together constitute an infrastructure of identity, are themselves politically passive. We must also look for *catalysts* that push them into the political arena. And it is here that we approach the historical rub of the politics of territorial identity. In our own work on creating macrohistorical models of Europe, we have shown that one can systematically trace state-building efforts back to the consequences of the collapse of the western half of the Roman Empire. However, for much of historical time, these were not states with the full panoply of centralizing tools as we would understand them today. Even though one can plot the steady political consolidation and centralization of territory over time (the aggrandizement of some centres, the disappearance of others), quite simply there was a limited and variable control of territory, with the centralizing elites impinging little upon local and regional structures and customs - the bed-rock of local identities.

The crucial changes came in the nineteenth century in the wake of the Industrial and French/American Revolutions. Together, these produced the tools for and the ideology of territorial consolidation. State control was greatly aided by advances in

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10 *Centre-Periphery Dimension in Western Europe*, in Y. Mény and V. Wright, eds., Centre-**Periphery Relations in Western Europe**, London: Allen & Unwin, 1985, pp. 151-170.
A. Zolberg, *Splitting The Difference: Federalization Without Federalism in Belgium*, in m. J. Esman, ed., **Ethnic Conflict in the Western World**, Ithaca: Cornell University Press, 1977, p. 140.

communications networks, from the railways through to radio and television, with parallel developments in education, literacy and bureaucratic organisation: the essential name of the game was cross-territorial standardization. In many instances this weakened or ended the autonomous spirit of cities which were not centres of political and territorial state control

Similarly, the word *nation* had a meaning before the French Revolution very different to what it had afterwards. The original sense was the collectivity of those with the same *pays de naissance*, those born within the same, and localised historical space. The French Revolution pushed the term one notch upwards. It was to refer to all who lived within the entire territory of the French state and one badge of this new collectivity was to be the ability to understand the dialect of the ile de France. Witness the demand of an unnamed revolutionary in the Jacobin assembly: The great number of dialects could have been useful in the tenth century and during the long reign of feudalism ... but today .... we are all Frenchmen and should have only one language, as we have only one heart".

It is these changes which led me at the beginning to state that since the French Revolution, state-building and nation-building have gone hand in hand. The diffusion of democratic principles and structures emerged within an era of heightened inter-state tension and conflict, unleashed partly by the stronger technological base available to elites. These two phenomena combined to generate a greater belief in the desirability of, and urgency in establishing, an integrated nation-state with effective boundaries and effective penetration by elites throughout their claimed territory. The Russian Revolution introduced a new twist to integration: socio-ideological unity began to compete with, and even reinforce, national-linguistic unity, to be further buttressed after 1945 by the new pattern of global superpower politics and an emphasis upon the state as a security system.

Parallelling these political developments was a process of socioeconomic change through the gradual modification of capitalism towards the welfare state. The Industrial Revolution produced distinctive geographical patterns in each state which, on the whole, remained rather undisturbed until the emergence of a second economic transformation after 1945. The effects of this varied. In some instances it exaggerated existing territorial gaps and tensions. Elsewhere it led to the industrialisation of regions that had succeeded in retaining a high degree of cultural distinctiveness partly because of their isolation from the industrial mainstream of the state. In yet others it produced economic decline and perhaps "de-industrialisation". Both phases of industrial change affected the identity of cities. During the first phase they acted as reception areas for rural immigrants. In some instances this involved the absorption of groups with a different identity: Glasgow, for example, received both Protestants and Catholics from Ireland, while Barcelona was a magnet for landless Andalucian peasants. Where cities were themselves part of a distinctive region and identity, economic change generated, and exposed to the promise of industrialization and its benefits, a new middle class that was

ultimately less prepared to accept standards imposed upon their self-defined identity group from outside. Two further developments have occurred during the second phase of transformation. First, immigration from other parts of Europe and even further afield, parallelled by a flight of particularly the indigenous middle classes to the suburbs, have produced even more multivariegated identities in the cities. Second, local government reorganisation produced larger and more anonymous administrative units.

Some of these developments meant that language abilities (or disabilities), where relevant, received enhanced importance, particularly in skilled and managerial work, and greater costs were imposed upon identity minorities, in much the same way as in the first Industrial Revolution as described, for example, by Eugen Weber in his classic study of late nineteenth century France.[11] Others meant that many cities, at least for administrative purposes of political direction, became amorphous geographical units without any clear identity. All of this raised the question of whether they could still be treated as holistic entities, or whether they were simply an aggregation of individual and group characteristics.[12]

The final point to be made about change is that after 1945 the establishment and expansion of the welfare state consolidated the political and economic reach of the state through increasing the extent of the public domain and through the scope and need for greater regulation, standardization, distribution and redistribution by the central regime. Concomitantly, the combination of economic growth, economic change and welfare services weakened the decisive structuring role that class and religion had played in the general organization of political cleavages and activity, thus making it easier for other, and different kinds of, issues to attempt to insert themselves on the political agenda.

While these phenomena affected the whole of Western Europe, their effect upon territorial structures and tensions was not necessarily the same or of the same degree everywhere. In each instance their consequences were moderated by the pattern of existing identity structures and by the particular style of central control, both of which had much older historical roots. But, where they occurred, it was the disjunctions between state and nation, between country and locality, between territorial distinctiveness and territorial standardization, which helped to provide the catalysts of territorial political mobilization.

The question of territorial mobilization, very important as it is, is too complex to be discussed here in any great detail. It might suffice to point, at a minimum, to a long wave of mobilization with two crests. The first crest arose from the democratic and industrial revolutions, and simply repeats what was said earlier. Democracy

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11 E. Weber, **Peasants Into Frenchmen: The Modernization of Rural France, 1870-1914**, Stanford: Stanford University Press, 1976.

12 See L. J. Sharpe and K. Newton, **Does Politics Matter?: The Determinants of Public Policy**, Oxford: Clarendon Press, 1984, p. 150.

implied greater standardization and centralization, while industrialization allowed more rapid cross-territorial communication, interaction and exposure to outside influences. The ability of geographically concentrated and distinctive populations to live parallel, but separate, lives was severely curtailed. The most obvious field where identities clashed was in language, with education perhaps as the most bitter battle. Elements of this crest have extended into the late twentieth century where they merge with the second crest which after 1945 injected both a greater central intrusion, through the welfare state concept, and territorial economic discrepancies into the debate. Economic marginality and perceptions of relative economic deprivation are only part of the problem. What is central to the whole long wave of mobilization is the question of *inconsistency* between on the one hand economic performance, potential and opportunities, and on the other the whole nexus of cultural status. And that inconsistency has to do in one respect or another with a confrontation with change: processes of state-building such as linguistic and educational standardization; economic expansion or decline; a heightened awareness of the outside world through the impact of more intense government activity, improved communications, geographic mobility, and a more penetrative mass media. And at the heart of the whole dilemma lies the long shadow of identity.

In fact, one of the more fascinating and instructive debates on the whole problem occurred over one hundred years ago. The subject was Alsace, and the debate was between German and French scholars on the meaning of *nation*. German historians sought to identify *Nation* with *Sprache* (for obvious reasons), while the French (strangely perhaps given the logic they applied to the rest of the French sate) tended to argue for a much broader cultural conception where identity was not just a matter of language. Rather, it expressed itself in an on-going plebiscite, in a constantly reaffirmed commitment, through one's daily actions, to one's people and their institutions.[13] So, according to this broader view of identity, what counts is not just the standard language, but the whole and varied repertoire of signals and stigmata available to everyone in the immediate community. In other words, *place* is still important: it is there that lives are lived, interests defined, and information received and interpreted within a framework of everyday and routinized social interaction.

But to understand the full impact of what is meant by *community*, we have to go further than this, and stress the idea of the *layering* of expressions of identity. People can hold more than one identity, and can simultaneously relate positively to more than one territorial area or identity group. It is rather analogous to the outward spread of the geographical units with which children relate as they grow up, from house to street to district to town, etc. At the base the layers accentuate membership in the local community; others indicate loyalty to a wider territorial network. The relationship of the several layers of identity in any territorial system depends in the last resort upon the particular constellation of events, trends and

13 See, for example, E. Renan, **Poetry of the Celtic Races and Other Studies**, London: Kenikat Press, 1970, pp. 61-83.

policies emerging there. The crucial development was the construction, or at least the attempt to do so, of a national territorial community, inherent in the concept of the nation-state, pursued - sometimes deliberately, sometimes unwittingly - by centralizing elites. What this did was to force the great majority of people into some form of dual identity. It superimposed a broader territorial identity whose reference point was the state upon the historic, more local identity. What came to count in the politics of territorial identity was first the extent to which that more historic identity was discriminated against and eroded, and second, in terms of political, economic and cultural questions, the *distance* between the layers and the *costs* of moving from one to another.

These distinctions are important for the nature of citizenship, and could perhaps become even more important in the future as West European societies continue to evolve. Within our terms of reference, we can distinguish two very different kinds of citizen rights in a system of democratic pluralism:

1. the collective right to *respect for community of origin*, whatever its language or cultural composition; this refers to the retention or revival of sociocultural identities.

2. the individual right to *opportunities* to utilise fully one's own abilities; this refers to the socioeconomic pursuit of self-sufficiency and advancement.

The first of these may be called the right to *roots*, the other the right to *options*. The former are the essence of identity. They form that daily plebiscite mentioned earlier. They help the individual to answer the crucial questions, "Who am I? What am I? Where am I?" Options are equally important. You may not wish to be locked forever within a community limited in area and defined by old identity stigmata. You may want to pursue whatever talents and skills you possess in a wider territorial arena. To do so, however, you might run headlong into the divide that can separate different sets of roots and the costs that might be incurred in trying to move from one to another.

In the great era of industrial expansion, it was accepted almost without question that the pursuit of options could easily mean geographical migration: it was, after all, an integral part of the liberal belief in a more democratic society. In the modern world, however, the dilemma of roots versus options has become more acute within the modern welfare state with its belief in government largesse where more articulate, information-conscious, demanding and politically conscious populations have become more reluctant automatically to give up roots as a way of realising options. For a while the post-war emphasis upon planning and direction led to the acceptance of moving jobs to where people were; this was the essence of regional planning. In the harsher climate of the post-1973 world, the pendulum has swung back to the older creed: Norman Tebbitt's terse advice to the unemployed

of Britain - "get on your bike" - has been repeated, perhaps more politely but no less forcefully, by several economic analysts.[14]

It is facile but true that the problem is to find some acceptable fulcrum between roots and options, to accept both orientations and needs, and to use public resources to strengthen both. And this, to be fair, seems to have been the policy objective of most governments with or without political tensions being present. Politically, however, the problem of reconciling roots and options, of satisfying both identity needs and the cost of economic opportunities and expectations, clashes directly with the dichotomy between on the one hand the peculiar political demands of identity mobilization (that is its effect upon territory), and on the other the state imperatives of territorial integrity and full political legitimacy. To understand the politics of territorial identity more fully, we have to close the circle by looking at state responses to territorial demands. We can begin with the blunt statement that it is highly unnatural for rulers voluntarily to give up territory - perhaps the nearest thing we have to a political law. But on the other hand, total resistance by the state can be a very costly operation. West European governments today, whatever may have been the case in the past, are not likely to resist totally. More typically, they have responded to pressures by seeking to accommodate demands to a greater or lesser extent, but always by defusing the situation within the existing political boundaries of the state.

Territorial demands are usually a mix of cultural and economic discontent. Governments, then, have the option of pursuing an economic or a more specifically political response. The former could be broadly described as regional economic policy. It is a strategy which can be extremely costly in terms of money, but in the long run it could hold little threat to the territorial imperatives and standardisation processes of the state. But the extent to which an economic strategy proves successful depends upon how its objectives have been defined. In terms of increasing benefits and the quality of life cross-territorially, regional economic policy can perhaps boast of some considerable achievements. If, however, the objectives are defined in terms of enabling more of the indigenous population of the region to live, work and enjoy there a standard of living more comparable to that of people elsewhere, then claims for the success of such strategies could be on less firm ground. Benefits have often proved to be insufficient or temporary in their effect, territorial gaps in the quality of life do not narrow very much, and in times of economic difficulties, the less advantaged groups and areas tend to become even more dependent upon "central charity".

Between 1945 and at least the early 1970's there was a heightening of these contradictions between democratic centralism and territorial aspirations. There has been a reinforcing both of a cross-territorial division of labour and geographical specialization and of the centralization of economic and financial power, the con-

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14 See, for example, M. Krauss, *Europeanizing the U.S. Economy: The Enduring Appeal of the Corporatist State*, in C. Johnson, ed., **The Industrial Policy Debate**, San Francisco: ICS, p. 82.

tinuing bureaucratization of the public sector and strengthened social regulation, and an increasing press towards uniformity in most modes of life. Central state efforts at regional and local economic planning have been mainly pursued, and solutions sought, within this general framework: in other words to extend help to problem territories was to improve the state as a whole and its national economy.

The problem has been, however, that these may not exactly be the major concerns of identity groups. Their aspirations often revolve around notions of grievances and opportunity potential and possibilities that encompass a broader concept of territorial justice that would above all *preserve* the right to roots simultaneous with *increasing* the right to options. Any study of contemporary territorial politics and regional policy would draw one lesson. The economic strategy will always be unsatisfactory where questions of identity loom large: there, basic demands tend to be political and so require a political response. In short, sociocultural identity, economic hopes and political power can become mutually reinforcing.

If we assume that the two extreme political responses available to a state are impossible - that is, accepting state dismemberment or resisting the identity demands absolutely - then the number of available options, it seems to me, could be subsumed within two broad categories. States can seek either membership or territorial accommodation. Federalism, of course, is the classic pattern of territorial accommodation, along with more limited forms of devolution to regions or localities. By contrast, membership accommodation in the simplest sense does not entail a geographical division of political or constitutional authority: rather, it is a proportional approach which involves the sharing or duplication of public goods such as power, jobs and benefits among two or more identity groups, a kind of occupation-cum-welfare state apartheid. Which alternative will be most appropriate depends upon a number of factors, but in the last resort the options which are easily available to any one state are circumscribed by its historical and institutional style of centralizing politics, and by the costs involved.

In the end, neither broad alternative may be satisfactory, since it is highly doubtful whether it can ever eradicate completely the basic dilemma of roots versus options. The original 1923 settlement in Northern Ireland, as a possible federalizing solution based upon territorial accommodation, could be said to have been quite successful in that, after all, it survived for almost half a century. The *Proporzpaket* of 1969 and 1972 in the Alto Adige has often been held up as *the* model prototype of a successful membership solution, and one that could with profit be applied elsewhere, but we see that only two decades later it is coming under more and more strain.

It is, of course, perfectly possible for disputes of identity to be accommodated in the twentieth century. Many, indeed, have. But the real problem is that it is not always a case of centre versus periphery, of one city against another, of one region inhabited by Group A versus another region inhabited by Group B. No territory

and indeed no cultural group is totally monolithic. Brussels is a predominantly French-speaking city lying on historic Flemish soil; there are not just Basques living in the four northern provinces of Spain and their cities such as Bilbao, or just Catholics in Northern Ireland, or just German speakers in the Alto Adige. The history and politics of territorial identity have rarely, if ever, been so tidy. It is the incongruity between culture, economics and politics which form both the essence of the territorial problem and the greatest obstacle to governmental resolution of the problems that exist.

As for the future, there is no obvious reason as to why this layering of identities and their possible incompatibilities might decline. As long as they exist, then given a suitable catalyst, they can erupt at any time to intensify the politics of territorial identity. In addition, several further factors, some of which have already been mentioned, could well make the story more complicated.

Centrality today is based more and more on a new "quaternary" sector of the economy, encompassing "all the agencies responsible for the registration, handling and diffusion of decisions, instructions and information across a wide territory".[15] Today, however, electronic developments have made redundant the necessity of a territorial concentration of such resources: Fleet Street has dispersed to Wapping and elsewhere, in the future maybe into the heavens. The temporal imperialism of the future may be radically different from that which has characterized Western Europe for more than a thousand years. Moreover, the suburban flight from the cities may have slowed down, but it has turned large parts of several cities into ghettos though we have not, and probably will not, reach John Carpenter's film nightmare of Manhattan, perhaps the most horrifying modern symbol of urban decay. Nevertheless, the rolling back of the state of the 1980's, where it has occurred, has adversely affected cities, forcing them simultaneously into competition with each other for scarce public and private resources, and into greater reliance upon state largesse. The one can regenerate local pride and identity, the other erodes it.

Then there are the problems thrown up by the new multiculturalism of Western Europe, which are more pertinent to metropolitan areas than elsewhere. Attention to date has been focused almost exclusively on problems of racial integration.

But it is also worth remembering that the immigrants to Europe also possess a territorial identity, albeit to their country of origin, no matter how remote, and that this territorial aspect can have an impact on the politics and society of the host country: the tensions in Britain, for example, between Sikhs and Hindus after the storming of the Golden Temple in Amritsar is a worrying indication of what might occur in the future. In addition, it is at times not quite clear whether the aims of

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15 S. Rokkan and D. W. Urwin, **Economy, Territory, Identity**, p. 8: see also J. Gottman, *Pour une géographie des centres transactionals*, **Bulletin de l'Association des Géographiens Français 385-6** (1971), pp. 41-49.

the immigrants and/or government policies directed towards them are aimed at integration or at what in effect becomes a kind of cultural apartheid.

A final factor for the future is the European Community. First, as 1992 looms nearer, it has become clearer that the Community operates economically along an axis that stretches from London, through Benelux and the Rhine to Turin and Milan, with a core that lies around the German Rhineland. While cities cannot do much about their geographical location, they, whether they lie on or away from the axis, within or outside the Community, may well have to develop strategies that will enable them to compete for resources in what could be a radically different environment, and one where they may not be able to rely upon the state for help. Some of these problems may be dissipated, of course, if the political dreams of the ardent Europeanists are realized. But if the European Community is to go beyond being just an economic market, then it needs some kind of commonality of interest at the mass level. And while it is clear that there are political consequences for the member states in perhaps every economic decision that is taken by the Community, what is strange (or perhaps not) is that when you look at the pronouncements of protagonists and of other academic writings on the Community, the possible political future is invariably projected in terms of the concept and construction of a state. There is hardly anything on the concept and construction of a nation, or if you like, a European identity. If that did occur, it would add a further complicating layer to those that already exist, and so perhaps produce serious political strains and conflicts. If it does not occur, perhaps the same strains and conflicts will occur anyway. If there is any one thing that history might offer the Community as a prime necessity for integration, then that one thing would have to be a single language. It would not guarantee success, but it would make it more likely than any other single factor. But with something like ten official languages and the big business of translation, this is one thing the Community is not likely to possess. As the member sates become more integrated politically perhaps as well as economically, the politics of territorial identity in Europe may acquire a new dimension that might be more serious in its implications than the disputes which the Community has had to face to date and which could be just as difficult to resolve as those which states have had to face up to now. In the longer run, this, as yet still unknown, quantity could well be the one which will have the greatest impact upon the territorial organization of Europe, and upon the place and fate of cities within it.

INFRASTRUCTURE

THE SPATIAL EVOLUTION OF FRANCE

by

Paul Claval

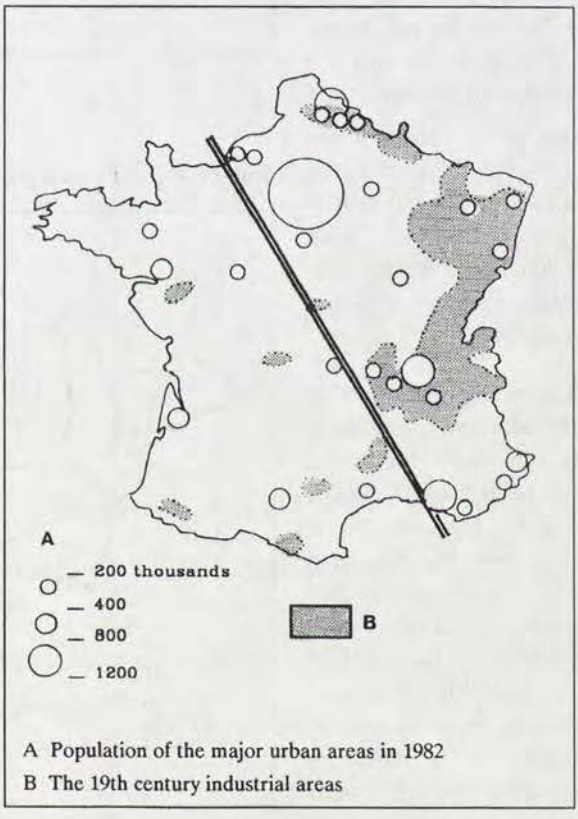
1. THE HISTORICAL SETTING

France is an old country, and many of the features of its spatial organization can only be explained through past conditions. Just after World War II, France had a population of 40 million people. Urbanization had been slow since the beginning of the 19th century. Urban population had grown from 6 to 24 million people in 140 years.

To the north and east of a line drawn between Le Havre and Marseille (cf. figure 1), industrialization was important. With this area France contrubuted to the commercial and industrial core of Europe (cf. figure 2). The highest population potentials in France were to be found on the dividing line between the two parts of the country (cf. figure 3). To the west and south of this line, France was still an agricultural country, but a few cities, mainly ports, benefited from the links with the French colonial Empire and from the economic relations with other Atlantic nations.

Regional imbalances were strengthened by the role of Paris. The tradition of

Figure 1: The boundary between industrialized and less developed France



A Population of the major urban areas in 1982
B The 19th century industrial areas

political centralization, evident since the early 17th century, was reinforced by Napoleon and continued without major alterations until the 1950's - to be dismantled only in the early 1980's. The political prominence was only one of the factors in the prosperity of Paris. At the time of the second industrial Revolution, in the late 19th century, the city became one of the major industrial centres in France. Its role increased during World War I. From 1913 to 1939, the French population grew by only 1.5 million inhabitants, and the whole increase was due to Paris. Hence, the success of the formulation coined by Jean Francois Gravier in 1947: *Paris et le désert français*.

The main opponents in the economic field were on the one hand the northern and eastern and, on the other hand, the western, southern and central regions. But other contrasts were evident. In the field of demographic behaviour, fertility was constantly higher in a northern crescent which went

Figure 2: The main axis of European development since the Middle Ages

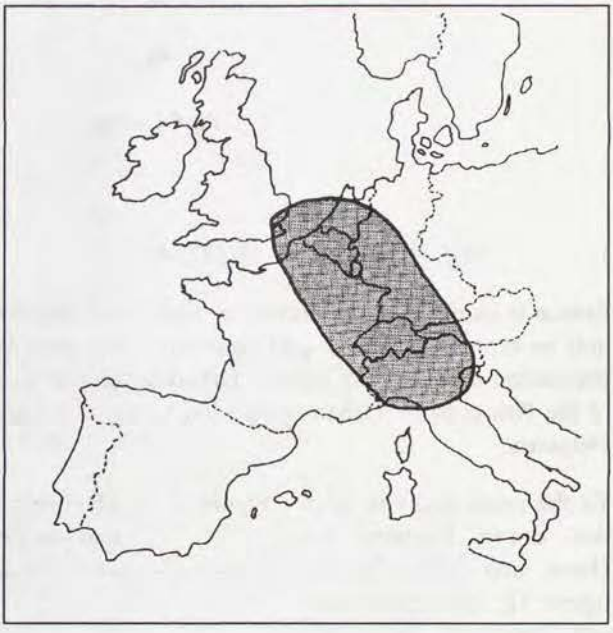
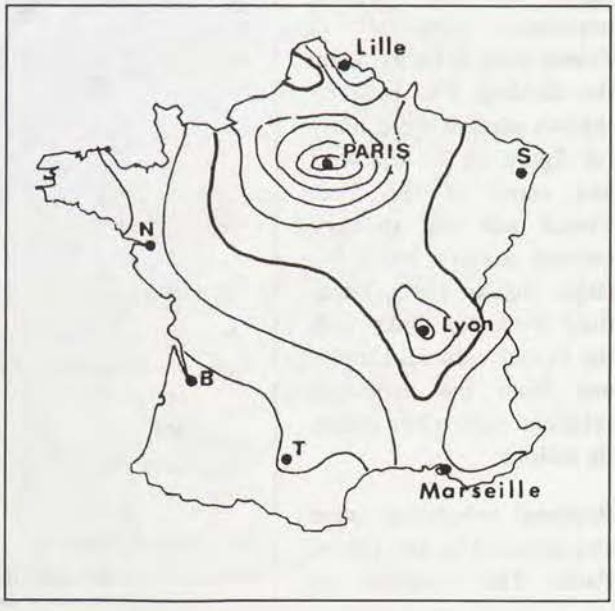


Figure 3: French population potentials in 1972



from Vendee and Brittany to Lorraine and Franche-Comte through Normandy, Picardy and the North (cf. figure 4). During the last twenty years, the northern part of France has experienced a sharp decline in fertility rates, but the rates are still higher than in the south, and, since the population is younger, the natality did not collapse as much as in other areas.

Since the beginning of the 20th century, the population of the southern half of the country has a higher level of education than the population of the north (cf. figure 5). During the 19th century the situation was different. With the growth of education, the northern regions lost their former advantage because of the traditions of the working class. Young men had to get independent early in order to marry and to have a family. As a consequence, since the beginning of our century, human capital began to accumulate more in the less developed part of France than in its industrial core. But until 1945, and often until the early 1960's, industries

Figure 4: French fertility rates in 1975

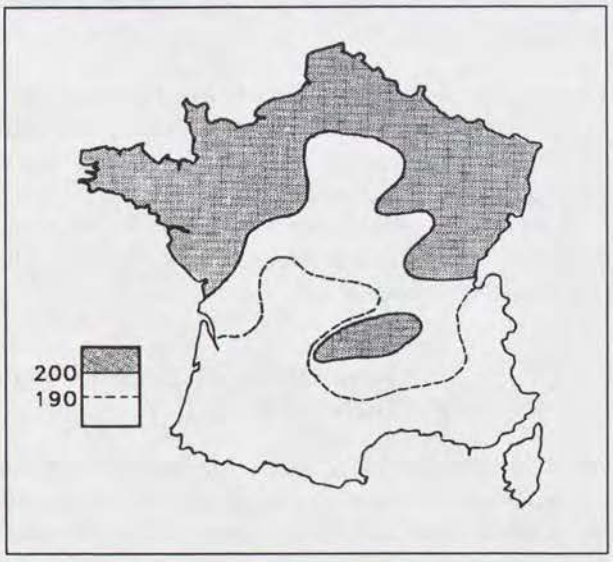
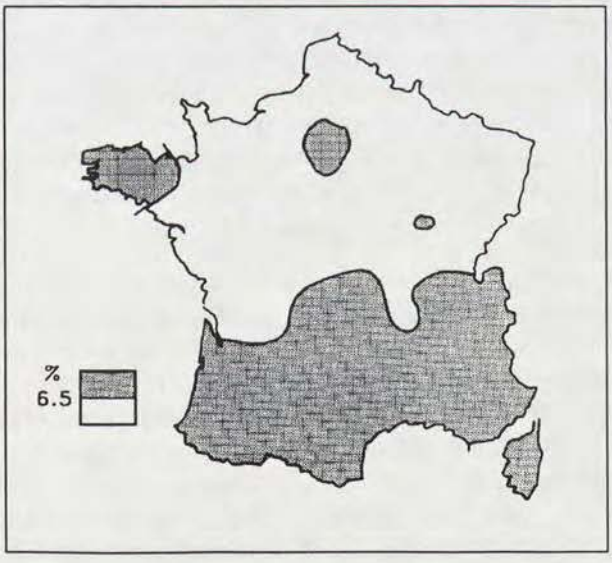


Figure 5: The diffusion of higher education in France
(Percentage of the population aged 25-35 with a *baccalauréat* degree in 1975)



relied on traditional forms of labour qualification. The difference in educational levels then had no significance for economic growth. This situation has now changed.

The creation of the EEC appeared as a threat to the peripheral areas of southern and western France, and, due to their "reinforced centrality", as a new chance for eastern and northern France as well as for Paris. But with the enlargement of the EEC to include Britain and Spain, the centrality of France improved. At the same time, new techniques of transport and communication gave advantages similar to those of the old centres to peripheral metropolises. The Atlantic facade still benefits from its international links.

2. THE DEMOGRAPHIC DIMENSION OF CONTEMPORARY EVOLUTION IN FRANCE

From the end of World War II to the mid 1970's France benefited, like the other western countries, from an exceptional period of sustained growth. With the increase of oil prices and stronger international competition during the last 15 years, the French economy experienced, a de-industrialization which struck the older industrial districts hard. However, economic growth went on, but at a lower pace.

Economic development went in parallel with a major phase of demographic expansion. The French population grew from 40 to 55 million within 45 years - the first period of rapid population growth in the country since the end of the 18th century. From 1946 to 1982, urban and rurban population jumped from 24 to 46 millions, which means that it practically doubled.

The most important factor explaining the French population development is evidently the natural fluctuations in the fertility rate. If the fertility rate had not changed in the early 1940's, the French population would today number about 28 million people! The rise of the fertility rate started in 1942 and lasted for more than two decades - until 1964. The natural increase at that time, was about 0.7 or 0.8 % each year, i.e. 300,000 or 350,000 people. Immigration was important, especially during the 1950's and, as a result, population growth sometimes reached over half a million people per year.

During the 1960's, the fertility rate began to recede, but immigration was still high. With the independence of Algeria, 1 million Frenchmen returned to France in 1962. There is still a natural increase of the French population, but that is only a result of the ageing process. The fertility rate is below 2 and, since the beginning of the 1980's, it is about 1.8. Immigration has been restricted, but it is now evident that, because of political refugees, and of the rights given to foreign workers to live in France with their families, it cannot be stopped . For the late 1980's, estimations give a figure between 120 and 150,000 immigrants a year, and the natural increase is of the same magnitude, which means that the French population grows by 250 to

300,000 people per year. During the whole post-war period, cities have absorbed all of the demographic expansion.

Demographic conditions are not uniform in France. The population is younger, with a significant natural increase in the northern parts of the country. Central and southern France have an older population. The natural growth is slow, and many rural areas and some urban regions, like the Côte d'Azur, experience a natural decrease. But inner migration is so important that urban growth does not reflect local rates of natural increase.

During the post-war years, the high fertility of the main industrial regions of eastern and northern France certainly contributed to their population expansion. Later, this compensated, at least partly, the important out-migration losses they experienced. This is still true of some areas, but in the north and in the Lorraine regions, the industrial crisis was, and still is, so acute that many young workers move to other areas. They go to Paris or to the southern parts of France, even if labour market conditions are not good there either. It is less dramatic to be out of work in a warm and pleasant environment than in the dreary industrial townscapes of the former coal or iron ore basins.

Internal migration rates are of increased significance in the evolution of French cities. During the first three decades of the post-war period, migration was dominated by the flow of farmers unable to keep pace with the modernization process. Today, this modernization process is practically over. There are still rural areas with small farms, but these farms are generally run by old peasants. Since the 1970's, the agricultural component of internal migration has been very small. In fact, many rural areas are now growing. This is the French version of the counter-urbanization process. These new dynamic areas are either suburban - urban sprawl is very important, especially in southern France - or areas attractive because of their scenery or climate.

3. THE PATTERNS OF DEVELOPMENT AFTER WORLD WAR II

During the first 10 years after World War II, the major problem was to recover as fast as possible from the War destructions and to rebuild the heavy industries that France needed. Economic growth occurred mainly in the former industrial regions, to a certain extent in the north, much in Lorraine because of the development of the only coal field which had been left underexploited, and in Paris where the more modern branches accumulated: drugs, automobiles, aircraft industries, machine tools and electronics, for instance.

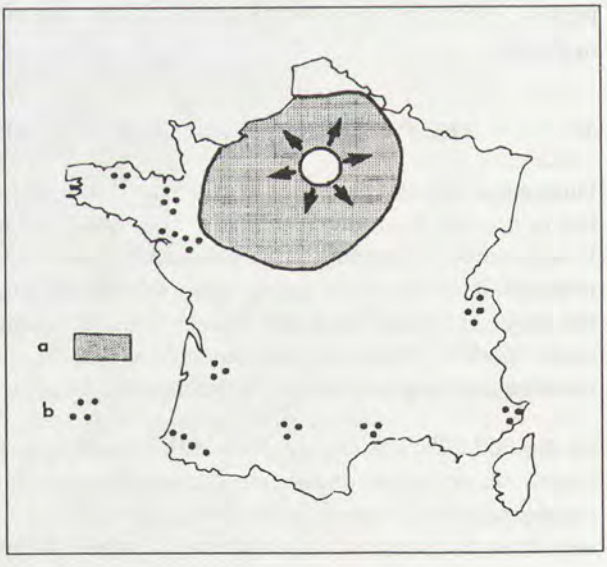
By the mid 1950's, a change occurred in the dynamics of industrial location. Like elsewhere, economic development came increasingly to rely on the use of more mobile sources of energy - oil, natural gas and electric power. Practically all the new lines of industrial development belonged to light industry (petrochemicals

being an exception). With modern transport conditions and more mobile forms of energy, the range of sites suitable for industrial locations grew rapidly. When considering only the transport component of costs, the whole country appeared to be eligible for industrial growth for the first time in history. Hence, the idea that new patterns of industrial activities could initiate a general counter urbanization. The rising land prices in the inner areas of the major cities were anyway leading to some form of industrial decentralization.

Other factors were really more important to the location dynamics. Communication costs were at that time generally ignored. Their role was nevertheless prominent. Modern changes in the economics of communication were just starting. The full impact of the computerization of many processes, of telecommunications and of air transport facilities were not yet effective. This means that the inner structure of enterprises was still traditional. Based on hierarchical structures and on authoritarian relations, the distance between head-offices and factories had to remain short in order to allow for frequent visits and inspections. The ideal was to travel both ways on the same day, with time enough left for working efficiently at the visited place. With the prevailing facilities of the time, either roads or railroads, it was difficult to move further than 200 or 250 kms (cf. figure 6).

Until the mid-1960's, communication constraints were such that it was difficult to take advantage of the new transport facilities. The only places where it was easy to locate new plants had to be close enough to the major control points of the French economy to allow for easy visits - close enough to Paris, generally. For about 10 years (1955-1965), the regions which benefited mostly from the new possibilities for industrial locations were the central Parisian basin, the Loire valley, the Western part of Burgundy and the eastern margins of the Armorican tableland. Even with the incentives offered by the central government,

Figure 6: Decentralization in France
a Main operations between 1955 and 1965
b Successful new industrial developments after 1965



the effective decentralization did not benefit the regions where employment problems where acute, in western, central or southern France.

By the mid-1960's, the spatial equilibrium of companies began to change due to achievements in the fields of computers, telecommunications and air transport. The control of branch factories became easier and more permanent due to the possibilities offered by telecommunications and computers. The centralization and information processing could be achieved at a low cost in whatever location, even if distances between the different offices and factories of a firm were great. Since control was made easier, authoritarian human relations were no longer needed. It appeared more advantageous, for the dynamism of the whole company, to ask for more initiative at all levels.

New forms of management developed because of the availability of modern telecommunications, but this did not, as many people still think, reduce the demand for personal contacts. Face to face relations are more necessary than ever, since it is now important to evaluate the propositions of the local branches, which means that people from the central office have to visit them, or receive their representatives. Thanks to air transport, such journeys are less time consuming than before. It is possible to visit a factory 2,000 km away and to return in one day. The radius which is open to the location of the factories of a firm is ten times greater than before - and the *area* has increased by a factor of one hundred.

Until the mid-1970's, French entrepreneurs did not fully take advantage of the new conditions. They were still thinking of their productive *filières* as national ones. There were international markets for raw materials and for energy, and international markets for final goods, but all the intermediary processing was normally national. As a result, industrial decentralization occurred only within France.

Until 1973 and the first oil crisis, industrial development was still relatively important in France. The regions which attracted the new factories were increasingly the metropolitan areas of western and southern France. The northern and eastern industrial areas are too close to Paris to enjoy good flight connections with the capital - and they did not offer the kind of labour qualifications which was needed for the new activities. The new industrial geography reflected the dramatic change in contact potentials within France.

After 1973, de-industrialization began everywhere and the 19th century industrial core was badly hit. New employment appeared mainly in the service sector of the economy. For the enterprises, the main problem was to remain competitive on enlarged markets - the E.E.C. first of all but, increasingly, the World. Even if the techniques were basically the same as fifteen years ago, spatial strategies had to change in order to meet the new conditions. For firms of the western world, success is now mainly tied to their ability to develop new products, and in devising new ways of selling and establishing new types of distribution networks. More than

before the growth of firms depends on their ability to acquire and process data needed for developing new strategies.

Modern enterprises have to rely on excellent connections with the world market in order to withstand new competitors, to discover unexploited demand or to sell their software to producers able to capitalize on cheaper hardware or labour. The important thing today is to be present on a network of relations extended all over the world. Hence, the new significance given to the major control points for the location of head offices, research and development ventures and commercial activities - to control points with high contact potentials at world scale.

With deregulation, the world flight network has more than ever become structured around a small number of major hubs. These hubs are the best locations for service activities and for the head quarters of big firms. The possibility for a nation to compete in the new world system depends upon whether or not there are one or several major international hubs present in its territory. That is a prerequisite for attracting head quarters and central offices of firms, for having access to innovation and for getting credits from the major international banks.

France owns one of the major metropolises of Europe, Paris, and two minor hubs in the network of international relations: Nice and the French part of Geneva. Data about office building and the location of foreign firms clearly show that a rapid growth is occurring there - at least in the sector of control activities. In Paris, where the decline of traditional industries still is rapid, the population is not growing very fast, but the restructuring of the whole area is going on steadily.

Nice is a much smaller centre, but its control and productive activities are growing. It has ceased to be only a sea resort. The Sophia-Antipolis *technopole* is now a success, and I.B.M. has chosen to locate some of its European activities there. The French part of Geneva is attractive mainly for high-tech activities linked with the European Centre for Nuclear Research.

Major provincial urban centres, like Lyons, Toulouse, Bordeaux or Nantes, and some middle-sized ones, like Montpellier, have experienced a dramatic change in their activities during the last 15 years. Thanks to their good flight connections with Paris, they have attracted offices and factories. Today, they try to improve their links with major control points all over Europe - London, Amsterdam, Frankfurt, Milan, Madrid, Barcelona.

The growth of French cities is more and more strongly correlated with their position in the international flight network. Paris has lost a great part of its industrial basis because of the decentralization policy and the economic crisis, but the "office sector" of its economy is booming, and some branches of industry are thriving - either new ones, like semi-conductor construction and electronics, or more traditional ones, like the "fashion sector" of the textile industry. All this is stimulated by the unification of the European market.

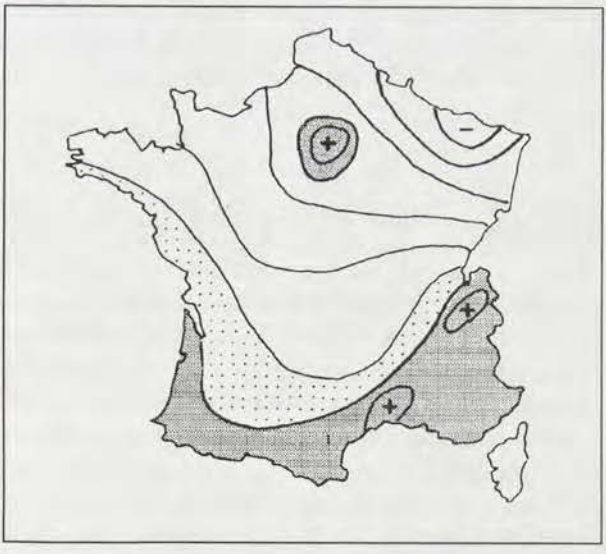
4. DEVELOPMENT AND MENTAL MAPS

The spatial preferences of Frenchmen did not play an important role as long as the majority of households had to settle where the jobs were, and as long as transport costs weighed heavily on industrial activities. Conscious of this situation, the decision-makers built mental maps of the possibilities of French cities and regions which certainly reinforced the concentration of activities in a few areas of northern and eastern France. This situation has now changed.

All investigations show that France is structured as a field where the preferred areas are to the south and to the west, and the less popular ones to the north and to the east (cf. figure 7). But the map is striking because of some peculiarities: the less desired areas are situated near the German border, in Lorraine (the scores of Alsace are significantly higher) and in the North region. Brittany, in the west, is in a better position, even if its mental image suffers from its rainy climate. The scores are higher in the Loire valley and in south-western France. The coastal belt and some middle-sized cities in this areas are very popular (La Rochelle, Bayonne-Biarritz, Pau, for instance), as well as a regional metropolis like Toulouse.

The Central Massif is generally not highly ranked. The same holds true for the Jura Mountains, Burgundy and the Saône valley. The contrast is sharp to the Rhône-Alpes region, which is very attractive except for some of its parts - old coal-mining cities like Saint-Etienne suffer a bad image, and Lyons itself is not as popular as its cultural dynamism would let you expect. But middle-sized cities in the Rhône valley, like Valence, and all the urban centres of the northern Alps - big ones like Grenoble, or smaller ones like Chambéry and Annecy - are much prized. It is, in fact, this part of France which ranks highest in the general preference order of Frenchmen.

Figure 7: Mental maps of students in France



The Mediterranean part of the country gets high marks, but not as high as might be expected. For many young people, the Côte d'Azur is associated with the idea of holidays, but the region is considered too crowded, the population too old and the land and

housing prices too high to settle there on a permanent basis. The image of Côte d'Azur is certainly more prized by foreigners than by the majority of Frenchmen. West of the Rhône delta, some cities rank higher, even though they are much smaller: Montpellier is the second best medium sized city (after Annecy) for young Frenchmen.

It is difficult to compare the attractiveness of Paris with smaller cities. There are so many people with relatives in Paris and so many people with an experience of life there, that the image of the French capital really could not be bad. But there are signs showing that its attractiveness is not as good as it was a generation ago. The city is still attractive for young women, but the majority of young men prefer the opportunities offered by big or medium-sized provincial centres. Today, such centres are well managed, their cultural life is active and many of them are offering interesting opportunities.

Certainly, it is easier now to find a job in the Parisian agglomeration, but the high cost of housing and the problems common to all big cities in the world prevent many people from settling there. A lot of people leave Paris when they retire. As a result, since the beginning of the 1970's, the net balance of migration of the French-born population in the Parisian agglomeration is negative. The situation is different with French Antillans or Reunionese, and with foreigners - which means that the proportion of foreigners has grown significantly during the last 20 years.

French enterprises are increasingly aware of the location preferences of the people that they employ. During the early 1960's, the policy of industrial decentralization was very active. Enterprises could no longer develop their activities inside Paris. They had to move out. But for many of them this was a bad experience. Highly qualified engineers, technicians or executives refused to leave Paris. They did not wish to live in small provincial cities with no facilities for higher education and a very poor cultural life. The resistance to relocation came less from the employees themselves than from their wives. Thus, moving out these firms lost a good part of their human capital.

In order to be successful decisions to decentralize had to be reached through another procedure. Companies had to start by searching for locations suitable for their production. Studies about accessibility, transport costs and land charges were made, and contacts were established with local authorities since they were often willing to allow financial advantages to the decentralized enterprises. When 3 or 4 possible locations had been selected, a referendum was organized among the wage earners. Special attention was given to the reactions of the most qualified. It soon became obvious that the North and Lorraine regions were not popular at all, and that Brittany had supporters, but often only a minority. A general agreement was easily reached for the medium sized cities in the Parisian basin, for the northern Alps and also for many locations in the south-west or in the south-east. Out of experiences gained in the 1960's, new mental maps developed among business men.

The whole Parisian basin and many areas in the southern and western half of France began to be considered sound.

The new geography which was built in France during the last thirty years is a compromise between the spatial preferences of households and the spatial constraints of enterprises. The former industrial regions - in the north and in the east - suffered from the exhaustion of their mineral resources, from their poor image among the majority of Frenchmen, and from their low accessibility in a time when air transport was becoming essential. At first the Parisian basin benefited by favourable mental maps, but its cities did not experience the rise in accessibility caused elsewhere by good air facilities. Since the beginning of the 1970's, economic development is more rapid in the major provincial cities which enjoy good flight connections with Paris, and in a radius of about 50 kms around their airports.

Counter-urbanization is not a general process. It is limited to a suburban ring, and to some rural areas of southern France - mainly in Provence and Languedoc - where it is possible to enjoy a pleasant climate and to have access to high-quality services.

5. A NEW FRENCH GEOGRAPHY

Today, France presents many new features of spatial organization. The fast productivity growth in the farming sector explains the much intensified rural exploitation and depopulation. With the upcoming over-production of food, agriculture will shrink in many areas, especially in the marginal lands of central and southern France.

During the last forty years, industrial development and urbanization benefited many areas. Through this process some degree of equalization was achieved in the development of the different parts of France. The old industrial regions were the first to benefit from the exceptional post-war development. From the mid-1950's on, the central Parisian basin and its eastern margins were more dynamic. Later, growth was experienced also in the former periphery, in the southern, central and western parts of France.

However, equalization did not mean uniformization. Huge industrial concentrations still characterize mainly the older industrial areas of northern and eastern France, and the new coastal industrial complexes of the lower Seine valley and of Marseille. The cities of the Parisian basin display a type of development based on light industries. The big and middle-sized cities of southern and western France owe their growth to high-tech industries, and to tertiary activities.

Notwithstanding the de-industrialization process of the last fifteen years, the most industrialized regions are still in the northern and eastern parts of the country. Elsewhere, industries are linked to the urban network, to its middle range around

Paris, and to its upper range in other areas. Suburban expansion has become widespread, but it has produced different types of settlements depending on where it took place. In the northern areas, where industrialization started early, the *zones de peuplement industriel et urbain* or Z.P.I.U., are very extensive, and they are not necessarily linked to any major central city. Elsewhere, suburbanization occurred along more classical lines. It is more pronounced in the urban agglomerations of western and eastern France than in the central or northern parts of the country.

During the period of rapid growth of the 1950's and 1960's, the only way to cope with the housing problem was to industrialize the housing industry: hence the monotony of the towers and high-rise blocks apartments in *grands ensembles*. There is no city in France without its high density social housing development of the 1950's and 1960's. This development is generally less pronounced in the western and south-western regions, where the preference for low density housing is strong.

The new urban France of the 1950's and 1960's was certainly a cheap one. At the same time, huge investments were made in many depopulated rural areas to transform closed down farms into second homes, or to build new housing. It is certainly one of the paradoxes of the era of high growth in France that the efforts to improve the quality of life were more significant in the rural parts of the country, which were rapidly losing its permanent population, than in the urban areas which experienced the bulk of their population growth and were poorly designed and equipped.

As early as in the beginning of the 1960's historical preservation, under the aegis of Malraux, became one of the main objectives in some cities, but more constructive attitudes towards urban environments had to wait until the early 1970's to be accepted all over the country. By the mid 1960's, an ambitious policy for the creation of new touristic areas was launched, and efforts were made to improve the older ones.

The results achieved during the 1970's and 1980's were in a way less impressive than those of the 1950's and 1960's. The rate of growth was lower, and deindustrilization and economic recession severely struck the 19th century industrial areas of northern and eastern France. But the generalization of a new concern for environmental management and urban quality contributed to important transformations. Today, the geography of France is in a way more sensitive to the preferences of Frenchmen. The dynamic cities, for instance, are situated in those parts of France to which many Frenchmen would be glad to move. But the growth areas cover only a small part of the French sunbelt - areas within a radius of about 45 minutes around the major provincial airports.

Even if the new geography is more in harmony with French spatial preferences, it is impossible to accept the decline in population concentration that has taken place in northern and eastern France. It is normal that they should incur

employment losses since their natural resources are now exhausted, but their location, in the core area of Europe, is good in the 1992 perspective. How do you build new opportunities on this advantage?

6. THE LOCAL GOVERNMENT AND SPATIAL PLANNING IN FRANCE

What was, and what is, the influence of local governments on economic growth and on patterns of urban development? The possibilities offered to city mayors - especially the mayors of big cities - are important. With the decentralization policy, they enjoy the possibility of launching initiatives in many fields. Since the early 1950's, the municipal governments tried to attract activities in order to enlarge their fiscal basis. From the mid 1950's on they have launched many industrial estates, and made them increasingly sophisticated. At the beginning of the 1980's, they began to revamp and sell them under the name of *technopoles*. The idea is to attract high technology activities. Many conditions have to be met in order to succeed: an attractive urban atmosphere for engineers and executives, good universities and laboratories linked to the local industries, good flight connections with other major cities in France and in Europe.

Improvement of urban landscapes and urban life is, in this perspective, a key to economic success. This is the reason for the fact that so strong efforts have been made in that field during the last fifteen years. The development of new airlines is also instrumental for raising the competitive position of cities. Municipalities and Chambers of Commerce have been very active in that field during the last thirty years. They have provided subsidies for the first few years since it normally takes some time before a steady flow of customers make a line profitable. During the 1960's, the objective was to foster good relations with Paris. Today, the objective is to develop international relations at the European - and, possibly, at the international scale.

The competition between provincial cities is very harsh, which means that many of them now have technopoles or technological parks, a more lively cultural life, a better managed environment and landscape, and a widening range of air lines using their airports. The attractiveness of the majority of French cities both for people and for firms has improved substantially. But for a city to be really attractive today, it is not sufficient to develop good local planning. The municipality has to improve the image of the city, to sell it. Grenoble achieved impressive results in this field during the 1960's. Today, Toulouse and Montpellier certainly owe a part of their dynamism to the "media quality" of their mayors.

In a way, the multitude of local development initiatives by French cities has become so great that few differential effects can result - except perhaps for the most publicized urban centres. Does this mean that municipal policies have had no impact on the geography of the country? - No, improvement of the environmental

quality is one of their major achievements. But many problems are difficult to settle at the municipal level since the size of the average commune is so small in France. The urbanized areas always consist of a large number of municipalities. Many attempts have been made to merge communes or to build metropolitan communities and governments. However, there have been very few mergers, and their results have been negligible. The metropolitan communities are rather loose structures, but they are effective in some areas such as public transport and sewage systems, waste disposal etc. It is more difficult to achieve results for industrial parks, because of conflicting interests, but there are also good examples of collaboration in this field.

Some big cities have refused to be integrated into metropolitan communities. This is the case for Marseille, mainly for electoral reasons. Among the big cities of southern France, Marseille certainly belongs to the less dynamic group. The port was severely hit by the Algerian Independence, and many industries have disappeared during the last 15 years. But the French government has been very helpful and has provided many subsidies which have been instrumental for instance in the launching of the Fos steel works. In fact, the region of Marseille has suffered much from the lack of an overall structure. Local taxes have declined sharply because of the industrial recession. But it is Marseille that has to pay for many collective equipments, and it is Marseille that has the most severe unemployment problem in the whole agglomeration: 16 per cent of all adults are now without a job.

The problems of collaboration within the Parisian agglomeration are less acute, but they exist. For instance, it has been impossible to complete the second motorway ring, which is much needed, because of the opposition of a few communes in the western suburbs. The decentralization law of 1982 has given much more power to the local authorities without stipulating anything to further the establishment of administrative units that would be more efficient for planning purposes.

France has two other levels of local government - departments and regions - but, until now, these have been less active in the field of physical planning, except for road construction.

7. THE CENTRAL GOVERNMENT AND SPATIAL PLANNING IN FRANCE

Since the early 1950's the central government has shown an interest in spatial planning, but this interest has not always proved very efficient. The official doctrine has been dominated by one major objective, viz. to control the growth of the Parisian agglomeration. The book of Jean-Francois Gravier, *Paris et le désert français*, has remained central in regional planning policy even under new economic conditions. To curb the growth of Paris, new industrial developments in the city were banned. The idea was to channel the decentralized industries towards the

less developed regions of the western and southern half of France. Industrial growth stopped in Paris, but for years industries did not migrate towards peripheral regions.

The urban policy developed by the French government had many aspects. During the 1960's, the idea was to promote the *métropoles d'équilibre*. It was, however, a time when growth spontaneously favoured the middle-sized cities. Therefore, the goals were not reached. Hence, the decision, taken in the 1970's, to help the *villes moyennes* - but at that time, the metropolization process was working again in France. With the industrial crisis, the regional planning as developed by the DATAR (*Délégation à l'Aménagement du Territoire et à l'Action Régionale*) was increasingly geared to the redevelopment of former industrial regions, and urban objectives disappeared for a few years from the French planning targets. In 1982, a new orientation was taken. The central government began to promote *technopoles* in collaboration with local authorities, and subsidized them heavily. This was a new form of contractual policy for regional development. It was certainly a good idea to concentrate investment to the locations best suited for new activities. The first *technopoles* were developed in cities with a heavy scientific capital, like Grenoble, or near the best international airports, at Sophia-Antipolis for instance, near Nice. But local pressures were such that practically all the big and middle-sized cities were granted the *technopole* label, which severely limited public investment for each one of them.

What were the results of this regional and urban policy? - In a way, the growth of Paris was curbed, but the evolution of land prices in the core area of the Parisian agglomeration was such that industries would have move out of this zone anyway. Instead of being resettled, within a radius of 50 to 60 kms from Paris, they were dispersed farther during the 1950's and the early 1960's, mainly to a zone between 100 and 250 kms around the agglomeration.

From the late 1960's on, office development in Paris has been controlled. But for tertiary employment as well as for industrial production, firms mainly decentralized the most repetitive parts of their activities. With an increasingly competitive situation and with the necessity to improve productivity, this meant that the decentralized factories or offices were particularly concerned with employment cuts.

With the deindustrialization process, industrial decentralization has ceased to make sense. Within the context of the European economy, the concentration of offices to Paris no longer appears dangerous. It is certainly better for France to attract this kind of activity to Paris than to induce the search for weaker controls in London or in Brussels. For a few years, the creation of office space was practically free in the Parisian agglomeration. Recently, however, Rocard's government has moved back to the former policy.

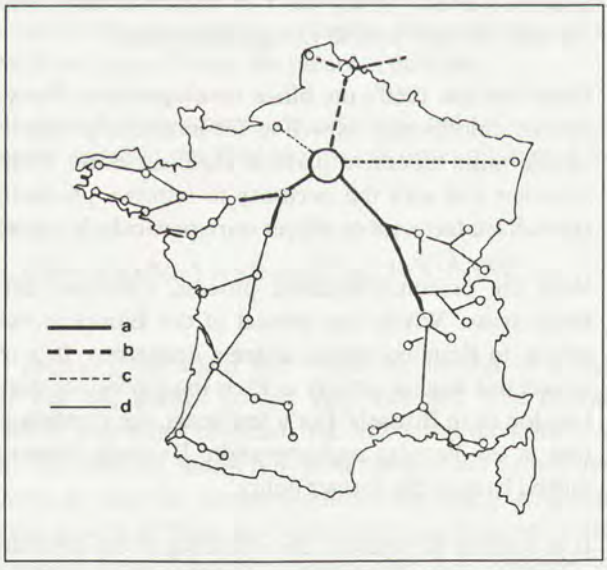
Is it possible to measure the efficiency of the decentralization policy pursued during the last 35 years? In the late 1940's, the population of the Parisian agglomera-

tion (about 5.5 million inhabitants) represented 23 per cent of the total French urban population. Today, with 9.5 million inhabitants, the proportion is 21.5 per cent. This suggests that the growth of Paris has been slightly slower than without the decentralization policy. But with the deindustralization of the 1970's and 1980's, the end result would not have been very different.

The spatial policy of the French government has also worked indirectly. The impact of new transport infrastructure was decisive. Today, for instance, counter-urbanization is proceeding very quickly along the Channel. British citizens have discovered that the price of second homes is lower in France than at home. They buy old farms in northern Brittany, in Normandy and increasingly in Picardy and in the northern region, with the "Tunnel perspective". Many of these houses are used only during summer time, but an increasing proportion is used permanently. Many settlers have retired from work, but the proportion of people who practice delocalized activities is growing, and commuting will be important as soon as the Tunnel will open.

The new trends in geographical organization, observed from 1965 on, were induced by new air transport facilities. Municipalities were certainly active in this field, but the bulk of airport facilities was financed by the central government. Today, many middle-sized cities have created good local environments, but their major problem stems from their poor integration into the new system of rapid relations. Since the mid-1960's this problem has had an easy solution for cities located more than 400 km from Paris. In this case air connections are the most efficient. If the population is over 50,000 people, a direct connection to Paris would pay off. Thanks to such a connection, it would be possible to attract some branch plants, and to facilitate

Figure 8: High speed railways in France (T.G.V. lines)
a T.G.V. line in operation
b T.G.V. line about to be built
c Planned T.G.V. line
d Standard line used by the T.G.V. system 1990



the growth of local enterprises.

Closer to Paris, there were no possibilities for improving the situation until the early 1980's. Here the situation is completely different with the High Speed Trains (T.G.V. in French). The south-east link, towards Lyons, proved very efficient in facilitating relations at distances of 200 to 400 kms from Paris. The T.G.V. by-passes small cities, but it can provide more important cities with new opportunities. Today, it seems clear that the T.G.V. can compete with air transportation on longer distances - up to 600 or 800 kms perhaps.

The major spatial planning decisions taken these last few years concern the northern and eastern links. The northern link is especially important, since it will give Lille and the North region an excellent accessibility. The northern provincial capital will be a major node on the T.G.V. network, very close to London, Paris and Brussels. All the north will benefit from this new situation from 1992 onwards.

The most efficient initiatives for correcting the spatial inequalities linked to the new location dynamics did not come from the central agency for regional development (DATAR). The railway engineers were the main agents of the most efficient form of spatial planning when they, in the mid 1960's, became aware of the feasibility of high speed trains. They succeeded in launching the Lyons link in the mid-1970's. It worked so well that a national network is now under construction (cf. figure 8). It offers the only efficient solution to improve the competitive position of many northern cities in France, since it improves their contact potentials.

Bibliography

Brunet, Roger: **Le redéploiement industriel**, Montpellier, Reclus, 1989.

Brunet, Roger; Sallois Jacques (eds): **France. Les dynamiques du territoire**, Paris, Reclus-Datar, 1986.

Claval, Paul: *L'avenir de la metropolisation*, **Annales de Geographie**, vol. 98, no. 550, Nov.-Dec. 1989, pp. 692-706

DATAR: **Atlas de l'aménagement du territoire**, Paris, la Documentation Francaise, 1988.

DATAR-RECLUS: **Les villes "européennes"** , Paris, la Documentation Francaise, 1989.

Drevet, Jean-Francois: **Les régions françaises entre l'Europe et le déclin**, Paris, Souffles, 1988.

Graver, Jean-Francois: **Paris et le désert français**, Paris, Flammarion, 1947.

Pumain, Denise: Saint-Julien, Therese: **Atlas des villes de France**, Paris, Reclus et la Documentation Française, 1989.

Todd, Emmanuel: **La Nouvelle France**, Paris, le Seuil, 1988.

Uhrig, Rene: **La France inverse. Les régions en mutation**, Paris, Economica, 1987.

THE QUALITY OF HOUSING

by

John M. Quigley

1. INTRODUCTION: THE THESIS

Traditional analyses of metropolitan development emphasize the role of basic industry in shaping the pattern and extent of long-run development within regions. Locational advantage in industrial production for export, or for entrepot activities, determines the spatial pattern of intrametropolitan development. The demand for labor, arising from the needs of basic industry, attracts households from other regions, stimulating the demand for housing and infrastructure. Households engage in a locational calculus, trading off the cost and unpleasantness of commuting long distances for the cheaper housing available in more remote areas. Subsequently, the development of population-serving business and industry occurs. This secondary employment is located at nodes close to the residences of primary workers, as firms compete to make their products accessible to the households who are final consumers of local products. Finally, the employees in population-serving businesses locate, seeking the same balance between commuting costs and housing prices described above. The competition of households for sites and the competition of firms for advantage give rise to the spatial pattern of metropolitan development observed in Western cities.

With institutional variants, this "story", emphasizing the locational advantage of export industry, can be made to fit the facts of metropolitan development in Stockholm and Boston, in Birmingham (UK) and Birmingham (US), and in many continental cities. A variety of formal models have been developed by planners and economists, estimating the magnitude of the linkages across sectors and verifying these causal patterns[1] using detailed data within cities. Figure 1 presents a general schematic of the development structure.

In this essay I question the relevance of this widely accepted view of urbanization to the explanation of modern metropolitan development and to forecasts of future

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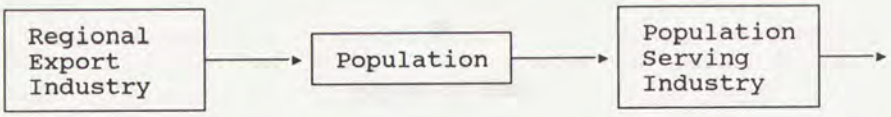
1 The first of the formal economic models was presented and estimated by Ira S. Lowry. See **Model of a Metropolis**, Santa Monica, CA: The Rand Corporation, RM-4036-RC, 1964. A review of planning models developed in the United States according to these lines is found in H. James Brown, et al, **Empirical Models of Land Use**, New York, NY: National Bureau of Economic Research, 1972. See also: Alex Anas, **Residential Location Markets and Urban Transportation**, New York, NY: Academic Press, 1982.

Figure 1: Schematic of Traditional Models of Metropolitan Developmant



development. In particular, I argue that the driving forces in shaping metropolitan development will arise more frequently from the spatial pattern of household location and the housing opportunities within metropolitan areas than from the inherent locational advantages of sites for production. The analysis rests on a few propositions about technology, demographic change, and about the nature of demand for housing and urban amenities. In part, these conclusions are based upon my work analyzing the San Fransisco Bay Area economy, and in part they are based upon a comparative analysis, undertaken jointly with Björn Hårsman, studying housing markets and firm location in a variety of European cities.[2]

This analysis is not to question the relevance of the conventional view of urbanization in explaining the historical development of cities. It does, however, suggest a more important leading role for housing and for residential amenities in affecting the future of the metropolis.

Section 2 below considers changes in production technology during the past three decades and the effects of those changes upon the location incentives for those industries exporting goods and services to national or to world markets and which, for the regional economy, function as "basic industry". Section 3 notes secular trends in factors affecting housing demand and household location. Section 4 puts together both the effects upon the spatial pattern of the demand for labor and upon the spatial pattern of labor supply.It considers how the local labor market is cleared. Section 5 stresses the implications for housing markets and urban amenities. Section 6 uses the theoretical construct to indicate a couple of great successes and some utter failures in policy. In this exercise, it uses the San Fransisco metropolitan area as a laboratory.

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2 See John A. Hird, et al, *Housing in San Fransisco: Shelter in the Market Economy*, Berkeley, CA: Center for Real Estate and Urban Economics, University of California, 1988; Björn Hårsman and John M. Quigley, eds., **Housing Markets and Housing Institutions: An International Comparison**, Boston, MA: Kluwer Academic Publishers, forthcoming.

2. TECHNICAL CHANGE IN PRODUCTION: LABOR DEMAND

During the post-war economic period, and especially since the decade of the 1960's, the character of the economic activities undertaken in advanced western societies has changed.

First, as has been well documented, manufacturing has become less important, and business services have become more dominant in western economies.[3] This shift to a greater service intensity has arisen for those products produced by national and international firms. But also within multinational manufacturing firms, the manufacturing activities associated with the actual production of goods are increasingly undertaken in developing countries with lower wages. Thus, in high fashion as well as in computer technology, the creative oversight may remain in Paris, Stockholm or San Fransisco, while the assembly of the apparel or the computer boards is rather commonly undertaken in South or Southeast Asia.

Second, technical progress has reduced the optimal scale for a great many types of economic activity.[4] Even among steel fabricating plants, electric furnaces have given rise to "boutique" firms producing at high quality levels or else utilizing scrap input. More generally, the economies of scale in firm organization or in production are exhausted at relatively low levels of output, and within a broad range, unit costs are increasingly insensitive to output.

Third, advances in transportation, communication, and computation technology have eroded the locational advantages of particular sites within the metropolitan economy (and facilitated many of the reductions in optimal scale noted above). Fax machines and computer terminals, electronic mail and on-line accounting, have all made it possible for firms to remain in close contact with suppliers or with the purchasers of their output without direct and daily face-to-face contact. Even firms in hotly contested "fad" industries can "look over each other's shoulders" without necessarily locating in close geographical proximity.

Within larger firms, business activities can be fragmented into several establishments within a given metropolitan area or in several far-flung locations. This permits those portions of firms with specific locational requirements to choose cost minimizing sites without constraining the rest of the firm to any particular location.

The confluence of these important trends in production technology has rendered alternative sites within the metropolitan economy far more substitutable in production. Stated another way, over time, differences in firm revenues or profits

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3 In the U.S., for example, between 1960 and 1987, personal and business services increased from 38.0 percent of Gross National Product (GNP) to 50.6 percent while the production of goods declined from 49.9 percent to 39.6 percent. See: **Economic Report of the President**, Washington, DC: U.S. Government Printing Office, 1989, Appendix B.

4 See Oliver E. Williamson, **Markets and Hierarchies: Analysis and Anti-Trust Implications**, New York, NY: The Free Press, 1975.

arising from the choice among business locations within metropolitan areas have become much less pronounced. These decreases in the sensitivity of profits to location have, in turn, enabled the firm to choose its site on the basis of other criteria.

3. DEMOGRAPHY AND HOUSING DEMAND: LABOR SUPPLY

The key factors affecting the residential choices of households in metropolitan areas are the time and money costs of commuting to work and the household demands for more spacious housing accommodations or for dwellings with higher levels of amenity. Here again, three factors, at work at least since the 1960's, have profoundly affected the location calculus of housing consumers who are also the suppliers of labor to the local economy.

First, the dramatic increase in female labor supply has increased household transportation costs. Two worker households are now the norm rather than the exception.[5] Two worker households typically mean two commuter households. To the extent that destinations and worksites vary for the workers within a household, the pull of the core or central business district, arising from lengthy worktrips to downtown, is further diminished. The effects of transportation costs upon location are now more complex, but they are also less affected by the monetary costs of commuting to the urban center. Associated with the rise of multiworker households has been a modest reduction in the demand for space, at least according to North American data.[6] This suggests that the pull to the urban periphery arising from cheaper land is also diminished.

Second, the reduction in transportation costs discussed above in the context of firms has had an analogous effect upon the location opportunities of households. Increased access has permitted households to consider more diverse locations, and to choose among a greater variety of housing accommodations at equivalent commuting costs. Significantly, this reduction in transportation costs has also made it easier for households (and firms) to consider different towns or suburbs as they choose among locations. Since in most countries taxes vary by town - either by property tax rates, as in North America, or by income tax rates, as in Scandinavia - fiscal factors increasingly enter into the location calculus of households.

Third, the rapidly rising household incomes of the past quarter century have led to increases in housing demand. Housing demand appears to be at least moderately

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5 For example, in the US between 1960 and 1987, the labor force participation rate of women increased from 37.7 to 56.0 percent and the ratio of female employees to female population increased correspondingly from 35.5 to 52.5 percent. See **Economic Report of the President**, op cit, Appendix B.

6 See Allan C. Goodman, *The Dynamics of Individual Housing Demand*, **Regional Science and Urban Economics**, forthcoming.

elastic with respect to income[7], and disposable personal incomes have increased by more than eighty percent in real terms since 1960, at least in the US. As noted above, however, the demand for housing size has not increased, probably due to the modest reductions in average household size observed during the period. The implication of this increase in housing demand, then, is a substantial increase in the demand for quality and amenity associated with housing, but not in the interior or exterior space associated with dwellings.

In sum, the metropolitan locations of households, who are the suppliers of labor to the local economy, have become less sensitive to the commuting costs to the core of the city and far less sensitive to the commuting distance to the core. At the same time, the suppliers of labor have become more sensitive to variations in housing quality and housing amenity in choosing locations and have become more sensitive to variations in local fiscal conditions. Differentiation of households by location is simply far less related to distance from the core and is much more closely related to amenity factors.

4. CLEARING THE LOCAL LABOR MARKET

Taken together, changes in the factors affecting intrametropolitan labor demand and labor supply have already had a profound effect upon metropolitan development and the location of economic activity in urban areas. On the demand side, these three changes - the decline of manufacturing relative to services, decreases in the optimal scale of production, and the advances in communications and computation technology - have all made basic industry much more footloose.[8] Firms which serve national or world markets can choose to locate virtually anywhere in the metropolitan area without affecting profitability, at least not very much.

On the labor supply side, the three major developments - the increased fraction of two-worker households, the reductions in transport costs, and the steadily increasing real incomes of households - have combined to make location decisions less sensitive to any orientation towards the city core and more responsive to intra-metropolitan variation in housing opportunities and especially urban amenities.

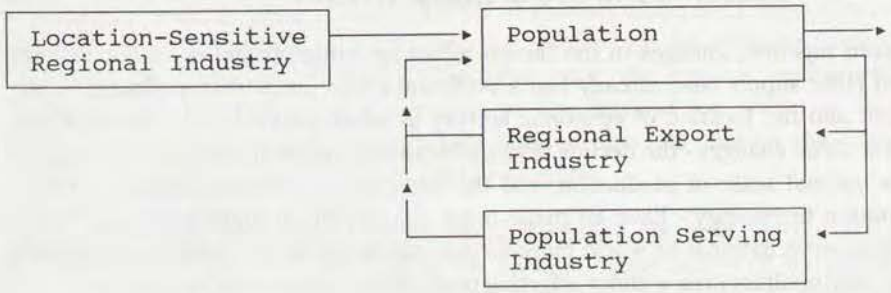
In combination, these influences suggest that, in the competition for skilled workers, those industries exporting out of the region will increasingly choose to locate in close proximity to their potential labor force. This has implications for both inter- and intra-metropolitan competition among firms. Across metropolitan areas, it suggests that firms seeking to attract highly skilled or highly qualified workers will be much more likely to choose the metropolitan area that offers a higher qua-

7 See Edgar O. Olsen, *The Demand and Supply of Housing Services: A Critical Survey of the Empirical Literature*, in **Handbook of Regional and Urban Economics**, Volume 2, Edwin S. Mills, editor, Amsterdam: North Holland, 1987.

lity housing stock, lower overall housing prices, or a higher level of housing amenity.[9] Within metropolitan areas, it suggests that firms will be attracted to residential concentrations of households of various types. Firms seeking to employ highly qualified workers will be more likely to seek locations in close proximity to the residences of these workers.[10] Larger businesses will be more likely to set up several establishments whose locations will be attractive to the kinds of local workers needed within each establishment.

This conclusion about the pre-eminence of housing (or, more generally, urban amenities) in shaping development is more or less the reverse of the traditional analysis of metropolitan development. Figure 2 compares this view with the traditional analysis in schematic form. In contrast to the historical analysis, the view outlined in this section emphasizes the common behavior of export industry and population-serving industry in their locational objectives.

Figure 2: Schematic of Revised Models of Metropolitan Development



Increasingly, the calculus of manufacturing or business services firms is similar to that of local retail establishments. The difference is that firms in the latter category locate close to households in order to be near their markets; firms in the former category locate close to households in order to be near their labor supplies.

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8 See Roger W. Schmenner, **Making Business Location Decisions**, Englewood Cliffs, NJ: Prentice Hall, 1982, for a discussion of the practical issues in making location decisions in this environment.

9 Rosen discusses this in the context of the California housing market. See Kennth T. Rosen, *Housing Policies for California in the 1980's*, **California Management Review**, Vol. 26, No. 4, Summer, 1984.

10 Schmenner, op cit, pp. 143-175, presents extensive survey evidence on this point, again from U.S. data.

5. IMPLICATIONS FOR HOUSING AND URBAN AMENITIES

This analysis implies that decisions about the level and diversity of the housing stock and the quality of the residential environment can be important tools in affecting the competitiveness of regions and the attractiveness of parts of the metropolitan area for business location. These tools can be particularly important in the location decisions of firms employing highly qualified or generally high income workers.

One implication is that regions, or parts of regions, with unusually desirable natural amenities - perhaps visual beauty, climate, or access to the sea - will probably experience continued competitive advantages in attracting firms employing highly qualified labor, at least as long as all these natural advantages are not fully reflected in competitive site prices.

A second implication is that areas in which highly qualified workers already reside are prime candidates for the location of new employment in business service industries, in high tech production, in back office activity, or in corporate headquarters.

A third implication, however, is that public resources devoted to improved environmental amenities may reap rewards over and above their initial impacts upon the well-being of residents. These investments, in pollution abatement, sanitation, public safety and improved access, may indirectly result in the retention or attraction of firms which would otherwise choose alternative sites.

A fourth implication of this analysis is the importance of tolerable housing prices, as well as the ability of citizens to make housing transactions, in metropolitan development and in the competitive condition of urban areas. The attractiveness of the region to technical and professional workers and to the firms which employ them may be heavily dependent upon the carrying costs of owner occupied housing. The attractiveness of the region to moderate income workers and the firms which employ them may be closely related to the rents and the availability of flats and apartments to immigrating workers.

6. TWO APPLICATIONS FROM THE SAN FRANSISCO BAY AREA

The alternative model sketched in this essay suggests that housing and urban amenities are becoming key factors in metropolitan development - in locating economic activity within the region, and also in allocating economic activity among metropolitan areas. In this section we present two scraps of positive evidence from the San Fransisco Bay Area about the truth of these claims, and also some evidence about the potential role for policy. In the first example, industry appears to have been attracted on the basis of available housing and local household demographics. In the second example, policy appears to be counter productive by making the

San Fransisco Area less attractive for new economic development relative to other regions in the US.

Competition Within the Bay Area: Export Industry in the Suburbs

During the decade between 1970 and 1980, labor force participation among men in the San Fransisco Bay Area declined minutely from 77.1 percent to 76.3 percent while the labor force participation rate among women increased by about 10.8 percentage points to 55.9 percent.[11]

Among all cities in the East Bay region - the area from the Bay Bridge, connecting San Fransisco to Oakland, to the Eastern edge of the region - female labor force participation rates increased fastest in the towns of Walnut Creek, San Ramon and Pleasanton. In 1980, the fraction of secondary school graduates among adults in these three towns was the highest in their respective counties. Of all towns in the East Bay, walnut Creek, San Ramon, and Pleasanton were three of the four with the highest household incomes.

During the five year period between 1980 and 1985, along the corridor formed by these three towns, office space increased from about 5 million square feet to 15.6 million square feet. It is estimated that employment increased in Pleasanton by 4800 or 53 percent, in San Ramon by 4500 or 85 percent, and in walnut Creek by 5000 or 13 percent. In comparison, the Bay Area as a whole increased in employment by about 5 percent during the period. Overall, the region surrounding this corridor, containing the highest income and best educated population east of San Fransisco, increased employment by some 30,000 jobs.

Firms locating along this corridor include major export industries - the Bank of America, Wells Fargo, Chevron Oil, as well as major law firms serving national client bases. A large number of the activities locating in the area have been either new establishments of existing firms conducting back office or else headquarters activity. Others were relocating single establishment firms in the service sector. Survey evidence analyzed by Berkeley's real estate center[12] indicates that three fourths of the firms locating in the area claim to serve more than the local clientele, and 54 percent of the firms serve national or international markets. About half of the establishments were branches of larger firms.

The same survey of locating firms along this corridor clearly demonstrates that a major reason for firms choices of these sites is a perceived labor force advantage.

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11 These and other statistics are taken from unpublished data tabulated by Cynthia Kroll, **Suburban Squeeze II: Responses to Suburban Employment Growth**, Berkeley CA: Center for Real Estate and Urban Economics, 1986.

12 Cynthia Kroll, **Employment Growth and Office Space along the 680 Corridor**, Berkeley, CA: Center for Real Estate and Urban Economics, 1984.

Survey responses indicating reasons for selecting space in the study area reflect the mixture of firm types and locations. The most frequently mentioned reason for site selection was the proximity to the residences of key employees and managers. Two fifths of firms mentioned this factor, and another 15 percent were concerned with proximity to the workforce. About 20 percent of larger firms (with more than fifty employees) were concerned with proximity to the homes of key employees, while 40 percent were concerned with the location of the workforce. Transportation access and the cost of space concerned one-fourth of all firms, and were of somewhat greater importance to larger firms.

Further, interviews with tenants in newly constructed space indicate that firms seek greater labor force availability, either through reduced commutes or by capturing secondary earners, and they seek a more highly educated local work force. Significantly, interviews with many of the largest developers and builders of the facilities suggest that they had chosen these building sites for similar reasons in anticipation of the demand.

Competition Between the Bay Area and Other Regions: Housing Affordability

The San Fransisco Bay Area is well known for its natural resources and mild weather, its relatively low levels of pollution and congestion, and its striking architecture, making it one of the most desirable locations in the U.S. in which to work and live. Per capita income in the region is sixty percent above the national average, and it has attracted the highest average educational level of any US local labor market.

Not surprisingly, housing prices are high. By August 1988, the median price of owner occupied housing in the region was $216,000, and prices had increased by 71 percent in six years.[13] In six years median housing prices increased from 1.8 times the national median to almost 2.5 times the median for the US as a whole. At current prices, only about one household in eight already living in the area could afford to purchase the median priced house, given widely accepted rules of thumb. In large part, of course, high housing prices are to be expected, given the desirability of the region. There are, however, strong indications that the regional price level for shelter has begun to act as a deterrent in the competition for new business activity.[14]

The question is whether governmental policies have acted to increase housing prices above competitive levels. Here the answer is almost certainly yes.

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13 These and other background statistics are discussed in Hird, et al, op cit, and Kenneth T. Rosen and Susan Jordan, **The San Fransisco Real Estate Market**, Berkeley, CA: Center for Real Estate and Urban Economics, 1988.

14 For a recent example from the popular press, see **Fortune Magazine**, Oct 2, 1989.

Reduced local government support in the wake of Proposition 13 (limiting property tax rates in California) and the federal cutbacks in grants for local services have made it difficult to finance expansion of the infrastructure and public services necessary for housing development. Because communities can not increase property taxes enough to pay for local services needed by new residents (schools, sewers, etc.), fees are imposed on new housing development, increasing housing prices. Because local revenues are roughly proportional to housing values and the demands for services are roughly proportional to the number of households, local governments have strong incentives to adopt zoning regulations requiring large amounts of housing consumption. These regulations, so called "fiscal zoning", are intended to require new residents to consume (and to pay property taxes on) more real estate than they would otherwise choose.

As a result, much of the new development excludes housing that could serve lower income persons. New rental construction approved at the local level tends to be small units that cater to older couples (who use relatively few local services); new housing for young families (who use many public services, particularly schools) is less widely available. The problems created by Proposition 13 are unresolved; in consequence, local governments continue to resist rapid development of housing.

In addition to these direct policy driven causes of high housing prices, there are a number of indirect market effects that arise from policy and which influence the local market. Important among these are bottlenecks and monopoly power.[15] Bottlenecks occur when housing demand exceeds supply and either prices do not rise sufficiently to clear the market (e.g., the rent controls adopted in nine Bay Area cities) or local land-use controls do not permit expanding supply. The result is the low vacancy rates that exist in many Bay Area communities.

Monopoly power can be exercised by developers who benefit from restrictive land use regulation, which limits the amount of land available for development and makes controlling local land markets easier. Complex administrative procedures, lengthy application periods, and other measures that typify Bay Area local development policies can induce monopolistic control of local land markets. Credible studies of development have found that the excess profits were largely attributable to constrained housing supply and the lack of competition.[16] In other suburban areas, the lack of developable land and high development fees have given dominant control of the housing market to a few large developers.

These indirect effects may exert a powerful influence over local land use and development. Any policies hoping to improve the present housing conditions in the Bay Area must recognize these important, though subtle consequences of such policies. Environmentalism and local land regulations preventing rapid growth are

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15 See David Dowall, **The Suburban Squeeze**, Berkeley CA: University of California Press, 1984.

16 See David Dowell, op cit.

supported by many Bay Area residents, especially since limitations on property tax rates have made it more difficult for existing residents to "profit" from additional housing development. Attempts to change this pattern are not likely to be initiated by local governments or their constituents.

The ultimate source of the problem is the balkanized pattern of building permit and land use regulation.

URBAN CHANGE THROUGH ENVIRONMENTAL INVESTMENTS

by

Duncan Maclennan

1. INTRODUCTION

The Shifting Policy Agenda

Urban change and urban policies have been high profile concerns of European academics and policymakers for almost two decades. In the 1970's there was a recognition that the economies and living conditions of "inner cities" were deteriorating in many, if not all, major cities. Now, on the threshold of the 1990's, there is a growing realisation that there are further social, economic and political changes both shaped by and reshaping the nature of urban areas. Technological change, population stability, ageing and labour supply shrinkage are now major social and economic concerns at the urban scale. Shifting perceptions of the role of the state in East and West Europe alike, most evident in the demise of centrally planned economies and the advent of the single EEC market of 1992, will also have major impacts upon overall European urban systems as well as particular cities. And, of course, urban policies are now better understood than a decade ago and in some countries, not least the UK, the longer term urban consequences of increasingly market oriented economic policies are becoming apparent.

It is unsurprising that in this context of change, national and local governments in many countries are reappraising the strategic nature of their urban policies. Whereas the agenda of the last decade has been dominated, in many countries, by "inner cities", "decline" and "the urban economic base", in the context of broader economic policies fostering "liberalization", "competition" and "deregulation" new perceptions and priorities now appear to be emerging.

In Europe, in particular, there is a recognition that "inner cities" are not always deteriorated and even where they are, they often form only a limited subset of the deteriorated neighbourhoods in European cities (Les Minguettes in Lyon, Biljermeer in Amsterdam, Botkyrka in Stockholm, and Easterhouse in Glasgow are all a long way from city centre locations). Nor is "decline" the only major problem. More typically within national systems, a decade of liberalised economic policies has exacerbated the coexistence of growing metropolitan cores (displaying congestion problems) with declining second-order centres (encountering the

externalities of decay). Finally, concerns about the sustainable quality of environments have come to supplement "urban economic base" issues and, as outlined below, there are now strong arguments for recognising the mutual interactions between the quality of urban life and the strength of the economic base of cities. In short, the keywords for the future of urban policy are no longer "inner city", "decline" and "economic base", but rather "deteriorated neighbourhoods", "urban/spatial imbalances" and "environment/economy interactions". None of these concerns are, of course, novel but their empirical and policy significance have increased markedly.

Learning From Research

In seeking new insights for urban policy it is natural to examine received academic wisdoms. However, without being dismissive of scholarly achievements in urban economics and planning in the last two decades, it is not readily apparent that academics have conceived a "theory of the problem" which is neatly appropriate to the emerging policy agenda. Indeed, the substantive section of this paper argues that it is often officials implementing large scale urban revitalisation programmes who have raised questions about and probed interconnections between issues which urban economists and geographers have given scant attention. This strong contention is justified in the following paragraphs.

Reflecting the policy concerns of the 1970's the last decade has witnessed the publication of a number of major studies of urban growth, decline and change within the advanced economies, see Hall P. (this volume). The "U" turn in urbanisation, with large cities losing population to medium sized cities, small towns and rural areas is well established. And within metropolitan areas the relative and absolute decline of central cities vis-a-vis their suburban peripheries has been clearly identified. It is worth noting, however, that these trends have largely been explained as the consequence of market processes, with an implicit assumption that they are "natural", even "inevitable" outcomes of unfettered choices by households and firms. In European cities this is a rather odd set of assumptions given the critical and extensive role of government in land-use planning and housing investment in the postwar period. Further, there is now tentative evidence that some previously declining North European cities such as Copenhagen, Rotterdam and Glasgow are beginning to stabilise in scale as "pro-inner" city policies have come to dominate previously "anti-inner" city housing investment programmes (Maclennan, 1987). The key point is that academic "reductionist" models of urban economic change may well have omitted key explanations of the patterns observed and in consequence generated an excessively negative expectation of the potential of restructured urban spaces. The Glasgow case study outlined in Section IV makes this point forcibly.

Top-Down Perspectives

The essential difficulty in utilising much of what has been learned about contemporary urban systems is that descriptions and models have been conceived at a "macro" or "top-down" scale. Urban economics offers us two, complementary explanations of the urbanisation patterns observed. First, the decline of central cities (and indeed the overall demise of some metropolitan areas) is explained by deindustrialisation, that is the relative deterioration of the economic base, of many previously prosperous cities. Secondly, in growing and declining cities alike, population and employment decentralisation have been explained by quite aggregative access-space location models. In the residential sector, for instance, it has been long and widely argued that growth in real household incomes had generated demands for larger, higher quality housing units and that these were inevitably provided on the periphery of urban areas. This model, which ignores the value that Europeans (at least) place upon urban environmental amenities and facilities, has pessimistic implications form core urban areas. The model disregards, conveniently for analysis but misleadingly for policy, the fact that social housing often constitutes between a quarter and a half of the housing stock in larger urban areas.

Both of these major analytical models are "top-down" in the sense that they perceive change to the economic base as stemming from outwith the local urban system (in the main) and that they conveniently disregard the detailed, complex structure of urban areas (hence the prevalence of the misleading aggregates of "inner city", "periphery" etc). Given the importance of "manufacturing export base" and "residential locational models" in shaping the economic perceptions of appropriate urban policies it is pertinent to probe them further and to consider how environmental and housing investment strategies fit into them. It is a truism to note that the economic health of an urban area is largely determined by its export base. The key omission in these arguments is any clear understanding of how the productive, and hence export, capacity of a city changes over time. It is implicit in "deindustrialisation" explanations of change that the locational advantages of North European cities are defined by access to raw materials, energy inputs, or transport systems which have now declined in significance (that is, the range of locational advantages traditionally examined in Weberian models). High unemployment rates, lack of entrepreneurial dynamism and widespread externalities of decay are usually cited as characteristic of such places.

At the same time it is recognised that there are a limited number of growing global metropolitan centres. These cities have expanded upon the basis of their ability to capture service jobs, reflecting centrality and essential face-to-face business contact requirements. In a restricted sense these are the cities of the "global village". The problem suite of these cities is concerned with traffic congestion, high and rising housing and land prices, encroachment into open space, infrastructure congestion etc. For instance, within different national systems, Hamburg co-exists

with Frankfurt, Liverpool with London, Lille with Paris and Stockholm with Gothenburg and so on. Ironically these intra-urban system differences, or imbalances, have grown in the 1980's (largely due to more "liberal" approaches to overall economic and planning policies) in the period of growing commitment to specific urban policies.

In this view of the world, "economic" solutions to urban problems have come to be narrowly defined. These solutions have focussed upon labour market measures, such as training and assisted labour mobility, or fiscal and planning incentives for firms to invest in urban areas. A "bottom-up" view requires a more detailed perspective on the structures of cities and, at the same time, a broader view of the range of factors and policies which may shape the local economic base.

The absurdity of describing the European urban residential system in "inner-city"/"outer-city" terminology has already been noted. There is now growing evidence from the U.S.A. (see Summers and Linneman, 1989) that such crude regionalisation ignores important patterns of intra-urban change in American employment. Fast growth employment areas, especially in the CBD, can exist in declining cores. And this pattern has implications for city image, land prices, transportation etc. which all impact upon the competitive position of the urban area as a whole.

A number of authors have argued that the spatial structure of a metropolitan area can have a major influence upon its growth capacity (see Parr, 1979). But, this valid argument has been largely focussed upon patterns of labour supply and demand and their connecting transport infrastructure. Here it is suggested that the residential and environmental patterns within cities, summarised as the mosaic of neighbourhoods, can play an important role in facilitating of forestalling the economic well-being of cities.

The importance of intra-urban structure, and the need to consider the wider economic implication of residential and environmental systems in urban economic change (that is in partly determining the economic base of cities), become obvious if the 1980's experience of European and American "rustbelt" cities is considered.

It has become apparent that there are local and national policy actions in the residential and environmental sectors which can raise the competitive position of particular cities. In the pre 1950's era raising urban competitiveness, as noted above, meant gaining comparative or absolute advantage in relation to the Weberian locational factors - raw materials, transport costs, labour costs etc. Resource discoveries can obviously still be key local growth impulses. But in an era of relatively footloose industries, other localising influences have come into play. Since the 1950's applied location decision studies have recognised the significance of the environmental preferences of investors, managers and workers. However, these observations have had little recognition in theories of or policies for urban economic change. Now applied locational analysis stresses the significance of

having a regional hub-airport, access to an easily organised, quality workforce, a good local environment and a strong local cultural context. In short, the character of the urban residential-environmental sectors can be critical in directly attracting firms or indirectly localising investment as labour locates in preferred environments.

A formal model of the role of the housing and environmental sectors in influencing the export base of a city is outside the scope of this paper. However, given some global demand for a product, a city's export of that commodity will be a function of its output price vis-a-vis that of competing spatial units. In turn, prices in the city will reflect "efficiency wages", the stock of private capital, the stock of infrastructure etc. Wage rates will, of course, reflect both the supply of and demand for labour. If environmental and housing attributes attract employable population to the urban area, in effect shifting the labour supply curve outwards, then *ceteris paribus* wage rates will be lower. However, the same attributes may attract firms, thereby shifting out the demand curve for labour. Further, if workers employ a "net advantages" approach to joint labour market/housing market actions, then *ceteris paribus* required wage rates will be lower the higher its environmental and housing qualities are, given some price level for housing and environmental services (the latter including local tax rates).

Such interactions seem plausible given what is known of the behaviour of migrant households and firms. However, although the different sets of externalities associated with congestion and decline have been argued to be important in making decay cumulative in lagging regions and in frustrating growth in congested regions (and thereby influenced policies) little work has been done on the real nature of these patterns. This omission has been exacerbated by the assumption that "quality of life" etc. can be proxied by either city averages of crude "inner" and "outer" city stereotypes. Average values of environmental and housing attributes, and their associated prices, for any given city may tell us relatively little. The key issue is how the available choice mosaic of neighbourhoods meshes with the changing pattern of labour market demands. Moving executives, moving manual workers etc. will have different effective demands for housing and environmental goods. So whilst city averages may say something about the generalised externalities of an urban place they say nothing about the specific choice sets available. A bottom-up perspective may be more pertinent. Similar remarks apply to the very aggregative "mental maps" of the "quality of urban life" which rank overall cities - they are much too aggregative to adequately explain migrant behaviour.

John Quigley (see this volume) has provided some evidence regarding such environment induced economic base changes in the "sunbelt" context of San Francisco. This paper argues that they may be even more important in older, "snowbelt" cities which have already incurred economic decline. Here Glasgow is examined both as a case of strong decay followed by marked regeneration. Before

proceeding to the Glasgow case study it is appropriate to put in place the basic elements of a "bottom-up" approach to the economics of urban well-being.

2. THE BOTTOM-UP PERSPECTIVE

For policy development purposes a "top-down" view of urban economies has resulted in:

- Failure to consider how housing and environmental investment can strengthen the local economic base.
- Failure to observe and analyse problems of congestion and disamenity in core and cities alike.
- Failure to disentangle spatial, sectoral and social causes of decay.
- Failure to identify thriving neighbourhoods close to central cities.
- Failure to observe that much of the negative effects of economic restructuring were not observed in "inner cities" but on peripheral suburbs, especially in post war social housing.

In developing a bottom-up perspective, to overcome the above difficulties, we need an urban economic analysis which not only includes the real spatial dimension of cities but which overcomes its traditional disciplinary isolation.

Developing a "Bottom-Up" View

The starting point is to emphasize that a city is a complex mosaic of social and economic neighbourhoods, with these sub-areas defined on the basis of real and perceived linkages, such as the space-time dimensions of household and firm activity patterns. That is the system which must be seen as not dis-aggregated but linked.

Interconnection is also the keyword within the neighbourhoods. When the actions of individuals in the real places in which they live, are examined then economic, social and political phenomena cannot be separated as they are in the classroom. For instance, in the context of neighbourhood revitalization, a citizens actions are not shaped independently of those of their neighbours - peer group, imitation and bandwagon effects are, arguably, the stuff of residential choice rather than minor expectations. Looking back 25 years, it is clear that Melvin Webber's prediction that transportation improvements would generate "non-place urban realms" was wrong because he underestimated the strength of local social interaction; culture, roots, ties and inertia (and this observation may also caution against the assumption that the "global village" is imminent). The research evidence of the last decade is that as household incomes have grown, "environmental" and neighbourhood attributes have high income elasticities and households have attached more and not less importance to the nature of their neighbourhoods. As a

corollary of effective preference diversity, neighbourhoods have become more specialized in the groups they serve - and not all of this spatial differentiation is income based. In short, if economists want to make any predictions about the future of neighbourhoods they must learn from sociologists, social anthropologists and others about how "preferences" and "culture" are developing. And there won't be a simple "inner"/"outer" city view.

Even more obviously, at the neighbourhood scale, as Hirshman has shown in his "exit - voice - loyalty" model, there are political as well as economic reactions to neighbourhood problems and opportunities. Residents can, via more or less formal participative democracy, resist imposed solutions quite successfully. More positively, collective resident action may generate solutions to problems not envisaged by urban planners (as a number of participation in design projects have shown). More pointedly, if population decentralization is not a "natural" economic phenomenon but partly induced, then urban change explanations must include a relevant political economy.

When patterns of urban structure are established, a number of academic contributors, for instance Segal 1981, have noted how it is possible to extend housing demand, supply and equilibrium models to a more general discussion of neighbourhood. And the role of housing in neighbourhood revitalization policy has been examined by Grigsby, Baratz, Galster and Maclennan (1987). However, few commentators then make the intellectual link to the "environment".

The "environment" may also, like neighbourhood, be conceived on a range of spatial scales, say from "Planet Earth" to a sealed "space capsule". As an urban resident in Glasgow, I recognize that there is a rural wilderness close by and I am aware that there are unseen environmental influences which have cumulative effects, such as fall-out from Chernobyl or the greenhouse effect. However, there is a more common, familiar and perceived day to day environment. At an intuitive level this environment consists of the physical and human systems with which one interacts on a day by day basis. A great deal of activity and interaction, for most households, occurs focussed around their residential location. When asked to describe their neighbourhood many households essentially describe their local environment. Neighbourhood revitalization, is therefore, in large part environmental upgrading, either directly or indirectly. And it is these neighbourhood-based interactions between housing and investment and the day-to-day environment which are the focus to the empirical section of this paper.

We can begin to build up the desiderata of a "bottom-up" analysis in the following way. For most purposes of housing and environment analysis, urban areas are most usefully conceived of as a linked set of disaggregated areas. These areas may be submarkets, product groups or neighbourhoods (see Maclennan et. al. 1988). These concepts are not exactly equivalent and the areas defined by the use of these terms may not be coterminous nor neatly nested. In general, however,

neighbourhoods will be the smallest of the geographic zones implied by these terms.

Neighbourhoods may be defined in a variety of ways. "Formal" areas derived from land use mix analysis can be identified but are conceptually inferior to "functionally" defined neighbourhoods. Functional approaches divide the urban area into "neighbourhoods" on the basis of activity, linkage and trading patterns of the individuals of organizations located at a particular set of points. Such a regionalization, based upon residential sector perceptions, has been examined theoretically by Galster using concepts of the conformity and congruence of such patterns for different users of the same space (Galster, 1984). There is, in this paper, no attempt to operationalize the building, the streetblock, the vicinity within half a mile and wider, named zones.

In identifying neighbourhoods or ad hoc zones, there will be a range of user groups of the space. These space users can be divided into broad sectors such as residential, retailing, manufacturing, public services and open space activities. And within each of these sectors there may be well defined groups, for instance in the residential sector, children, young adults and the elderly may have different spatial activity patterns within the neighbourhood and the wider urban system as a whole. As a starting point, therefore, each neighbourhood, N_i for instance, can be regarded from the choice stand-point, as a geographically defined product group containing a range of users. In brief, neighbourhood N_i is characterized by a vector of space users N_i

$$[\ (R_1, R_2, R_3 \ldots R_n) \ldots (M_1, M_2, M_3 \ldots M_n) \ldots (X_1, X_2, X_3 \ldots X_n)\ ]$$

That is, the starting point of a "bottom-up" understanding is a clear understanding of the neighbourhood geography of the city.

The second step is to recognize that the different user groups actually located within neighbourhood N_i, $[R^i_h, M^i_n; X^i_n]$ may have some direct locational linkage or interdependence. Some interactions may be traced and others exist as externalities. For instance, the numbers and incomes of particular resident groups will influence the profitability of local retail and service outlets through direct pecuniary transactions. On the other hand, the quality of design and appearance of retail outlets, via visual and noise externalities respectively, may impact upon local residents. Policies which seek to change areas through a specific sector have to take account of this sectoral matrix of interactions between different users of the locality. And it is precisely this matrix which would be of great relevance in planning efficient revitalisation policies.

Clearly there are potentially important residential-environmental interactions. Market processes may sort low income groups into poor environmental areas and high income groups into pleasant areas. Dwelling density may impact upon noise and congestion level. Poor dwelling interior condition may inhibit external

environmental upgrading and vice versa. Urban research in Britain has only touched upon these issues.

However, a concern with establishing what is within neighbourhoods and intra-neighbourhood reactions does not complete the research agenda. Otherwise charges of localism or spatial fetishism, levelled at urban geographers by Marxian and neoclassical economists alike in the early 1970's, would be relevant. The emphasis in the "bottom-up" approach is to stress inter-neighbourhood and inter-sectoral interactions.

Beneficial or harmful trading and externality relationships triggered by investment policies are not necessarily contained within the immediate neighbourhood - N_i - but may impact upon a range of other neighbourhoods within the metropolitan system. Some relationships may be spatially continuous, usually with some form of distance decay function. For instance, if housing rehabilitation greatly improves the visual quality of an area then adjacent neighbourhoods may enjoy intensive, positive externalities whereas more distant areas capture few or zero benefits. Equally noise "bads" from industrial activity may be locally confined whereas smoke pollution has a wider spatial range. Trading relationships may also be spatially continuous, most obviously in the retailing sector.

Some relationships may be discontinuous and leap across space. For instance, in a metropolitan area with a fixed number of households, upgrading neighbourhood N_i and providing additional units therein may attract residents away from areas $N_p...N_x$, even when they are not spatially adjacent. The impacts of upgrading in N_i may result in a fall in demand for property thus reducing prices and creating vacancies in Np. But in Nx, the new alternative of higher quality units in N_i may merely stop the further development of precious greenbelt land, the existence of which generates positive externalities. And in the commercial sector, competitive "shifting" is clearly a major concern.

In designing and evaluating rehabilitation policies, therefore, it is necessary to consider not only the intra-zone matrix of interactions, but an inter-zonal/inter-sectoral matrix must be identified. Clearly this matrix is nothing less than a spatially referenced, sectoral representation of an urban economy and in general there will not be enough data or perhaps even theoretical "imagination" to connect all of the relevant boxes. However, in analysis with a more ad hoc focus on specific, major, local interactions, the sectoral/spatial matrix is a useful reminder of what is ignored or assumed away in analyses which focus upon single sectors in narrowly defined areas.

A well researched "bottom-up" view of the city therefore requires:

- an identification of the neighbourhood structure of the city
- an assessment of residential and business location choices

- an understanding of the household activity patterns of the residents (how, when and for what they use the neighbourhood and other points and areas in the city)

- an understanding of manufacturing and service sector linkages and the input-output patterns of these activities

- an inventory of the local government (include public and private service provision)

One response would be to say that this represents an expensive, perhaps even impossible research agenda. However, the residential rehabilitation of older European industrial cities of between 500,000 and 1,000,000 in population is likely to cost between £1 billion to £2 billion. Much of this expenditure could be misdirected and wasted, and certainly never properly evaluated if policy is designed on the basis of information systems which exist in most European cities. In Glasgow since 1974, £1.5 billion has been spent on housing rehabilitation. The urban research effort has probably not exceeded 0.01 per cent of this budget and, in consequence strategies have had to be adopted and revised as large scale experiments have evolved. More pointedly, the annual wasted expenditure on green space upgrading in the period 1975-1980 (most of which had been ravaged and vandalized within 5 years) could have provided a bottom-up database to guide strategy development and monitor progress. Urban revitalization programmes could readily be compared to attempting brain surgery with sledge-hammers and large chisels.

Of course, the problems of representation and understanding become magnified when it is recognized that relationships extend over time as well as sector and space. Time is of essence in rehabilitation activity for a number of reasons. First, investment programmes create benefits and costs which occur in the future as well as the present. Indeed there may often be revitalization programme components, for instance pre-school education or infant medical care, which have no obvious impacts until a decade or two after expenditure commitments.

Second, the mix of activities at N_i, and their associated interaction networks, arise from the location and migration choices of households and firms. These choices are made in a context of temporal and spatial uncertainty, so that programmes may take time to establish investor and resident "confidence" in an area. This raises issues about the time path and critical minimum effort of investment required for revitalization. For instance, and of importance in this regard, the mix of public and private investment required to regenerate an area may critically depend upon how quickly investor confidence is established. The third temporal concern arising, is that the process of change may not be a smooth one. The high capital to land ratio of most urban investment may mean that area land use characteristics change only

slowly. It is important not to confuse slow, lagged adjustment with the eventual equilibrium. In the "inner-city" debate, for instance, poor residential and environmental quality of inner areas in the 1970's may have been a symptom of slow readjustment to an ultimately more favourable status. With this view the success of Docklands in London or GEAR in Glasgow seems unsurprising.

It is also important to recognize that if locational interdependencies and externalities are important, then the propensity of households or firms to move in or out of N_j may be affected by what other firms in the same of related sectors are doing. A decade ago von Boventer, (von Boventer, 1978) outlined the economics of "bandwagon" effects in small urban areas but they have had little application in urban economics aside from the issue of the changing racial composition of areas. They have had little formal consideration in revitalization programmes which are often trying to stimulate such processes. Policy design often, assumes that processes are linear and unchanging whereas the essence of "development" is non-linearity.

This rather lengthy critique of "top-down" approaches and advocacy of a "bottom-up" perspective is made not solely for academic reasons. Rather the "bottom-up" perspective would contribute to urban revitalization programme design in a number of essential ways.

1) Policies would start from a real knowledge base.

2) Areas for action would have to be identified on a strategic basis rather than on ad hoc partial or political criteria.

3) Crude geographic divisions such as "inner city" or "peripheral council scheme" could be avoided and this would avoid "blaming" location or tenure for the "causes" of decline.

4) The neighbourhood approach is explicitly multisectoral, and the limitations of employment or housing led programmes become readily exposed. The approach would suggest which sector could lead regeneration of particular areas (as this is likely to differ from place to place) and which supporting changes are required.

5) The approach draws attention to the zero sum "shifting" and "displacement" effects of spatially targeted programmes.

6) The approach directs attention to the required governance structure for programmes, including cross-sectoral coordination and resident participation.

7) The approach emphasises the dynamics of change and this is critical in identifying the role of the state. The potential scale and timing of public and private investments must be dependent upon the way in which change processes are to be triggered.

8) The approach draws attention to the temporal and spatial spread of programme costs and benefits. Such an identification is essential for adequate evaluation.

In the review of housing and environmental aspects of urban policies in Britain and Glasgow in the following sections it is clear that a "top-down" approach hampered policy development and implementation.

3. THE GLASGOW (GEAR) EXPERIENCE

The previous sections have set out a number of strong claims for the potential importance of housing rehabilitation and environmental improvement policies. The rest of this paper is concerned with illustrating these issues from the GEAR project in Glasgow. This choice is appropriate for two reasons. First, a decade ago the city was ranked as the most disadvantaged and environmentally deteriorated in the UK. Second, since 1974 the city has been subjected to a number of intensive revitalization policies which have now produced important and favourable results, currently reflected in Glasgow's status as European City of Culture for 1990. (See Maclennan and Gibb, 1988).

The renaissance of the quality of life for many, but not all, residents in the city of Glasgow has not been based upon any recovery in the local economic base (which continues to decline, if at a now decreasing rate) but because of major investment in the infrastructure, housing stock and amenities of the city. This change has been led by massive public investment with major influxes of private capital following strongly but with a protracted lag.

The paper alludes to experience in the city as a whole but particular emphasis is focussed upon the GEAR area and project. The GEAR project, which ran from 1977 to 1987, was the earliest and, to date, largest programme of integrated intra-city revitalization undertaken in any British city. The project was focussed in a zone covering just under 10 per cent of the city and its population (that is around 60,000 people) in the East End of the city.

The rest of this section is divided into a number of discrete sub-headings. The first outlines conditions in the city and the GEAR area in 1975. The next sets out the organizations and agencies responsible for implementing environmental and related policies in the city in the subsequent period. Patterns of expenditure, both by programme type and spatial area of impact are then described. There is then a consideration of the impacts of environmental spending on major sectors of the

local urban system, and in particular households and firms and indicates the important policy spillovers and synergies which arose.

The Context of Glasgow and Gear

In the 1770's the novelist Daniel Defoe described Glasgow as the "smallest and beautifullest" city in Britain. However, the century of rapid and sustained urban development from 1820 to 1920 produced a horrific urban landscape as the city grew from 40,000 to 1 million residents. The expansion of the local economic base was fuelled by the production of heavy industrial goods and the population of the city increased by 10 per cent per decade as the rural poor moved to swell the labour force. And much of this immigration occurred before the development of extensive mass transit facilities let alone private transport.

There were three aspects of this form of urbanization which still had an important influence on the area in the 1970's. First residential, industrial and commercial land uses were not completely separated. Thus the land use pattern juxtaposed low income households and large factories producing noise, smoke and congestion. And this is no mere historical footnote, in the GEAR area the last local metal works closed as recently as 1979. This complexity was reinforced by the fact that the pressures of early land prices resulted in dense development. In Glasgow, as in so many other North European cities, the response was to develop tenements. It was common for low income households to live in the upper floors of these 4 and 5 storey sandstone building units, for retailers to use the ground floors and small workshops to be inset into the backcourt spaces. A further important consideration is that, reflecting the low incomes of the residents, the majority of households rented their units from large scale private landlords.

The density of development (with households living at densities of around 100 persons per acre in central Glasgow in the 1950's), the admixture of land uses, the low levels of private open space, the polluted atmosphere, the smoke blackened building and the poisonous river flowing through the centre of the city all interacted to produce a low quality of life. However, the city and the GEAR area did not lose population or their underlying economic base until after the 1950's. As the dynamics of this process are rather important in understanding the role of subsequent environmental policies, a number of observations are pertinent.

The industrial decline of the city and the GEAR area was a consequence of two reinforcing processes. First, as in so many other locations, an increasing proportion of manufacturing industry in the region displayed throughout the 1960's a growing preference for uncongested greenfield sites closer to the edge of the urban area. For many central cities, this may have been a beneficial resorting of land uses. Second, the local industrial mix with its emphasis on older smoke-stack industries was ripe for deindustrialization and indeed the city and the region as an economic base. In the GEAR area, which is by no means untypical of older inner Glasgow,

the number of jobs surviving in the 1980's was around 20 per cent of those existing three decades earlier. Apart from their scale and early incidence there is nothing remarkable in these observations, the reasons for the associated reduction in population require more careful examination.

As noted in Section II above, the economic theory of residential choice, leads us to expect the population of core urban areas to decline as incomes grow and higher income households leave to seek larger housing units on cheaper land at the edge of the urban area. However, the sharp decline in the population of Glasgow, from 1.25 million in 1951 to 0.75 million in 1986, has more to do with housing and environmental policies rather than an income led rush to the suburbs. And, ironically, this is why housing and environmental policies have such a potency in revitalizing the city over the last decade.

Plant closures reduced the externalities associated with noise and noxious odours only to replace them with a new set of visible negative externalities. In the declining economy context, plants which closed were often not replaced and as a result vacant and vandalized plants characterized the city space. And public land, such as in the transport and dock system, also became derelict reinforcing the local and national image of decay and decline.

The major thrusts of policy in the residential sector reinforced this process. Tenements had been subject to strict rent controls from 1915 onwards and by the 1930's there was a sustained rate of disinvestment by private landlords. The city reacted to these slum conditions, and indeed had begun to do so in the 1930's not through a rehabilitation programme but via a massive urban clearance programme. This programme was never subtle in its design and implementation and almost entirely consisted of demolishing tracts of older tenements and rehousing low income residents in newly constructed areas of municipal public housing. From 1950 to 1975 some 300,000 residents were removed, and not by a market process, from the other older neighbourhoods of Glasgow. Around 100,000 were rehoused in new towns in Central Scotland, some 150,000 were relocated to new social housing estates around the edge of the city and the remainder were often housed in the multi-storey blocks reconstructed on central city sites. Much of this social housing was based on a very simplistic concept of housing which stressed internal amenity and size and little attention was paid to environmental provision and the preferences and employment locations of households.

It was this lack of regard for non-housing elements of housing policies which has created the key environmental difficulties which all confront the city into the next century. However, here concern is with the impacts that this wholesale clearance process, sometimes reinforced by the effect of intra-urban motorway provision, had on the older neighbourhoods. Often demolition lagged for several years behind the removal of residents so that vacant and derelict residential properties further detracted from the image of the city. And after demolition, land lay unused,

derelict and accumulating litter and illegally deposited wastes. Whole areas had moved from acute congestion to desolation in less than a decade. And in Glasgow even more than in most other declining British cities, there was a pervasive view that the deteriorated areas would largely remain so. It should be stressed of course that although the above process occurred on an unusual scale in Glasgow, they also occurred in most British cities, especially outside of the Southeast of the country.

The regeneration of central Glasgow did not spring from a land market-led reappraisal of the possibilities for the use of central city sites. Nor did it initially arise from a conscious public sector vision of how these areas could be reused. Rather it grew gradually, starting almost 20 years ago, from a policy commitment to replace demolition with a housing rehabilitation strategy in these locations which had not yet been cleared. And to a large extent, it is the spillovers from these processes which have upgraded the quality of older areas. These are considered below.

Policy Changes and Structures

The shifts in policy which began to have an impact on the city of Glasgow were not initially conceived of as a strategic, multisectoral strategy for the upgrading of the city. Such an approach did emerge with the GEAR project after 1977 but from 1967 to 1977 there was a long learning process. As housing rehabilitation policy became fashionable after 1968, encouraged by new legislation, the municipality began to improve a limited number of run-down areas largely by purchasing run-down units and then reletting them into the social housing stock after improvement.

However, the municipality very quickly recognized that their approaches to housing provision were too centralized and bureaucratic to achieve swift rehabilitation. Successful area modernization has to be based on a close relationship with the local community. They also recognized, after around four years of action, that it was often discouraging for residents to spend £15,000 to £22,000 upgrading the interior of a unit and not spend the 5 or 10 percent extra to clean the exterior to dwellings, to improve the streetscape and to radically restructure the backcourt spaces to the rear of tenements. That is, to create a new neighbourhood environment.

New legislation was introduced in 1974 in order to facilitate area based housing stock improvements. These small areas, known as Housing Action Areas, did not possess the even limited environmental improvement powers of the General Improvement Areas developed in English cities at the same time. More than 50,000 tenemental units in the cities were identified as being in need of major upgrading.

The municipality, which had the powers to declare these housing action areas, with subsidies largely flowing from central government, could have identified three agents for action in these run-down areas. They could have used a municipal approach but this was quickly rejected for the reasons noted above. On the other hand, the city took the view, and quite correctly, that rehabilitation was not likely to be led by private investors, even with the substantial grant aid for improvement (at times as much as 90 percent of the cost of works). Existing landlords were until 1989, subject to strict rent controls so neither internal nor dwelling exterior investment was forthcoming. Some 40 per cent of households in these areas were owner occupied, but were often poor and elderly and the required reconstruction costs were often well in excess of the cost of improvement to the statutory standard

A further constraint of older area revitalization was the impossibility, into the mid 1970's, of attracting higher income households back into older neighbourhoods. Research completed to the University of Glasgow in 1976 demonstrated quite clearly that although some 20 per cent of the higher income house purchasers in the wider urban housing market would have liked a more central location, they were largely discouraged from doing so, not by the size or quality of properties (which they would have upgraded with grant aid) but because they found the environment of derelict land, vacant buildings, litter and uncleaned structures distasteful. That is the externalities produced by decline and clearance blocked the re-utilization of central area space. And such adjustment was further blocked because house developers, in the absence of any market signals, assumed that there were no demand groups with central city preferences. Further, the building societies who finance the purchase of housing units in Britain, reacted to central city decline by reducing the amounts of loans offered in difficult locations. In short, environmental conditions in older areas effectively blocked the efficient operation of housing and land markets in the city.

From 1974 onwards, the city resolved the dilemma of rehabilitating central city areas by granting territories, consisting of Housing Action Areas, to locally based housing associations. In short, these "not-for-profits" agencies which involved the local residents in the change process, were grant-aided to the extent of about 90 per cent of reconstruction costs and they have now upgraded some 20,000 units in 25 well-defined territories in the city. And, in this process, they have created "growth poles" for the upgrading of housing and the environment in the city. For although these associations had no formal environmental improvement powers, the municipality and the Scottish Development Agency directed much of their environmental spending to clean buildings, to upgrade backcourts, to provide recreational amenity and to green the local environment in the territories where associations operated.

An integrated upgrading then took place in a gradual and evolutionary way. By 1980, the three agencies noted above, were already conscious that the programme had moved well beyond fixing up old houses and was really about neighbourhood

upgrading and indeed sought legislative change, which was forthcoming in 1983, to provide for the upgrading of all uses within buildings rather than merely residential uses.

Taking Glasgow as a whole, by the late 1970's, there were major bodies with powers to invest in the older housing stock, the municipality and the Housing Corporation (which supervised and financed the housing association movement), and two major organizations with environmental improvement powers, that is the municipality and newly formed Scottish Development Agency, which was involved in land clearance and environmental improvement throughout Scotland. In a period in which relations between central and local government in Britain have been rather strained and adversarial, this mix of local government powers and central government agencies has, in Glasgow, provided purposeful and productive partnerships and it has certainly encouraged innovative and entrepreneurial behaviour within local bureaucracies.

The GEAR Project

These operational partnerships throughout the city were undoubtedly facilitated because they were all key partners in the multiple agency partnership set up to renew the East End of Glasgow, namely the GEAR project. Although the municipality had overall responsibility for planning within the city, the GEAR project was managed by the Scottish Development Agency. The seven partners involved in the project were the SDA, the municipality, the local regional council (operating over the metropolitan area as a whole and with key responsibilities in policing, education and social work services), the Manpower Services Commission (the national government agency with responsibility for training and related labour market issues), the Housing Corporation (again a national agency), the Scottish Special Housing Association (a national agency which owned social housing units) and the Greater Glasgow Health Board.

Policy measures in GEAR, to stabilize the local economic base of the area, have been largely outweighed by continuing decline in the traditional economic base. But the project was intended to improve housing conditions in the area, to upgrade and maintain the quality of the local environment, to diversify local social economic structures and to foster resident confidence and commitment to the area and some success in relation to these objectives has been recognized. The project had strategic and integrated objectives and recognized the need for inter-dependent policy making from the outset. The project came to an end in March 1986 and the paragraphs which follow set out the main reasons why the environment and housing impacts of the programme are widely regarded as having been successful.

Policy Expenditures

By 1981, the population of the GEAR was just over 40,000 residents, less than half of the total of 85,000 in 1971. The project, leaving aside the question of current expenditures, spent £383 million (1986 prices) on capital projects, or around £9600 per resident in the area. It is quite clear that the key ingredients of the project were capital spending on housing, with 16 per cent of the total on new housing provision and 46 on house rehabilitation, but with a critical 20 per cent devoted to environmental spending (see Table 1). Whereas housing spending was undertaken by three main agencies, and it often contained structural works with an environmental impact (even just building upon previously derelict land), environmental spending was undertaken solely by the SDA. In effect, the municipality and the SDA reached a working agreement whereby the municipality would spend their similarily sized budget outwith the GEAR area and the SDA would target their environmental work into the GEAR and a number of other key central area projects. Thus, not only was environmental spending in the city focussed into the GEAR area, with the area receiving an amount roughly equal to the whole rest of the city, but the GEAR project (with just under 1 per cent of Scotland's population) absorbed more than 12 per cent of the overall Scottish budget (for environmental works) of the SDA. Thus concentration of limited, but increasing, environmental spending, was a key element of the GEAR project.

The environmental spending programme within GEAR had a number of distinct components and objectives. The assembly, the clearance and upgrading of derelict sites was undertaken to provide packages of land suitable for sale to both the commercial and residential sectors. A number of key industrial buildings were upgraded and converted for use by small business units. Where housing rehabilitation was being undertaken by other agencies, the SDA provided resources and expertise to upgrade backcourts and to clean the exterior of the previously smoke-blackened sandstone buildings. And in such areas they also strengthened the neighbourhood renewal effect by renovating public buildings, such as schools and libraries etc. And in strategic sites in the local townscape, they upgraded existing facilities and provided new environmental and leisure features. Finally, throughout the area they concentrated on "greening" open spaces wherever possible.

The extent to which the SDA was tackling and removing the symptoms of previous industrial and residential decline are illustrated in Table 2. Almost 10 per cent of their renewal project expenditures were devoted to industrial sites and associated transport infrastructure which were no longer utilized. A quarter of the budget was devoted to treating sites where slum housing had existed prior to clearance and indeed much of the public sector land which they renovated had also been acquired by the municipality as the area had deteriorated in the past. All told the SDA spent almost £20 million removing the direct symptoms of past decay in the

area, leaving aside the issues of upgrading still existing land uses and recreational facilities.

Table 1 Summary of Project Expenditure 1976-1986 (at 1986 prices)

Program	£000s	£000s
SRC		
Education, Social Services Comm.	14,442	
Infrastructure, Transport	20,751	
Protection Services	5,157	
		40,348
GDC		
New Housing	30,169	
Rehab/Housing	68,055	
Other	13,878	
		112,102
SDA		
Land Assembly, Site Preparation	14,143	
Factory Building	24,917	
Environment, Recreation & Other	38,368	
		77,428
SSHA		
New Housing	28,002	
Modernisation/Rehab	22,474	
Other	155	
		50,631
Housing Corporation		
New Housing	3,219	
Rehabilitation	84,756	
Other	380	
		88,427
GGHB		
Gealth Services		6,515
Other		
Vol. Orgs. under Urban Programme	291	
DHSS/PSA	1,084	
		1,375
MSC		6,180
		383,006

Table 2 Completed Land Renewal Projects in GEAR 1976-1986: Pre and Post Uses % of Total Expenditure[1]

	PRE-USE						
POST-USE	Manufacturing	Railways/Canals Docks	Housing	Government/ Local Authority	Vacant Other Use	Total	Total All SDA Projects 1981-86
Industry	1.6	*	-	-	-	1.7	13.0
Housing	-	-	1.3	-	-	1.3	7.0
Parking	-	0.5	-	-	1.0	1.8	5.0
Recreation	*	1.7	1.9	9.8	8.2	22.0	34.0
Amenity/Cosmetic	3.3	0.8	20.4	22.0	26.0	72.6	34.0
Total	5.2	3.0	23.6	31.9	35.6	100.0	

[1] Total may not add due to rounding and because some projects have not been coded by pre and post use.
* less than 0.5%.

Major Programme Impacts

Policies are easiest to evaluate and describe when a single policy variable, changed in isolation, produces a narrow range of effects (all of them planned) within a specific geographic area. But such changes are not the stuff of urban policy. As emphasized in the introductory sector, the synergistic/interactive effects of environmental and housing investment, may have subtle, geographically diffuse and unplanned effects as well as obvious, localized and immediate planned impacts. For combined housing and environmental investment in GEAR, a scheme of the type developed in Fig. 1 was used to trace and evaluate programme impacts.

To break into this complexity, we have to establish:

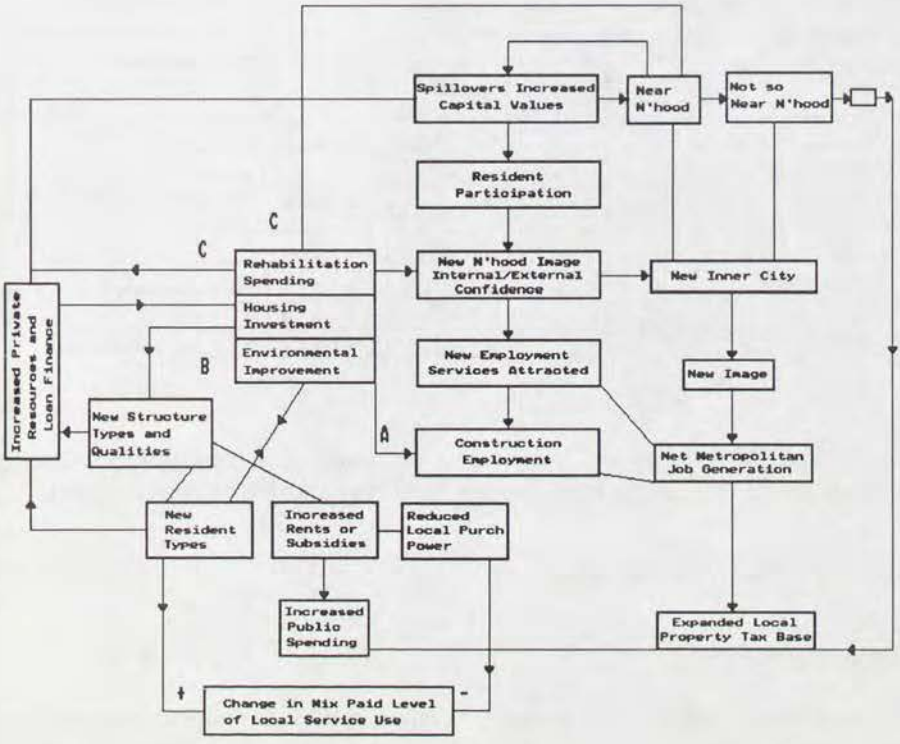
1. Did environmental programmes produce effects by operating in isolation or in conjunction with other programmes?

2. Upon which sectors, areas and groups with the GEAR area did programmes have an impact?

3. What spillovers were there into other areas and sectors of the urban economy in Glasgow?

A brief review of the key answers to these questions is outlined below.

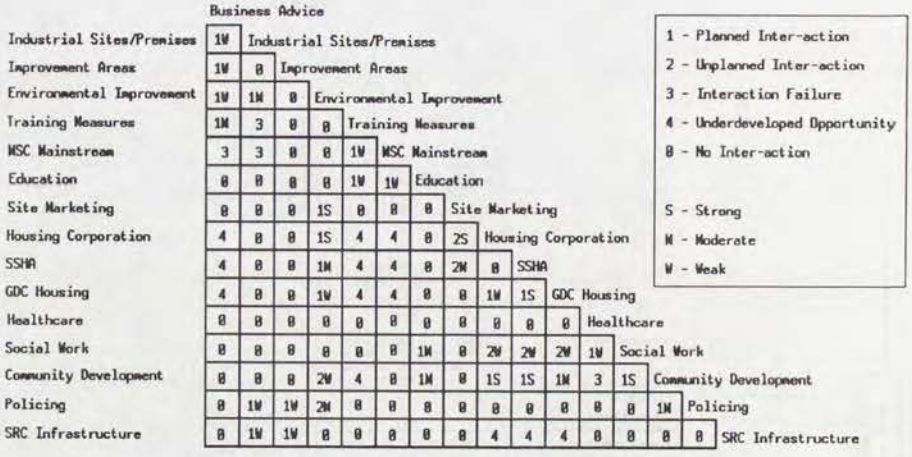
Figure 1 Scheme to Trace and Evaluate Programme Impacts



Programme Interactions

The recent official review of the GEAR project, 1976 to 1986, examined and evaluated all of the key programmes operated within the GEAR area. The derived programme interaction matrix, Figure 2, has two very clear conclusions. First, almost all of the strong planned programme interactions took place in the environmental spending and housing improvement programme headings. Secondly, without exception, the environmental improvement programme had the most widespread effects on other policies. It had strong, planned impacts on site marketing and housing investment, moderate planned impacts on industrial site provision and weak planned impacts on business advice provision and council housing. It also had unplanned impacts on community development, through acting

Figure 2 The Derived Programme Interaction Matrix



as a focus for local citizen action, and on policing, by apparently reducing vandalism and street crime rates in areas benefiting from major improvements.

Impacts Within the GEAR Area

Impacts on Firms

Firms in the GEAR area had access to a range of subsidies and advisory services which were intended to stabilize and improve their performance. Their instruments are not analyzed here, and instead the responses of entrepreneurs and managers to the broader changes in the area are considered. It can be noted in passing, however, that in Table 3, the most positive responses of businessmen related to environmental rather than specific business policy measures.

All of the managers interviewed stressed that the upgrading of the area had increase amenities and made the GEAR area a more pleasant place in which to work. The area as a whole had upgraded its image and was no longer regarded as a deteriorated location. In turn this had facilitated the recruitment of new staff, especially at a senior level, and it had also improved the image of their firms with new and existing clients. The land clearance, factory building programme had also proved helpful to firms.

Clearly environmental policy measures helped to reinforce the competitiveness of GEAR firms in what was, throughout the project, an extremely adverse environment of urban economic change.

Table 3 Firms' Perceptions of Changes in Aspects of the GEAR Area

Aspect	Improved %	Unchanged %	Deteriorated %	No Response %
Amenity of area	94	-	-	6
Image/Impressions of area	88	4	-	8
Attractiveness of area to clients/new staff	74	14	2	10
Premises available	70	6	8	16
Business support	48	20	-	32
Transport/access	48	32	12	8
Training opportunities	40	14	8	38
Local shopping	26	26	18	30
Security	24	36	26	14

Impacts on the Housing Sector

The housing and environmental investment programmes in GEAR had major impacts upon existing residents as well as attracting new resident groups to the area. These subdivisions of programme beneficiaries are examined separately below, but it is important to stress that programme successes were achieved without displacing existing residents (as capital programmes were intensively

Table 4 Resident Perceptions of Change at the Street Bock Level

Item	Change	SSHA	GDC	HA
External appearance of Housing and Buildings	same	20	39	13
	better	74	42	79
	worse	6	20	8
Problem of derelict land and buildings	same	25	36	19
	better	68	49	68
	worse	7	13	13
Problem of run-down back courts	same	23	36	17
	better	68	38	75
	worse	9	25	8

Source: 1987 Household Survey

subsidized).

The rehabilitation expenditures of the three main social sector investors (housing associations operating under the umbrella of the Housing Corporation, SSHA and GDC) improved dwelling sizes and condition, markedly raised resident satisfaction and reduced problems of letting. However, as these housing measures were also associated with local environmental improvements, residents also recorded major improvements in the quality of their street blocks. These responses are indicated in Table 4.

Although the improvement in the area is substantial, as an equivalent survey in 1977 recorded almost entirely negative resident reactions to local area change, two further points arise. First, between 10 and 20 per cent of residents still perceive their local environment to be deteriorating and this reflects the still incomplete coverage of these programmes. Secondly, the extent of positive response varies across housing tenure groups and it is clear that the sector with low intensity upgrading (GDC, with £3,500 spent per unit) has a less positive reaction than in high intensity upgrading areas (housing association with £15,000 per unit). Residents reported a generally similar positive view on the upgrading not just of their streets and neighbourhoods, but the wider GEAR area as a whole, see Table 5.

Table 5 Residents Perceptions of Local Area Change in the Last Decade by Tenure

Question	Area Level	SSHA	GDC	HA
Area has greatly improved in last 10 years	Street block	73.2	22.0	52.8
	Neighbourhood	79.1	26.7	48.6
	East End	73.2	45.2	50.0
Area has improved at least moderately in last 10 years	Street block	73.0	40.4	50.0
	Neighbourhood	70.3	48.0	55.0
	East End	75.0	64.0	60.0
Area worse than it was 10 years ago	Street block	23.0	60.0	21.0
	Neighbourhood	29.0	55.0	28.0
	East End	27.0	31.0	15.0

Source: Household Survey, 1987

It is difficult to place a value on the residential benefits from environmental improvements in the social sector as there is no rent or price index which reflects market values. However, research indicates that where environmental upgrading accompanied house improvement, the value of adjacent, unimproved units in the

market sectors rose by 7 per cent more (over a three year period) than did equivalent units located next to social units with interior only investment. This implies that the value of immediate spillovers (from stone-cleaning and backcourt work) alone exceeded per unit environmental upgrading costs (of the order of £1,000). The value of direct benefits to social sector residents and wider spillovers were also undoubtedly positive so it can be deduced that local environmental works had a favourable benefit to cost ratio (see Maclennan, 1990 for more detailed estimates).

Housing improvement and environmental works played an important role in improving the quality of units and investors confidence in the owner occupied sector. As the GEAR project progressed, private improvement work grew rapidly and building societies recommitted their funds to the area, with their share of lending rising from 20 to 75 per cent of transactions. In consequence, the prices of existing home-owner units in the GEAR area rose from 30 to 55 per cent of the mean city price for equivalent sized units. A recent estimate suggests that half of this increase in relative GEAR values was attributable to property prices capturing the more general, usually environmental, externalities of the project.

The most remarkable development in the local housing market, in view of the negative attitudes prevailing in 1976, has been the construction (by 1987) of almost 1,000 new private dwelling units in the area. These units have provided a new, higher range of house quality than existed in the GEAR previously. Their provision has, at the margin, upgraded the socio-economic status of the area by reducing the outward flow of "successful" households from the GEAR area and re-attracting higher income groups. The latter usually consist of dual income households without children, with both earners working in the city centre. Indeed for Glasgow as a whole, such developments have added an estimated 10,000 people to the population of the 5 Central wards. And this expansion of higher income households has generally avoided so called "gentrification" and the displacement of low income households.

Private developers have tended to locate their developments adjacent to parks and zones of intensive housing rehabilitation, that is they have also captured programme externalities. Residential land in the GEAR area in 1976 was almost worthless, and it now sells for £40,000 - £56,000 per acre.

Conclusions

The process of residential change in the GEAR area can be summarized as follows. From 1976 to 1980, public sector housing and environmental investment created "poles" of change in GEAR. As these programmes continued, private sector confidence was restored for consumers, financiers and developers. Hence, the process of change is long term and public sector led, though after a decade the flow of private housing investment to the area had come to rival public housing

spending in scale. In effect, whereas prior to 1976 GEAR had been essentially a place for "making" things, the demise of that role has allowed environmental and housing spending to recreate an urban zone which is now directed at being an area for "living" in. The recent success of market led investment in GEAR, in stark contrast with the prospects for such spending a decade ago, does confirm that planners and developers in 1960's essentially misunderstood the prospects for central city areas. High income status, and the demand for environmental quality, does not imply a necessary shift to the suburbs.

The housing and environmental programmes had important inter-sectoral effects, not least through the construction sector effects (of up to 1,000 workers). Although the GEAR project in its very late stages did develop mechanisms for creating local employment effects from environmental projects, most of the construction employment gains were spread throughout the rest of the city.

As the GEAR project progressed, the wider spread of rehabilitation projects often displayed similar processes of cumulative upgrading in older neighbourhoods. By the early 1980's, the image of older Glasgow had changed not only just for Glaswegians, but for residents external to the city. And surveys of business opinion in the south-east of Britain have indicated that the city now has an increasingly positive image. There are now signs that the local economy, after almost 15 years of intensive housing and environmental investment, is beginning to benefit from service industries relocating away from the congested, growth regions of Southern Britain. In the long term, the policies analyzed here, may have as potent an effect on the local economic base as conventional regional policies, but the long term has not yet arrived.

At a conceptual level, the regeneration of Glasgow is not well described by simple export base, access-space or gentrification models. Fortunately, policy makers largely ignored existing "academic" perspectives and their actions, and the consequences of those actions challenge researchers to produce more adequate descriptions of urban structures and unravel functional, spatial interactions within the city. If Glasgow is moving towards the top of a league of regenerated cities, it is because it has adopted a "bottom-up" approach.

TRANSPORT AND LAND USE

by

Marcial Echenique

1. INTRODUCTION

In most cities of the world a common problem is encountered: congestion, congestion not only on the roads but also on the land. The crawling speeds at which urban traffic on the streets moves and the overcrowding of the public transport network proves that the supply of transport has not kept pace with the demand for transport. Equally, the increases in land and property prices in the land-use system are the manifestation that the supply of serviced land has not kept pace with the increase in the demand for space.

To ameliorate the congestion in the transport system local authorities have attempted a range of solutions. Some of them have increased the supply of transport infrastructure in the form of new underground railways and urban motorways. Others have attempted to reduce demand for transport by increasing its price - road and parking charges. Most of the solutions have provided at best temporary relief. A good example of this short-lived relief is illustrated by the construction of the M25 - a huge orbital motorway around London. Transport planners had predicted that the new motorway would cope with traffic until the end of the century. The reality has been very different: as soon as it was opened in 1986, it was congested. The planners had failed to take into account the impact of the new road in modifying the pattern of travel and of land use.

In relation to the land use system, the planners in post-war England attempted to decentralize employment and population from central areas to the new towns designated around London. Also, severe restrictions were imposed on new industrial and office development in Central London. The decentralisation programme was coupled with the imposition of the Green Belt policy which restricted development on the fringe of the metropolitan area. (See Hall et al., 1973). By restricting the supply of land where the maximum demand is, land use planners have contributed to the inflation of land and property prices everywhere, with a serious impact on the cost of labour and production costs.

In addition to the policies described above, there have been momentous changes in the technology of transport and land use. The increase in car use and the changes in traditional manufacturing technology are just two examples of these.

The changes in the service sector, in financial and professional employment, have had profound spatial repercussions for the development of cities. The closure of industrial plants in the inner areas has created environmental and social problems. The most acute of these is the increase in unemployment in the unskilled and manual labour groups. These groups have been left trapped in their public authority housing with little hope of being employed in the new financial and professional jobs in the cores of cities. The new financial institutions have had to pay enough to attract a skilled work force from beyond the suburbs of the cities, even beyond the green belt. Today "yuppies" living in suburban and rural areas commute vast distances to work in central areas. In spite of attempts to create favourable conditions through tax and other incentives there is little hope of attracting new industries employing manual labour to the inner city. The problem lies in the difficulties of renewing the obsolete transport infrastructure. Any attempt to improve road transport in the inner city has been severely resisted by conservationists and environmental groups. Without road transport improvements it is difficult to attract the new industries, which are highly dependent on lorries supplying high value components from dispersed production areas as well as for the distribution of their outputs to dispersed destinations. Rail accessibility is simply not of any use to "high tech" industry.

The understanding of the interrelationship between transport and land use is a necessary precondition for attempting to cope with the problems faced by today's metropolitan areas. However, this understanding is exceedingly difficult because of its spatial complexity. Congestion in one link of the transport network may affect the accessibility of vast areas of the city well beyond the immediate area where the congestion occurs. Simple ideas of one way interaction are usually mistaken. Transport obviously provides a two way interaction from one area to another. An improvement of transport from the central area to the periphery may allow the residential population to disperse but continue to be employed in the central area. Also, the central area may gain the market of the periphery by competing effectively with the fringe zones for customers. The analysis of the land use and transport system becomes even more complex when it is taken into consideration that the metropolitan area of today does not have a single centre. There are many centres of varying degrees of importance and specialization. The pattern of movement and access to opportunities is more akin to a complex web of interconnecting lattices than to a simple radial system from one centre.

2. THE IMPACT OF TRANSPORT DEVELOPMENT ON THE USE OF THE LAND

Historically, it is easy to see how transport changes have affected land use. Figures 1 and 2 illustrate this. They are posters advertising the London Underground at the beginning of the century and illustrate the two sides of the same coin: the decentralization and the centralization effects of an improvement in transport.

Figure 1 illustrates the decentralization impact. The London Underground enabled people working in central London to live in the suburbs - in this case Golders Green - at reasonable costs. The improvement in accessibility opened up vast areas of land within a short commuting time. As a consequence of this increase in land provision, a relative reduction of land prices took place. This encouraged a larger consumption of land, which affected the form of housing. The figure shows the ubiquitous semi-detached homes which were developed in large quantities in the London suburbs, reducing the density of the city.

Figure 2 illustrates the opposite effect: centralization. The London Underground gave people living in the suburbs and rural areas access the centre for shopping. The centre gained a vast market competing effectively with suburban and village stores. Commercial activities are highly dependent on their accessibility; for example, central stations or nodes of interchange attract the location of commercial establishments. Because of the competition for location, land prices rise, forcing commercial establishments to substitute expensive land for capital in the form of high rise building. The development of the department stores in centres of cities in the latter part of the 19th Century is an example of this effect. Even more dramatic is the development of the 20th Century office skyscraper in the centres of maximum accessibility.

The effect of improvements transport infrastructure from a centre is illustrated in Figure 3. With an improvement of travel speed, say double, the area which can be reached in the same period of time from the centre increases four fold. (See Echenique, 1981). One hour walking from the centre of London may have covered 5 km at the beginning of the 18th Century. The same hour by horse-drawn cart at the beginning of the 19th Century may have covered an area of 10 km radius. By the beginning of the 20th Century the same hour of commuting by underground or overground rail including the access time to public transport and to final destination may have covered 20 km radius. By the beginning of the next century the average radius by car and /or high speed rail commuting may easily surpass 40 km from a centre. While the areas of metropolitan London which can be reached from the centre in an hour of travel have increased 64 times in three centuries, the population of those areas has not increased by more than 16 times. The result is that the gross average density has declined by a factor of four during the same period.

In the reverse direction the centre of the metropolitan area has gained access to a huge market within an hour of travel. This is especially the case the City of London and Westminster, which are accessible by high speed rail from very long distances.

Figure 1 The decentralization effects of transport improvements

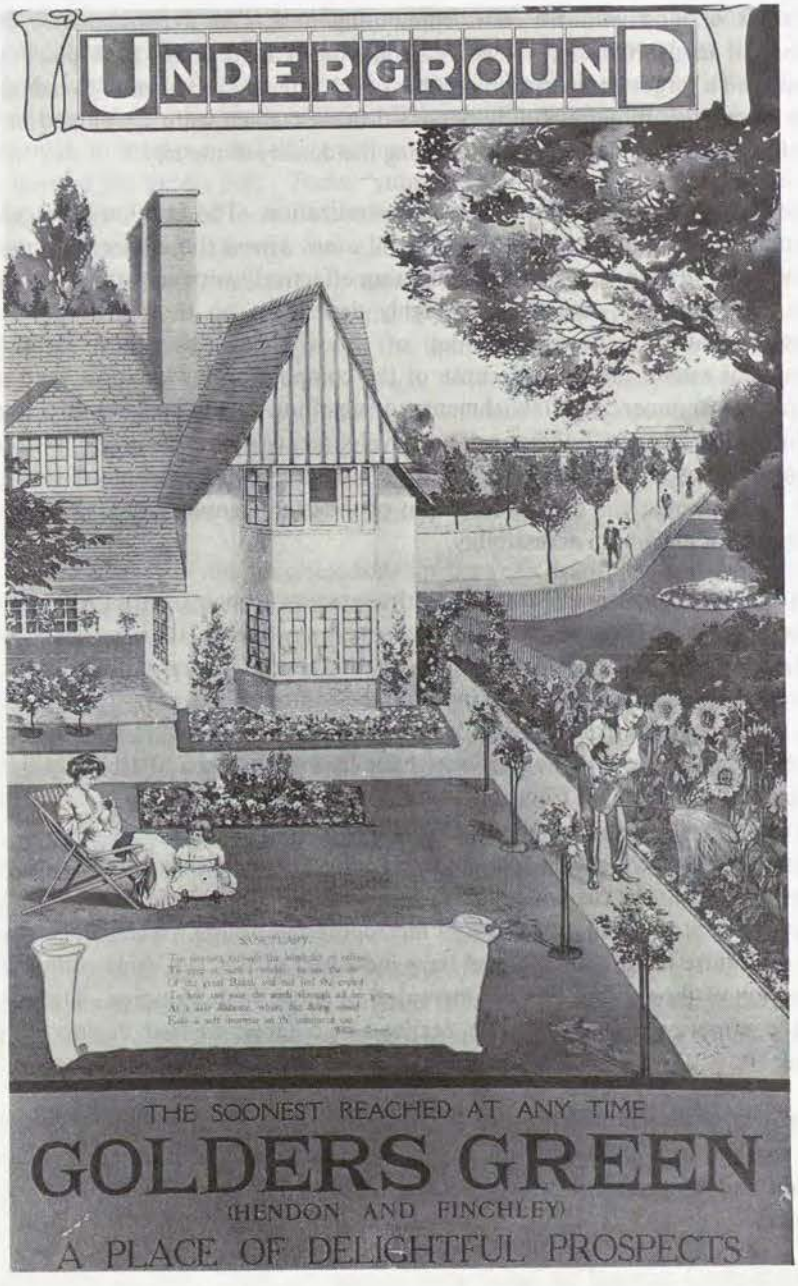


Figure 2 The centralization effects of transport improvements

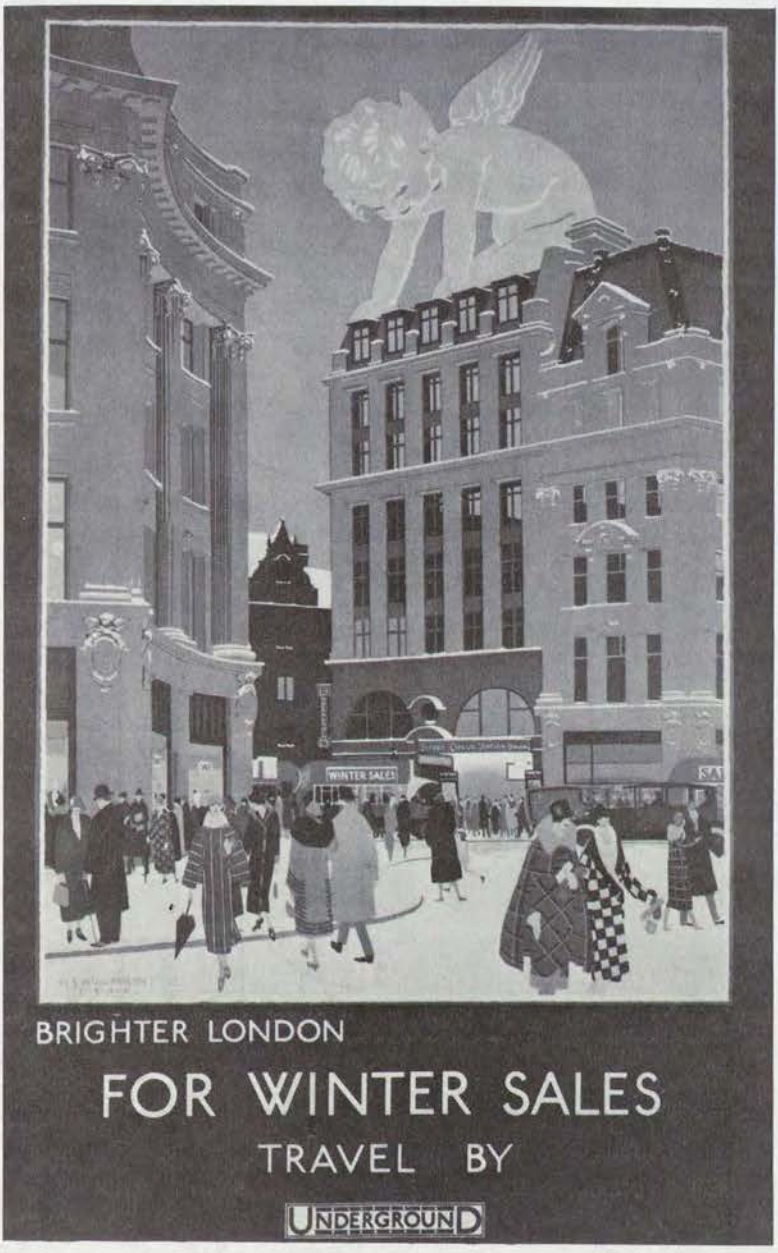
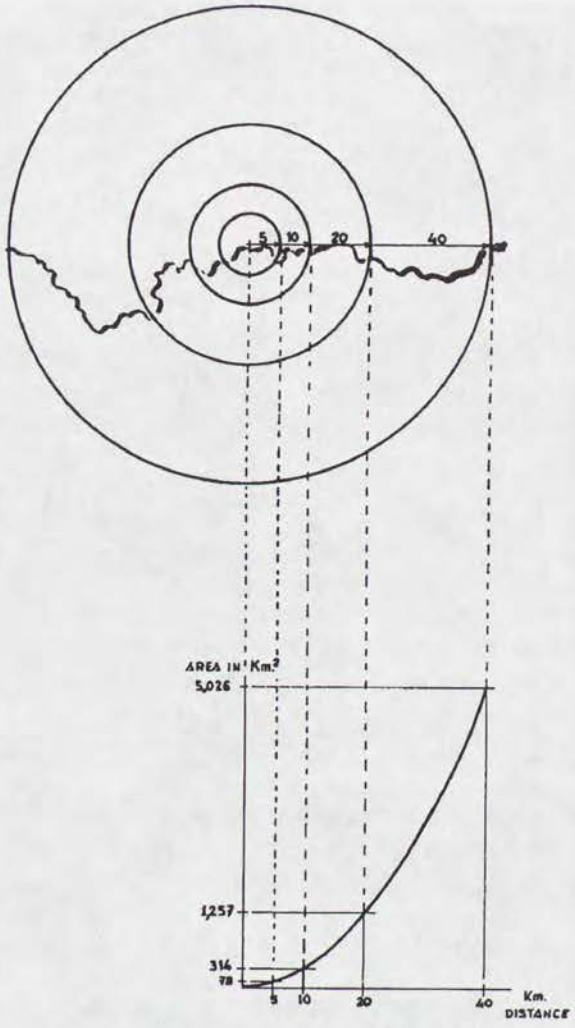


Figure 3 Increase in area with increase in distance from centre



Extensive land users such as residential and industrial activities will take advantage of increasing accessibility by dispersing, in search of lower land prices. Intensive land users such as commercial activities will tend to concentrate in nodes of high accessibility to their markets and at increasing densities. Naturally, the high accessibility nodes may not be only the centres where rail stations are, but also motorway intersections where radial routes are intersected by orbital ones. The impacts of new transport technology and indeed of communications, such as telephone, telefax and computer networks, accentuate these characteristics:

dispersal of certain uses and high concentration of commercial activities in the core of cities. The improvement of transport creates zonal specialization within the metropolitan area. Zones which have a competitive advantage for certain land uses will tend to specialize in those uses. The outcome of improvements in transport are increases in the segregation of land uses, thus increasing traffic flows between them.

3. A MODEL FOR TRADE AND LOCATION

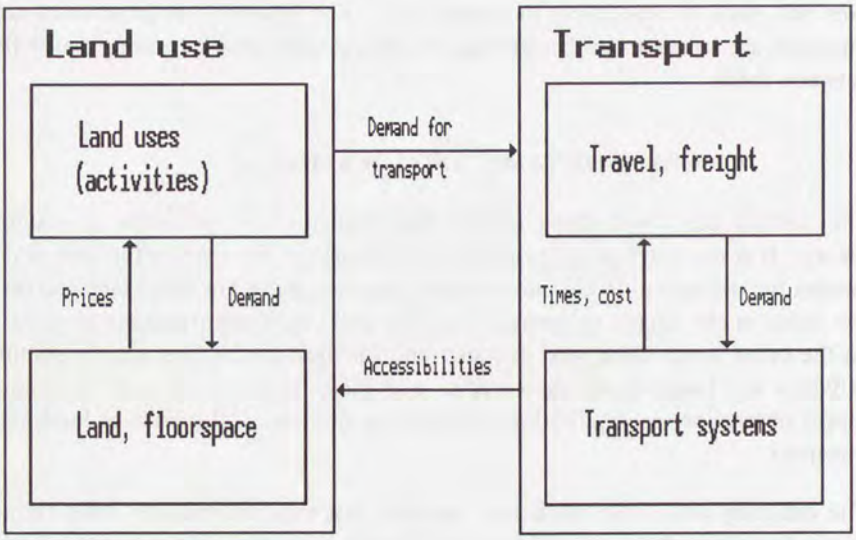
The pattern described above can be best explained by reference to economic theory. It is the outcome of two interacting Markets: the market for land and the market for transport. In common with any market, there are those engaged on the one hand in the supply of serviced land (or buildings) and transport services and on the other hand, those who demand land for their production and consumption activities and transport for their trading activities. The interaction of demand and supply determines an equilibrium price at any one time - the price of land and of transport.

The difficulty with these markets is twofold: first they are spatially differentiated, that is to say that there are different equilibrium prices in each zone of the city and in each transport link. This adds to the complexity of analysis. Secondly the supply of both serviced land (or buildings) and transport is very inelastic to price changes. It takes time for the development process to increase the supply of serviced land and transport provision as a result of increase in demand so at any given time the supply side of these markets is more or less fixed. Thus if there is a shift in demand for land or transport, due to say an increase in incomes, the outcome is a swift increase in prices. This is very apparent in land price changes as well as in transport price changes when congestion in a transport link creeps up. It must be realised that the transport price is not only monetary. As significant, or sometimes more significant, is the time component of travel. Therefore, if demand for travel increases within a given supply of a transport service, the equilibrating mechanism is the increase in congestion, which is equivalent to price increases in the land market.

Land market

Figure 4 illustrates the market process. The left hand part of the figure illustrates the operation of the land market, when the demand for land given by the location of economic activities interacts with the supply of serviced land and floorspace. If the demand at any one point in time and space is larger than the supply, the price (or rent) increases, affecting the desirability to locate in that space, and thus reducing the demand for land. Equally the opposite effect can be observed when a reduction of demand for land reduces the price of land. The outcome of this process is the location of land uses and the price paid in each location for the land.

Figure 4 Land and transport markets interaction



Transport market

The right hand side of the figure illustrates the operation of the transport market, where the demand for transport, in the form of passenger and freight transport, interacts with the supply of transport. If the demand at any one point in time and for any transport link is greater than the supply, congestion increases, affecting the price of transport for that link. This in turn may affect the demand for transport in the link, reassigning the demand to other cheaper alternative links (or routes) or utilizing other means of transport (or modes). The outcome of this process is the assignment of all transport to links and the prices (generalized to include time and inconvenience) paid in each transport link.

Land use and transport interaction

The interactions between these two markets are illustrated in the figure as the influence of land uses on transport demand and the influence of transport supply on the location of land uses. At any one time the location of activities generates the demand for transport of goods and services from zones of production to zones of consumption. This includes the transport of labour from their homes to their work places. These trades, from production to consumption, give rise to physical

patterns of trade - people and goods. Once allocated to particular networks the interaction between supply and demand determines new transport prices from a given zone of production to a given zone of consumption.

The outcome of the transport market process - i.e.transport prices - is described in the figure as accessibilities from production zones to consumption zones. Accessibility is a term used here to include not only the monetary cost of transport but also the time and inconvenience. The accessibility between zones affects the demand for location by activities. For example, if a production zone becomes less accessible to the consuming markets due to an increase in congestion, it will affect its sales and thus affect its production output, which in turn will reduce the demand for intermediate factors such as labour and land. If the opposite occurs and accessibility increases in a given location, there will be an increase in sales of products or service outputs, generating more inputs of intermediate factors such as labour and land. Thus this interaction between land uses and transport is a two way interaction. But, this interaction is more or less instantaneous in the direction of land use to transport, but much less so in the direction of transport to land use. In other words there is a lag between changes in the transport market and the effects in the land market. It takes time for firms to increase production, and for land suppliers to take advantage of increases in rental prices. This is not always the case as developers sometimes anticipate the changes in the demand of land by buying land speculatively when plans for transport infrastructures are announced.

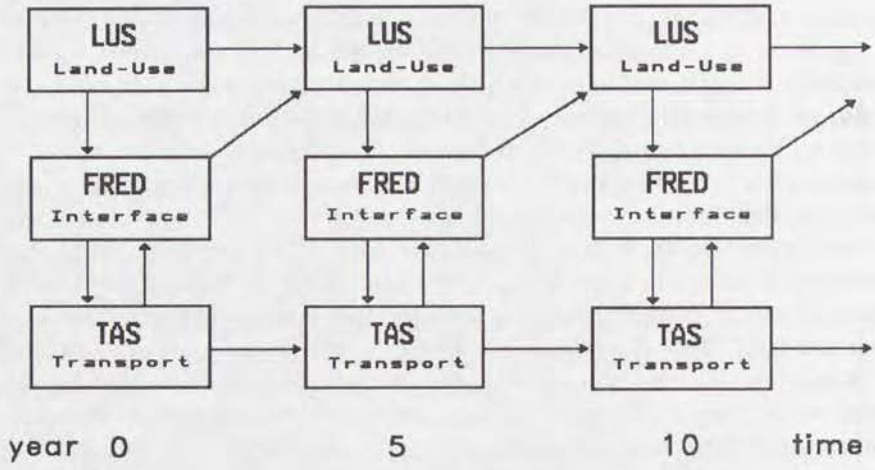
Dynamics

Figure 5 illustrates the effect of the lags in any one time period. As can be seen the land market equilibration determines the demand for transport in the same period but the equilibration of the transport market only affects the location of land use in the next time period. Little is known about the extent of the lags in land development as a result of transport changes. Furthermore, there are certain types of activities which react very quickly to changes in accessibility such as retail and residential activities, but others are much slower to react such as industrial and public services.

The complexities of the interaction of these spatial markets through time makes the analysis by conventional methods of their outcome very difficult. Therefore researchers have come to the conclusion that the study of these interacting markets is best achieved by the use of computer simulation models. One such model is MEPLAN.

MEPLAN is a software package which allows the analyst to define the spatial subdivision or zones he or she wishes to represent, the economic factors and their relationships to be modelled and the representation of the transport network at whatever degree of detail may be appropriate. Of course the larger the number of

Figure 5 MEPLAN-Land use and transport interaction through time



zones, factors and networks, the larger will be the demand for computer memory and time.

In order to operate the model the analyst needs to estimate the parameters which govern the relationships between the different elements of the model (calibration process). Once he or she is satisfied with the correct representation of the process observed in the region of study it is possible to simulate the effects of a change of one or several inputs in the behaviour of the markets. These changes in the inputs may represent two types of change: first, *trends* outside the control of the authorities or more probably, outside the ability of the model to explain, or secondly, alternative *policies* for the supply of serviced land and transport for which the analyst wants to evaluate the impact. For each alternative policy for transport and/or land supply the model produces outputs through time which then can be compared with the base case which represents the case of not implementing the policy.

4. MEPLAN MODEL OF LONDON AND THE SOUTH EAST OF ENGLAND

The UK Department of Transport has commissioned a land use-transport model of London and the South East of England for use in its transport policy assessment. The area covered has some 17 million inhabitants and covers an area of about 27,000 sq km. This model utilises the MEPLAN software and has been calibrated for the period up to 1981. There are substantial data describing the location of activities up to the 1981 Census and there is detailed information on

land use as well. The calibration of the transport model has been based on the Greater London Transport Survey of 1981 and the associated transport network description from previous periods. From then onwards the model forecasts the changes in the use of land and transport in increments of 5 years. The 1986 forecast has been used to validate the behaviour of the model in relation to known information, albeit partial but nevertheless useful, to check the main trends. The model is run for 1991, 1996 and 2001. Eventually the model will be extended to give indications of the long term impacts of transport changes up to the year 2011.

Spatial subdivision

The model uses 76 internal zones representing the city and the 32 London boroughs and the districts belonging to 11 counties in the South East region of England and South Cambridgeshire. In addition there are 6 external zones representing the rest of the country and the world.

Factors modelled

The model represents the location of 4 household types (i.e. managerial and professional, non-manual, manual and unskilled), 7 types of economic activities (i.e. manufacturing, financial, shopping, local education, higher education, other public services and other private services) and 3 types of land/floorspace (i.e. business, shopping and residential).

The interaction between all these factors is represented by variable input-output coefficients. That is to say, each of the factors required to produce outputs consumes a variable quantity of inputs from other factors. In this form, for example, the manufacturing process requires inputs of labour of different skills, services of different types and land to produce its outputs. The "production" of labour by households requires inputs of services and land, etc. The quantity of inputs consumed at any one time by any one factor will depend on the price of the inputs including transport costs from zones of production. The model follows these chains of input-output until all the demand for production is satisfied and the prices are in equilibrium.

Price changes

Production prices in the model are the result of the cost of buying inputs. If in any one zone the cost of buying inputs is altered as a result of a constraint in the production of the input (e.g. land availability), this will increase the price of the input and thus affect the output price of the consuming factor (including labour costs). Therefore, an increase in production prices in a zone will affect the demand for its output in the zone. This is the mechanism by which the location of production and thus of consumption is changed within the model.

Transport network

The economic interactions represented as factor trades are transformed within the model into passenger and goods flows to be allocated to networks at any particular time period (e.g. peak period travel between 7 and 10 am). The network modelled represents nearly 7000 links which include all primary roads (i.e. motorway, dual and single carriageways, trunk roads) and an aggregation of secondary road capacity. Within this road network private cars, lorries and buses are allowed to circulate. In addition the rail and underground networks are represented including all services with their frequencies. Walking as a mode of transport is also represented.

Congestion levels

The model estimates, using a multinominal logit model, (see Domencich and McFadden, 1975), the probability of each type of flow (e.g. journeys to work by managerial and professional labour, shopping journeys, goods deliveries, etc) choosing a particular mode of transport and selecting a given route in the network. Once all the flows have been assigned, the total demand can be calculated for each link of the network, and compared with its capacity characteristics. The model then computes the congestion effects and alters the generalised price of travel accordingly. The changes in transport prices affect the probabilities in the logit model, thus changing the demand for a given transport link. The process is repeated until no changes in prices are dictated.

5. FORECASTING THE EVOLUTION OF LONDON AND THE SOUTH EAST

To run the model through time it is necessary to assume changes in the inputs to the model. The inputs can represent trends in socio-economic aspects of the region or alternative policies to be tested through the model. The inputs could represent an extrapolation of current changes or if required, could represent radically different changes. The output of the model will help to evaluate the impact of such changes.

The base forecast for the region has been made with the assumption that current trends in export performance and socio-economic evolution will continue to follow past trends. Transport costs have been assumed to increase from 1991 to 2001 in line with increase in incomes.

Export trends

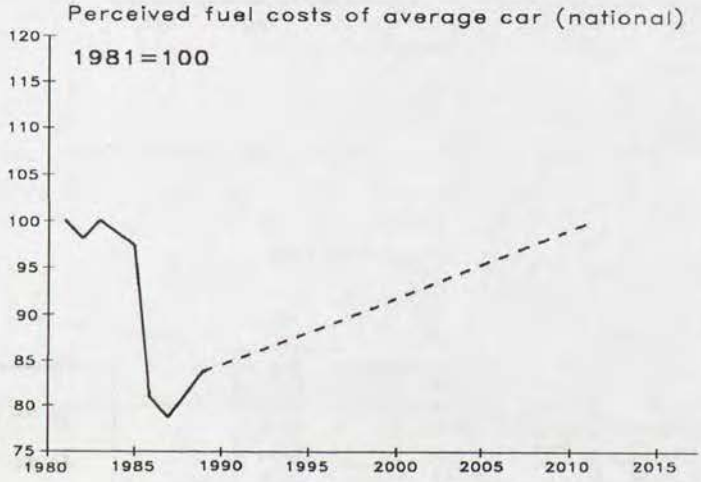
It has been assumed that manufacturing employment will continue to decline over the forecast period, but at a slower rate than the previous period.

Correspondingly, the financial and professional service employment will continue to increase over the forecast period, but at a slower rate than the previous period. The consequence through the model of these assumptions is the relative change in the demand for labour from manual and unskilled to managerial and professional employment.

Socio-economic trends

It has been assumed that the trend to smaller households will continue. Together with the assumption of an increasing standard of living (equivalent to the growth of gross domestic product per capita) this produces an increase in the number of households of 25% during the period 1981-2001, as well as an increase in the car ownership of households. These assumptions have important consequences in terms of the number of trips generated in the model.

Figure 6 Input to model: observed and assumed changes in private motoring costs



Transport cost trends

Private motoring costs during the last decade have reduced in real terms as can be seen in figure 6. For the period beyond 1990 it has been assumed that private and public transport costs will increase in line with incomes. This assumption has important consequences within the model. After a decade of decline in transport costs and thus encouragement of decentralization of households and employment, the next decade from 1991 to 2001 is a period of transport cost increases which will tend to discourage further decentralization.

Figure 7 Output from Model - Total change in employment

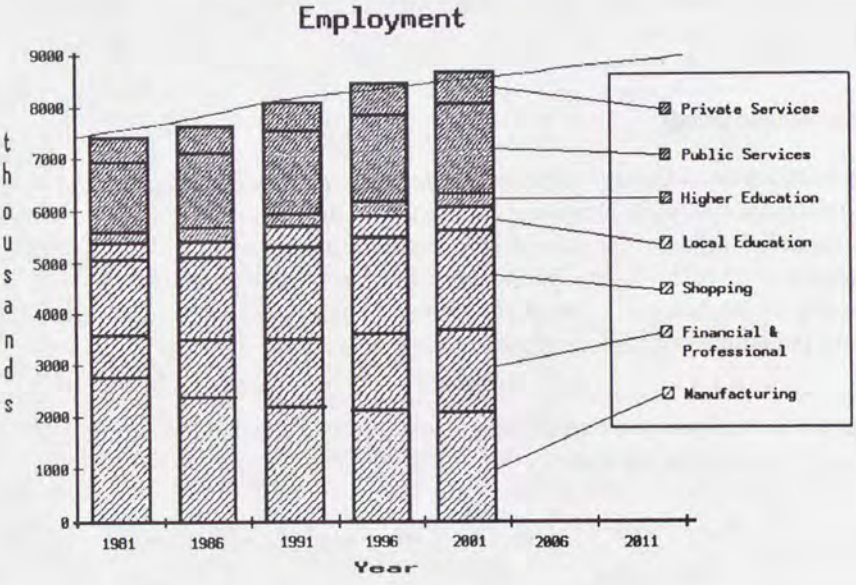
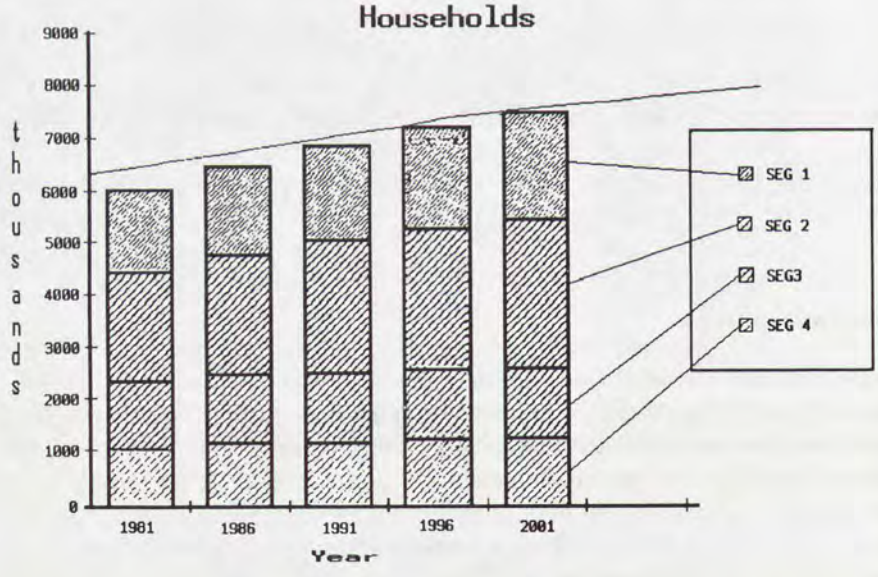


Figure 8 Output from Model - Total change in households



Policy inputs

For the base forecast it has been assumed that the current policies of land allocation and transport improvement will continue. This has meant inputting into the model all land allocation for each use in each of the London boroughs and surrounding counties up to the year 2001. The values used were collected from the Department of Environment and from each local authority.

In terms of transport the inputs reflect recent changes and improvements in roads (e.g. the opening of the M25 orbital road and increases in capacity) as well as in public transport such as increases in frequencies of services and electrification of main railway lines.

Main land use outputs

Figures 7 and 8 summarise the outputs from the model in terms of total employment and total number of households. It can be seen that the decline in manufacturing employment after 1996 is compensated by the growth of financial and professional employment. Due to the increase in number of households and incomes, the other services (e.g. shopping, etc) also increase, generating a substantial increase in employment from 1991 onwards.

The overall number of households continues to increase as can be seen in figure 9. It is important to note the increase in the proportion of socio-economic groups 1 and 2 (professional and clerical households) and the decline in the proportion of socio-economic groups 3 and 4 (manual and unskilled households).

The spatial pattern is illustrated in figure 10 where the percentage increase of households in each zone is illustrated. All the zones show increases in the number of households. This does not mean that population increases in every zone. Even with an increase in the number of households, there could be a decline in population due to smaller household size The figure also shows also that the main corridors of growth follow the main motorways radiating from London to the West (M4), to the North West (M40), to the North (M1 and A1), to the North East (M11), to the South East (M20 and M2) and to the South (M23).

Percentage increases in residential property values, are illustrated in figure 11. As expected, the increase in demand due to increases in household numbers and incomes is reflected in overall increases in property values. The increases in values are more noticeable in the same transport corridors and especially in the ring around London produced by the M25. Even in the East of London there are substantial percentage increases in property value. The absolute values are lower in the East than the West because of low income in this area.

Figure 9 Outputs from model - changes in households location (%)

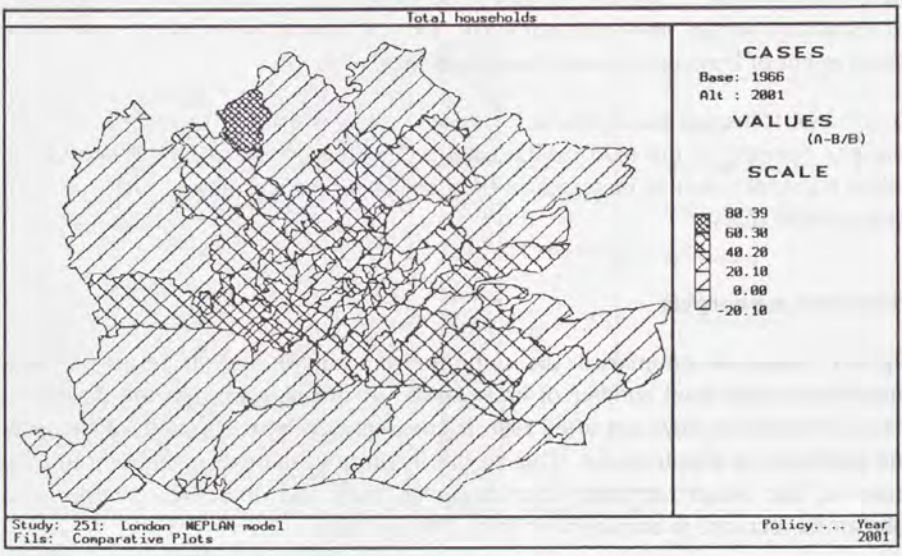
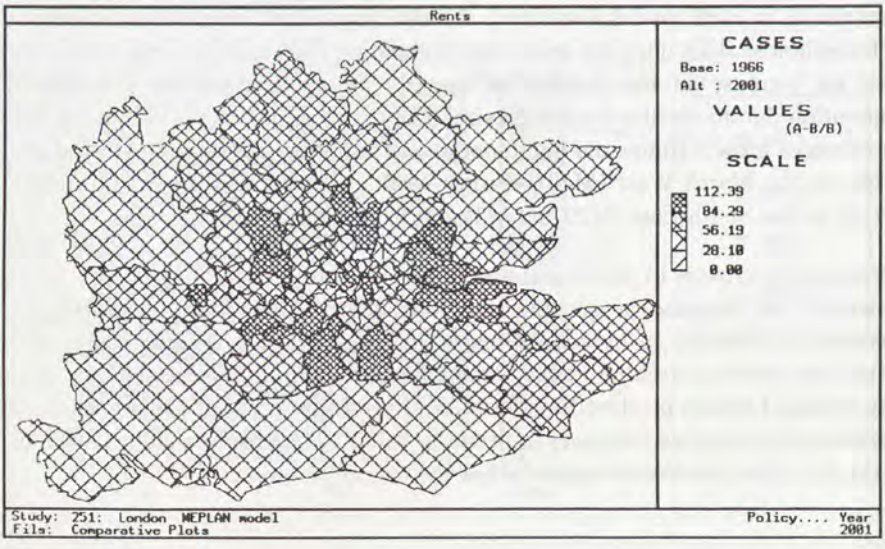


Figure 10 Outputs from model - changes in residential property values (%)

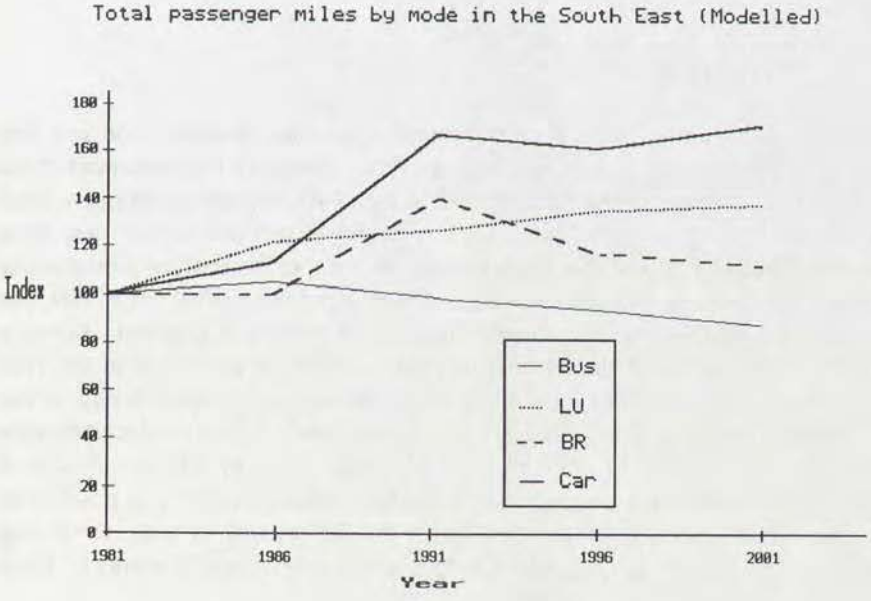


Main transport outputs

The model produces a great quantity of outputs in relation to the performance of the transport sector. These include the number of trips by purpose, mode of transport, passenger miles, vehicle miles, speeds in the network, etc.

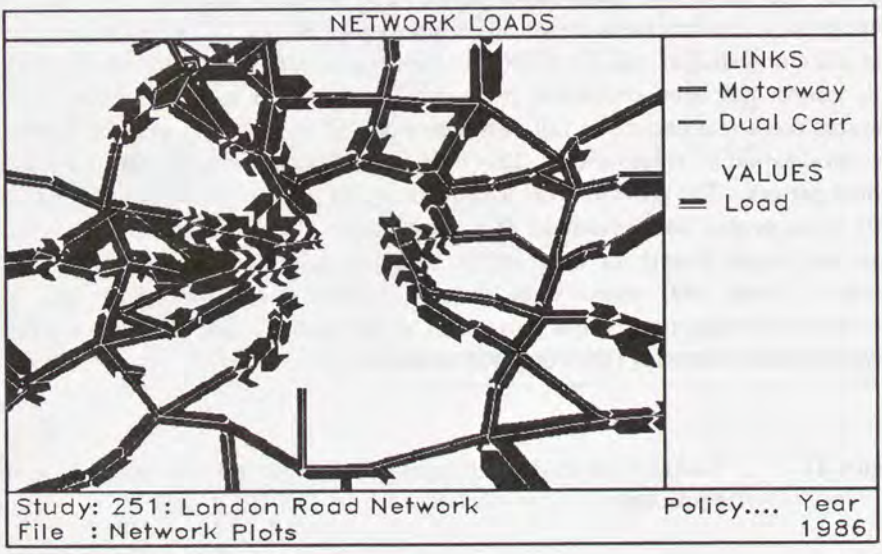
To summarise the output, figure 11 illustrates the forecast of the model from 1981 (=100) in terms of passenger miles. It is important to note the substantial increase in passenger miles in the London Underground, from 1981 to 1986. From then onwards the growth in traffic slows down. The available data on the London Underground confirm these trends. The forecast for British rail passengers shows that after a period of stability (1981-86) there is substantial growth up to 1991. This growth has been confirmed from data available up to 1987. From 1991 onwards there is a decline in rail passengers due to increase in fares and further decentralization of employment. This encourages shorter trips by car in a more orbital pattern. The growth of car usage is most noticeable in the period 1986 to 1991 when people take advantage of a combination of relatively cheap transport costs and rapid growth of incomes to decentralize beyond the green belt of London. From 1991 onwards the decentralization slows down partly due to increase in transport costs and partly due to reduced growth of incomes. Bus travel reduces at a steady rate from 1986 onwards.

Figure 11 Output from model - changes in passenger miles by main mode of transport



Finally, in figure 12 an illustration of the type of graphical output of the model is presented. It shows the volume of traffic during the peak period (7 to 10 am) on the main motorways and dual carriageways in London.

Figure 12 Output from Model - graphic output illustrating main volumes of traffic in trunk roads



6. CONCLUSIONS

It has been shown that there is an important interaction between land use and transport. Historically it can be observed how transport improvements have brought about changes in the pattern of land uses - decentralizing extensive land uses - concentrating intensive land uses. A model of this interaction has been introduced which explains this phenomenon as the outcome of two interacting markets - the land and transport markets. A version of this model, MEPLAN, has been implemented for London and the South East Region of England. Given a number of key inputs the model produces for each 5 year period up to the year 2001, outputs in the form of location of employment and households and of the resulting land/property prices for a given supply of land. It also produces outputs for the transport market in terms of trips, passenger miles by different modes of travel, network utilization and speeds. Given these basic forecasts it is possible to test alternative assumptions on the inputs to the model as well as testing alternative policies for the release of land and the provision of transport. Each

alternative run of the model through time enables an objective and systematic evaluation of the likely effects of alternative policies to be made.

REFERENCES

Domencich, T., and McFadden, D. (1975), **Urban Travel Demand - A Behavioural Analysis**, North Holland, Amsterdam.

Echenique, M. (1981), *Transport Investment and Urban Land Values* in **International Journal of Transport Economics**, Vol VIII, No. 2, pp 189-211.

Hall, P. et al. (1973), **The Containment of Urban England**

DECLINING INFRASTRUCTURE INVESTMENTS

by

George E. Peterson

1. INTRODUCTION AND BACKGROUND

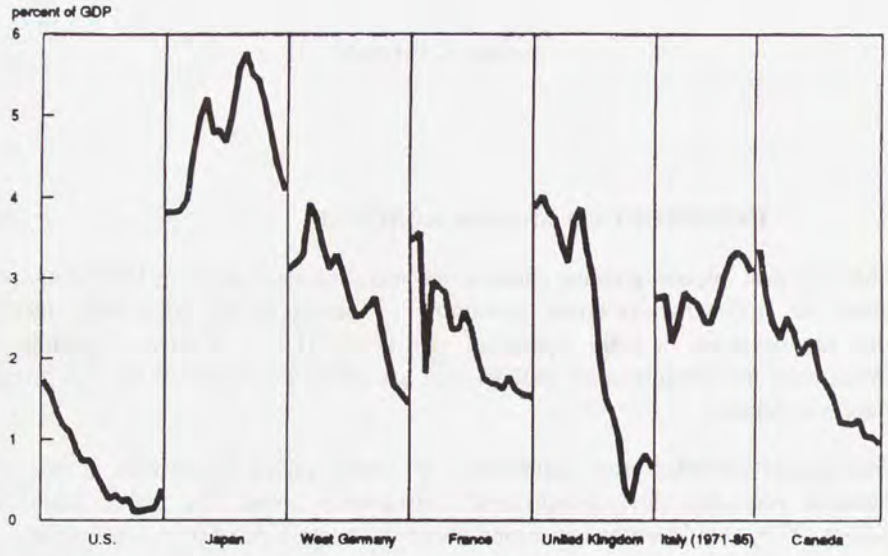
Over the past decade, growing concern has been expressed in many OECD nations about the "infrastructure crisis." Attention has focused on the often steep decline that has occurred in public spending relative to GDP, and on the backlogs of investment and maintenance deficits that are being accumulated for future tax-payers to finance.

This paper considers the significance of recent public investment trends for national economic development and metropolitan areas. The paper begins by asking, "Why should we be concerned about the magnitude of public infrastructure investment?" Part of the answer lies in the importance of public capital as an intermediate good. New analyses carried out in the last two years, suggest a stronger link than previously suspected between public infrastructure investment and private economic productivity. In the United States, for example, the decline in *public* investment since the mid-1960's has been argued to be responsible for as much as three-fourths of the nation's productivity slow-down.

The decline in public capital investment appears to have significantly lowered returns to private capital and discouraged private capital investment, thereby reducing economic growth. It also represents an intergenerational shift of fiscal burden. Together with rising public debt and rising (unfunded) costs of social pension systems, it transfers to the next generation of tax-payers the obligation to live either with higher tax rates or lower quality of public services.

The second section of the paper examines more carefully in what sense there is now an "undersupply" of infrastructure capital. One reference point is the decline in new investment and capital relative to earlier periods. However, the decline in public capital spending cannot be taken completely at face value. Some of it reflects a shift in certain types of capital formation from the public to the private sector. Thus, total capital spending on infrastructure has not declined as much as public investment. Another reference point, often used by planners, is investment "needs" - i.e., the amount of investment that would have to take place to bring the public capital stock up to some planning standard of quality and coverage. The "needs gap" defined this way is always large, but the standards used to measure it

Figure 1 Net Public Investment as a Share of Gross Domestic Product, 1967-85*



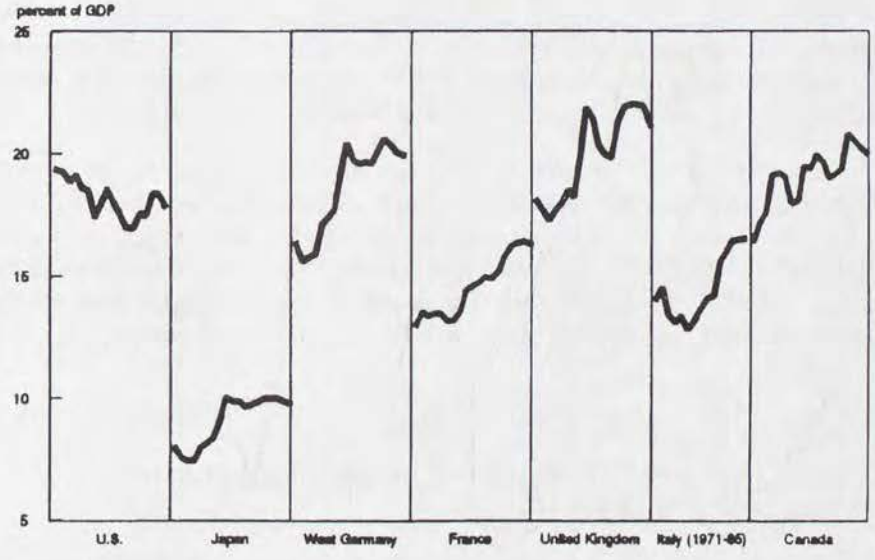
* excludes military expenditures. Data for Italy begin in 1971.

Source: Aschauer (1989b); OECD National Accounts.

are often unrealistically high. That is, planners' goals exceed what tax-payers are willing to pay for, given the impact that investment is seen to have on public service quality. Nevertheless, whether public investment levels are judged by their payoff to private economic growth, by the deteriorating quality of consumption services produced by the public capital stock, or by tax-payer willingness to finance greater capital spending, there does appear to be underinvestment.

The third section of the paper addresses this seeming paradox in the demand for public investment. If it is in business' interest to demand greater government infrastructure spending, and if households are willing to spend more to increase their consumption of real infrastructure services, why does capital investment remain so low? The paper analyzes local voting patterns in the United States, where tax-payer-voters often have the opportunity to vote directly on capital financing proposals, for clues to the distortions that may exist in expressing demand for infrastructure spending.

Figure 2 Public Consumption as a Share of Gross Domestic Product, 1976-85*



* includes military expenditures.

Source: Aschauer (1989b); OECD National Accounts.

Trends in government spending

By way of orientation, Figures 1 and 2 summarize government spending trends in the Group of Seven countries over the period 1967-85. The figures refer to general government spending, and distinguish between public *investment* and public *consumption*. Figure 1 shows the trends in public nonmilitary investment, net of depreciation. In five of the seven countries, there is a marked pattern of decline, most severe in the case of the United States and United Kingdom, where net investment almost reached zero in the first part of the 1980's. (It is in these two countries, as well, that the debate over the infrastructure "crisis" has been most acute.) But also in West Germany net public investment fell from 3.1 percent of GDP to 1.5 percent; in France from 3.5 percent to 1.6 percent; and in Canada from 3.1 percent to 1.0 percent. Even Japan has witnessed a decline since 1979, though

from far higher levels. Public investment as a share of GDP in Japan rose from 3.8 percent in 1967 to 6.8 percent in 1979 before falling back to 4.1 percent in 1985.[1]

As a result of the decline in public investment, the amount of public capital per worker in the economy has begun to decline, and the ratio of public to private capital has fallen. For example, in the United States there was $15,576 (1982 dollars) of public capital per worker in the mid- 1970's. By 1984, the amount of public capital per worker had fallen to $14,224. In contrast, the amount of private capital per worker expanded over the same period from $26,654 to $29,905.

These public investment trends stand in distinct contrast to government consumption spending (including military expenditures). Figure 2 shows that in six of the seven countries public consumption rose rather steadily as a percentage of GDP over the entire period. The exception is the United States, where there has been a slight downward movement. The mix of public spending has been shifting toward consumption, and away from investment, in all of the countries.

2. WHY SHOULD WE BE CONCERNED ABOUT PUBLIC INVESTMENT?

One of the most worrisome trends in the United States and other OECD countries over the past 40 years has been the decline in productivity. In the United States, total factor productivity growth fell from an average annual rate of 2.0 percent between 1950 and 1970 to 0.8 percent between 1971 and 1985.[2] Similar declines have been observed in most European nations (Englander and Mittelstadt 1988).

Attempts to explain the productivity decline have been largely unsuccessful. In the United States, only about one-quarter of the productivity decline has been found to be attributable to specific influences, such as the disappearance of rural to urban migration and a slowing of research and development spending. External shocks, like the energy crisis, exert temporary effects on productivity. Cyclical variations in capacity utilization rates have been shown to be strongly related to short-run changes in the productivity. However, the rest of the secular decline in productivity remains unexplained.

In a series of recent articles, David Aschauer has argued that the slow-down in the growth of the public capital stock has contributed importantly to the slow-down in productivity growth. Indeed, a normalized scale relating change in net public

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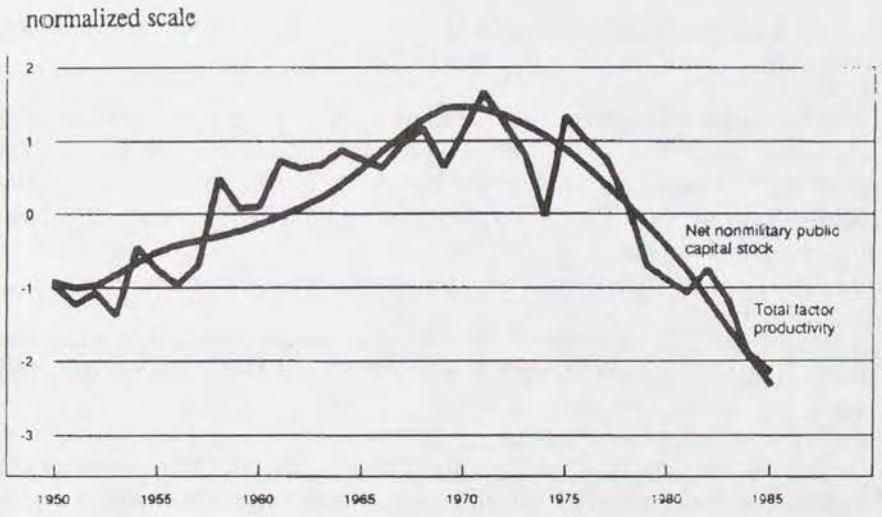
1 Accounting conventions sometimes complicate interpretation of government investment trends. For example, OECD accounts treat government sales of land and capital as negative investment; such sales exacerbate the downward trend of investment recorded for the United Kingdom.

2 Total factor productivity as used here is a weighted average of labor productivity and capital productivity, where the weights are equal to the respective factor shares.

Figure 3 Changes in Total Factor Productivity and Net Public Capital (United States)



Source: Aschauer (1988c).

capital stock to change in total factor productivity for the United States shows that the two series track each other with a modest lag for productivity, in an unusually close manner (see Figure 3). The decline in the amount of public infrastructure capital - like roads, airports, and utility systems - per unit of private input appears to have lessened the productivity of private resources used in the production process.

More formally, this proposition can be tested through a model of aggregate production (Aschauer, 1989b), which explicitly introduces public infrastructure into the production technology,

$$Y_t = A_t^* f(N_t, K_t, G_t)$$

where Y_t = real aggregate output of goods and services in the private sector, N_t = aggregate private sector labor employment, K_t = aggregate stock of private non-residential capital, G_t = aggregate stock of public nonmilitary capital and A_t = measure of productivity (or Hicks neutral technical change). In this model, private production depends both on private inputs and on the availability of public capital to complement the private inputs.

Under the assumption of a generalized Cobb-Douglas technology, we can express the production relation as the function,

$$y_t = a_t + e_N * n_t + e_K * k_t + e_G * g_t$$

where the lower case variables represent logarithms of the upper case variables, and e = elasticity with respect to the different inputs, N, K, and G.

If we also assume that private factors are paid proportionally to their marginal productivities, we can derive expressions for labor productivity, capital productivity, and total factor productivity. For example, private capital productivity becomes a function of the labor/private capital ratio and the infrastructure/private capital ratio.[3] Total factor productivity becomes a function of the ratio of infrastructure capital to a weighted average of private capital and labor inputs.

In the empirical estimates, a measure of the rate of private capital plant utilization is added to control for cyclical effects, and a time variable to control for trend effects.

The results that emerge from an empirical fitting of this estimating equation are striking. The intensity of public infrastructure relative to private inputs is highly significant in all of the productivity specifications. A one percentage point increase in the level of the net stock of public capital relative to the standardized private sector input raises total factor productivity by roughly one-third of a percentage point. At this level of influence, the decline in public infrastructure relative to private capital and labor inputs could explain the larger part of the secular decline in productivity. Between 1950-70 and 1971-85, the rate of growth in the ratio of public capital to private inputs in the United States fell about three percentage points. An elasticity of 0.33 for total factor productivity with respect to this ratio would imply a decline of 1.0 percentage points per year in the growth rate of total factor productivity (see Table 1).

Several of the other results produced by Aschauer (1989a, 1988a, 1988b) add to the strength of his interpretation.

- Private capital productivity is found to be strongly related to the magnitude of public capital available to complement private capital inputs. Alternative specifications using lagged values of the public capital stock produce even better fits. These are consistent with the fact that it takes time for new public investment to yield services that are usable by the private sector. Moreover, they argue against an alternative interpretation of the results, which would hold that public spending (including investment spending) rises in response to output and productivity gains.

- When private capital productivity is estimated as a function of government consumption spending or government military capital, in addition to government

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3 $y_t - k_t = a_t + e_N * (n_t - k_t) + e_G * (g_t - k_t)$

Table 1 Impact of Infrastructure Decline on Total Factor Productivity (percent)

	Average Annual Growth Rates 1950-70	1971-85
Productivity	2.0	0.8
Public capital	4.1	1.6
Ratio of public capital to private inputs	2.4	-0.6

Effect of change in public capital intensity on productivity:

(.33) * [2.4% - (- 0.6%)] = 1.0%

nonmilitary capital, the new variables have no effect on productivity, and do not change the estimated impact of infrastructure. That is, there is no evidence that government consumption spending or military investment enters into private production functions.[4]

- The productivity effects of "core infrastructure" are strongest of all. The elasticity with respect to capital in a core set of infrastructure functions - highways, airports, electrical and gas utilities, mass transit, and water and sewer systems - is several times greater than that with respect to government capital in other functions. The productivity effects become still more pronounced when industry-level productivity is related to public capital directly supportive of the industry. Labor and private capital productivity in the trucking industry, for example, are extremely sensitive to variations in the ratio of public highway capital to private inputs.

- The rate of corporate profit, measured as the gross or net return to private nonfinancial corporate capital, also closely tracks variations in infrastructure intensity. As public capital endowments have declined, so has the corporate profit rate. Aschauer estimates that a 10 percent increase in public capital spending in the United States (or 0.9 percent of GDP), if sustained for five years, would increase the rate of return to private capital by more than a quarter, from a 1984 rate of 9.9 percent to 12.6 percent.

4 Contrast this finding with that of Peter Hall (this volume), who finds military spending to be an important contributor to the development of hightech, high productivity regions.

International comparisons

The same structure of analysis described above can be used to examine differences in productivity levels and trends across countries. When empirical estimates were made for the Group of Seven countries for the period 1967-85, very similar results were obtained as in the analysis of United States data. Labor productivity was found to have an elasticity of roughly 0.4 with respect to the share of infrastructure investment in GDP.[5] At this level of influence, a full 1.2 percentage points decline in the growth rate of labor productivity would have been triggered by the United Kingdom's decline in public nonmilitary investment during the 1970's.

The international estimates also point to a strong difference between the effects of government infrastructure investment and government consumption spending. Government consumption has a negative effect on private output and private productivity. This impact is significant when government infrastructure investment is controlled for, implying that government consumption substitutes in part for private investment (through tax collections). The effect becomes much larger if government consumption is raised without controlling for government investment levels, implying that part of a public consumption increase generally will come at the expense of government nonmilitary capital formation, further depressing growth.

A number of studies in individual European nations are now underway to determine whether the productivity slow-down in these countries can be attributed in significant degree to obsolescence of the public capital stock. Noteworthy among these efforts are two studies being conducted in Sweden (Hansson, in process, and Berndt, Hansson, and Ysander, in process).

Conclusion

The Aschauer findings establish a strong presumption that public infrastructure investment has contributed to productivity growth in the United States and probably in other OECD nations, as well. The persistent decline in infrastructure investment since the mid-1960's appears to have played a significant role in the widely shared productivity slow-down.

Although the macroeconomic context of Aschauer's work is novel, the principal conclusion is not. The ability of public infrastructure investment to stimulate private investment, by raising the productivity (rate of return) of private capital, is a central tenet of development economics, both at the regional and international level. World Bank studies have confirmed in many countries the gains in productivity of private sector capital and labor that are made possible in

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5 The lack of data on public and private capital stocks made it necessary to modify the form of the estimating equation to one that fits output growth to growth in factor usage and the share of infrastructure investment in GDP.

infrastructure investment (Ljung and Farracque 1988; Mera 1973). Similar findings have been reported at the regional level of developed countries, including Sweden (Wigren 1985). One answer to the question, "Why is the magnitude of infrastructure investment important?" clearly is that it directly contributes to private production and economic growth.

For the consumption side of infrastructure services, the injury done by declining infrastructure investment is intergenerational. Because of the long lives of capital facilities, today's tax-payers can enjoy much of the benefits of earlier capital investment, whether or not they tax themselves to maintain and replace the public capital plant they consume. The fact that capital expenditures can be postponed always has been one of their greatest appeals to budget officials. However, the current investment deficits come at a time when other public sector costs also are being deferred to the future. In the United States the accumulation of public debt is well known.

Most OECD countries are accumulating social pension liabilities at a rate that is depleting reserves (Hagemann and Nicoletti 1989). The depletion will accelerate in the future, as the generation of the baby boom reaches retirement age, forcing tax rates to rise to meet payment obligations. Thus the secular downturn in public investment threatens to postpone capital spending to an epoch when other demands on public expenditures are certain to be rising.

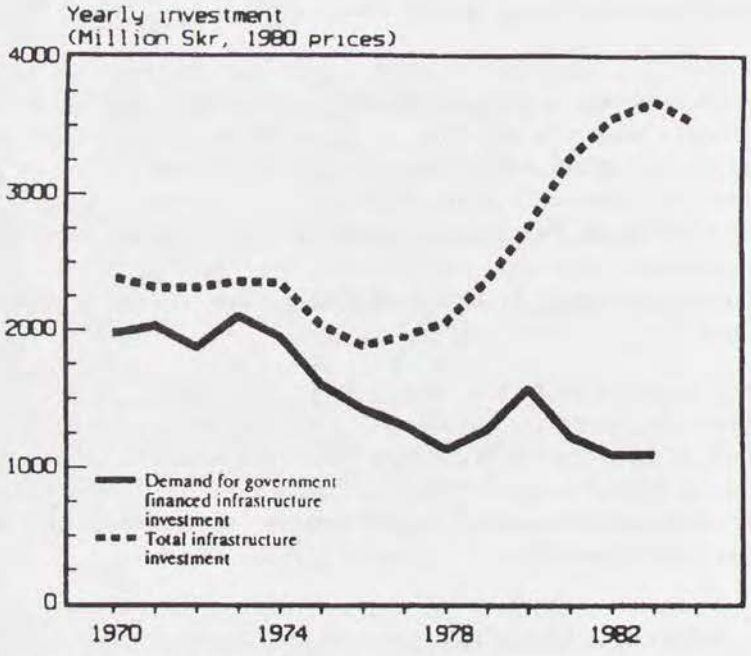
3. IS THERE AN UNDER-SUPPLY OF INFRASTRUCTURE CAPITAL?

The mere fact that infrastructure investment contributes to private productivity, or has suffered a steep and persistent decline, does not establish that we should buy greater amounts of it. This section considers more carefully the "economic growth" and "consumption" arguments for more infrastructure spending.

Interpreting public infrastructure investment trends

First, however, it will be useful to reconsider the meaning of commonly reported public investment trends, such as those illustrated in Figure 1. The infrastructure spending decline can be exaggerated by looking at general government budgets alone. Many infrastructure functions, especially those involving the supply of economic services, can be provided either by private firms, public enterprises, or general purpose governments. In fact, in response to the budget pressures on government, there has been a general shift in capital responsibilities away from the public sector and toward the private sector and parastatals. The most widely publicized privatisation efforts are those that involve complete and sudden breaks with public supply - such as the U.K.'s privatisations of British Gas or the regional water authorities. However, for our purposes the more important phenomenon

Figure 4 Total Infrastructure Investment and General Government Financed Infrastructure Investment for Telecommunication



Source: Sundberg and Carlen (1989).

may be the gradual shift of capital functions from general government to both public enterprises and private firms.

The violently precipitous decline in general government infrastructure spending in the U.K. during the 1970's, for example, has at least in part a specialized cause that exaggerates the overall pattern. During this time government changed from being a significant land developer and capital investor in land improvements to a net seller of improved land. The growth in the net sales of improved land, which enter into the national income accounts as negative capital formation by government, alone account for more than half of the real declining general government capital investment, between 1975 and 1982. The transfer of capital from the public to private sector exaggerates both the decline in government infrastructure spending and the decline in productivity, as well as the linkage between the two.[6]

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6 Under the conventions of growth account and productivity analysis, both private and public enterprise capital, for which firms are charged, are included as private capital in a production function, while general government capital is excluded. Thus the transfer of a capital facility from the public to the private sector, though the facility never changes its function, will (a)

Figure 4 presents another example of this phenomenon. It shows investment trends for the Roads and Telecommunication subsectors of the Transportation and Communication sector of Sweden. As a combined sector, Transportation and Communication displays the recognizable downward trend in publicly financed investment (Sundberg and Carlen, 1989). However, closer examination shows that total investment in telecommunications has been rising rapidly. Moreover, this investment has been undertaken almost exclusively by independent authorities, whose financing has been arranged outside the general government budget, based on service demand. In contrast, road investment, which has to go through the general government budget, is declining in total spending.

In many OECD countries, telecommunications networks are largely or entirely in private hands. These networks also are the fastest growing element of T&C investment. These standard facts almost automatically imply that "infrastructure" investment in the sector will appear to be slowing its growth, over time, as long as infrastructure is identified exclusively with public investment. What is needed is a functional definition of infrastructure rather than a definition based on ownership and source of financing.[7]

The Undersupply Hypothesis: Economic Development Impact

In an economic development context, infrastructure can be said to be "undersupplied" when there is public consensus that faster national growth is desirable, and when a unit investment in infrastructure produces more output than a unit investment in private capital stock. The Aschauer results, reported earlier, do imply that at the margin, in the United States, more output growth can be achieved from public than private investment.

Over the longer term, fears that public investment will "crowd out" private investment seem to have no justification. In the short run, it is true, higher public expenditures of all kinds tend to displace private investment, through tax and financial market effects. However, in subsequent time periods, infrastructure investment stimulates private capital formation rather than crowds it out (Baxter and King, 1988). It does so by raising the rate of return to private capital, and making investment more profitable. Aschauer estimates for the United States an elasticity of total capital formation with respect to infrastructure investment of 1.5 - that is, infrastructure spending eventually stimulates a net 0.5 response in private investment in addition to the direct capital spending. Government consumption

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depress reported private sector productivity (the same outputs are produced, but there is now more private sector capital input), and (b) depress reported infrastructure spending, since sale proceeds are netted out from gross domestic capital function.

7 For example, infrastructure can be defined as capital possessing certain key attributes, such as giving rise to external economies and having to be provided in large units, ahead of demand. See Lakshmanan (1986).

has comparable initial crowding out effects, but since it does not stimulate subsequent private investment, its effects on growth remain negative.

Similar results have been obtained in studies of government spending impacts in the developing world (Ingram 1989). In a study of 24 developing countries, Blejer and Kahn (1984) found that while much public expenditure crowds out private investment, infrastructure investment has the reverse effect of stimulating private investment. In Malaysia (Malaysia 1989), the elasticity of private investment with respect to infrastructure investment has been estimated at 0.25; in Turkey (Chibber and Van Wijnbergen 1988), at 0.35.

The Undersupply Hypothesis: Public Service Demand

When infrastructure is viewed as capital that provides final consumption services, the most common instrument for arguing for higher spending has been the "needs study." During the 1980's, the United States planning profession, the engineering profession, the national association of public works managers, and associations of local political officials all produced infrastructure needs studies.[8] The typical needs study specifies a physical standard that each class of infrastructure facility should meet, then estimates the capital cost of bringing all existing facilities up to that standard. For example, highway investment needs studies typically estimate the cost of upgrading every mile of road surface to a specified physical standard, then add the cost of new construction needed to alleviate congestion. The resulting investment requirements for total infrastructure are very large - often implying an increase of two to three times over current investment levels.

Some state and local governments in the United States have used needs studies such as these as the basis for new infrastructure commitments. For example, the State of Connecticut, following a spectacular and highly publicized bridge collapse, passed an infrastructure financing program that set as its target the upgrading of every mile of road surface and every bridge in the state to "good" condition as defined by the Federal Highway Administration. The target was established without reference to current or projected traffic levels.

Needs studies, however, do not provide a persuasive case for their recommended levels of capital spending. The physical standards against which capital needs are measured are arbitrarily selected. Needs for reinvestment in water distribution lines, for example, have been estimated based upon the "need" to replace all lines older than a given age. This rule of thumb conflicts with evidence gathered throughout the United States and in other countries, like Sweden, which shows that water main failures have only a weak relation to age, and are much more closely correlated with other factors, like material, design, and frequency of

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8 The findings of these needs studies and the methodologies that they use are examined in George E. Peterson et al. (1986).

disruption through excavation. Moreover, the needs studies assume that every below-standard facility should be rebuilt or replaced to meet the standard. Such an approach takes no account of facility usage, consumer willingness to pay for the facility, or the fact that some old facilities of limited use should be phased out altogether, rather than replaced. In retrospect, "needs studies" have proved more effective as devices for capturing public attention for infrastructure than as serious estimates of what public spending levels ought to be.

A more realistic version of needs studies consists of estimates of how much would have to be invested annually in order to maintain current service levels for the consumer. As long as the price of infrastructure capital relative to other goods is not rising, and infrastructure services are normal goods, consumer demand for service quality should increase as consumer incomes rise. A demonstration that service quality is *falling* then would constitute presumptive evidence that too little infrastructure investment is taking place.

In the United States, the Department of Transportation (DOT) first adopted this line of reasoning in the early 1980's, when organizing support for higher gasoline taxes to be earmarked for highway improvements. It demonstrated that by most service measures - average automobile travel speed, road and bridge physical conditions, congestion levels, injury costs from accidents - conditions on the highway system were getting worse, and justified higher levels of highway investment. Public support for a gas tax increase, if revenues were dedicated to road investment, proved to be widespread. Given the sharp increase in investment that has taken place, DOT now estimates that only a modest increase over current spending levels is necessary to maintain overall road and highway conditions at their 1985 levels (Department of Transportation 1989).

Recent studies for other infrastructure elements also have begun to examine more carefully the annual investment costs of maintaining current service quality (National Council on Public Works Improvement 1988). These show that for many public service functions, average service quality is falling due to capital aging and obsolescence.

Conclusion

Most infrastructure elements are not intended exclusively for intermediate usage by private firms *or* final service consumption by households. Rather, they yield joint products. However, this section has demonstrated that analysts can make a plausible case that infrastructure investment currently is undersupplied, whether one looks at the private sector productivity payoff to greater investment or the declining level of service quality enjoyed by consumers. Recognizing the joint nature of infrastructure products would only strengthen the case for higher spending.

4. FINANCING AND THE POLITICAL PROCESS OF DEMAND EXPRESSION

The analysis thus far presents a paradox. There seemingly should be demand for greater infrastructure spending, yet that demand is not manifested in the political process of budget setting. Why?

The Financial Position of Local Government

The simple answer to this question is that most infrastructure spending is carried out by local governments, and since at least the mid-1970's local governments in almost all advanced countries have labored under heavy fiscal pressures.

The dominant role of local government in capital formation by general purpose governments is not always recognized. Table 2 demonstrates that even in centralized countries, it is local governments that have the largest share of gross investment responsibilities. Local government spending also has been the principal factor in the secular decline in infrastructure investment.

Table 2 Local Government Share of General Government Gross Capital Investment (percent)

Country	Local[a] Government Share of Gross General Govt. Capital Investment (1987)
United States	80.0
West Germany	84.0
France	72.3
Italy	66.1
United Kingdom	54.7
Sweden	76.6

[a] Includes "state" or "provincial" governments, as well as local.

Source: OECD National Accounts.

The decline in revenue availability has been partly a function of national grant policy and partly the consequence of an inability to tap potential local tax bases. Still, the paradox remains as to why, in a period of rising incomes, the central-local political system should not be able to mobilize resources for capital investment, when such spending would seem to be in a position to command both business and household support.

We may gain insight into this puzzle by looking more closely at the experience of the United States, then speculating on the similarity of its experience with that of other countries.

Voter Determination of Local Spending

At the local level, governments in the United States have a strong tradition of direct voter control over tax and spending levels. To a reasonably good approximation, local tax and expenditure decisions are made consistently with a public voting model, in which tax-payer-voters vote directly on the combination of tax and spending levels which they prefer, often disaggregated by principal spending functions. Voters have the opportunity in many states to vote directly on school tax rates or other tax levels. In the majority of cities, direct voter approval is required for bonds used to finance infrastructure projects.

In some cases, local voting requirements clearly have been tilted to impose inefficiency and underspending upon capital expenditure decisions. As a result of tax-payer rebellions, cities in California, Massachusetts, and other states now require a two-thirds local vote for bond or tax approval. The requirement that more than a majority of voters approve a new bond issue has been devastating to general obligation bond funding. It also has perverse implications for infrastructure spending, since it implies that even if the majority of citizens want to undertake more capital financing, they can be frustrated by their failure to enlist two-thirds support for the bond issue to finance it. Such voting rules can be justified only if one takes literally the presumption of American fiscal conservatives that there is such a built-in bias in government toward public spending that extreme rules must be imposed to overcome it.

The specifics of more-than-majority voting regulations are peculiar to local government in the United States. However, in most European countries, local governments also have had their freedom of expenditure decision making curtailed in ways that make it harder to finance capital spending. In the United Kingdom, at various times over the last 15 years, local governments have been subject to draconian claw-back provisions for central grants, which made the marginal costs of spending beyond a centrally imposed norm far in excess of 100 percent, and to blanket capital expenditure ceilings imposed by central government. Under the newest reforms, local governments have lost altogether their ability to tap other tax bases than the head tax. (It should be noted that, analogous to the United States, at one point in this process a Parliamentary proposal was drawn up that would have required local authorities to get express voter approval for spending above centrally determined limits - at super majority rates of approval.)

In Italy since 1977 the central government has imposed limits on local expenditure increases (Drouet 1988). In West Germany, the central grant system has been revamped to raise the local cost of infrastructure maintenance and investment.

It is fair to say that in none of these countries do local governments have the authority to reflect, as directly as possible, the "majority will" regarding local public expenditures and taxes.

Political Intimidation by Voting Requirements

In the United States, at least, aggressive imposition of stiffer voting requirements, besides acting as a direct restraint on local public expenditures, has left a strong residue of apprehension among local public officials. Officials are reluctant even to *propose* expenditure and tax increases for voter consideration, out of fear of rejection.

In a curious juxtaposition of trends, during the early 1980's, when real infrastructure investment was declining, the *rate* of approval for infrastructure bond issues hit a new high. More than 80 percent of the local infrastructure bond proposals actually put before voters were approved. The average margin of voter approval in bond referenda exceeded 65 percent. These high rates of approval, however, were more than offset by the lower number of proposals put forward by local government leaders.

The experience with tax-payer revolts appears to have produced a situation where politicians perceive far more risk in voter rejections of expenditure proposals than they do in taxing too little and undersupplying infrastructure facilities.

Failure to Take Advantage of the Joint Products of Infrastructure

As emphasized in the previous section, the typical infrastructure facility delivers joint products - intermediate services to private producers and to the public sector itself, as well as final services to household consumers. To date, however, most pricing and political strategies for building support for infrastructure investment have failed to take advantage of the joint nature of the infrastructure product.

The possibilities of enlisting such support are manifold, and have been realized in some of the recent infrastructure bond campaigns in the United States. One strategy is to sharpen pricing allocations, so as to reduce the cost burden on the general tax-payers who must approve a bond issue. For example, Kenneth Small and Clifford Winston have recently proposed a truck fee system that charges for use of interstate highways according to axle weights, in recognition of the fact that road damage rises geometrically in relation to axle weights (Small et al. 1989). The proposed pricing system would increase economic efficiency, by encouraging truckers to change local configurations to designs that impose less wear and tear on highways. It would raise revenues. By shifting more of the cost burden to specialized uses, it would lessen the costs on general tax-payers highway finance; if marketed intelligently, such a system should increase the chances of voter approval of major expenditure initiatives. Opportunities for pricing adjustments that explicitly recognize the joint character of infrastructure products abound in other types of facilities.

Another strategy is to pay for general government infrastructure with a mix of general taxes that tries to match the mix of business/household tax burdens with the mix of infrastructure benefits to the two sectors. For example, in Cleveland, Ohio, the business community took the lead in demanding higher levels of capital spending, so that the region could restore its business cost competitiveness. Business leaders led the campaign for an increase in the local income tax rate - where the burden falls largely on higher income individuals - once they were assured that the increased revenues would be earmarked exclusively for capital reinvestment and once they gained a role in identifying specific project priorities for investment.

It at least deserves investigation whether a parallel situation has arisen in Swedish metropolitan areas. Has business and tax-payer resistance to general tax increases been misinterpreted as equivalent to opposition to upgrading the quality of public infrastructure, when in fact both constituencies would willingly support more investment if they could be certain that new revenues would be targeted specifically to infrastructure improvement?

REFERENCES

Aschauer, David Alan. 1989a. *Is Public Expenditure Productive?* **Journal of Monetary Economics 23** (1989), pp. 177-200.

Aschauer, David Alan. 1989b. *Public Investment and Productivity Growth in the Group of Seven*. **Economic Perspectives**. September/October, pp. 17-25. Federal Reserve Bank of Chicago.

Aschauer, David Alan. 1988a. **Does Public Capital Crowd Out Private Capital?** Federal Reserve Board of Chicago, SM-88-10.

Aschauer, David Alan. 1988b. *Government Spending and the Falling Rate of Profit.* **Economic Perspectives**. pp. 11-17. Federal Reserve Bank of Chicago.

Aschauer, David Alan. 1988c. *Rx for Productivity: Build Infrastructure.* **Chicago Fed Letter**. September.

Baxter, Marianne and Robert J. King. 1988. **Multipliers in Equilibrium Business Cycle Models**. University of Rochester Center for Economic Research, Working Paper No. 166. November.

Chibber, Ajay and Sweder van Wijnbergen. 1988. **Public Policy and Private Investment in Turkey**. World Bank Planning and Research Working Paper No. 120. October.

Department of Transportation. 1989. **The Status of the Nation's Highways and Bridges: Conditions and Performance**. Washington, D.C.: U.S. Government Printing Office.

Drouet, Dominique. 1988. **Urban Infrastructure Management Trends in Europe**. Paper prepared for international workshop, Urban Utilities and Infrastructure Management. April 1989.

Englander, A. Steven and Axel Mittelstadt. 1988. *Total Factor Productivity: Macroeconomic and Structural Aspects of the Slow-down*. **OECD Economic Studies. 10**, pp. 8-56. Spring.

Hansson, Bengt, *Productivity Growth: An International Comparison*. **Research project in progress**, Uppsala University.

Hansson, Bengt, E. Berndt and B-C. Ysander. *Public Investment and Private Productivity*. **Research project in progress**, Uppsala University.

Hagemann, Robert P. and Giuseppe Nicoletti. 1989. *Population Aging: Economic Effects and Some Policy Implications for Financing Public Pensions*. **OECD Economic Studies. 12**, pp. 51-96. Spring.

Ingram, Gregory K. 1989. **Note on the Macroeconomic Linkages of Infrastructure**. World Bank Infrastructure Division. October.

Lakshmanan, T.R. 1986. **Infrastructure and Economic Transformation**. CERUM working paper. 1986:23.

Malaysia: Matching Risks and Rewards in a Mixed Economy. 1989. World Bank Country Study.

National Council on Public Works Improvement. 1988. **Fragile Foundations: A Report on America's Public Works**. Washington, D.C.: U.S. Government Printing Office.

Pagano, Michael A. 1986. **How the Public Works: Major Issues in Infrastructure Finance**. Washington, D.C.: The National League of Cities. September.

Peterson, George E., et al. 1986. **Infrastructure Needs Studies: A Critique**. Washington, D.C.: The Urban Institute.

Peterson, George E., et al. 1984. *Guide to Financing the Capital Budget and Maintenance Plan*. Vol. 6 of the series, **Guides to Managing Urban Capital**. Washington, D.C.: The Urban Institute. 1984

Shah, Anwar. 1988. **Dynamics of Public Infrastructure and Private Sector Profitability and Productivity**. World Bank Infrastructure Division (processed).

Small, Kenneth A., Clifford Winston, and Carol A. Evans. 1989. **Road Work: A New Highway Pricing and Investment Policy**. The Brookings Institution.

Sundberg, Lennart, and Göran Carlen. 1989. *Allocation Mechanisms in Public Provision of Transport and Communication Infrastructure*. **Annals of Regional Science**. pp. 1-16. August.

Wigren, Rune. 1985. *Productivity and Infrastructure: An Empirical Study of Swedish Manufacturing Industries and Their Dependence on the regional Production Milieu*. In Folke Snickars, Börje Johansson, and T.R. Lakshmanan, **Economic Faces of the Building Sector**. Swedish Council for Building Research.

EUROPEAN CITY SYSTEMS

HIGH-TECHNOLOGY INDUSTRY AND THE EUROPEAN SCENE

by

Peter Hall

This paper draws on the results of two parallel sets of studies of the high-tech phenomenon - one for Great Britain, the other for the United States (Breheny and McQuaid 1985; Markusen, Hall and Glasmeier 1986; Hall, Breheny, McQuaid and Hart 1987; Hall and Preston 1988; Markusen, Hall, Campbell and Deitrick 1990). Together with other, partial studies by other authors (Dorfman 1982, 1983; Saxenian 1985, 1988; Begg and Cameron 1988), they allow us for the first time to draw some balanced general conclusions about high-tech location.

In particular, they provide a partial answer to four questions. *What* is high-tech industry? *How many* jobs does it create? *Where* does high-tech locate? Does it cluster in a few locations, the so-called Silicon Landscapes (Hall and Markusen 1985)? Are these in major metropolitan areas? Is it decentralizing into other regions and cities? Finally: *Why?* Is there a general theory of high-tech location? How effectively does it fit the facts?

1. WHAT? PROBLEMS OF HIGH TECH DEFINITION

Everyone knows that high-technology includes such industries as information technology, biotechnology and similar technologies at the scientific and technological forefront. Some definitions also include related service industries that make intensive use of information and communication technology, particularly the so-called producer or business service sector. But what have these industries in common? Various attempts at definition have used very different methods and have produced very different results; one is based on technical sophistication, another simply on growth rates, another on research and development intensity. All have problems. Therefore, the American and the British studies used a different criterion: occupational profile. High-tech industries, are those in which the percentage of scientific and technological occupations is greater than the industrial average. Because of data limitations on the American side, these two studies restricted themselves to high-tech manufacturing.

Table 1 Great Britain and United States: Hitgh Tech Employment, 1971/2-1981 (thousands)

Great Britain				United States			
	1981	1971-1981	%		1981	1972-1981	%
Pharmaceutical Chemicals etc	69.3	-3.3	-4.6	Pharmaceutical Preparations	130.5	+18.5	+16.5
Telegraph and Telephone	64.5	-19.8	-23.5	Telephone, Telegraph App.	147.4	+13.0	+9.7
Radio and Electronic etc.	103.1	-25.2	19.6	Radio, TV Transmissn. etc.	426.9	+107.7	+33.7
Broadcast Receiving etc.	37.5	-10.8	-22.4	Electronic Computing Eqmt.	320.7	+175.9	+121.5
Electronic Computers	42.1	-8.0	-16.0	Aircraft	301.1	+69.5	+30.0
Radio, Radar, etc. Capital Goods	100.1	+6.0	+6.4	Electronic Components, NEC	190.0	+89.5	+89.1
Aerospace Equipment etc.	197.3	-14.1	-6.7	Semiconductors, Related Eqmt.	169.5	+71.9	+73.7
				Construction Machinery Eqmt.	145.9	+12.1	+9.0
				Aircraft Parts, etc.	140.3	+38.1	+37.3
				Aircraft Engines, Parts	140.3	+35.3	+33.7
TOTAL (7)	613.9	-75.2	-10.9	TOTAL (10)	2112.3	+631.5	+42.6
TOTAL (43)	3253.2	-366.6	-10.1	TOTAL (100)	5475.2	+1080.7	+24.6

Source: Breheny and McQuaid 1985, based on GB Annual Census of Employment; Markusen, Hall and Glasmeier 1986, based on U.S. Annual Survey of Manufacturers, 1981, and Census of Manufacturers, 1972 and 1977.

In the American study, this criterion gave 29 high-tech industrial sectors embracing exactly 100 high-tech separate industries, ranging from electronic computing equipment, semiconductors and related devices, aircraft and parts, guided missiles and space vehicles and parts and surgical and medical equipment to soap and other detergents, nitrogenous fertilizers, printing ink and carbon black. The British definition consists of only seven 3-digit sectors [as defined in the 1968 version of

the Standard Industrial Classification]: pharmaceutical chemicals and preparations; telegraph and telephone apparatus and equipment; radio and electronic components; broadcast receiving and some reproducing equipment; electronic computers; radio, radar and electronic capital goods; aerospace equipment manufacture and repair.

2. HOW MANY? HIGH TECH AND JOB CREATION

High-tech job creation proves equally difficult to capture, because high-tech industries are constantly created and subdivided. In 1950, official statistics did not recognize a computer industry; in 1920, they did not identify a radio industry. So comparisons must be restricted to the short term. Table 1 shows the pattern of high-tech change in Britain and the U.S. during the 1970's.

It shows a striking contrast. The American economy gained 1,081,000 high-tech manufacturing jobs during the 1970's, of which 728,000 were in the second half of the decade. But Britain recorded actual losses of 48,000 and 42,000 in the equivalent periods. For individual industries, though the comparisons are complicated by differences of classification, the comparisons are equally telling. In the United States, high-tech industries contributed 87 percent of an impressive 1,235,000 gain in manufacturing jobs over the decade; in Britain, high tech actually contributed a small amount to a loss of 1,963,000 manufacturing jobs - almost 25 per cent of the 1971 total. At best, high-tech helped slightly to reduce the overall rate of decline. Further, there was no change in this position in the early 1980's; high-tech industries [by now differently defined] shed a further 13,200 jobs from 1981 to 1984 (Breheny and McQuaid 1985, 7).

Even in the United States, over a quarter of the 100 industries recorded job losses over the period. And, of the 72 that gained, a mere six - computing, radio and TV communications, electronic components, semiconductors, aircraft, and oil field machinery - accounted for no less than 53 percent of all high-tech job growth during the period. But the highest percentage gains came from smaller industries, principally energy-related in the middle 1970's, principally defence-related in the late 1970's. It needs underlining that high-tech industries, especially defence-related ones, tend to have volatile growth patterns.

3. WHERE? THE GEOGRAPHY OF HIGH TECH

In Great Britain, high technology jobs are heavily concentrated. Table 2, based on work by Begg and Cameron (Begg and Cameron 1988), shows that both manufacturing and service jobs are overwhelmingly found in the outer part of the South East region, outside London, and in the adjacent South West region; service jobs are also over-represented in East Anglia.

Table 2 Great Britain: High-Technology Industry, Location Quotients, 1981 and 1984

	Manufacturing		Services		All	
	1981	1984	1981	1984	1981	1984
SE	1.19	1.16	1.54	1.51	1.30	1.28
GL	0.77	0.71	1.63	1.60	1.04	1.01
ROSE	1.60	1.58	1.45	1.42	1.55	1.53
SW	1.21	1.30	1.02	0.97	1.15	1.19
EA	0.61	0.87	1.20	1.46	0.79	1.06
EM	1.10	0.98	0.54	0.60	0.93	0.85
WM	0.99	0.88	0.76	0.78	0.91	0.84
NW	1.14	1.13	0.76	0.67	1.01	0.97
YH	0.48	0.43	0.55	0.54	0.50	0.47
N	0.83	0.96	0.52	0.57	0.73	0.83
Wa	0.70	0.78	0.55	0.67	0.65	0.74
S	0.76	0.84	0.75	0.68	0.76	0.78
GB	1.00	1.00	1.00	1.00	1.00	1.00

Source: Begg and Cameron 1988.

Table 3 shows that sub-regionally, there are two main core areas: one, by far the more important, consisting of London and the counties immediately north and west of it, the other in North West England. In 1981 Greater London recorded over 91,000 high-tech jobs; a ring of counties to the west and north - the "Western Crescent", stretching from Hampshire round to Hertfordshire - had some 124,000. In the north west, Greater Manchester had over 27,000 jobs while Lancashire, immediately to the north of it, recorded 30,000. Scotland's "Silicon Glen" had relatively few jobs in comparison: 24,000 in Strathclyde, 9,000 in Lothians region, 8,000 in Fife. Thus, of a total of 641,000 high-tech jobs in Great Britain, London and its "Western Crescent" had over 32 percent; the two north-western counties had close on 9 percent; Central Scotland a mere 6 percent. These figures partly reflect the general concentration of employment. Relative concentrations of high-tech industry, as measured by location quotients, give a rather different picture [Table 4]: Hertfordshire [3.60] leads the list, followed by Avon with 2.32, Fife with 2.24 and Somerset with 2.11 (Breheny and McQuaid 1985, 11).

The American statistics [Tables 5 and 6] show a similar concentration. Some 42 per cent of all high-tech employment, in 1977, was in five major areas including a total of just ten states. An additional 7 per cent was found in five other states - Florida, Minnesota, Kansas, Colorado and Utah - bringing the total share to very nearly one half. Here, too, absolute employment totals tend to be highest in major industrial states, many of which prove to have weak relative high-tech concentrations as measured by the location quotient.

Table 3 Great Britain: Concentrations of High Tech, by County Groupings, 1981

	Employment	L.Q.
1. London Western Crescent		
Greater London	91,400	0.85
Hertfordshire	45,100	3.60
Hampshire	33,800	2.00
Berkshire	19,700	2.04
Buckinghamshire	6,900	1.15
Surrey	18,200	1.79
Total	215,000	
2. North West England		
Greater Manchester	27,300	0.86
Lancashire	30,000	2.01
Total	57,300	
3. "Silicon Glen" (Central Scotland)		
Strathclyde	23,600	0.88
Lothians	9,000	0.93
Fife	8,100	2,24
Total	40,700	
Great Britain	640,900	

Source: Breheny and McQuaid 1985; based on G.B. Annual Census of Employment.

Of the five major groupings in Table 5, two - those located in the older manufacturing belt - grew more slowly than the national average. New Jersey, with 4.9 per cent of national high-tech jobs in 1977, had actually suffered a fall in jobs since 1972; Illinois, with 7.6 percent, had reported a mere 1 percent of new high-tech jobs in the preceding period. Conversely, some Sunbelt states showed major gains: Utah with a mere 0.5 percent of jobs had registered 1.5 percent of new jobs, Texas with 6.0 percent had posted a 12.9 percent gain in employment.

At a finer spatial scale, the five major core areas, with the exception of the Chesapeake/Delaware River group, were decentralizing locally outwards into neighbouring states [Table 7]. Thus California grew less rapidly than Arizona or Nevada; Texas less rapidly than Oklahoma and Arkansas; Massachusetts less rapidly than Vermont and New Hampshire. This does not necessarily mean that

Table 4 Great Britain: Major Conentrations of High Tech, By County, 1981

Ranked by Employment;		Employment	L.Q.	Ranked by Location Quotient:		L.Q. Employment
1	Greater London	91,400	0.85	1 Hertfordshire	3.60	45,100
2	Hertfordshire	45,100	3.60	2 Avon	2.32	24,200
3	West Midlands	36,500	1.02	3 Fife	2.24	8,100
4	Somerset	33,800	2.11	4 Somerset	2.04	33,800
5	Hampshire	33,800	2.00	5 Berkshire	2.04	19,700
6	Lancashire	30,000	2.01	6 West Sussex	2.03	14,700
7	Gtr Manchester	27,300	0.86	7 Lancashire	2.01	30,000

Source: Breheny and McQuaid 1985; based on GB Annual Census of Employment.

plants were moving from California to Arizona, or from Massachusetts to New Hampshire; the growth in these fringe states may well have come from elsewhere. In Britain a similar pattern of outward shift is evident [Table 8]. Between 1975 and 1981 Greater London lost 15.7 percent of its high-tech jobs, while the counties to the north and west made corresponding gains: Hampshire grew by 6.8 percent, Surrey by 11.1 percent, Hertfordshire by 15.1 percent, and Berkshire by a staggering 62.6 percent (Hall, Breheny, McQuaid and Hart 1987, 35). The same happened in the north-west, where Greater Manchester lost jobs while neighbouring Lancashire gained; and in central Scotland, where Strathclyde lost and Lothians gained. Again, the reservation is necessary that these gains did not necessarily mean actual shifts of high tech from London to the Home Counties.

At an even finer grain, the same tendencies to deconcentration are found. In the United States, there exists a number of metropolitan high-tech clusters, each composed of a large central SMSA [Standard Metropolitan Statistical Area] and several neighbouring smaller SMSAs, within which the smaller peripheral units demonstrated faster growth than the big central one. In the Los Angeles Basin, the Los Angeles SMSA - the top metropolitan area in terms of high-tech jobs and plants in 1977 - recorded a marginal contraction in high-tech jobs over the period 1972-77, while the adjacent Anaheim-Santa Ana-Garden Grove SMSA posted a 49 per cent job increase and other adjacent SMSAs [Oxnard-Ventura, Santa Barbara, Bakersfield, Fresno] recorded even higher rates of growth. In the cluster of SMSAs that constitute the San Francisco Bay Area, San Francisco recorded a 17 per cent increase, while neighbouring San Jose [Silicon Valley] posted four times as many new jobs while Santa Cruz, even farther out, more than doubled its high-tech employment.

Table 5 United States: Major Concentrations of High Tech, by State Groupings, 1977

	Employment	L.Q.
1. Pacific southwest		
Clifornia	641,300	1.49
Arizona	45,900	1.80
Hampshire	33,800	2.00
Total	687,200	
2. Western Gulf		
Texas	285,700	1.33
Lousiana	563,400	1.22
Oklahoma	53,900	1.38
Total	396,000	
3. Chesapeake/Delaware River		
New Jersey	232,300	1.23
Maryland	48,400	1.60
Total	280,700	
4. Old New England		
Massachusetts	204,600	1.43
Connecticut	160,000	1.85
Total	364,600	
5. Lower Great Lakes		
Illinois	360,600	1.15
Total	360,600	
Great Total (5 areas)	2,009,200	
U.S.A.	4,760,1000	

Source: Markusen, Hall and Glasmeier 1986.

Table 6 United States: Major Concentrations of High Tech, by State, 1977

Ranked by Employment;		Employment	L.Q.	Ranked by Location Quotient:		L.Q.	Employment
1	California	641,300	1.49	1	Arizona	1.80	45,900
2	Illinois	360,300	1.15	2	Connecticut	1.65	160,100
3	New York	336,800	0.98	3	Kansas	1.63	62,800
4	Pennsylvania	314,300	0.96	4	Maryland	1.60	48,500
5	Ohio	295,100	0.91	5	Colorado	1.57	52,900
6	Texas	285,700	1.33	6	California	1.49	641,300
7	New Jersey	232,300	1.23	7	Massachusetts	1.43	204,600

Source: Markusen, Hall and Glasmeier 1986.

The same pattern is evident in South East England. While the London FUR [Functional Urban Region] recorded a decline in high-tech jobs between 1975 and 1981, several FURs within the Western Crescent - Hemel Hempstead [Herts], Bracknell [Berks], Reading [Berks] and Portsmouth [Hants] - showed the fastest rates of high-tech employment growth of any in the country. So, more surprisingly, did the FURS of Harlow and Cambridge along the so-called M11 Corridor north-east of London - often supposed to be a line of high-tech growth - and, farther out, Swindon. Very probably, both Cambridge and Swindon have seen a dramatic upswing since 1981, when this series of figures stops; we have detailed figures only for Berkshire in 1984, which show that the new town of Bracknell is by far the

Table 7 United States: High Tech Employment Change, Selected States, 1972-1977

		Employment 1977	Employment Change 1972-77 Abs.	%
1	California	641,300	97,200	17.9
	Arizona	45,900	9,500	26.1
	Nevada	3,500	1,700	94.4
2	Texas	285,700	49,300	20.9
	Oklahoma	53,900	13,800	34.4
	Arkansas	38,000	12,300	47.9
3	Massachusetts	204,600	22,200	12.1
	New Hampshire	29,500	4,300	32.9
	Vermont	17,200	4,400	34.4

Source: Markusen, Hall and Glasmeier 1986.

Table 8 Great Britain: High Tech Employment Changes, Selected Counties, 1975-1981

		Employment 1977	Employment Change 1972-77	
			Abs.	%
1	Greater London	91,448	-17,012	-15.7
	Hertfordshire	45,060	5,914	15.1
	Berkshire	19,732	7,600	62.6
	Surrey	18,191	1,811	11.1
	Hampshire	33,807	2,179	6.8
2	Greater Manchester	27,300	-2,980	-9.8
	Lancashire	30,003	1,392	4.8
3	Strathclyde	23,575	-3,847	-14.0
	Lothians	9,042	1,461	19.3

Source: Breheny and McQuaid 1985, based on G.B. Annual Census of Employment

leading centre with an estimated 9,000 high-tech jobs, followed by Reading and Slough with an estimated 6,000 each (Breheny and McQuaid 1985, 20).

The picture that emerges of British high-tech, then, is one of concentration not so much in the "Western Corridor" so emphasized by the media, as in a much broader "Western Crescent" that sweeps round London from the north-west to the south-west, within which employment is deconcentrating out of London into towns some 25-40 miles distant such as Reading, Bracknell and Hemel Hempstead. Within it - or at least within the Berkshire portion of it - a notable feature is the relatively low proportion of actual manufacturing workers [about 44 per cent] and, correspondingly, the relatively high proportion of office workers [33 per cent]. This, which is clearly related to the large number of small indigenous firms that have no other facility, may make the area relatively resilient to recession in comparison with other areas, such as Central Scotland, that concentrate on volume production for companies headquartered elsewhere.

4. WHY? EXPLAINING HIGH TECH GENESIS AND GROWTH

Conventional neoclassical location theory (Weber 1929; Hoover 1948), is not very useful in explaining why high-tech industries are where they are. Materials and market pulls are not relevant; labour may be a more significant factor, with a minority of high-paid scientists pulling the industries to amenity-rich locations (Berry 1970), the second drawing it to low-wage areas. But American high tech does not appear to be attracted by features of the labour force such as wage rates or unionization; it is much more positively drawn to places with good amenities

like climate and a wide range of educational facilities, by access features like freeways and airports, and by the presence of agglomeration economies in the form of major headquarters offices and concentrations of specialised business services (Markusen, Hall and Glasmeier 1986, Chapter 9). Agglomeration economies may be highly significant in early stages, tending toward an industrial quarter such as was once typical of inner-city locations (Marshall 1920).

The historical evidence however suggests that from an early date, high-tech industry tended to leave the inner-city seed-beds. London's Western Crescent can be traced from such a seed-bed in Pimlico and Lambeth, in the very heart of London; yet the process of out-migration was in train as early as 1900, and continued throughout the twentieth century (Hall, Breheny, McQuaid and Hart 1987, Chapter 7). In the United States, similarly, the precursors of the electronic industries came out of central Boston and Manhattan in the 1870's, yet Edison soon took his laboratory to Menlo Park in New Jersey, then beyond the urban fringe; in another wave of development, after World War Two, electronics developed in suburban locations at the metropolitan fringe, as along Route 128 around Boston, in Silicon Valley and in Orange County, California (Hall and Preston 1988, Chapters 8 and 13; Markusen, Hall, Campbell and Deitrick 1990, Chapters 5 and 6).

The Innovative Milieu

To explain such phenomena, a new and eclectic theory is needed. It must centre on the dynamic nature of such industries, using elements such as the product cycle theory of Raymond Vernon (Vernon 1966) and by the related theory of long-wave cyclical innovation swarming as developed by Kondratieff and Schumpeter (Kondratieff 1935; Schumpeter 1939; Mandel 1975, 1980; Mensch 1979; Freeman, Clark and Soete 1982; van Duijn 1983; Clark, Freeman and Soete 1984; Marshall 1987). This suggests that at regular intervals, a bunch of product innovations create new high-tech industries, dominated by new small firms that agglomerate in a particular urban location; later, with maturity and larger firm size, some of these establish branches or relocate outside this core (Markusen 1985).

This leaves open the central question of the locale of the original innovative cluster. Studies in economic history (Clapham 1910; Carus-Wilson 1941; Checkland 1975) suggest that older-established industrial areas may develop some kind of hardening of the economic arteries, so that they actually discourage innovation. Conversely, some kinds of urban areas may become so-called innovative milieux (Aydalot 1986; Aydalot and Keeble 1988; Andersson 1985a, 1985b; Andersson and Strömquist 1988).

The Role of Defence Spending

However, increasingly, innovation comes from well-organized and well-funded research units, in which defense expenditure has played a crucial role. Even in the late nineteenth century, the rise of Berlin as high-tech capital of world was largely due to defense orders from the German War Office and Post Office (Hall and Preston 1988, Chapter 8). The western movement of London's Western Crescent was strongly influenced by the concentration of research in the Government Research Establishments [GREs], mainly defense-related, in this sector (Buswell and Lewis 1970; Howells 1984). These GREs are located here for a variety of reasons, some going back far into history - as for instance the Naval establishments around Portsmouth, or the Royal Aircraft Establishment at Farnborough near Aldershot, where the Royal Engineers placed their new Balloon School in 1892 (Hall, Breheny, McQuaid and Hart 1987, Chapter 8). More generally, the research establishments were all located close to London, the centre of the scientific and military establishments, which placed their training and research establishments in nearby military garrisons; thence, inertia exerted a powerful influence.

Similarly, in the United States, the post-World War II rise of both Massachusetts and Southern California was strongly associated with concentrations of defense research expenditure there (Hall, Breheny, McQuaid and Hart 1987, Chapter 8; Markusen, Hall, Campbell and Deitrick 1990, Chapters 5 and 6). Malecki's work shows that in the United States, industrial R & D is largely conducted in older industrial cities, many of them headquarters of old-established industrial corporations; but that Federal R & D, much of it defense- or space-related, tends to be concentrated in the so-called Sunbelt (Malecki 1980a, 1980b, 1980c, 1981a, 1981b).

The reason for this concentration is however not as simple as it seems. In the outstanding case of Southern California, the infant aircraft industry began to cluster here in the 1920's and 1930's, because of an early interest on the part of a few key pioneer manufacturers, boosted powerfully by academic and military figures around the California Institute of Technology at Pasadena, which already by the late 1930's provided the germ of a vast military research complex; thence, inertia caused further increments of R & D to be concentrated in the area, especially during the crash Intercontinental Ballistic Missile program of the mid-1950's (Hall 1988; Markusen, Hall, Campbell and Deitrick 1990, Chapter 5).

Insofar as it is possible to generalize from a great variety of individual cases, the story involves a few "founding fathers", sometimes manufacturers and sometimes academic researchers, who forge crucial personal links with the military establishment at times of crisis [World War II; the Cold War]. This effectively locks R & D, and hence production, into a few locales. Sometimes, as in Greater Boston, this will be a very old-established centre of intellectual scientific endeavour, which is transformed into an innovative milieu; sometimes, as in Los

Angeles, it will be a relatively less-developed frontier area, without previous industrial traditions but with a very open attitude to new ideas and new products. Critical therefore is the *synergy* between creative individuals in different fields, working within an *innovative milieu*, in unique *geopolitical circumstances* which release huge research funds to support speculative research, not subject to normal commercial disciplines (Markusen, Hall, Campbell and Deitrick 1990, Chapter 3). Through a process of spin-off, the new defense-related industries may then spin off commercial applications, as happened with the mini-computer in the Greater Boston area, and the whole semi-conductor industry - plus its later development, the micro-computer, in Silicon Valley (Rogers and Larsen 1984; Hall 1985; Saxenian 1985a, 1985b); but such spin-off is by no means guaranteed, as the dismal experience of Britain's high-tech concentrations clearly shows (Hall, Breheny, McQuaid and Hart 1987; Saxenian 1988). In successful cases, the very existence of one firm tends to cause progressive spawning-off through break-aways by innovative individuals; very naturally, therefore, an agglomerated industrial quarter develops (Freiberger and Swaine 1984; Scott 1986).

The lessons from this experience seem to be as follows.

First, new high-tech industrial traditions now increasingly or exclusively stem from fundamental advances in research - as in the case of the discovery of the transistor, at Bell Labs in 1947, which led to the entire development of the semiconductor industry. These will take place either in university laboratories or in specialized industrial laboratories; the subsequent development will usually occur in the latter.

Second, however, not all fundamental research will produce such outcomes: in the American work, when high-tech location and growth was regressed at SMSA level against a series of possible explanatory variables, R & D intensity [as measured by the volume of federal research contracts] did not emerge as significant; defense spending did. This suggests that there also needs to be an overriding necessity, whether commercial or defense-related, which will carry the research through to successful prototype development.

Third, it is not easy to generalize about the location of the original research: it may occur in old-established industrial cities which may even be in a state of industrial decline [as Greater Boston was in the 1950's and again in the 1970's] or in newer frontier cities. What is crucial is a strong commitment to research on the part of the funding bodies, whether the funds come from local or outside sources. It does appear however that a law of scientific agglomeration operates, whereby top-rated universities increase their attractiveness to outside funders. Significantly, the areas where the nascent biotechnology industry is developing include several of the zones of concentration of information technology a generation earlier, including the San Francisco Bay Area and the Greater Boston area (Hall and Webber 1987; Hall, Webber, Bornstein and Grier 1988).

5. INNOVATION AND THE EUROPEAN URBAN SYSTEM

What conclusions can be drawn for the future? There exist two major empirical studies of change in the European urban system (Hall and Hay 1980; Cheshire and Hay 1989). The latter reinforces and extends the analysis of the former, though it refers only to the EC countries: deconcentration and even deurbanization - the decline through out-migration of entire urban areas - are now commonplace phenomena throughout western Europe; so is deindustrialization, though this is a quite different phenomenon with different causes; however, the two processes may interact in a number of larger, older, industrial and/or port cities. What is crucial is the ability of a city - more precisely, a Functional Urban Region - to handle successfully the transition from the manufacturing and goods-handling economy to the services and information-handling economy, which includes both high-tech manufacturing and producer services. A city may be in decline demographically and even economically, as measured by numbers of jobs and people, and yet be fundamentally healthy because it is rapidly adjusting its economy: Amsterdam, Bologna, Copenhagen, Frankfurt and Hamburg are examples of such healthy decline (Cheshire and Hay 1989, 121).

The critical question therefore concerns this ability for adjustment. A good deal of evidence suggests that a kind of circular and cumulative process is at work here; regions and cities that are already oriented toward information-processing have a much higher take-up of innovation in such processing, and hence tend to encourage innovation in the manufacturing sector; this in turn aids local diffusion, and encourages further innovation in the information-using service sector. Consequently, it is argued, a growing divergence tends to appear between information-rich and information-poor regions, despite the apparent widespread diffusion of technology (Daniels 1986; Goddard, Thwaites and Gibbs 1986; Goddard and Gillespie 1987; Gillespie and Green 1987; Harris 1988; Marshall et al 1988).

If this is so, then a metropolitan area like Stockholm, with its strong tradition of innovation, should be in a strong position. However, it may be at a relative disadvantage because of competition from bigger metropolitan areas with much larger research budgets, particularly in sectors that lead to industrial development, particularly in the defense field: areas like London, Boston, San Francisco and Los Angeles for instance. But, on the other hand, these areas are now themselves threatened by cuts in the United States research budget occasioned by the new accord with the Soviet Union. Indeed, handling the transition to a peacetime economy may prove a major problem, not merely for these regions but for the American economy as a whole. What is needed, in William James's phrase, is a "moral equivalent of war". Research into the global warming effect, or into AIDS or cancer, or peaceful space research, all provide obvious examples; it is significant that President Bush has proposed a major extension of the space program, including a mission to Mars.

Sweden could well take a world lead in certain aspects of such research. This suggests a strong reorientation of research and development programs towards a balanced portfolio that includes medical research, space research and global ecological research, perhaps with a particular emphasis on world-wide cooperative programs. Since a substantial part of the national R & D budget already goes to the large institutions in Stockholm, this would suggest that the main thrust of such a program would be concentrated in the national capital region. But, following the American and British examples, some of the main emphasis might well fall at the periphery of this region, in areas with a strong local research tradition [e.g. Uppsala and Västerås], up to 150 kilometres distant.

REFERENCES

Andersson, Å.E. (1985a) *Creativity and Regional Development*. **Papers of the Regional Science Association, 56**, pp. 5-20.

Andersson, Å.E. (1985b) **Kreativitet: StorStadens Framtid**. Stockholm: Prisma.

Andersson, Å.E., Strömquist, U. (1988) **K-Samhällets Framtid**. Stockholm: Prisma.

Aydalot, P. (ed.) (1986a) **Milieux Innovateurs en Europe**. Paris: GREMI (Privately Printed).

Aydalot, P. Keeble, D. (ed.) (1988a) **High Technology Industry and Innovative Environments: The European Experience**. London: Routledge and Kegan Paul.

Begg, I., Cameron, G.C. (1988) *High Technology Location and the Urban Areas of Great Britain*. **Urban Studies, 25**, pp. 361-379.

Berry, B.J.L. (1970) *The Geography of the United States in the Year 2000*. Institute of British Geographers, **Transactions, 51**, pp. 21-53.

Breheny, M., McQuaid, R. (1985) **The M4 Corridor: Patterns and Causes of Growth in High Technology Industries**. (Geographical Papers, 87). Reading: University, Department of Geography.

Buswell, R.J., Lewis, E.W. (1970) **The Geographical Distribution of Industrial Research Activity in the United Kingdom**. Regional Studies, 4, 297-306.

Carus-Wilson, E.M. (1941) *An Industrial Revolution of the thirteenth Century*. **Economic History Review, 11**, pp. 39-60.

Cheshire, P.C., Hay, D.G. (1989) **Urban Problems in Western Europe: An Economic Analysis**. London: Unwin Hyman.

Checkland, S. (1975) **The Upas Tree**. Glasgow: Glasgow U.P.

Clapham, J.H. (1910) *The Transference of the Worsted Industry from Norfolk to the West Riding*. **Economic Journal, 20**, pp. 195-210.

Clark, J., Freeman, C., Soete, L. (1984) *Long Waves, Inventions and Innovations*. In: Freeman, C. (ed.) (1984) **Long Waves in the World Economy**. Guildford: Butterworth.

Daniels, P. (1986) *Producer Services and the Post-Industrial Space Economy*. In: Martin, R.L., Rowthorn, R. (ed.) (1986) **The Geography of De-Industrialisation**, pp. 291-321. London: Macmillan.

Dorfman, N.S. (1982) **Massachusetts' High Technology Boom in Perspective: An Investigation of its Dimensions, Causes and of the Role of New Firms**. Cambridge, MA: M.I.T., Centre for Policy Alternatives (CPA 82-2).

Dorfman, N.S. (1983) *Route 128: The Development of a Regional High Technology Economy*. **Research Policy, 12**, pp. 299-316.

Freeman, C., Clark, C., Soete, L. (1982) **Unemployment and Technological Innovation: A Study of Long Waves and Economic Development**. London: Frances Pinter.

Freiberger, P., Swaine, M. (1984) **Fire in the Valley: The Making of the Personal Computer**. Berkeley: Osborne/McGraw Hill.

Gillespie, A.E., Green, A.E. (1987) *The Changing Geography of Producer Services Employment in Britain*. **Regional Studies, 21**, pp. 397-412.

Goddard, J.B., Thwaites, A., Gibbs, D. (1986) *The Regional Dimension to Technological Change in Great Britain*. In: Amin, A., Goddard, J.B. **Technological Change, Industrial Restructuring and Regional Development**, pp. 140-156. London: Allen and Unwin.

Goddard, J.B., Gillespie, A.E. (1987) *Advanced Telecommunications and Regional Economic Development*. In: Robson, B. (ed.) **Managing the City: The Aims and Impacts of Urban Policy**, pp. 84-109. London: Croom Helm.

Hall, P. (1985) *The Geography of the Fifth Kondratieff*. In: Hall, P., Markusen, A. (ed.) **Silicon Landscapes**, pp. 1-19. London: George Allen and Unwin.

Hall, P., Breheny, M., McQuaid, R., Hart, D. (1987) **Western Sunrise: The Genesis and Growth of Britain's Major High Technology Corridor**. London: Allen and Unwin.

Hall, P. Hay, D. (1980) **Growth Centres in the European Urban System**. London: Heinemann Education.

Hall, P., Markusen, A. (ed.) (1985) **Silicon Landscapes**. London: George Allen and Unwin.

Hall, P., Preston, P. (1988) **The Carrier Wave: New Information Technology and the Geography of Innovation, 1846-2003**. London: Unwin Hyman.

Hall, P. (1988) *The Creation of the American Aerospace Complex, 1955-65: A Study in Industrial Inertia*. In: Breheny, M. (ed.) **Defence Expenditure and Regional Development**, 102-121. London and New York: Mansell.

Hall, P., Webber, M. M., Bornstein, L., Grier, R. (1987) *Where Biotechnology locates*. **Built Environment, 13**, pp. 152-156.

Hall, P., Bornstein, L., Grier, R., Webber, M.M. (1988) **Biotechnology: The Next Industrial Frontier**. Institute of Urban and Regional Development, University of California, Berkeley, Working Paper No. 474.

Harris, R.I.D. (1988) *Technological Change and Regional Development in the UK: Evidence from the SPRU Database on Innovations*. **Regional Studies, 22**, pp. 361-374.

Howells, J.R.L. (1984) *The Location of Research and Development: Some Observations and Evidence from Britain*. **Regional Studies, 18**, pp. 13-30.

Hoover, E.M. (1948) **The Location of Economic Activity**. New York: McGraw Hill.

Kondratieff, N.D. (1935) *The Long Waves in Economic Life*. **The Review of Economic Statistics, 17**, pp. 105-115.

Malecki, E.J. (1980a) *Corporate Organization of R and D and the Location of Technological Activities*. **Regional Studies, 14**, pp. 219-234.

Malecki, E.J. (1980b) *Science and Technology in the American Urban System*. In: Brunn, S.D., Wheeler, J.O. (ed.) **The American Metropolitan System: Past and Future**. London: Edward Arnold.

Malecki, E.J. (1980c) *Technological Change: British and American Research Themes*. **Area, 12**, pp. 253-260.

Malecki, E.J. (1981a) *Public and Private Sector Interrelationships, Technological Change, and Regional Development*. **Papers of the Regional Science Association, 47**, pp. 121-138.

Malecki, E.J. (1981b) *Government-Funded R & D: Some Regional Economic Implications*. **Professional Geographer, 33**, pp. 72-82.

Mandel, E. (1975) **Late Capitalism**. London: Verso.

Mandel, E. (1980) **Long Waves of Capitalist Development**. Cambridge: University Press.

Markusen, A. (1985) **Profit Cycles, Oligopoly and Regional Development**. Cambridge, Mass.: MIT Press.

Markusen, A., Hall, P., Glasmeier, A. (1986) **High-Tech America: The What, How, Where and Why of the Sunrise Industries**. Boston: George Allen and Unwin.

Markusen, A., Hall, P., Campbell, S., Deitrick, S. (1990) **The Rise of the Gunbelt: The Military Remapping of Industrial America**. New York: Oxford U.P.

Marshall, A. (1920 (1890)) **Principles of Economics**. London: Macmillan.

Marshall, M. (1987) **Long Waves of Regional Development**. London: Macmillan.

Marshall, J.N. et al (1988) **Services and Uneven Development**. Oxford: Oxford U.P.

Mensch, G. (1979) **Stalemate in Technology: Innovations overcome the Depression**. Cambridge, Mass.: Ballinger.

Rogers, E.M., Larsen, J.K. (1984) **Silicon Valley Fever: Growth of High-Technology Culture**. New York: Basic Books.

Saxenian, A. (1985a) *The Genesis of Silicon Valley*. In: Hall, P., Markusen, A. (ed.) **Silicon Landscapes**. London: George Allen and Unwin.

Saxenian, A. (1985b) *Silicon Valley and Route 128: Regional Prototypes or Historic Exceptions?* In: Castells, M. (ed.) **High Technology, Space and Society (Urban Affairs Annual Reviews, 28)**. Beverly Hills and London: Sage.

Saxenian, A. (1988) *The Cheshire Cat's Grin: Innovation and Regional Development in England*. **Technology Review, 91**, pp. 67-75.

Schumpeter, J.A. (1939) Business Cycles: **A Theoretical, Historical and Statistical Account of the Capitalist Process**. (2 Volumes). New York and London: McGraw Hill. (Reprinted, 1982, Philadelphia: Porcupine Press).

Scott, A.J. (1986) *High Technology Industry and Territorial Development: The Rise of the Orange County Complex, 1955-1984*. **Urban Geography, 7**, pp. 3-45.

van Duijn, J.J. (1983) **The Long Wave in Economic Life**. London: George Allen and Unwin.

Vernon, R. (1966) *International Investment and International Trade in the Product Cycle*. **Quarterly Journal of Economics, 80**, pp. 190-207.

Weber, A. (1929 (1909)) **Theory of the Location of Industry**. Translated by C.J. Friedrich. Chicago: University of Chicago Press.

THE APPENINIAN PENINSULA

by

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1. INTRODUCTION

The paper aims to provide a broad view of some aspects which seem to be important in the assessment of current economic urban problems and policies in Italy. Section 2 briefly considers the problem of the definition of the Italian urban system and provides some evidence on the recent performance of the largest Italian Functional Urban Areas (FUR) as approximated by Local Labour System (LLs). The main problems (congestion of urban areas and of transport networks, public services, local public finance, planning) are reviewed in Section 3, where it is argued that some of the problems are caused by misuse of the system of prices or quantity controls. The last section turns to the policy issue. It has often been observed that the solution to the problems of greater urban areas largely coincides with the solution of general economic problems. The current debate on institutional reforms reveals the propensity of both local and central authorities towards a more active intervention.

2. THE DRIVING FORCES OF THE ITALIAN URBAN DEVELOPMENT

The functional definition of the Italian urban system

There are different definitions of what is meant by an urban settlement. Each of them focuses on only one particular aspect (political, physical, functional) of the complex way in which modern urban settlements stand and function. The three different definitions tend to diverge increasingly because modern production, transport and comunication technology, and increased car ownership have all induced urban deconcentration and interdependency. As a consequence, the physical city often extends beyond the administrative boundaries and the functional city spreads beyond the physical city.

There are some recent different operational definitions of the Italian urban system that try to take account of this.[1] The recent SVIMEZ definition, for instance, hinges on the physical city concept although a distinction is made between "urban areas", which are the productive and residential extensions of the "city" to the surrounding area, and "metropolitan areas", which are systems formed by cities and functionally-related urban areas.[2] The basic criteria used in their statistical definition are density thresholds on workers and jobs in non-agricultural activities. By also considering total population data SVIMEZ arrives at the definition of 39 urban areas.[3]

The physical concept of urban areas clearly reveals the sharp difference which exists between the urban settlements in the North and those in the South. The northern urban diffusion[4] has virtually joined the formerly-scattered urban areas into large and unified urban systems, particularly in Lombardy. The same cannot be said for the South where urban growth has been polarized. This growth pattern is seen in the large density differences between C-North (848 inhabitants) and South (1245 inhabitants).

The second definition of the Italian urban system has been obtained from the work of ISTAT-IRPET. It hinges on the concept of the daily urban system (DUS) and has basically been worked out using the concept of the Local Labour System (LLS) and the Census data elaborated by ISTAT-IRPET.[5] Naturally, a Local Labour System may only be considered a reasonably accurate approximation of a Functional Urban Region (FUR) if the self-containment criterium used for the former can be compared to that used for the latter.

The statistical procedure used for the delimitation of the Italian Local Labour Systems is too complex to be fully explained here.[6] However, if we compare it to the procedure used to define the European FURs[7] we immediately see that the definition of Italian Local Labour Systems follows from:

(a) a more restrictive concept of self-containment.

A FUR has a hinterland where people working only in the centre are resident (this is the self-containment of demand), while a LLS is defined in such a way that its area contains the work places occupied by workers living in the centre (this is the so-called self-containment of supply).

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1 See for example: Marchese, (1989); Camiz, (1989); Cassone et al., (1987); SVIMEZ, (1987); ISTAT-IRPET, (1986).
2 See SVIMEZ, (1987), p. 164 and SVIMEZ (1988), p. 48.
3 SVIMEZ, (1988), p. 56.
4 Cecchini, (1988), P. 53.
5 See ISTAT-IRPET, (1986).
6 See ISTAT-IRPET, (1986).
7 See EEC, (1987).

(b) A much lower minimum number of jobs located in a municipality ("comune") is necessary to make it a centre: 20,000 in the FUR, only 1,000 in the LLS.

Table 2.1 The Italian urban system in 1981

GROUP 1:
Milan, Rome, Turin, Naples, Bologna, Genoa, Florence, Venice, Palermo, Bari, Brescia, Padua, Verona, Catania, Taranto, Cagliari, Messina
GROUP 2:
Bergamo, Modena, Parma, Udine, Varese, Treviso, Salerno, Vicenza, Como, Pescara, Ferrara, Perugia, Caserta, Lecce, Siracusa, Trento, Sassari, Cosenza, Foggia

According to these criteria, and using 1981 Census data, 955 LLSs have been defined, thus covering the whole of Italy .[8] What is in actual fact the "Italian urban system"? There is of course a latitude of choice between the two following assumptions:

(1) each LLS is a FUR because it has been defined using both the demand and supply self-containment criteria. As a result, the numbers of jobs and residences are, by definition, substantially equal in a LLS.

(2) In order to make posssible comparisons with the 193 FURs defined by the EEC (10 members)[9], a LLS is considered a FUR only when it has at least 330,000 inhabitants and its centre has at least 20,000 work places. In this case only the following 36 LLS (Table 2.1) are considered to form the "Italian urban system". They are divided into two groups: the first (Group 1) is formed by the 17 LLSs which have more than 200,000 inhabitants, the second (Group 2) is formed by the other 19 LLSs, which are below the threshold.

Some evidence on the growth stage of the Italian urban system

In 1981, nearly 21 million people resided in the 36 FURs approximated by the 36 LLSs defined by ISTAT-IRPET(1986) (see Table 2.1), which is about 38% of the total Italian population. Less than 7 million people were employed, 41 percent of the total national employment.

As Table 2.2 clearly shows, the pattern of specialization observed in the 1981 Census differs considerably from that recorded at the national level. The 60 percent of employment of "Credit, Insurance and Business Services" drops to the

8 See for details ISTAT-IRPET, (1986) and Sforzi, (1988).
9 EEC, (1987).

18% of "Agriculture and Fishing". Sector 6 ("Commerce and Lodging and Catering") virtually registers the average percentage (41%). As is undoubtably common knowledge, the biggest northern urban areas (Milan, Turin, Genoa, etc.) have drastically reduced their manufacturing in favour of employment in the service sectors, while other FURs have sometimes registered a different change.

Table 2.2 Employment by sector (1 digit) in the 36 biggest FURs: Italy, 1981

Sector		FUR	Italy	Percent
8	Credit, insurance, business services	570687	951016	60.01
7	Transportation, comunications	627665	1148489	54.65
9	Public services, etc.	1648280	3636654	45.32
1	Electricity, gas	92809	209366	44.33
3	Metals, mechanics	969733	2221233	43.66
6	Commerce, lodging, catering	1473405	3553315	41.47
2	Minerals, chemicals	335281	896497	37.40
5	Construction	358244	1192398	30.04
4	Food, textiles, wood	808987	2701407	29.95
0	Agriculture, fishing	32013	175080	18.28
	Total	6917104	16685455	41.46

Source: Costa, Martellato, van der Borg, 1989.

A more precise and detailed comparison between 1971 and 1981 is possible because the 1971 employment figures have been made directly comparable, in most sectors, to those of the 1981 Census. Unfortunatly this is not possible for all sectors of activity because only 47 (two digits) classes of economic activity of the 61 classes used in 1981 are comparable. We cannot compare the figures for the remaining 13 classes because a different statistical coverage was used. They are concentrated in the last two sectors 8 (Credit etc.) and 9 (Public Services, etc.) (see Table 2.2), which should have registered a significant increase in employment. As a consequence, the total employment considered (for the 36 FURs) in Table 2.3 decreases from 6.9 million in 1971 to 4.9 million in 1981.

The shift from the "urban system" formed by the biggest 36 FURs to the rest of Italy (919 FURs) is immediately obvious: in relative terms it amounts to 2.81 percent (see: Table 2.3 and Table 2.4). If we make a distinction between "Group 1" and "Group 2" of the "urban system" (see: Table 2.4) we can note that this loss is actually concentrated in the biggest cities, as their share has been reduced from 34.95 (1971) to 31.66 percent (1981). Indeed the FURs in "Group 2" have slightly increased their share from 7.79 to 8.27 percent.

We can also observe a shift from the Centre-North to the South (see: Table 2.3 and 2.4). The share of the former decreases from 33.79 to 30.69 percent. Making a

Table 2.3 Employment change(*): Italy 1971-1981

FURs	1971		1981			
	level	%	level	%	change	%
36 FURs	4448884	42.74	4912105	39.93	463221	24.47
North	3517092	79.06	3776440	76.88	259348	55.99
South	931792	20.94	1135665	23.12	203873	44.01
Rest (**)	2646247	57.26	3368226	60.07	721979	75.53
North	1959505	74.05	2450888	72.76	491383	68.06
South	686742	25.95	917338	27.24	230596	31.94
Italy	10408604	100.00	12301273	100.00	1892669	100.00
North	8438496	81.07	9775954	79.47	1337458	70.67
South	1970108	18.9	3 2525319	20.53	555211	29.33

(*) Sector 1 to 7, 8 Credit and Insurance only.
(**) Rest of Italy formed by 919 FURs.

Source: Costa, Martellato, van der Borg, 1989.

distinction between the two groups of FURs, we can thus say that the shift has negatively affected the FURs of "Group 1" in the Centre-North with only a partially offsetting movement towards the FURs classified in the remaining three cells (see: Table 2.4).

Considering the sectoral breakdown of employment change for the 36 FURs we could draw up a more detailed picture showing that Sector 8 (Credit and Insurance) has performed better than any other sector in both groups of FURs. There are two other sectors that have given a positive contribution: Sector 7 (Transport and Communications) and Sector 3 (Metals and Mechanics). The latter has performed well almost everywhere, if we exclude the two special, and important, cases of Milan and Turin. Two other sectors have proved to be better located outside the "urban system" formed by the 36 biggest FURs. Sector 2 (Minerals and Chemicals) and Sector 4 (Food, Beverages, Textiles and Leather) have indeed registered a negative change almost everywhere in the FURs considered thus far.

The theory of the urban life cycle or growth stages is too well known to warrent full explanation here (see references below). It will suffice to say that according to this particular interpretation of the dynamics of urban systems, any functional urban area or FUR is expected to exhibit a certain number of stages usually with reference to population.

Table 2.4 Employment change(*): Italian urban system, 1971-1981

	GROUP 1	GROUP 2	TOTAL
CENTRE-NORTH	28.27 (')	5.52	33.79
	24.90 (")	5.79	30.69
	(-3.37) ("')	(+0.27)	(-3.1)
SOUTH	6.68	2.27	8.95
	6.76	2.48	9.24
	(+0.08)	(+0.21)	(+0.29)
TOTAL	34.95	7.79	42.74
	31.66	8.27	39.93
	(-3.29)	(+0.48)	(-2.81)

(*) Sector 1 to 7, 8 Credit and Insurance only.
(') 1971 composition in the national total
(") 1981 composition in the national total
("') 1971-1981 change

It has indeed always been thought that growth is unstable and uneven. It starts in some particular area and then spills over into other areas. The urban systems are, in other words, entities that cannot reach a stationary equilibrium because the comparative advantages are changing almost continuously. There is no formal, truly general model for such a theory, but there is a great deal of empirical evidence. Probably the best-known cyclical theory is that of Van den Berg et al.[10] which is defined in terms of four different stages of population dynamics (see: Figure 2.1).

Figure 2.1 The four growth stages of a FUR

Stage		Centre	Hinterland	FUR
1 URBANIZATION	1 absolute centralization	+ +	-	+
	2 relative centralization	+ +	+	+ + +
2 SUBURBANIZATION	3 relative decentralization	+	+ +	+ + +
	4 absolute decentralization	-	+ +	+
3 DISURBANIZATION	5 absolute decentralization	--	+	--
	6 relative decentralization	--	-	---
4 REURBANIZATION	7 relative centralization	-	--	---
	8 absolute centralization	+	--	-

Source: Van den Berg et al. (1982)

10 See Van den Berg et al. (1982).

We could have considered other theories[11], but the results they would have given would probably not have differed greatly from those obtained by applying the above-mentioned Van den Berg et al. scheme to our data.

Table 2.5 Population change and growth stage in the 36 FURs

URBANIZATION		SUBURBANIZATION		DISURBANIZATION		REURBANIZATION	
absolute	relative	absolute	relative	absolute	relative	absolute	relative
1	2	3	4	5	6	7	8
Messina	Trento	Padua	Brescia	Turin			
Foggia	Sassari	Rome	Verona	Genoa			
		Bari	Venice	Milan			
		Taranto	Florence	Bologna			
		Palermo	Naples	Ferrara			
		Cagliari	Catania				
		Varese	Como				
		Udine	Bergamo				
		Parma	Vicenza				
		Modena	Treviso				
		Perugia					
		Caserta					
		Salerno					
		Pescara					
		Lecce					
		Cosenza					
		Siracusa					

Table 2.5 shows the results for the 36 FURs which can be summarized as follows. The dominant growth stage is still Suburbanization (27 cases). Seventeen FURs show relative decentralization (stage 3) while the remaining 10 FURs show absolute decentralization (stage 4). The more mature stage of disurbanization with absolute decentralization (stage 5) is reached by only 5 FURs (Turin, Milan, Genoa, Bologna and Ferrara). The early stages of urbanization (stages 1 and 2) have occurred in 4 FURs. We can therefore say that the "Italian urban system" formed by the largest 36 FURs was still predominantly in the most mature stage of industrialization during the Seventies. Only Milan, and possibly Turin and Bologna, had already reached the postindustrial stage. In conclusion, we must also specify that similar results are obtained when employment data are used instead of population data.

11 Cf. Hall-Hay, (1980); Coffey-Polese, (1984); Suarez-Villa, (1985); Cheshire et al., (1988).

3. URBAN PROBLEMS IN METROPOLITAN ITALY

Urban problems or urban decline?

Not all economists agree with the pessimistic idea set forth by other social scientists that there is really such a thing as urban decline. They prefer to speak of the balance or imbalance of negative externalities with agglomeration economies and to speculate about the existence of the optimal city size at which disadvantages outweigh the advantages of the better living conditions and economic environment found in the city.[12]

Unfortunately this approach also seems to be outdated, not only because there are inevitable difficulties to be faced in order to empirically ascertain the optimal city size, but also because there could be many optimal sizes, or even no optimal size at all. Furthermore, the actual way in which cities exist and function has rather clearly made the concept of optimal city size useless, if indeed it has not invalidated it entirely. Quoting Richardson we must indeed say that:

> The most striking characteristic of recent urbanization is that cities have been able to alter their spatial structures by outward expansion, polinucleation and, in the extreme case, by the growth of megalopolis. The distinction between large and small size becomes blurred when cities are conceived as multicentric rather than as monocentric systems.[13]

Such systems of cities reflect the desire to maximize scale and other agglomeration economies with the advantages that households find in more livable medium and small cities. And this reflects also the fact that the efficiency of an urban system depends more on the spatial pattern of the different residential and productive activities within its functional area rather than on its mere population size.

The existence of such systems of cities makes the importance of the concept of functional urban area (as opposed to the political and physical concepts of city) evident. It also makes it clear why, at least in Italy, rural-urban migration has almost stopped and inter-urban migration is not important at all. Relocation through migration now takes place mainly within rather than between different functional urban areas. It clearly shows that differences in housing supply, amenities, environmental quality, provision of services and accessibility, and related policies, are important factors to be considered in the analysis. There are of course evident problems with almost all these aspects of urban life. But one can say that these problems are in the cities. They are not problems of the cities. They

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12 See Alonso, (1971); Richardson, (1973).

13 Richardson (1973:4).

are, furthermore, all related in one way or another to the misuse of the system of prices. Traffic congestion, for instance, is the outcome of the scarcity of road and parking space. It is a problem that probably cannot be solved without rationing demand and this cannot be done without attaching a price to the use of scarce resources: road space and parking space. In general, public intervention in the broad areas considered here (traffic, public services, housing and planning) entails the problem of choice between controls based on prices and controls based on quantities. When prices are employed as planning instruments (parking toll, road pricing, "fair rent", building permission tax, etc.) the operating rule is such that individuals are free to decide upon a price fixed a priori by the authority. They can reduce or increase their demand (supply). With quantities as instruments there is typically a yes-no rule: supply or demand is necessarily rationed. But this almost always leads to an inefficient equilibrium because the available resource is not necessarily used by those who value it most.

It is fair to say that Italian urban authorities have shown a rather clear preference toward controls based on quantities. This is not the right place for a in-depth discussion of the relative merits of the two approaches to regulation, but one must nevertheless admit that the prevailing orientation to quantity controls induces the creation of rents and this, in turn, stimulates the rentseeking behaviour of individuals. As Krueger and others have argued[14], when quantity restrictions and regulations are increasingly used, windfall gains are expected to be predominantly obtained seeking political clout and rents rather than raising social products. This aspect has to be considered in conjunction with the very low turnover in the Italian political system.

This has established solidarity between rent-seeking people and consensus gaining professional politicians, which must be taken into account in an explanation of the obvious inefficiency of Italian public sector.

Road congestion and pollution

It is generally believed that both the social and the private costs of transportation are higher in larger cities. Road congestion and air pollution are directly related to vehicular flow. This means that when city size and car ownership increase, both the social and private costs of driving a car go up. These diseconomies are blamed for inducing, over a certain threshold, disurbanization. Almost all Italian cities have huge problems of this kind and the causes are generally seen in the increase of car ownership, the lack of parking areas, the narrowness of historical streets, the scarcity of undergrounds, high residential density, and the irrationality of many industrial and commercial locations rather than to excessive size. Traffic

14 See Krueger (1974) and e.g. Rowley et al. (1987).

congestion is not only a threat for city life: it creates a bottleneck for the local and national transport system. In many Italian cities road congestion is well over the danger level not only for the effects of air pollution on health and monuments, but also because it feeds back negatively on the efficiency of other modes of transport and, consequently, on urban accessibility itself. In some cases the lack of parking places is so acute that single and double-parked cars constantly and severely reduce the available road surface and the sidewalks.

Road congestion is held to be able to self regulate in the sense that it never reaches the point at which the circulation is stopped. However, in many Italian city centres, the lack of parking space is so great that the private decision to refrain from driving does not necessarily give a significant relief to road congestion. The urban road system reaches an equilibrium, but this is completely inefficient, even if we ignore the costs in term of pollution. Road congestion hits all travellers (no matter to what degree they value their time), but it also reduces the overall urban accessibility and agglomeration economies and the value of the fixed capital located there. There are, of course, interdependencies in any urban transport system and these are very complex. As a consequence, no intervention can produce the desired effects unless it fits the actual characteristics of the urban system in which it is implemented.

Before turning to some recent regulations and proposals of intervention, it is useful to briefly consider the case of Milan, the largest Italian metropolitan area, for which the local public transport enterprise has recently (ATM, 1986) completed a survey on the origins and destinations of urban traffic. The population of the municipality of Milan in 1984 was just below 1.5 million. The workplaces were about 0.8 million. The average daily number of vehicles circulating was close to 1.9 million. The daily trips were about 4.4 million.

The displacement that has occurred with the increased car ownership in Milan emerges from the data in table 3.2.

Table 3.1 Road traffic in Milan, 1984

Typology of trips	Daily frequency (thousands)
Internal trips	2,647
Incoming to Milan	451
Outgoing from Milan	1,261
Total	4,359

Source: Marescotti, 1989.

Table 3.2 Transit composition by mode in Milan, 1961-1980

Year	Municipality					Historical centre				
	Bikes	Cars	Trucks	Public	Tot.	Bikes	Cars	Trucks	Public	Tot
1961	23	55	19	3	100	27	60	7	6	100
1971	10	76	13	1	100	8	81	7	4	100
1980	3	82	14	1	100	6	83	7	4	100

Source: Marescotti, 1989.

Table 3.3 An international comparison

Metropolitan area	Area sqk	Public service km	Under-ground km	Car Parks (#)	Places (1)	Places (2)
Hamburg	2250	2232	343	17	10000	9500
Munich	4200	3346	460	33	6800	12800
Stuttgart	1050	827	160	30	8900	7800
Milan	2760	1216	52	70	13400	6600
Milan (")					98500	8000

(#) number of car parks; (1) car places relative to (#);
(2) car places "park and ride" ; (") proposal of the urban traffic plan.

Source: Marescotti, 1989.

There is of course a severe rationing of regular parking places. The urban traffic plan of Milan, for instance, contains a project of an enormous increase in the number of parking places.

The national strategy of intervention concerning city road transport pursued so far consists in the creation of small pedestrian zones in the historical centres, in the creation of new car parks in the larger cities through government subsidies, the improvement of public transport, the introduction of tariff incentives for the use of public services and, when possible, the costruction of new underground lines in Milan and Rome and regional rail systems. There are some partial restrictions, such as the alternation of odd and even number plates or the generalized, but occasional, prohibition of private car use (as in Milan when air pollution was close to danger limits). These policies of contingent micro-adaptations of the transport system have clearly not succeeded in upgrading the supply to the increased demand of mobility, nor solved the air pollution problem. At the moment, the Ministries of Urban Areas and Public Works have created an incentive for larger municipalities. They will receive some financing if they prepare their own Urban Traffic Plan and have it approved.

However, the general impression is that the congestion and the related air pollution problems cannot really be solved with such panaceas. The idea that road traffic must be rationed in some way with the use of prices is perhaps gaining ground because people are increasingly convinced not only that the costs connected with pollution and congestion must be shared more equally by car drivers and inhabitants, but also that an increase of supply simply means an increase of demand. The strategy naturally raises the question whether the problem of congestion can be solved with more "market" rather than with more "government" and pricing public goods. The use of prices does not necessarily imply deregulation; on the contrary, it often implies a more active intervention of authority. The effects of price regulation, for instance a peak-hour ticket, are of course very complex, but they can be already observed, in their extreme form, not only at small-scale (pedestrian zones), but also at city scale (Venice). In the pedestrian zones the rents for flats and shops are comparatively higher than those observed in other zones.

The provision of public services and local finance

The city can, in some way, be identified with the place where the provision of all public services occurs under positive economies of scale. This means that urban problems must be related, inter alia, to the provision of public services and to their financing. The standard explanation is that the deconcentration of population and many productive activities from the core cities erodes their capacity for fiscal contribution. If this is followed by a reduction in the supply of services and-or by an increase in the per-capita fiscal pressure, a further negative feedback is activated on the deconcentration of population and productive activities. This model is not completely correct for Italian metropolitan areas as far as at least three aspects are concerned. In the first place Italian municipalities do not have fiscal autonomy and the transfers they get from the central government do not depend solely on their population size. Secondly, the principle that residents must pay for the public services they actually get is not currently operating. Furthermore there has not been a significant reduction of the supply of services in the Italian metropolitan areas.

Nevertheless there is a crisis in this field concerning both the provision and the financing of public services.[15] What is under discussion today is the philosopy and the role of local public enterprise, the objectives entrusted to it, and the services which it is expected to supply.[16] There has been a drastic, but not completely unexpected, change in the mood: up to few years ago, public enterprises were

15 This is shown at length in Fraschini-Robotti (1987), Pola-Rey (1978), Bognetti-Magnani (1989), Giardina et al. (1988).

16 Cf. Magnani, (1988), p.10-1.

asked to take up all the problems that private enterprises and the market itself were unable to sustain.

The nature of crisis at the local level of government can be understood by simply looking at the problems most often put forward. First of all there is the unsatisfied demand of more public services as such, not only in general, but particularly in those cities in which people are more aware of what the standards should be. A recently-published survey[17] shows for instance, that there is a gap between North and South, but also between smaller urban areas and metropolitan areas (see Table 3.4). The index is rather crude, but indicative. Selected public services and infrastructure indicators as gardens and parks, kindergartens, local police forces, municipal water systems, sport infrastructures, banks, department stores, pharmacies, doctors, cinemas, are considered. Table 3.4 shows that: (i) the centre-north areas always have the best servicies, (ii) metropolitan areas rank lower than other urban areas, (iii) the best performance is that of centrenorth smaller urban areas.

At the same time there is an evident concern about the public services that should be efficiently supplied in modern urban areas: what should the services be, what type and spatial organization of public (and private) enterprises supplying these services is necessary? The problem is clearly related to the aims that should actually be pursued by public intervention at the urban level. They seem to be the following three: (1) the *efficiency* in the supply, (2) income *redistribution* produced by the mix of services given and collected tariffs, (3) and the maintaining of the level of *employment* in the area. If everybody agrees on the need for some public intervention and even monopoly for some services, in other cases the public local intervention is much more controversial. Income redistribution typically occurs when public services are operated at prices lower than costs. This is the case of Italian urban transports where special fare reductions are granted to students and workers. But it is fair to say that all residents get some benefit when they use a public vehicle. The redistributive effects of this regime are indeed questionable because those categories of users are not necessarily homogeneous from the point of view of income. This fact has induced some to cast doubts on the need to pursue a redistributive policy framed at a local level instead of a policy of higher efficiency. While the redistributive effect is only hypothetical, the inefficient provision of public services surely damages the low income households. Finally, the objective of alleviating unemployment problems through the provision of labour intensive public services and the underutilization of employees resolves itself in assistance and not necessarily in durable help and efficiency. This third, often undeclared objective, is of course the most critized, especially because it is often pursued for sake of political support and it stimulates the rent-seeking behaviour

17 See Bottelli-Miraglia, (1989).

of individuals (see on this 3.1). There is a major problem here because often, under the political regime, the latter objective prevails even over the objective of higher efficiency.

Table 3.4 The ranking of the Italian cities according to their supply of public services, 1989

	elem. ind.(*)	aver.ind.(**)
CENTRE-NORTH		
METROPOLITAN ARES		**33**
Milan,Brescia,Pavia,Varese,Como	34,39,40,31,30	35
Roma	31	31
LARGER URBAN ARES		**36**
Turin	27	27
Verona-Vicenza	33,37	35
Venice-Padua-Treviso	32,42,41	38
Bologna-Modena-Parma-Reggio	47,33,38,31	37
Genova-Savona	38,36	37
Spezia-Viareggio-Pisa-Massa	40,--,41,40	40
Ravenna-Ancona-Pesaro	46,35,35	39
Florence-Prato	35,--	35
SMALLER URBAN AREAS		**37**
Biella	--	--
Alessandria	36	36
Bolzano	38	38
Trento	53	53
Bassano	--	--
Pordenone	32	32
Udine	34	34
Trieste	41	41
Piacenza	32	32
Ferrara	39	39
Perugia	39	39
Terni	35	35
Latina	24	24
SOUTH		
METROPOLITAN AREAS		**27**
Naples,Salerno,Caserta	30,26,27	27
LARGER URBAN AREAS		**31**
Bari	25	25
Catania	36	36
Palermo	31	31
SMALLER URBAN AREAS		**29**
Ascoli,Teramo	32,31	32
Pescara,Chieti	38,28	33
Foggia	24	24
Taranto	29	29
Lecce	30	30
Cosenza	27	27
Catanzaro	30	30
Reggio Calabria	31	31
Messina	34	34
Siracusa	28	28
Cagliari	23	23
Sassari	25	25

(*) The elementary indexes refer to Provinces and do not fit the urban areas defined by SVIMEZ and listed below perfectly.

(**) Composite urban areas have an arithmetic average.

Source: Bottelli-Miraglia, 1989.

Some evidence exists on public attitudes to taxation and public spending drawn from two surveys. They refer to the cases of Turin and Pistoia.[18] In the case of Turin the evidence has been obtained from a stratified sample of 667 individuals who were asked to reveal their fiscal preferences, their use of local public services and their attitude toward public intervention in the sphere of urban services. The results seem to indicate that there is a widespread desire to redefine the priorities in the sectors in which the local Authority is expected to intervene. The sectors of education services and public transport in Turin, for instance, were at the top of the rank of public priorities, but they did not receive high priority by the individuals surveyed. Other services were more strongly requested: better road and traffic conditions, public health, housing, sporting and cultural facilities and initiatives, social assistance.

As far as the attitude of the same individuals towards the structure of budget is concerned, a cautious interpretation of the results of the survey allows the Authors to conclude that there is large gap between the actual preferences of the community (desired budget) and those implied in the synthesis operated by the political parties (actual budget). This disagreement with the tariff policy and, in general, with the structure of financing, turns out to be higher than that observed in a similar survey for Detroit (see Table 3.5 below).

In Turin there is larger desired average variation in the budget (2.35 instead of -0.23) and both the "incrementalists" and the "reductionists" are greater than in Detroit in terms of numbers. Even considering the likely presence of "merit goods" (those collective services offered even against individual preferences), it is easy to conclude that there is widespread disagreement with the role of local government.

Table 3.5 Disagreement with the budget in Turin

	Average budget % variation	Fraction of individuals			
		Increment %	Reduction %	Invariance %	Total %
Detroit	-0.23	0.20	0.13	0.67	1.0
Turin	2.35	0.49	0.20	0.31	1.0

Source: Bondonio et al. (1988).

As far as financing is concerned, the Italian local Authorities traditionally depend on central government transfers. There are two local levies, but their revenue is not very important if compared with total expenses.

18 See Bondonio et al., (1988) and Maltinti, (1988).

Furthermore, the transfers coming from the central government are quite rigidly tied to specific types of expenditure and resort to the credit market is regulated. One can thus say that local Authorities do not have sufficient resources to perorm all the tasks that have been devolved to them. As we will see in the next chaper a revision of this regime will probably take place in the near future.

The lack of town-planning

If we take into consideration the history of Italian town planning after the last War, we get the impression that there has been a gap between its general aimsand the actual process of Italian urban growth and land-use. The former has alvays lagged behind and, because of this, it has been often accused of being out of une with the needs of urban growth. Turning, however, to the explanations and efects of this problem, it has been observed that the difficult relation between plaming and growth developed differently in the three different phases into which we dvide the time period, even if we must recognize that the general cultural and political mood was steadily hostile to effective urban planning.

The first phase follows the first, and unique, general Town-planning Act (1942) and expands from the war to the mid-Sixties. During the Fifties, the Act was very often replaced by the body of rules contained in the reconstruction plans and very few municipalities had their plan approved by 1965. Broadly speaking, those plans tried to create the conditions for growth without any selection of direction and sector. Without any direct public control on the land ownership, the few operational plans were not able to impede the huge increase in the dimension of cities and in housing density. Plants were completely free to localize along the main roads and around the cities. The space devoted to public facilities was very scarce. In conclusion, we can say that the strong urban growth and the consequent territorial transformations that occurred in this period were largely achieved without planning.

The second vintage of master plans spans from the mid Sixties to the mid Seventies, when about only 30% of the municipalities of the Northern Italian Main had their plan in operation. The often ugly consequences of the previous uncontrolled settlement regime, were already more than evident. The main ideas contained in those plans were: the curbing of housing settlements, the tracing of spaces for public facilities, assisted and public house-building, the reconfirmation of areas of industrial settlements, the protection of historical centres and amenities, the freezing of rural areas. The aims of plans were only partly successful because there were some important obstacles. First of all, there was already an accumulated time lag. Secondly, there were difficulties in the practical implementation of plans. Thirdly, there was a gap between the forecasts on which the plans were based and the rapid evolution of urban systems. A final and decsive

negative factor was the use of rigid quantitative controls and the complete refusal of the price instrument. Experience indeed has shown that quantity controls are only in theory more effective than concession taxes. The latter are revenue for the municipality, while the former give rises to rentseeking behaviour.

In the third phase (the Eighties) the dominant planning philosophy has been the target of much criticism. In some sense, this is paradoxical because Italian land use is suffering from having received too little, not too much, effective planning. In any case, two main points are usually raised. First of all, traditional planning based on controls seem to be unable to produce efficient productive settlements, particularly for tertiary activities which are notably very important for contemporary cities. Secondly, traditional planning tends to produce a low quality urban environment. We cannot go here into the debate on the role of planning in modern metropolitan areas. We limit ourselves to noting that the Municipality of Milan produced a somewhat innovative Planning Document in 1988.[19] It is based on the idea that planning can be done with projects. Distinct projects of tertiary activities settlement, mainly located in dismissed industrial areas and well located in the new integrated urban transport system, are being developed by private-public partnerships (see paragraph 4.3). The objectives are the introduction of infrastructural innovations, the renewal of central dismissed areas that are poor in architectural quality.

4. INTERVENTIONS AND POLICIES

General overview

The prevailing strategy to current Italian urban problems is held to be less "problem oriented" than was common in the Sixties and in the Seventies.[20] As agglomerative and centripetal urban forces have almost disappeared in the more industrialized areas, interventions based merely on controls of physical aspects of the urban area seem no longer sufficient or even useful. They tend to be replaced by more general policies concerning not only the physical, but also the managerial, environmental, and cultural aspects of cities. Urban authorities indeed have realized that a switch from a constraining and negative role to a more promotional and positive one is necessary.[21] Urban policies should be able to "create opportunities". Knight, for instance, has argued that industrial countries which want to assure themselves a lasting role in the emerging "global society" must implement urban policies capable of favouring the birth of "global cities".[22] According to this concept of city, a city must attract and concentrate the

19 See Gibelli, (1988); Padovani, (1989).
20 See Cafiero, (1988); Cecchini, (1988).
21 See Senn, (1988); Fondazione Agnelli, (1989); Erba, (1990).

organizations that work at the international level with an improvement of the quality of life and the international connections. The solution of typical urban problems then is no longer the chief objective of urban policy because they will be probably lessened in a healthy city with a growth-oriented management. The objective is the stimulation of the city itself, the acquisition of modern and central tertiary functions and, in general, the restructuring of its economic base.

This strategy shifts the focus from internal to external relations of the urban system. From this point of view, the metropolitan area hosts some high ranking activities and functions not only for itself, but also for the entire region and possibly for the entire country. It can only remain the centre of the country if it is able to replace the declining activities with other activities able to shape the current development and, in particular, attract the functions which characterize a city as "global". What is the political set-up necessary to govern this kind of metropolitan area in the best way possible? The answer to this question is clear. Mazzocchi, for instance, has put forward the idea that the metropolitan area (e.g. Milan) greatly needs a flexible system based on the contract between the different (existing) government levels and between these levels and the private sector; Knight, in turn, clearly says that there must be a switch from the "problem solving" strategy to policies able to "create opportunities"; Ahlbrandt underlines the potential role of civic agencies and organizations in giving birth to public-private partnerships which need not be profit-seeking.[23]

The current Italian urban policies are trying to promote this shift with the help of new interventions and policies which now will be briefly considered.

Parking areas and other transport infrastructures

The most traditional and obvious way of reducing traffic congestion is based on the upgrading of the space supply, taking the intensity of demand for granted. Worldwide experience has however shown that providing more space for road traffic and more parking places is often not a solution. When new expressways are built, traffic merely expands to fill the new road-space available, just as the creation of more parking places simply attracts more cars.

Although some regulations of demand are currently being discussed and implemented with administrative acts and land use planning, the debate which is going one in Italy tends to be centered on the supply side.[24] This reveals that the authorities are aware of the supply deficiencies which have accumulated in the past. However, this may be a short-sighted orientation because no supply increase is able to accomodate, in the long run, the road transportation demand generated

22 Cf. Knight (1987), p. 87

23 See Mazzocchi (1987), p. 35; Knight (1987), p. 87; Ahlbrandt (1987), p,199.

in a densely-populated and industrialized metropolitan area. There is indeed an official and cautious forecast according to which transport demand will increase by about 50% from 1985 to 2000.[25]

The main lines of intervention have been set out in a General Transport Plan. It contains the proposal of some integrated projects for the main urban areas (Turin, Milan, Genoa, Bologna, Venice, Rome, Naples etc.), because urban road congestion has inevitably been considered a national policy problem (about 70 percent of the trips are within urban areas). Unfortunatly there has been a gap between the proposals and the actual implementations.[26] The main proposal was centered on the inter-modality of local public transport in order to divert transport demand from private cars to public vehicles. The regional and local authorites were asked to prepare their plans, but at the present time very few of them have actually completed them and the coordination between the National Railways Company and local urban transport enterprises for the creation of an inter-modal regional transport system lags behind schedule.

On the contrary, the railway connections ("Passanti") of Milan and Turin have already received financing and have been started, while the proposal of financing some special underground projects has not yet been passed by Parliament.

There are two other proposals of transport supply management. The first tries to reconcile the need for a more efficient system of urban roads with the demand for lower urban road pollution.[27] It concerns the creation of urban express-ways ("strade espresse") and, at the same time, the curbing of traffic in residential quarters through pedestrian and restricted traffic zones ("woonerf"). The second proposal has been put forward by FIAT and it refers to Integrated Traffic Control Systems.[28]

The parking problem in Italian cities has already been considered (see section 3.2 above). It is of course a central topic in any policy for regulating urban congestion. The recently approved Act (March 1989) gives outlines for the new urban parking policy, which seems to be quite comprehensive. Many interventions are planned. First of all, there is a new planning standard for parking areas. Secondly, municipalities may establish pedestrian zones, restricted traffic zones, restricted parking zones (where road parking is allowed only to local residents because a public underground parking area is available), " park and rides", parking-meters, severe repression of unlawful parking. Finally there are financial contributions

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24 See for instance FIAT, (1989).
25 PGT-Segretria Tecnica, (1988).
26 See on this Incalza-Legitimo, (1989).
27 See Tognoli, (1989), p. 144.
28 Cf. Sacchi, (1989), p. 19.

from the central government to the municipalities to prepare a parking plan and set up the necessary infrastructures.

A second strategy is based on traffic demand reduction. Restrictions based on quantititative controls seem useful, at least for abating pollution, but insufficient. Pedestrian zones, for instance, simply remove the problem of congestion from the city centre to the centre outskirts, which are as a consequence jammed. Indeed the problem with traffic congestion is no longer typical of the city centre; it is frequent in off-peak hours and in the suburbs. In short it is almost endemic. Furthermore, as we have already said in section 3.1, rents inevitably follow quantity controls. Rome and Florence are textbook cases. Florence has a large pedestrian zone, but residents are allowed to drive in it. Also Rome has its own pedestrian zone, but there are so many "exceptions" that the centre is congested. Number-plate restrictions seem to produce results that are little better. It is not difficult to foresee that some Italian cities will sooner or later follow Stockholm in charging car drivers or, at least, car owners for using road space in the centre.

A final (naive) comment is in order. It relates not only to infrastructuring policies, but also to the need to control the demand of car transport in urban areas and, particularly, the modal choice. Italy, especially in the South, has good weather conditions for most of the year. Why do Italians not cycle just as Venetians walk? Why do local Italian authorities not build cycle tracks and create incentives for the use of bikes?

Local financing, tax reforms and privatization

There is a strong intention of municipalities to obtain more fiscal autonomy. The two existing local levies are indeed insufficient for their needs, which are mainly covered by tranfers from the central government.[29] The first levy is paid on the income from buildings. The second has recently been established and is paid by commercial and industrial activities in proportion to the area they occupy. There is in fact a relation between the amount paid and the public services supplied by the municipality, instead of a link to income or wealth. The tax yield, however, is not particularly high because the majority of municipalities have for the moment applied the minimal rates and because tax evasion is high, especially in the South.

There are other proposals. For instance the central government would like to introduce a new and more severe local tax on the income from buildings. A second idea concerns the introduction of some forms of local "purpose" contributions. The final point concerns the transfers from the central government which could be indexed and related to the fiscal revenue of the national budget.

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29 See Giardina et al., (1988).

Turning to the income generated by the provision of local public services, we must first of all observe that some of the public companies entitled to provide these services run a budget deficit because they are often mismanaged and apply low tariffs. This typically occurs for public transport companies. There has recently been a significant innovation in this field. The left-wing Council of Bologna has decided to sell some of its companies, despite the fact that some of them were running a budget surplus. This decision has been justified by recognizing that the public management of such activities often cannot be efficient. On the contrary, the collective welfare sometimes may be better pursued by private and efficient, rather than public and inefficient, enterprises. This decision is very significant because it has been taken in a city where the political left has always held the majority and where local government has always been held to be very efficient. It has stirred up fearful reactions of centre-right politicians, but it is illustrative the change that is occurring in this field in Italy.

Institutional reforms

These reforms are expected to concern public intervention at the urban scale directly. The recent institution of the Ministry for the Problems of Urban Areas as well as the proposed institution of nine Metropolitan Areas (Turin, Milan, Venice, Genua, Bologna, Florence, Rome, Bari, Naples) clearly indicates that the central government realises that urban problems are not only very important, but also that traditional local interventions are no longer sufficient to solve them without more central coordination and financing, at least for the larger metropolitan areas.

The debate on the need to create a new metropolitan level of government has very recently gained momentum as the proposed act (November 1989) is aimed at giving more efficiency to the provision of services and to the local government itself. The crucial point seems to be, at this stage, the exact delimitation of the nine metropolitan areas and the revision of the municipality borders within them. The Italian metropolitan authorities should be defined by regional bodies as new special provinces with powers formerly shared by municipalities and old provinces because a large number of tasks (planning, transport, environment protection, water management, inter alia) should be passed to them. The proposed act, however, is far from precise on the criteria and methodologies which could be used.

The focus is also on the municipality level. The reformist ideas in this case concern the political life of the cities and are essentially twofold: an electoral reform raising the threshold above which the majority voting rule is replaced by the proportional voting rule and/or the direct election of the Mayor; the second concerns the reduction of the number of municipalities and the revision of the

hierarchical relation that currently exist between municipalities and higher scale authorities.

On the whole, if these orientations are passed they should increase the power of municipalities and reduce some current political obstacles to effective government. In this respect fiscal reform should also be considered to give real fiscal autonomy to municipalities and, where they exist, to metropolitan bodies. All this demonstrates that municipalities are seeking to escape the restraining role on decision efficiency that is sometimes played by the central government and the existing political organizations.[30]

REFERENCES

Ahlbrandt R.S.J. (1987) *La creazione di "nuove partnerships" per lo sviluppo economico regionale*; in **Il governo della Cettà**, Quarta Conferenza del "Progetto Milano", IRER-Angeli, Milano, pp. 199-243.

Alonso W. (1971) *The economics of urban size*; **Papers of the Regional Scince Association 26**, pp. 67-83.

ATM, Comune di Milano (1986) **Milano e traffico. Indagini mobilita. Primi risultati**, Milano.

Berg van den L., Drewett R., Klaassen L.H., Rossi A., Vijver berg C.H.T. (1982) **Urban Europe, a Study of Growth and Decline**; Pergamon Press, Oxford.

Bognetti G., Magnani I. (eds) (1989) **I Servizi Pubblici Locali tra Equità ed Efficienza**; CIRIEC-Angeli, Milano.

Bondonio P., Brosio G., Marchese C., Piperno S. Santagata W. (1988) *Se io fossi il Sindaco... . Primi Risultati di una Ricerca sulle Preferenze Fiscali dei Torinesi*; see: Giardina et al. (eds) (1988), pp. 495-524.

Bottelli P., Miraglia R. (1989) *Trento capitale del vivere bene*, **Il Sole 24ORE**, lunedì 30 ottobre: l.

Cafiero S. (1988) *Il ruolo delle città per lo sviluppo*; **Rap porto 1988 sull'Economia del Mezzogiorno**; Svimez-Il Muli no, Bolognaa, pp. 31-38.

Camiz S. (1989) *Una interpretazione fattoriale delle struttu re territoriali*; in: Martellato D., Sforzi F. (eds.) **Studi sui Sistemi Urbani**; AISRE-Angeli, Milano.

Cassone A. Ciravegna D., Tasgian A. (1987) **Mutamento e rior ganizzazione della struttura produttiva; Il caso dell' area metropolitana di Torino; Progetto Torino Internazionale**; Angeli, Milano.

30 Cf. Pastori et. al., (1987), p. 282.

Cecchini D. (1988) *Le Aree Urbane in Italia: scopi, Metodi e Primi Risultati di una Ricerca*; **Rapporto 1988 sull'Economia del Mezzogiorno**; Svimez-Il Mulino, Bologna, 39-70.

Coffey W.J., Polese M. (1984) *The Concept of Local Development: A Stages Model of Endogenous Regional Growth*; **Papers of the Regional Science Association, 55**, pp. 1-12.

Costa P. (1987) *Le trasformazioni recenti dell'economia del sistema urbano veneziano*; see IRER-Progetto Milano Fondazione Agnelli (1987), pp. 157-178.

Costa P., Martellato D., Borg van der J. (1989) **On the Economic structure of the Italian Urban System**, paper presented at The "29th European Congress of the Regional Science Association", Cambridge 29th Aug.-lst Sept.

EEC (1987) **Third Periodical Report from the Commission on the Social and Economic Situation and Development of the Regions of the Community**, Bruxelles.

Erba V. (1990) **Per una politica della città in Italia: obiettivi, contenuti, strumenti di una nuova politica urba nistica**, Ancona, (mimeo).

FIAT (1989) **Mobilità e Aree Urbane**, Atti del Convegno Torino.

Fondazione Giovanni Agnelli (1989) **L'industria innovativa e la sua città**; Atti del convegno "Effetto città", Torino

Fraschini A., Robotti L. (1987) **La finanza locale: Italia e Inghilterra a confronto**; AISRE-Angeli, Milano.

Giardina E., Magnani I., Pola G., Sobbrio G. (eds) (1988) **Li velli di Governo e loro Finanziamento: Teoria, Esperien ze, Istituzioni**, AISRE-Angeli, Milano.

Gibelli M.C., Magnani I. (eds) (1988) **La Pianificazione Ur banistica come Strumento di Politica Economica**; AISRE-Angeli, Milano.

Hall P. et al. (1973) **The Containment of Urban England**; Allen and Unwin, London.

Hall P., Hay D. (1980) **Growth Centres in the European Urban System**, Heinemann Educational, London.

Knight R.V. (1987) *Il Governo della Metropoli Post-Industria le e l'Edificazione della Città Globale*; in **Il Governo della Città, Quarta Conferenza del "progetto Milano"**, IRER-Angeli, Milano, 61-107.

Krueger A.O. (1974) *The Political Economy of the Rent-See king Society*; **The Americaa Economic Review, 64**, No. 3, pp. 291-303.

Incalza E., Legitimo G. (1989) *I trasporti dall'emergenza al lo sviluppo - Dopo il Piano Generale: problemi, tenden ze, proposte*; **Quaderno dell'ISTRA, 1**, Milano.

IRER-Progetto Milano Fondazione Agnelli (1987) **Il sisttema metropolitano italiano**, IRER-Angeli 762-4, Milano.

IRER-Progetto Milano (1987) **Il governo della città**, IRER-Angeli 762-5, Milano.

ISTAT-IRPET (1986) **Imercati locali del lavoro in Italia**; Roma.

Magnani I., Marchese C. (1988) *Introduzione*; see: Bognetti Magnani (eds) (1988), pp. 10-30.

Maltinti G. (1988) **Le preferenze fiscali e i servizi pubblici nella provinzia di Pistoia**; IRPET, Firenze.

Marchese U. (1989) (ed) **Aree Metropolitane in Italia, Anni 80, Economia e fattori di centralità trasporti e movimenti pendolari**, Cedam, Padova.

Marescotti L. (1989) *Parcheggi, Traffico, Viabilità e Trasporti a Milano: Alcune Note sulla Pianificazione*; **Territorio Rassegna di Studi e Ricerche del Dipartimento di Scienze del Territorio del Politecnico di Milano, 2**, pp. 2-26.

Mazzocchi G. (1987) *Per le Aree Metropolitane non "Più Governi" ma "Più Governo"*; in **Il Governo della Città, Quarta Conferenza del "progetto Milano"**, IRER-Angeli, Milano, pp. 29-57.

Padovani L. (1989) *Gestione dei Processi di Trasformazione Urbana, Il Documento Direttore sulle Aree Dismesse o Sottoutilizzate del Comune di Milano*; **Recuperare, Edili zia, Design, Implianti, 43**, 512-521.

Padovani L. (1988) *Progetti di centri direzionali*; **Recuperare, Edilizia, Design, Implianti, 36**, pp. 406-417.

Pastori G., Dente B., Balboni E. (1987) *Il governo della metropoli milanese: strutture e processi*; see: IRER-Progetto Milano "Il governo della città", (1987), pp. 271-293.

PGT (Piano Generale dei Trasporti)-Segreteria Tecnica (1989) **Il trasporto merci e l'economia italiana - Scenari di Interazione al 2000 e al 2015**, Roma.

Pola G., Rey M. (eds.) (1978) **Finanza locale e finanza centrale**, Il Mulino, Bologna.

Richardson H.W. (1973) **The economics of Urban Size**, Saxon House, Lexington Books, Lexington, Mass.

Rowley C.K., Tollison R.D., Tullock G. (1987) **The Political Economy of Rent-Seeking**, Kluwer Academic, Boston.

Sacchi C. (1989) *Presentazione, Libro Bianco Fiat sulla Mobilità*, see: Fiat, **Mobilità e aree urbane** (1989), pp. 11-21.

Senn L. (1988) *Politica urbana, imprenditorialità e soggetti decisionali*; see: Gibelli, Magnani (eds) (1989), pp. 99-104.

Sforzi F. (1988) **Mercati locali-regionali del lavoro: problemi di definizione ed evidenza empirica in Italia**; IRES, Torino.

Suarez Villa L. (1988) *Metropolitan Evolution, Sectoral Economic Change, and City Size Distribution*, **Urban Studies, 25**, pp. 1-20.

SVIMEZ (1987) **Rapporto 1987 sull'economia del Mezzogiorno**, Il Mulino, Bologna.

SVIMEZ (1988) **Rapporto 1988 sull'economia del Mezzogiorno**, Il Mulino, Bologna.

Tognoli C. (1989) *Intervento*; see: FIAT (1989), pp. 141-153.

EAST-CENTRAL EUROPE

by

Piotr Korcelli

1. INTRODUCTION

Large cities have traditionally attracted the attention of a great number of scholars and authors; more than any other kind of human territory has. Still, even their basic properties remain a theme of continuing debate. While some sociologists praise the richness and creativity of the metropolitan community, others deplore the urban pathologies. Similarly, economists either tend to focus on the high costs of metropolitan services, or, as Jane Jacobs (1984) does, ascribe "virtually all economic life, no matter how geographically remote from cities, to depend on cities to maintain it or change it".

This paper refers to the part of Europe in which planners and policy makers did not only develop strong value judgements concerning large metropolitan areas, but have also made efforts to alter their growth patterns, as well as the role these areas perform within national settlement systems. In the so-called centrally-planned economies the expansion of large cities was stimulated by the concentration of industrial production and political power, while at the same time it was subject to administrative controls as well as countervailing economic measures. This chapter of planning history may be regarded as closed. Today, the rapid social and political changes bring about the need to re-evaluate the planning and policy approaches that prevailed over the last four decades. Against this background, the paper will attempt to summarize the development of large city regions in the countries of East-Central Europe since the Second World War, to discuss the main factors of metropolitan change, and to speculate on future trends. The questions to be raised pertain to the impact of urban policies: to what an extent these policies have influenced the observed paths of large-city development, and, how metropolitan growth patterns are likely to adjust to the shift from centralized, directive systems of planning and economic management, towards conditions characteristic of market economies.

The region of East-Central Europe, as identified for the purposes of this paper, consists of four countries: Poland, Czechoslovakia, the German Democratic Republic, and Hungary. Out of a combined population of 80 million in 1985, some 55 million lived in urban areas. The region contains four major cities (Budapest, Berlin, Prague, and Warsaw) and at least two highly urbanized industrial

conurbations (the Upper Silesia in Poland and the Leipzig-Halle in the GDR) with a population of 4 million and over 2 million, respectively. Four cities in the region have between 0.5 and 1 million inhabitants, and nine other cities have between 300 and 500 thousand.

2. OBSERVED URBAN AND METROPOLITAN TRENDS

In 1950 the degree of urbanization varied from 36.9 in Poland and Hungary to 42.5 in Czechoslovakia and 70.8 in the German Democratic Republic. By the mid-1980's this share had increased to 55 per cent in Hungary, 61 per cent in Poland, 70 per cent in Czechoslovakia and 77 per cent in the GDR. Settlement systems in Poland and Czechoslovakia are characterized by a fairly regular spacing of towns and cities and well articulated, multi-level urban hierarchies. This refers in particular to the western and central regions in the two countries, featuring higher population densities when compared to the eastern, predominantly agricultural regions. Warsaw and Prague contain within their administrative boundaries no more than 5 and 8 per cent of the total population of Poland and Czechoslovakia, respectively. This is in sharp contrast to Budapest which accounts for 20 per cent of the total population of Hungary and represents a clear case of urban primacy. The urban hierarchy of Hungary is in fact very incomplete; the missing level is especially that of large regional capitals. The urban system in the GDR is very much distorted due to changes in political boundaries following the Second World War. The northern part of the country, formerly within the hinterland of Hamburg, today lacks a major city (the seaport of Rostock is an exception). Conversely, the southern provinces of Thuringia and Saxony are characterized by a complicated mosaic of industrial towns superimposed upon an older network of central places.

Statistics that are often used to describe the structure of settlement systems include city-size distributions, measures of migration among individual size-categories of urban places, as well as indices of population distribution and migration between the core and external zones of metropolitan areas (urban agglomerations). As experience of cross-national studies on urban change demonstrates (see: van den Berg, et.al., 1982; Hall and Hay, 1980; Kawashima and Korcelli, 1982), such data, if available, are usually not fully comparable across nations. Definitions, time intervals, size categories are rarely identical; hence, instead of emphasizing data estimation that aims to arrive at some common denominators, one may try to identify the patterns and trends for each country separately and only then search for their coincidence. Such an alternative approach is adopted in the present paper.

Tables 1-4 present the evolution of population shares of individual city-size categories in the four countries. In the case of Poland (see Table 1) the small urban places, below 10 thousand inhabitants, have been losing population relative

Table 1 Poland: Distribution of Urban Population by City-size Categories

Population Population Size (000')	Number of Urban places					Percentage of the Total Urban				
	1950	1960	1970	1980	1987	1950	1960	1970	1980	1987
Below 5	393	405	359	264	258	11.0	8.5	6.4	3.8	3.4
5-9	159	236	220	185	180	11.5	11.6	9.2	6.1	5.6
10-19	76	138	162	169	170	10.8	13.3	13.1	11.4	10.5
20-49	50	68	97	111	126	15.9	14.7	17.1	16.5	17.4
50-99	12	20	27	38	43	8.8	8.9	10.9	12.5	13.0
100-199	11	13	14	22	23	17.2	13.3	12.8	14.7	13.7
200 and above	5	9	10	15	18	24.9	29.8	30.4	35.0	36.2
(500 and above)	(2)	(2)	(4)	(5)	(5)	(14.7)	(12.7)	(19.1)	(20.5)	(19.6)
Total	706	889	889	804	818	100.0	100.0	100.0	100.0	100.0

Source: Statistics of Towns and Urban Settlements, Central Statistical Office, Warsaw 1987; Demographic Yearbook 1988, Central Statistical Office, Warsaw 1988.

to the other categories throughout the whole period under analysis, i.e. since 1950. The only two city categories which have recorded a steady growth of their share in the total urban population are those between 50-100 and above 200 thousand inhabitants. Thus, a concentration of the population to the larger cities of Poland can easily be seen. One has to keep in mind, of course, that graduation of cities from lower to higher categories has been an important factor of registered change. Actually, the largest cities (500 thousand inhabitants and more) were losing in relative terms during those periods when their number remained constant.

An inspection of figures for the GDR (Table 2) allows one to discern a process of population concentration to the larger urban areas. The pattern is fairly regular: the rural townships as well as the smallest towns (2-10 thousand inhabitants) were losing population during all consecutive time intervals; cities of 50 thousand inhabitants and above were systematically increasing their share in the total population of the GDR. The percentage of the population living in medium-size towns (10-50 thousand inhabitants) remained relatively constant between 1950 and 1986.

Population shifts among individual size-groups of townships in Czechoslovakia (Table 3) reveal bigger relative loss in the smallest units (compared to that observed in the GDR) as well as steady gains for all classes of towns and cities having more than 10 thousand inhabitants.

Table 2 The German Democratic Republic: Population Distribution by Size of Townships.

Population Size (000')	Percentage of the Total Population 1950	1964	1971	1981	1986
Below 2	29.0	27.0	26.1	23.6	23.3
2-9	22.9	21.1	20.1	18.9	18.3
10-19	9.0	9.3	9.1	8.7	8.9
20-49	13.6	14.8	15.9	14.8	14.6
50-99	4.8	5.9	6.8	7.9	8.0
100 and above	20.7	21.9	22.0	26.1	26.9
Total	100.0	100.0	100.0	100.0	100.0

Source: Wissenschaftliche Mitteilungen, 25, Institut fur Geographie und Geoekologie der Akademie der Wissenschaften der DDR, Leipzig 1988.

In Hungary, the city of Budapest has recently been growing relative to the total population (Table 4). Nevertheless, its share of the total urban population has been decreasing rather rapidly. The biggest gains (against both the total and the urban population) have occurred in the group of provincial centres, in the 100-200 thousand population range.

Table 3 Czechoslovakia: Population Distribution by Size of Townships

Population Size (000')	Percentage of the Total Population 1950	1961	1970	1970*	1980
Below 2	48.6	42.5	37.7	30.9	27.3
2-9	21.7	25.0	23.4	24.6	21.8
10-19	6.1	7.2	7.9	9.1	10.8
20-49	6.7	7.2	8.9	10.3	11.4
50-99	2.9	4.0	6.1	8.4	10.8
100 and above	14.0	14.1	16.0	16.7	17.9
Total	100.0	100.0	100.0	100.0	100.0

* After administrative reform involving a decrease in the number of townships.

Source: See Table 2.

The changing proportions among urban places of various size represent an outcome of three factors at least: the re-classification of individual centres from one category to the next, systematic differences in natural increase, and internal migration. With fertility and mortality variations levelling off, the role of migration

in the process of population redistribution becomes the decisive one. The traditional pattern of inter-urban migration is that of hierarchical migration (see: Korcelli, 1981).

Table 4 Hungary: Population Distribution by City-size Categories

Population Population Size (000')	Percentage of the Total Urban Population				Percentage of the Total		
	1949	1960	1970	1980	1970	1980	1987
Below 5					35.6	32.1	29.8
5-9	22.8	21.3	18.0	17.3	10.2	9.4	8.2
10-19							
20-49	24.8	20.6	21.4	19.6	21.7	21.5	22.8
50-99	7.2	12.1	10.8	12.8	5.9	7.5	7.7
100-499	5.5	8.3	13.6	17.1	7.2	10.0	11.8
Budapest	39.7	37.7	36.2	33.2	19.4	19.2	19.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Wissenschaftliche Mitteilungen (See Table 2)
Daroczi and Kara (1989)

Table 5 shows that the dominant pattern of inter-urban migration in Poland continues to be from smaller to larger places. In 1975 all the 15 pairs of flows between the six city-size categories conformed to the rule of hierarchical migration, while in 1985 all except one pair did so. Another notable and persistent characteristic of inter-urban migration patterns in Poland is a consistent drop of total outmigration rates along with an increase of city size.

The hierarchical migration pattern can also be identified for the Czech Republic (Table 6). However, this pattern is less pronounced than in the case of Poland. Neither the total nor the destination-specific outmigration rates are strongly differentiated among the individual settlement-size categories. Still, outmigration rates for smaller-size classes tend to be higher than the corresponding figures for the larger-size groups. There is an evident break in the data series for the category of over 100 thousand inhabitants.

In spite of the highly aggregate nature of data on internal migration in Hungary, a few interesting trends can be established, based on Table 7. One phenomenon is a gradual contraction of migration rates since the early 1960's, a drop on a scale matching the spatial mobility decline observed in Poland since 1980. Also,

Table 5 Inter-urban Migrations in Poland, 1975 and 1985 (outmigration rates)

From: Urban places with population (in 000') of:	To: Urban places with population (in 000') of:						
	Below 5	5-9	10-19	20-49	50-99	100 and above	Total
1975							
Below 5	0.91	1.93	3.53	4.55	2.84	6.25	20.01
5-9	0.88	1.68	2.41	3.88	2.71	7.75	19.24
10-19	0.64	1.28	2.06	3.74	2.06	7.86	17.59
20-49	0.48	0.96	1.77	2.57	1.71	6.28	13.76
50-99	0.36	0.69	1.25	1.66	1.45	5.78	10.79
100 and above	0.22	0.54	0.88	1.21	1.13	3.26	7.43
1985							
Below 5	0.65	1.04	2.09	3.13	2.22	4.30	13.44
5-9	0.38	0.85	1.38	2.31	1.84	4.61	11.29
10-19	0.47	0.64	1.15	1.92	1.33	4.06	9.58
20-49	0.33	0.70	0.95	1.47	1.08	3.86	8.40
50-99	0.30	0.51	0.71	1.19	0.85	3.79	7.38
100 and above	0.20	0.41	0.73	1.14	1.03	2.38	5.89

Source: Calculated on the basis of: Demographic Yearbook (1976; 1986), Central Statistical Office, Warsaw, 1976, 1986.

relations between towns and rural areas, as well as between towns and Budapest have changed in character between 1960 and 1984. For the statistical town dweller, the propensity to migrate to a rural area was at the beginning of the period higher than the corresponding propensity for an inhabitant of a rural area to move to a town. By 1970/1974 this proportion had been reversed, and by 1980/1984 the difference between the respective rates had increased. Similarly, the inhabitants of Budapest have become more likely to migrate to the other towns and less likely to move to the rural areas.

Finally, the scanty data on internal migration in the German Democratic Republic (Table 8) reveal rather stable losses in smaller townships and continuing gains for the larger units (with more than 10 thousand inhabitants) during the 1970's.

Turning to the question of intra-metropolitan growth, it is relevant to ask whether the large urban areas in East-Central Europe have been subject to spatial de-concentration processes over recent decades, parallel to those which are now well advanced in Western Europe and North America.

Table 6 Internal Migrations in the Czech Republik, 1975 and 1985 (outmigration rates)

From:	To: Urban places with population (in 000') of:						
Urban and rural places with population (in 000') of:	2-4	5-9	10-19	20-49	50-99	100 and above	Total
1975							
2-4	4.46	3.04	3.84	4.00	3.33	3.81	22.49
5-9	3.79	2.23	3.23	3.57	2.93	3.92	19.77
10-19	3.32	2.42	2.95	2.77	2.73	3.98	18.18
20-49	3.66	2.14	2.53	1.71	2.56	3.41	16.00
50-99	3.68	1.93	2.37	2.51	2.05	3.39	15.93
100 and above	1.78	1.17	1.40	1.16	1.06	0.78	7.36
1985							
2-4	3.82	2.56	3.16	3.91	3.75	4.24	21.44
5-9	3.01	2.11	2.27	3.46	4.18	3.70	18.74
10-19	2.85	1.76	2.86	2.75	3.51	4.20	17.94
20-49	2.78	2.07	1.82	1.93	2.81	3.41	14.83
50-99	2.73	2.10	2.45	2.46	2.54	3.74	16.02
100 and above	1.54	0.89	1.11	0.91	1.14	14.03	19.61

Source: Adapted from Daroczi and Kara (1989)

In the German Democratic Republic one distinguishes four *Ballungsgebiete* - the agglomerations of Berlin (East), Halle-Leipzig, Karl-Marx-Stadt-Zwickau, and Dresden. These population concentrations cover 14 per cent of the total territory of the state and account for almost 2/5 (36.7 per cent in 1980) of its total population. This share has slowly been declining since the 1950's (from 37.3 per cent in 1956), i.e. the major urban agglomerations have experienced a somewhat quicker contraction of their total population than the GDR as a whole (the GDR population went down from 18.4 million in 1950 to 16.6 million in 1985). The *Ballungsgebiete* have suffered from both natural population decrease (the result of an advanced process of population aging) and net outmigration. These statements do not apply to one major urban area - Berlin (East) which, owing to extensive policy efforts, has achieved a strongly positive migration balance resulting in an absolute population growth: from 1071 thousand in 1964 to 1173 thousand in 1982. Within the agglomerations, the core cities have either shown absolute population increase (as in the case of Berlin and Dresden) or slower population decrease when compared to the whole agglomeration (as in the case of Leipzig). These trends were more pronounced during the 1970's when compared with the previous decade; hence one can speak about an accelerating concentration of the population within the core areas of major urban agglomerations in the GDR.

Table 7 Internal Migrations in Hungary (outmigration rates)

From: \ To:	Rural places	Towns	Budapest	Total	Net
1960/1964					
Rural places	25.90	10.72	5.62	42.25	-7.88
Towns	14.71	6.84	4.24	25.80	11.58
Budapest	8.78	3.28	-	12.05	10.75
1970/1974					
Rural places	20.83	11.26	3.02	35.11	-6.68
Towns	10.14	5.64	2.32	18.10	9.71
Budapest	5.32	2.56	-	7.88	3.49
1980/1984					
Rural places	13.73	11.13	2.92	27.78	-5.79
Towns	8.52	5.53	2.34	16.38	4.94
Budapest	3.90	2.67	-	6.57	4.60

Source: Daroczi and Kara (1989)

In Czechoslovakia basic population statistics are available for five urban agglomerations: Prague, Ostrava, Brno, Bratislava, and Northern Bohemia. Two of them (Ostrava and Bratislava) were growing faster than the total national population between 1950 and 1980; for the remaining three areas the rate of growth was positive, but smaller than the national rate. The largest agglomeration - that of Prague - grew in size from 1358 thousand in 1950 to 1515 thousand in 1980 which meant a drop in the total population share from 11.0 to 9.9 per cent. The core cities were expanding faster than the urban agglomerations as such. In Prague, for example, the share of the city changed from 86 to 88 per cent and in Brno from 68 to 71 per cent over the 30-year period, i.e. a very stable situation. However, in the former case an extension of city boundaries was the main factor of growth. The urban agglomeration of Prague has in fact been characterized by slow population de-concentration, with the core city still having a positive rate of population change. The smaller urban agglomerations (in particular Bratislava and Ostrava) witness continuing population concentration in the core areas.

In Hungary, the city of Budapest has been growing steadily, in terms of population size, during the last four decades. The rates have been gradually decreasing: due to negative natural change since the early 1960's and owing to dwindling inmigration since the early 1970's. The Central Region of Hungary, of which Budapest is the core, has experienced a somewhat faster population growth than the city itself. Thus, the Budapest region represents a case of population de-concentration under positive, although declining, growth in the core area.

Table 8 Internal Migration by Size of Townships in the GDR

	1970	1980		
Townships by population size (000's)	net migration (000's)	inmigration (000's)	outmigration (000's)	net migration (000's)
Below 2	- 8.1	27.5	35.9	- 8.4
2-4	- 2.7	26.0	30.8	- 4.9
5-9	1.2	27.9	28.4	- 0.5
10-19	1.7	26.5	24.2	2.4
20-49	5.8	25.2	23.2	2.0
50-99	7.8	24.5	21.7	2.7
100 and above	3.7	27.2	20.0	7.2

Source: See Table 2.

Changing patterns of population growth and redistribution in the region of Warsaw have been discussed in a greater detail in Korcelli, 1987a, 1987b. During the 1950's the city of Warsaw was growing at high rates (2-4 per cent per year) owing to reconstruction after the widespread damage of the Second World War. Population in the metropolitan ring was at that time increasing at rates approximately half as high. The 1960's witnessed a considerable slow-down of the growth of Warsaw (to a large extent due to growth-limitation policies), below the corresponding rates for the ring. The new investment wave in the 1970's resulted in a return to spatial concentration trends within the region. The crisis of the 1980's has been accompanied by decreasing population dynamics in the city as well as in the metropolitan ring; if recent trends continue, the city of Warsaw may experience a net migration loss on an intraregional scale before the end of the present decade.

One may attempt to bring together some of the findings concerning urban and metropolitan trends in East-Central Europe as observed during the last several decades. Despite considerable initial variations in economic development, the level of urbanization and the spatial structure of settlement, the four countries seem to have shared a number of common features in the patterns of urban (metropolitan) change.

Firstly, when measured by the evolution of city-size distributions, the settlement systems in East-Central Europe have become more concentrated. The highest rates of growth have normally been experienced by medium-to-large, rather than the largest cities.

Secondly, the intensity of internal migration has declined, but the hierarchical structure of the system of inter-urban flows has been retained. Migration towards the large urban centres still represent a major aspect of population mobility,

although it is much smaller in absolute, as well as in relative terms, during the 1980's compared to the status in the 1950's.

Thirdly, concentration of the population to the cores of the metropolitan areas (urban agglomerations), once a very clear-cut development, is no longer observed in the case of the largest urban regions (except in the GDR), but it is still a normal characteristic of the second-largest urban areas, those within the range of 300-500 thousand population. In the terminology of Hall and Hay (1980) the Capital Regions in East-Central Europe have moved from the phase of relative centralization (core and ring increasing, core relatively faster than ring) to relative decentralization (core and ring increasing, ring relatively faster than core) between the 1960's and the 1980's. No such shift has yet occurred in the medium-to-large urban areas. (It should be emphasized that one of the reasons for the late arrival of population de-concentration in the largest metropolitan areas of East-Central Europe is a very liberal delineation of boundaries of the central cities). Urban areas in the GDR are atypical, as they experience centralization during the period of population loss for the region as a whole. Using the Urban Europe study terminology (van den Berg et al., 1982), the capital regions in East-Central Europe have approached the second stage of urban development, that of suburbanization, while most of the remaining large urban areas are still in the urbanization stage.

The above conclusions do not imply that trends have been fairly uniform over time. On the contrary, considerable variations in urban change between consecutive time intervals are identified for each of the countries concerned. This also holds true in the case of variations between countries during a particular time interval (see: Bourne, Korcelli, Wärneryd, 1983). For example, the urban agglomerations in Poland experienced accelerated growth during the 1970's, at a time when the large urban areas in Hungary and Czechoslovakia witnessed a rapid contraction of the rates of growth. Differences in the phase of change (the phase-shift) do not seem to explain such major variations. Their roots have to be traced to shifts in the economic development strategies and the subsequent spatial - including urbanization - policies. This leads us to the discussion on main factors of urban and metropolitan change in East-Central Europe.

3. FACTORS OF METROPOLITAN CHANGE

Economic growth through industrialization became the main dogma of development policies in Eastern Europe after the Second World War. The belief in the efficiency of large-scale production led to the concentration of productive capacities in large cities. Although the location policies formally aimed at wide-spread, almost uniform industrialization of the territory, they had to yield to such factors as scale economies and existing urbanization economies. Due to ideological principles, it was also considered appropriate for a large city to have a thriving manufacturing sector and a sizable working class.

Industry penetrated a number of smaller urban centres as well and became their raison d'etre. In 1960, as many as 140 out of 241 urban centres in Poland, each with 10 thousand inhabitants or more, had at least 50 per cent of their total employment in industry or construction. In Czechoslovakia and the German Democratic Republic investments went to the traditional industrial regions (Northern Bohemia, Thuringia, and Saxony) as well as to selected centres in relatively less developed regions (Bratislava, Rostock). In Hungary there were also attempts to develop industrial functions of provincial and local urban centres to counterbalance Budapest which, in 1949, accounted for more than 50 per cent of total industrial output and employment. Still, a big share of new investments went to the capital region. Even as recently as in 1978, 48.8 per cent of the Budapest labour force was employed in industry and construction. The corresponding shares in Warsaw (43.1) and Prague (42.4) were not much lower; only Berlin (East), with its 33.8 per cent could not be regarded as an urban centre with predominantly industrial functions.

The capital regions in the four countries were also expanding on account of the burgeoning industrial management and administrative bureaucracy. Since, in the so-called centrally-planned economies, the state undertook the guiding of economic growth, making industrial location decisions, allocating housing, infrastructure, and public service facilities, it became important for industrial management to be situated close to the centres of political power and decision making. For example, Berlin (East) attracted head offices of 23 per cent of all major state-owned enterprises in the GDR (Grimm, 1984).

Smaller cities and towns were almost exclusively linking their development plans with industrial expansion. It was namely industry, in particular large plants, that were expected to generate some spin-off effects in terms of new technical infrastructure, housing construction, and public services.

Increased mobility of the population after the war, collectivization of agriculture, and unfavourable terms of trade for farm versus factory products allowed the supply of old, as well as new industrial centres with manpower. In fact, considerable over-population of the rural areas and widespread rural poverty were commonplace in eastern and southern Poland, in Hungary, and Slovakia. However, new phenomena emerged at the beginning of the 1960's which put into question the continuation of the trends of spatial concentration of industry and population in major cities and conurbations.

As the state exerted monopoly in foreign trade and set wage levels, there were limited internal incentives in the state-owned industrial plants to increase the productivity of labour. Hence, the demand for manpower expanded unabatedly. At the same time, housing and infrastructure investments (coming from the same state pocket) were falling short of demand. The prospect of having to accommodate, at the price of declining living conditions, a large-scale migration to

metropolitan areas, prompted state and city governments to introduce some limited-entry measures. Such solutions to the apparent contradiction between a continuing industrial expansion and a growth of the administrative apparatus on the one hand and inmigration controls on the other, proved highly unstable. Although the housing shortage issue became somewhat less pressing in the short-term, the demand for transportation, retail facilities, and public services kept growing due to the influx of thousands of employees into the city. These phenomena precipitated a new set of urban policies which emphasized active spatial de-concentration of industrial jobs. Such policies were pursued mainly during the late 1960's, especially in Hungary and in Poland.

In Hungary, five cities (Pecs, Miskolc, Gyor, Debrecen, and Szeged) were selected as potential countermagnets to Budapest.

Direct allocation of industry and tertiary functions to these centres resulted in their expansion. They attained the population size of 120-200 thousand each by the early 1970's, a notable addition to the population of 50-70 thousand in the early fifties. The growth of these cities diverted some migration away from Budapest. The persistent shortage of labour in the capital prompted many of its industrial establishments to build branch plants in urban as well as in rural places in the Hungarian Plain. Some new clusters of industrial jobs were located in the external ring of the metropolitan area; but these concentrations were nevertheless closely connected with the capital. In fact, the new employment centres expanded the attraction zone of Budapest, generating inmigration and commuting to work from even more distant areas (Sárfalvi, 1986).

In Poland, urban growth limitation policies were applied to Warsaw and five other large cities, Cracow, Poznan, Wroclaw, Lódz, and Gdansk, during 1965-1970. The main mechanism was administrative control of employment growth in individual enterprises and the identification of enterprises to be transferred to smaller urban places in the hinterland, or to be merged with other enterprises. In the case of Warsaw, the deglomeration programme aimed at a contraction of employment by 47 thousand jobs, 3/4 of which were in industry and construction. The number achieved was 40 thousand in 245 establishments. As a result of these measures, the share of Warsaw in total national employment dropped from 8.5 to 7.3 per cent between 1965-1970. The deglomeration policy resulted in a slight improvement of the housing situation in the capital, but it also had a number of adverse effects: a rapid aging of the population, a shortage of manpower in tertiary activities, a large influx of rural migrants to the peripheral zone of the metropolitan area.

The 1970's saw a divergence of the spatial economic and urban policies of the countries of East-Central Europe. While spatial de-concentration goals were still en vogue in Hungary, to a smaller degree in Czechoslovakia and implicitly in the GDR, the second wave of industrial expansion which started to roll across Poland, was arriving to the large cities first. Spatial planning concepts were reinterpreted

to match the spirit of economic expansion; the emphasis shifted from the cost to the benefit side of the efficiency calculus which again seemed to favour the large cities over the smaller ones. The National Plan of Physical Development postulated a rapid acceleration of urban growth; the eighteen areas defined as urban agglomerations were expected to grow at rates higher than the total urban population increase until the year 1990.

At that time in Hungary the spatial de-concentration of industry received new impulses. Economic reforms which started in 1968 put a premium on labour efficiency, and introduction of differentiated land prices stimulated transfers of industrial facilities from Budapest to smaller places within the Central Region, as well as to more distant centres. Settlements situated within the metropolitan ring, which were receiving some of the industrial spillover, were no longer contributing as many commuters as they used to. Hence, Budapest enterprises had to rely more and more heavily on long-range commuting. Due to population aging and the development of tertiary and quaternary functions, the labour demand in Budapest continued to exceed the local supply of manpower.

Settlement policies in the German Democratic Republic during the last fifteen years or so have focused on the balanced development of city-regions, the expansion of urban and industrial centres (such as Rostock and Cottbus) in the less urbanized, northern and east-central districts, and on modernization and further development of the metropolitan functions of Berlin (East) (see: Heinzmann, 1982; Heinzmann et al., 1988). With the diminishing size of the GDR population, these planning targets had to imply an outmigration from the main urban and industrial conurbations in the South. This means a rather rapid contraction of population numbers in the regions of Leipzig-Halle, Dresden, and Karl Marx Stadt where natural increase has been strongly negative due to both low fertility and the advanced age composition of the population.

In Poland, the adopted planning strategy of "moderate polycentric concentration" resulted in a massive rural outmigration (some two million in net terms) and an expansion of the large urban agglomerations, in particular those of Warsaw, Upper Silesia, and Gdansk during the 1970's. The syndrome of huge industrial investments (based partly on foreign loans) in a number of branches, including primary steel and shipbuilding, i.e. traditional industrial sectors, the growing industrial labour demand, inmigration and large-scale housing construction in the urban agglomerations, came to a breakdown around 1980. Shortage of material inputs (mainly raw materials), disorganization of production linkages, transportation failures and widespread strikes all contributed to the plummeting of industrial output by one-fifth, despite high domestic demand for manufacturing goods, between 1979-1982. Repair efforts, including partial economic reforms, proved largely unsuccessful. Total industrial production was slowly increasing between 1983-1987, but it has never reached the 1978 level again.

The decline in the size of industrial employment in Poland was initially much smaller than the drop in the industrial output. However, it has continued throughout the 1980's. Migration rates went down by one-third between 1978-1987. In terms of industrial output and productivity, the large urban agglomerations have been losing relative to the less urbanized regions (Misztal, 1987). A de-concentration of housing construction, away from the main metropolitan areas, can also be noticed. For example, the capital voivodship of Warsaw has dropped from the first to the twenty-ninth rank (among the 49 administrative regions) in terms of the number of new dwellings built per capita between 1979-1984. Although the largest urban agglomerations have retained a positive balance of internal migrations between 1980-1985, their total gain decreased by more than 50 per cent: from 50 to 24 thousand individuals. The combined share of the five main agglomerations (Warsaw, Upper Silesia, Lódz, Cracow, and Gdansk) within the total population of Poland has been declining since 1983 (see: Korcelli, 1989).

Discussion in this section has focused on the role of industrial expansion (and decline) and industrial location in the growth and transformation of metropolitan areas. As has been shown, industry represented the traditional point of reference for spatial policies in the four countries of East-Central Europe, even when these policies dealt directly with transportation, allocation of housing, and public services. This approach has been changing recently, and it may be anticipated to change more definitely during the next few years.

Since the goals of spatial policy have evolved over the past decades (more visibly in Poland than in the other countries), its effects could not be stable over time. In some periods (in Poland during the 1950's and the 1970's) spatial policies were aiding the concentration forces, while during other time intervals (notably the 1960's in Poland and Hungary) they had the effect of delaying, or counterbalancing, spatial concentration.

Generally, trends towards de-concentration of population and economic activity from cores to rings within the metropolitan areas, and from metropolitan to non-metropolitan areas, have so far been weak in the so-called centrally planned economies, and in some instances the forces of concentration still prevail. The latter forces are much stronger than those characteristic of market economies at comparable levels of urbanization and development. Reasons for such differences are sometimes traced to the specific intersectoral proportions. Due to its higher degree of closure, a centrally planned economy puts more emphasis on the expansion of the industrial base, and discourages the growth of the tertiary sector. Being relatively scarce, the service activities tend to maintain a clustered pattern, which works against residential de-concentration.

Spatial policies introduce another aspect of the interplay between the forces of concentration and de-concentration. Industrial de-concentration policies, as well as explicit urban growth limitations, have restrained the growth of the largest

metropolitan areas, in particular the capital regions, to below their "normal" rates. Under the absence of formal land-rent mechanisms, these policy measures have generated a "flat" trajectory of spatial concentration. A "dampened" concentration process requires a longer time interval in order to run its full course. Thinking in terms of the metropolitan growth cycle, this implies a delay of the subsequent phase of spatial redistribution.

4. CHALLENGES AND PROSPECTS

The development of an industrial base, or the costly restoration of historical city cores are examples of early policy decisions that met with popular approval in the countries of East-Central Europe after the Second World War. As time went by, more and more negative features of spatial development in general, and of the urbanization process in particular, have become visible. These have come under very heavy criticism during the 1980's. The main point of such a criticism is the subordination of urban development, and of city life, to the needs and rules established by industry. As Jalowiecki (1989, p.143) puts it, "spatial forms are shaped with respect to the rationality of the functioning of an industrial enterprise". Prawelska-Skrzypek (1989) and Daroczi and Kara (1989) point to the dominance of the goals of industrial production over those concerning human needs which results in "defective urbanization" characterized by deficient urban services and permanent housing shortages. These in turn relate to the chronic labour shortages, a consequence of an inefficient use of manpower rather than of high rates of economic growth.

However, this model of economic and urban development is coming to its end. It has provoked social protest since the early 1980's. It has proved incapable to generate improvements and to compete internationally. A shift from a "centrally-planned" to a market economy may imply different futures for different metropolitan areas. The opening of the national economies to world trade is likely to bring demise to some industries, but it can also bring success to others. Heavily polluting industries may not always be able to adjust to the more strict international emission standards. Local producers may be pushed out from the domestic markets by large foreign concerns. Thus, for a city or a metropolitan area to be viable, it may no longer be sufficient to have an industrial base. It will be important to have the right kind of industry, or, to engage in profitable tertiary and quaternary activities.

The capital regions have the best chances not only to maintain their present rate of growth but even to enter a phase of accelerated expansion and modernization.

The chief assets of Warsaw are: It is the metropolis for a nation of almost 40 million, and it has a cross-road location on the main European east-west axis, and on a major north-south axis (from Scandinavia to the Balcans). Due to its market potential, location as well as climate (very few days with fog) Warsaw has a chance

of becoming the busiest air transport hub in Eastern Europe. This is conditioned upon the siting of a new airport, suited for transcontinental flights. The existing, heavily overcrowded airport is being extended to hold some three million passengers in 1992, a capacity not much in excess of the current demand (two million passengers in 1989).

Prague's advantages include its imposing, well-preserved historical core and a rich array of unique cultural facilities. The Czech capital is also characterized by good accessibility to a number of large cities in Germany and Austria.

The present-day attractiveness of Budapest, deriving from its natural and cultural landscape, location and sheer size, is likely to be enhanced during the 1990's owing to the revival of historical linkages with Vienna. In fact, the two cities are planning to hold a joint World Exhibition in 1995.

The case of East Berlin is quite specific. The divided city is starting to function as one organism (in terms of circulation of people and goods at least) after 28 years of closure. Although its future role is not quite transparent, with the combined population of three million it still represents the largest metropolis between Paris in the west and Moscow in the east.

The future of other large cities within the region is less clear. While some centres of historical, cultural, and educational importance, such as Cracow, Dresden, and Bratislava, as well as the international trade centres of Gdansk, Poznan, and Leipzig seem to be in a competitive position on a European scale, the industrial conurbations dominated by coal mining, and iron and steel, such as the Upper Silesia or Ostrava, may have to go through a painful restructuring. Three simple scenarios can be drawn for urbanized regions of this type. A realistic course of events would be a fairly slow structural change, accompanied by a loss of tens of thousands of jobs in mining and manufacturing. An optimistic scenario is a rapid inflow of venture capital taking advantage of the local supply of skilled, but relatively low-payed labour. A pessimistic scenario is a continuation of the present, outdated industrial structure - the role of "the coal-bucket" of Europe - until the end of the 1990's and beyond.

Metropolitan populations tend to be highly mobile, and populations of the large cities in East-Central Europe are no exception to this rule. Their mobility range, however, was for several decades severely restricted by state boundaries and, in particular, the boundary between Eastern and Western Europe. This boundary became permeable during the 1970's, while in the 1980's it has no longer constrained the movement of Poles, Hungarians, and, since November-December 1989, the citizens of the GDR and Czechoslovakia. The weekend trips, for shopping, trade and pleasure, from Budapest and Prague to Vienna, and from Warsaw and Poznan to West Berlin involve tens of thousands of people. After the initial period of acquaintance, these flows may become less massive, and more selective with respect to participants and trip purposes.

Political transformations in the countries of Eastern Europe, and the adoption of the rules of market economy, as well as those of the global economy, will undoubtedly influence the path of urban change in those countries. These processes, however, will also leave their marks on future urban development in Western Europe: upon the extent, form, and structure of the European urban system. There are two basic unknowns in the prediction equation: the coherence of the European Economic Community and the pace of integration of the two German states. In case the EEC follows the policy of exclusiveness and high tariff barriers after 1992, the interdependence of Eastern and Western Europe may remain fairly superficial; this might imply the role of European periphery for the countries of East-Central Europe. Hopefully, a more likely scenario is a gradual elimination of obstacles to movement and exchange which would result in the increasing interdependence and the spread of prosperity on a continental scale.

If such a development really takes place, the European centre of gravity would shift towards the east and the dominance of the London-Paris-Frankfurt triangle would somewhat diminish. The expanding volume of traffic and transactions between the nations of Western and Eastern Europe may be expected to focus disproportionately on three or four metropolitan centres: Berlin, Vienna, Stockholm, and perhaps Helsinki. The position of Berlin has already been alluded to earlier. The international functions of Stockholm might expand rapidly if the countries of East-Central Europe drift towards EFTA which is now often anticipated. The role of Helsinki hinges upon developments in the Soviet Union. The most obvious case is that of Vienna. Its connections with Eastern Europe are the oldest and best developed. Moreover, they have been consciously cultivated over the past decades. Vienna's role of "the shopping-centre for the COMECON countries" has widely been known, but, in fact, the city performs even more important economic (including banking), tourist, and political functions oriented to a large extent towards Eastern Europe (Lichtenberger, 1989). The recent rapid growth of quaternary activities in Vienna (Stiglbauer, 1989) tends to be explained by its international position rather than its relations with the rest of Austria. It seems most probable that Vienna will continue to be the main meeting point between Western and Eastern Europe during the 1990's, and hence, will represent one of the main growth centres in the European metropolitan system over the next decade.

While strong economic and technological linkages may be expected to develop between the urban regions of Hungary and Czechoslovakia on the one hand, and the major German and Austrian cities on the other, the cities of Poland may strive to retain more balanced interaction patterns with Western Europe. These should include the traditional cultural and industrial connections with the Italian metropolises of Rome and Turin, and the close links with large urban centres along the Baltic rim. Considering the ever growing importance of environmental protection, the partnership with the Swedish centres, in particular in the

development and application of relevant technologies, as well as in social and medical research and treatment, is the most logical future course of events.

REFERENCES

Berg, van den, L., et al., 1982. **Urban Europe: A Study of Growth and Decline**. Vol. 1. Pergamon Press, Oxford.

Bourne, L.S., P. Korcelli and 0. Wärneryd, 1983. *Emerging Spatial Configurations of Urban Systems: A Review of Comparative Experience*. **Geographia Polonica, 47**, pp. 85-99.

Daróczi, E. and J. Kara, 1989. **Migration and Settlement. Regional Change in Eastern Europe: The Case of Czechoslovakia and Hungary**. Paper presented at the Meeting of the IGU Commission on Urban Systems and Urban Development, Saint-Cloud, June 27-30, 1989.

Demographic Yearbook of Poland, 1974, 1979, 1986, 1988. Central Statistical Office, Warszawa.

Grimm, F., 1984. *The Settlement System of the German Democratic Republic: Its Structure and Development*. Pages 377-399 in: L.S. Bourne, R.Sinclair and K.Dziewonski, eds., **Urbanization and Settlement Systems. International Perspectives**. Oxford University Press.

Hall, P. and D. Hay, 1980. **Growth Centres in the European Urban System**. Heinemann Educational Books, London.

Heinzmann, J. et al., 1988. Papers presented at the Polish-GDR Seminar on Urban Development and Urban Planning, Szymbark, Poland, 15-19 September 1988.

Heinzmann, J., 1982. *The Settlement System and Functional Urban Regions in the German Democratic Republic. Part 1: Structure and Dynamics of the Settlement System* in T. Kawashima and P. Korcelli, eds. **Human Settlement Systems: Spatial Patterns and Trends**. CP-82-Sl, IIASA, Laxenburg, pp. 61-72.

Jacobs, J., 1985. **Cities and the Wealth of Nations**, Viking, Aylesbury, Great Britain.

Jalowiecki, B., 1989. *Local Systems and Social Development*. **Geoforum, 20**, XX, pp. 141-150.

Koloszar, M., 1975. *Interrelations Between Settlement Systems and Socio-Economic Development* in: H. Swain, ed., **National Settlement Strategies: East and West**. CP-75-3, IIASA, Laxenburg, pp. 64-73.

Korcelli, P., 1987a. **Evolving Patterns of Migration and Residential Mobility in the Region of Warsaw**. Paper presented at the Dutch-Polish Seminar on Housing and Residential Mobility, Utrecht, September 7-10, 1987.

Korcelli, P., 1987b. **Growth Fluctuations and Alternative Trajectories of Future Population Change: A Case Study of the Warsaw Science Association, 61**, pp. 131-144.

Korcelli, P., 1989. *Recent Patterns of Urban and Population Change in Poland*, **Geoforum** (in print).

Lichtenberger, E., 1989. *Optionen fur Europa* in: **Österreich Zu Beginn des 3. Jahrtausends**, der Wissens-Verlag der Österreichischen Akademie der Wissenschaften, Wien, pp. 237-264.

Misztal, S., 1987. **Industrialization Trends in Poland by Voivodships**. Institute of Geography and Spatial Organization. Polish Academy of Sciences, Warszawa.

Prawelska-Skrzypek, G., 1989. **Urban Development in Realistic Socialism (on example of Polish Cities).** Paper presented at the Polish-Soviet Seminar on Evolution and Functioning of Settlement Systems, Karpacz-Wroclaw, October 17-24, 1989.

Sarfalvi, B., 1986. *The Budapest Agglomeration, Changing Spatial Connections Between Home and Workplace* in: **Rural Development Issues in Industrialized Countries.** Regional Research Reports, 1, Centre for Regional Studies, Pecs, Hungary, pp. 56-63.

Stiglbauer, K., 1989. **Regional Population Development and the Service Sector in Austria.** Paper presented at the Polish-Austrian Seminar on Recent Trends in Spatial Development of Population, Warsaw-Nieborów, Dctober 26-29. 1989.

Wissenschaftliche Mitteilungen, 25, 1988. **Ergebnisse der regional differenzierten Urbanisierung in sozialistischen Ländern**, Institut fur Geographie und Geoekologie der Akademie der DDR, Leipzig.

URBAN EUROPE AFTER 1992

by

Peter Hall

In this brief presentation I wish to discuss shifts in the urban hierarchy of Europe. I shall use a unit of analysis that has been developed in two major studies of European change - by Hall and Hay (1980), and by Cheshire and Hay (1989): the *Functional Urban Region* (FUR), a unit similar to the American Metropolitan Statistical Area. We are interested in changes as between these units (relative rates of growth of population and employment), and also within them (concentration or deconcentration as between cores and rings).

The presentation comes in two halves. First I will discuss some basic long-term structural trends that stem from changes in technology, the economy and society. Then I shall discuss the specific impact of 1992 on these trends.

1. THE LONG-TERM STRUCTURAL TRENDS

Technological, economic and social change are producing a general set of urban trends across Europe, and indeed across much of the advanced industrial world. There are at least four separate processes happening all at once, and they interact in confusing ways. There is *deconcentration* of people and jobs from central cities to suburbs. There is *deindustrialization*, or more accurately the shift of advanced nations from a goods-handling, resource-based economy to an information-handling, knowledge-based one. There is *reconcentration*, a shift from large metropolitan cities to smaller adjacent ones. And there is, more questionably, a *regional shift* from both the oldest, densest central urban regions and the most remote peripheries to new growth bands and growth corridors, located in certain favoured rural regions of each country.

The first tendency, *decentralization*, has become all-pervasive. In their recent study of urban change in Europe, Paul Cheshire and Dennis Hay conclude that "Decentralization has tended not only to 'spread' from larger to smaller FURs, it has also spread from the countries of Northern Europe to France and northern Italy and later to the countries of Southern Europe" (Cheshire and Hay 1989, 145; cf. Hall 1988, 116-120). This pattern has proved remarkably stable over time: Cheshire and Hay predict that losses of core city populations, which occurred in northern Europe by the early 1970s [and in the UK as early as the 1950s] and in France and Northern Italy by the late 1970s, will occur also in southern Europe by

the 1990s. By 1980, both the UK and Germany were dominated by population decline of their entire major urban regions, accompanied by continued out-movement from core to ring.

The second trend, *deindustrialization*, is really quite different. Cheshire and Hay confirm that it has been occurring in Europe, though they cannot measure this as comprehensively as they can measure population movements, because of data problems. They do conclude that "there does appear to have been a significant relationship between specialization in industry at the start of the period and a poor measured performance for the urban region" (Cheshire and Hay 1989, 151). Everywhere, they find, service employment is growing at the expense of manufacturing, though the process still had a long way to go in the mid-1980s. The implication, clearly, is that the cities that are going to do best - or perhaps we should say the least badly - are those that earliest made the transition to the advanced service economy.

This can be seen by reference to successful urban regions. Cheshire and Hay cite four cities as examples of "healthy growth": Bristol, Nancy, Norwich and Strasbourg. And they quote five as examples of "healthy decline": Amsterdam, Bologna, Copenhagen, Frankfurt and Hamburg (Cheshire and Hay 1989, 121). All these are service-based cities, two of them smaller national capitals, the others regional capitals. They correspond quite closely to a longer list of such cities I produced earlier, when I described them as the European equivalents of what Stanback and Noyelle, in the United States, term regional nodal cities: "city regions with populations ranging from a few hundred thousand up to about two million in population, that act as service centres for prosperous, traditionally rural hinterlands". "All have this common quality", I wrote, "traditionally service cities, they have enhanced that role, and thus have more than compensated for any decline in their traditional manufacturing functions" (Hall 1987, 10).

The third tendency, *recentralization*, is subtler. Western Europe has well over one hundred smaller FURs with less than a quarter of a million people, many of them administrative centres for rural areas, or resort and retirement towns. Nearly three-quarters of them showed population gains in the 1970s; more than two in five had gains of 5 per cent or more. [They are not however the smallest places, many of which are losing both people and employment]. Again, many of these small-medium places showed losses in their urban cores; but, even then, many of these places are growing as employment magnets. These fastest-growing areas, whether larger or smaller, are for the most part semi-rural: the hinterlands of the cities are quite rural in appearance, but they are not remote (Hall and Cheshire 1988). On the contrary, they are often next door to the places that are both deindustrializing and deurbanizing. It is a reciprocal process: the big industrial cities' loss is their gain. We can speak of it as a process of recentralization of jobs in these smaller places, with local concentrations of residential populations around them; the

resulting commuting distances are generally quite short, certainly much smaller than in the giant metropolitan centres whence these people came.

This is very clearly shown in South East England. There, London has been losing both population and employment for the last quarter-century. But a ring of FURs, all around it, have gained massively. And the wave of growth is spreading ever farther outward, to engulf places 150 kilometres and more from the capital. The fastest-growing belt in Britain - the Golden Belt, or Sunbelt - extends from Cornwall up through Somerset and Wiltshire to Northamptonshire, Cambridgeshire, Suffolk and Lincolnshire: every one a rural county (Hall 1989a). The whole process is started by movements of people in search of more housing space at prices they can afford. But then, the jobs follow the people. More accurately, the jobs themselves for the most part do not move; rather, the local economies expand to absorb the newcomers; by the end of ten years, well over one-half and perhaps three-quarters were absorbed in this way.

As a result there is a *regional shift*: the development of belts of fairly widespread growth in basically rural areas of many European countries. The English "Sunbelt" is one example: the south German corridor from Heidelberg via Stuttgart and Ulm to Munich is another; the Mediterranean coast of France and Spain, from Monaco to Nice and on to Barcelona and Valencia, is another. Some, like the south German example, follow major and very old-established corridors of movement by road and rail; others, like the British example, actually cut across the grain of the major corridors. Some can be regarded as "central" in terms of the major established urban centres; others appear to be "peripheral". But what is central, and what is peripheral, depends on the geographical scale that is being used: the Nord-Pas de Calais region is peripheral in French terms, but central in terms of the European Economic Community; the Copenhagen region is central to Denmark, peripheral in relation to Europe. Therefore, I think that it is difficult to argue - as Cheshire and Hay at one point do - that in Europe the periphery is becoming relatively more remote. Some parts of it, like Northern Scandinavia or the Scottish Highlands or the Italian Mezzogiorno, do suffer from a combination of long distances and sparse population, which makes it difficult for them to achieve the necessary economies of scale to compete in the new informational economy. But other regions, peripheral in a European sense - the Spanish Mediterranean coast, central Italy - have been relatively quite dynamic areas. The geography of urban change simply cannot be reduced to a core-periphery basis.

Put together, these trends seem to spell a new and deep threat to the traditional great city, especially to those great cities that owed their rise to the manufacturing and port activities of what Patrick Geddes and Lewis Mumford called the palaeotechnic era. Economic activities, it appears, no longer need such cities. People want to get out of them, or perhaps have to get out of them. The people and the jobs come together in smaller places arrayed in belts of growth, typically in places little touched by earlier industrial revolutions. To an extraordinary degree,

in Europe today we are seeing a partial return to pre-industrial patterns of urban settlement: a return to the medieval urban hierarchy, based on historic trade routes.

Yet this does not mean a mass retreat from the city. On the contrary: it represents a shift from one kind of city to another, from a goods-handling to an information-handling city. The key is that hardly any city any longer depends, as many cities once depended, on a unique resource inheritance. The locational factors are more subtle, and to a considerable degree they are capable of being created by human decision. A new airport or a new high-speed railway junction, a teleport or even a new fibre-optic link may create the conditions for large-scale private investment in the informational industries. Restored historic industrial or port buildings, coupled with the amenity values of a waterfront location, may similarly provide the basis for development of tourism, including that important variety, business tourism. A revived public transportation system, coupled with vigourous policies to civilize the private automobile, may create the right environment for a range of related activities, including retailing, tourism and entertainment.

2. THE WORLD CITIES AND THE IMPACT OF 1992

The European urban hierarchy cannot be understood save in terms of its long and complex history. It has not been, and still is not, a single hierarchy but is a series of national hierarchies. Further, these hierarchies are themselves very different because of national histories: compare the pyramidical hierarchy of centralized France with the "flat" hierarchy of decentralized Germany and Italy. But almost certainly, these hierarchies are just beginning to merge into one - a process that may take decades if not centuries. The point about 1992 is that it may greatly speed this process.

The evidence, such as it is, suggests that larger economic groupings are generally accompanied by an enhanced role for the cities at the top of the hierarchy, and vice-versa: witness the rise of Berlin and Vienna in the late nineteenth centuries and their decline in the twentieth. But much depends on the allocation of key governmental and other roles. Already, in the process of globalization, shifts appear to be occurring at the top of the European urban hierarchy. London is still at the very top in terms of size and the controlling nature of its economy, dominated by high-level service functions. Its preeminence reflects the enormous accumulated commercial power of Great Britain and its unique position at the intersection of three major trading economies - the Atlantic (Anglo-American), Commonwealth and European. But there is very persuasive evidence that it is slipping. Its economy has lost traditional manufacturing and goods-handling functions, and has failed to replace them sufficiently with information-handling functions. (Partly, however, this reflects a process of local deconcentration). Paris is its major rival as a comprehensive high-level service city, though it has a long way to go. Frankfurt is also a rival in commercial functions, and is improving its

position. Some smaller national capitals, like Brussels, Stockholm and Copenhagen, are also performing well.

A vital role will be played by the rapid integration of the EC economy after 1992. Brussels' already strong performance reflects its attractions as the political capital of Europe, a role that is likely to be enhanced as remaining EC functions (especially the Parliament) settle there. An equally important role on the commercial side will be played by the location of the European central bank, still to be determined. These pan-European forces could well reshape the historic hierarchy: Brussels could become the "Washington" of Europe, Frankfurt the "New York City".

A major role is likely to be played by communications. In the new informational economy, the movement of information is more important a location factor than the movement of goods. Two types can be distinguished: movement of people, and electronic communication. London benefits from its commanding position as location of the two top international airports of the world, with both Paris and Frankfurt some way behind. The next two decades are certain to see the growth of a European high-speed train system which will drain off most of the short-distance European air traffic. Key locations are likely to be Lille, the hub of the "New European Trunk Line" (London/Paris-Lille-Brussels-Cologne-Frankfurt-Munich); Brussels close by; and whichever location/s are developed as air/rail interchanges; here, Paris Charles de Gaulle and Frankfurt are taking an early lead through intelligent planning. Strong evidence is emerging that telecommunications are likely to reinforce the dominance of the present information-rich metropolitan regions, producing a kind of "virtuous circle" in which strong demand for advanced telecommunications produces innovation and higher levels of service, which in turn enhances demand; but the position is still uncertain because of the lack of an international telecommunications entity in Europe; much will depend on the speed and pattern of emergence of the ISDN system in the 1990s.

3. THE MOST LIKELY OUTCOMES OF THESE PROCESSES ARE AS FOLLOWS

First, increasing integration will sharpen and concentrate the urban hierarchy, most likely leading to the development of a relatively few cities as "global cities" exercising control over key sectors like government, financial services and the media. In Europe it is quite likely that these will be shared out among a few key cities such as London, Paris, Brussels and Frankfurt, which will constitute growth centres along a single megalopolitan corridor represented by the new trunk high-speed rail route.

Second, it is by no means axiomatic that these places will grow in population or overall economic activity. On the contrary, they could shed more routine functions to their suburban rings.

Third, increasing continental integration may well create an important niche for regional centres serving broad subdivisions of Europe, on the model of the second-level American metropolitan areas that have grown so rapidly in recent decades. These would be formed by the smaller capitals and by some major provincial cities in the larger countries, especially towards the periphery of Europe. The places best poised to achieve this will have a good existing higher-level service base, coupled with a strategic transportation role - an international airport, a node on the new high-speed rail system - plus a well-developed telecommunications infrastructure.

Fourth, the entire hierarchy is likely to be profoundly affected by the momentous changes now occurring in East Central Europe. In particular, 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 waiting to be filled. Whatever the precise political outcome, Berlin's role in the European hierarchy seems certain to be enhanced. This in turn is likely to reorient the relationships between the first and second order centres, which is presently dominated by the strong cities of north western Europe.

Fifthly, if very radical changes occurred - for instance, the enlargement of the European Economic Communities to include East Central Europe, either on associate or full basis - very large questions would open up. The institutions of the EEC are now so firmly established in Brussels, with subsidiary outposts in Luxembourg and Strasbourg, that they seem unlikely to be dislodged. But pressure might well develop for the establishment of some key functions in Berlin or Vienna.

Sixthly, these trends spell an evolving role for the Stockholm region. The enhanced role of east central Europe, in particular, would offer important prospects for Stockholm as a nodal exchange point among a northern group of cities (Leningrad / Helsinki / Stockholm / Copenhagen / Gdansk / Warsaw / Berlin). If the EEC were substantially enlarged to include neutral countries as well as Warsaw Pact countries, the question of Swedish membership would naturally again open up. These questions must clearly remain highly speculative at this stage.

REFERENCES

Cheshire, P.C., Hay, D.G. (1988) **Urban Problems in Western Europe: An Economic Analysis**. London: Unwin Hyman.

Hall, P. (1987) *The Flight to the Green*. **New Society, 7** January.

Hall, P. (1988) *Urban Growth and Decline in Western Europe*. In: Dogan, M., Kasarda, J.D. (ed.) **The Metropolis Era. Vol. 1: A World of Giant Cities**, pp. 111-127. Beverly Hills and London: Sage.

Hall, P. (1989a) **London 2001**. London: Unwin Hyman.

Hall, P., Cheshire, P.C. (1987) *The Key to Success for Cities*. **Town and Country Planning, 56**, pp. 50-51.

Hall, P. Hay, D. (1980) **Growth Centres in the European Urban System**. London: Heinemann Education.

Noyelle, T.J., Stanback, T.M., Jr. (1984) **The Economic Transformation of American Cities**. Totowa: Rowman and Allanheld.

Stanback, T. (1985) *The Changing Fortunes of Metropolitan Economies*. In: Castells, M. (ed.) **High Technology, Space and Society. (Urban Affairs Annual Reviews, 28)**. Beverly Hills: Sage.

CONFLICTS AND VALUES

THE SWISS MOSAIC

by

Angelo Rossi

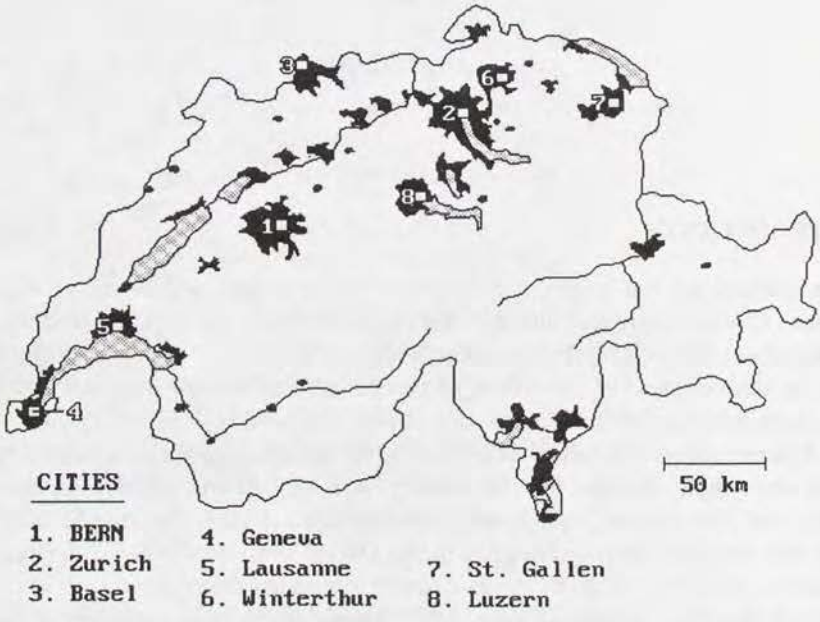
INTRODUCTION

The purpose of this paper is to present the relationships intervening between urban change and the institutional framework in a federal country like Switzerland. We believe that the most evident of these relationships is represented by the development of the urban settlement structure itself over the 140 years since the adoption of the federal constitution, that is to say since 1848 until today. As Figure 1 shows, the urban settlements of Switzerland are very evenly distributed over the whole territory of the country with the Alpine regions as the only exception. This kind of "equilibrated" settlement has existed since the Middle Ages and did not significantly change with the rise of the Federal State. Instead, the national hierarchy of urban centres changed in a rather dramatic way in the second part of the 19th century (Studer, 1973; Rossi, 1987) as a consequence of the construction of the railway network. One can show that the design of this network was considerably influenced by cantonal interests, most of the cantons tending to locate their main station in the cantonal capital. This gave a significant impulse to develop these places, which, until then, were barely more than large villages.

The second main influence that the federal constitution of the country had on the urban development is reflected by the fact that urban concentration in Switzerland remained comparatively small. Before the second industrial revolution - which took place in Switzerland between 1860 and the end of the 19th century - the five largest cities accounted for 4.3 percent of the resident population of the country. Fifty years later, in 1910, the share of these cities in total population had grown to 16.4 percent. In 1980, the share of the five largest cities had decreased to 15.4 percent. If one takes into account the population of their agglomerations, the five largest cities accounted, in 1980, for 30.1 percent of the country's resident population, a percentage which is still small compared with, for instance, the Swedish experience.

The federal institutional framework, with its accent on the exigence of maintaining an equilibrium, not only from the political, but also from the economic and the demographic points of view, between all the cantonal States, has certainly had an impact both on the development of the urban hierarchy and on the spatial

Figure 1: The Swiss urban system in 1980
(agglomerations and isolated cities)



Source: Raumplanungsbericht, 1987

distribution of urban change, slowing down the tendency to spatial concentration. Some maintain that it even contributed to the rising of a feeling of general hostility against the city, especially the large-sized cities. It is difficult to prove whether such a feeling really exists. One can, however, observe that while the agricultural interests, which are the interest of a very small percentage of the Swiss population, are defended by a mighty lobby in the federal parliament, the interests of the cities, in which more than 60 percent of the Swiss population lives today, have not found, up to now, a comparable attention in the federal parliament.

Up to a very recent date, the federal government has consistently refused to deal with the urban problems, even in policy fields - such as transport - where its competence and its responsibility are very large. We believe, however, that this attitude is going to change over the next few years, because the transport and environmental problems of the largest cities are beginning to be perceived also by the central government, that is to say the Confederation. That this new attitude towards the urban problems arises is due, we believe, among others to the fact that

urban change is today creating serious challenges to the federal institutional framework.

The present paper will report on the nature of these challenges and on the measures which were devised to cope with them. However, we will begin our presentation, in Part I, with a short empirical review of Swiss urban development. Part II will be devoted to the consideration of the problems which suburbanization raises in the relationships between the municipalities of the ring and the core municipalities of the agglomeration. Finally, Part III will contain a description of the financial difficulties of the core cities municipalities.

PART I: Urban change in the post-war period

Swiss urban change had known two periods of intense growth, that is to say the take-off period of the country, between 1870 and the First World War and the period from 1950 to 1975. The first period was characterized by a tendency to concentration of population and jobs in the major cities of the country, whereas the second period was a period of suburbanization. In this part of the paper we are going to describe the characteristics of the second urban growth period.

1. SOME EMPIRICAL EVIDENCE

In Switzerland as in most of the other West-European countries, an ever growing share of the population is living in urban agglomerations and in so-called isolated towns, i.e. those towns which, until now, did not possess suburban rings. According to the 1980 population census, 61 percent of the population of the country lived in an urban, or in a suburban district. Post-war urban change in Switzerland has known two distinct development phases (Rossi, 1983).

i) In the first phase, which began around 1950 and lasted until the middle of the seventies, urban change was exclusively influenced by two spatial decentralization tendencies, viz.

   - a nationwide tendency, in which the greatest increase in urban population was visible in the most peripheral regions, while from the middle of the sixties onwards the major urban regions stagnated,

   - and an intraregional tendency, which saw the urban population and some of the economic activities move from the central cities to always more remote locations on the periphery of the urban agglomeration.

As a consequence of these decentralization tendencies, urban change rates tended to increase inversely to the size of the urban area. The medium and small towns experienced in this period, higher growth rates than the larger ones. Growth rates not only of population, but also of employment, were very high, as is shown by the percentages in table 1. From the end of the sixties onwards, the five largest towns of the country show a demographic decline.

ii) After 1975, the growth rates of population and employment declined abruptly and the spatial dimension of urban change was influenced by both the decentralization tendencies, particularly the decentralization within the agglomerations, as well as by the restructuring of industrial activities which were to influence negatively (as shown by the second column of percentages of table 1), the growth of a series of middle-sized industrial towns (Cosinschi, Cunha, 1988).

In general one can maintain that post-war urban change in Switzerland and especially the urban change over the last 20 years, has been characterized by counterurbanization tendencies, in particular by the tendency to decentralization of the population inside agglomerations whose surface area is constantly growing.

Table 1: Urban population growth rates in two successive decades

Urban agglomeration size	Number	1960-70 percent	1970-80 percent
more than 200 thousand inhabitants	5	19.6	1.1
80-200 thousand inhabitants	5	19.4	0.5
50-80 thousand inhabitants	9	21.2	0.5
30-50 thousand inhabitants	7	22.7	1.6
20-30 thousand inhabitants	7	28.1	3.6
Agglomerations	33	20.4	1.1
Towns without rings	15	20.0	0.4
Total urban districts		20.3	1.0
Rest of the country		8.4	2.4
Switzerland		15.5	1.5

Source: M. Schuler, 1984

As a consequence of this pattern of urban change the number of commuters is constantly increasing. In the employed population the commuter's ratio rose from

22 percent in 1960 to 41 in 1980 and should now approach 50 percent. Most of the problems to be dealt with in Swiss urban areas are either directly or indirectly linked with the importance of the growing numbers and of the flow of commuters.

2. THE MAJOR FORCES BEHIND THE URBAN CHANGE

The spatial distribution of urban change inside the Swiss national territory has been imposed by two major forces which reflect the choice of location by entrepreneurs and households. For the sake of a simple demonstration we assume that the decisions of the entrepreneurs with regard to location have had their greatest impact on the nationwide decentralization of the urban system, whereas the decisions related to household location are at the origin of the suburbanization tendencies within the agglomerations.

Let us have a look, first of all, at the nationwide tendency. Between 1950 and 1975 the Swiss economy experienced a long and stable phase of real and rapid growth in a situation of full employment. After a severe recession in 1975 followed by a phase of stagnation which lasted more or less until 1979, growth resumed in the eighties and the full employment situation was again attained in 1984.

Summarising the arguments, relating to the nationwide decentralization tendency, one can maintain that the nationwide decentralization tendency of the Swiss urban system until 1975 was determined by the labour needs of the manufacturing sector, whereas in more recent times it must be seen as the consequence of the tertiarization of the employment structure of the urban centres. This phenomenon has in turn a lot to do with the suburbanization of the urban population. We believe that in the near future the suburbanization of tertiary jobs will go on, even if the population should not continue to suburbanize, at the same rate as in the past. The larger service organizations, located in the major urban centres of the country, seem to lack space for future development and the restructuring of the service sector, which will be possible due to the expansion of new telecommunication techniques, will lead to the creation of large new administrative centres, which will be located - again because of the lack of space - in the rings areas of the largest agglomerations (Keller, 1978; Aebi, 1989; Wuerth, 1989).

The suburbanization tendency has been determined by another sequence of events. The major determinants are the decisions of the households with regard to location as a consequence of the increasing competition between households and firms, in particular firms of the tertiary sector, for the appropriation of space in the central agglomeration areas.

The suburbanization tendency is a very long-term one. We observe that although the overall urban change rates have drastically diminished, from the sixties into the

seventies and eighties, the decentralization of population and of economic activities inside the largest agglomerations has gone on. In fact, the decrease in the overall rates of urban change was more the consequence of the decline of the centres than of the slow-down in the speed of suburbanization.

Table 2: Yearly growth rate of population for different types of urban areas

Agglomerations	1960-70 percent	1970-80 percent	1980-82 percent
more than 200 thousand inhabitants	1.80	0.10	0.05
core cities	-0.03	-1.09	-0.89
suburban areas	4.46	1.42	0.94
80-200 thousand inhabitants	1.79	0.04	0.05
core cities	0.86	-0.79	-0.99
suburban areas	3.36	1.26	1.24

Source: M. Schuler, 1984 and computations by the author (Rossi)

As far as the determinants of urban change in the Swiss urban system are concerned one can conclude that they are directly related to both the growth and the structural change of the economy and to the competition for the very limited area available in the main urban centres.

3. SUBURBANIZATION AND THE NEED FOR COOPERATION AMONG THE DIFFERENT GOVERNMENT LEVELS

Were we to resume in one single sentence the nature of the challenges that suburbanization poses to the local authorities, we could say that it consists in the fact that spatial decentralization confers an extra-municipal dimension to the urban problems. As long as the share of population living in the agglomeration rings was not important, the local government of the central city could rule and set the rules in practically all the relevant sectors of urban policy. Most of the core municipalities had then enough financial means available to cope in an efficient way, with the kind of problems urban growth was raising. The city was a living-space and a political unity (Linder, 1989).

Suburbanization is a dynamic process which influences this situation in a destabilizing way, as

i) it modifies the revenues/expenditures relationship for both the core city and the suburban areas

ii) it raises new problems for local government (e.g. the need to extend the network of public transport facilities over the core city boundaries)

iii) and, consequently, it creates an increasing demand for spatial co-ordination in the realization of urban policies, inside the agglomeration.

The question which we can ask with respect to the challenges set by the urban change is, whether the federal structure and the federalistic principles which guide the working of the public sector in Switzerland represent the most appropriate framework to cope with this cooperation problem. One can argue that the federal structure of Swiss institutions, and in particular the large sphere of autonomy which is granted to local authorities does not facilitate cooperation inside the agglomeration. One can, however, also affirm that federalism constitutes a framework in which legislative and political creativity can develop, as it permits the application of different solutions to the same problems. We will discuss the advantages and disadvantages of the federalistic framework in the next two parts of our paper, when we will present the experiences made in different Swiss urban regions.

PART II: Urban change and the relationships between the core city and the ring municipalities

As we have already recalled, suburbanization represents one of the two main spatial tendencies of the Swiss urban change. One can maintain that suburbanization has been characterized, until recently, above all by the deconcentration of population. As far as the major urban agglomerations are concerned this phenomenon showed that the agglomeration cores were losing population whereas the population of the agglomeration rings was increasing rapidly. In the last years, jobs have also begun to deconcentrate, in the agglomeration rings.

As the surface area of the Swiss municipalities in general is small, suburbanization of population and jobs provoke spillovers, that is to say spatial externalities in the activities and policies related to the supply and distribution of local public goods. Owing to the relatively large degree of autonomy enjoyed by the municipalities, the existence of spillovers is bound to give rise to problems for which it is difficult to find adequate and politically practicable solutions. It should therefore not come as a surprise that the study of spillovers has become, over the last ten years, a privileged field of analysis for Swiss economists and social scientists.

4. EMPIRICAL FINDINGS ABOUT THE CORE/RING SPILLOVERS

As we have already stated, spillovers are bound to appear every time the urban development extends beyond the boundaries of the core cities and shifts to the rings of the agglomerations. The spillovers between the core and the ring municipalities will tend to be greater when the core municipality area is small and the flow of radial commuters between core and ring important. This remark is valid in general for all the agglomerations which are suburbanizing. In a federal country, however, the size of the spillovers between core and ring is influenced also by variables which are related to the way federalism operates. In particular, we maintain, that the federal framework of the country has a significant influence on the size of the agglomeration spillovers, through the political and administrative arrangements by which the municipal policies and activities are fixed. These arrangements vary from canton to canton.

In a recent analysis we were able to show that the importance of the core for ring spillovers, as far as it can be measured by the ratio between the in- and the out-commuters from the core, is relatively closely correlated with a series of variables describing the nature of the political and administrative arrangements operating in the canton where the agglomeration is located (Rossi, 1988).

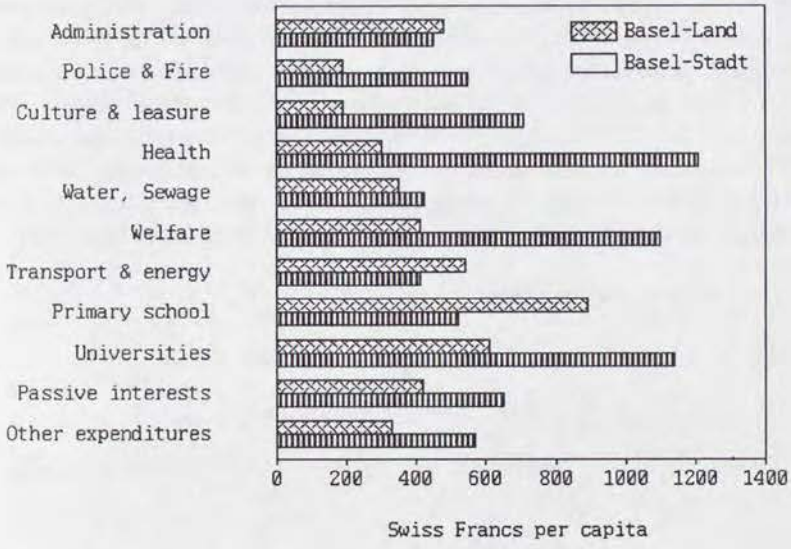
These results confirmed that the spillovers between core and ring municipalities represent an important problem in the case of agglomerations such as Zurich, Bern and Lausanne, where the degree of autonomy of the municipalities is relatively large:

The transfers share from the canton to these municipalities is relatively large, whereas it is less important in the case of Geneva, a very centralized canton, where the municipalities have less autonomy.

Of the five largest agglomerations, Basle represents a special case as its core municipalities belong to one canton (the Canton of Basle-Town) and the ring municipalities to another one (the Canton of Basle-Country). In this case the pressure of the spillover problem would depend on the way the political activities are divided between the two cantons.

The differences between the two Basle cantons are very large in average expenditures in several fields of political activity. In some cases this is so, because spillovers are at work. This is particularly relevant in the case of culture and leisure, as well as for the universities expenditure. In these policy fields the Canton of Basle-Town support institutions and activities which are used not only by its inhabitants, but also by people living outside the canton boundaries, in particular by inhabitants of the Basle-Country Canton. The same remark can be partly applied to the expenditure in the health and welfare sectors. Here, however, it should be remembered that the higher average expenditures of the core

Table 3: Expenditures (capital and current account) in the two Basle Cantons, 1984



Source: Buschor, 1987

municipalities is also due to the larger proportion of aged people in their resident population.

Based on the case of Basle, we can define some of the fields of urban policy in which spillovers appear as a consequence of suburbanization. These are the cultural and recreational institutions (e.g. parks, museums and especially theatres and opera houses), institutions of higher education (e.g. professional schools), health institutions (hospitals) and activities in the welfare policy fields (in particular, transfers in the social insurance sector concerning the employed population). One sector is missing in this inventory, namely, the transport sector. In table 3, transport expenditures only refer to the expenditure for the construction and maintenance of roads. Public transport expenditures, which represent an important share of total transport expenditures in the agglomeration, do not appear in this table, because public transport is entrusted to a separate agency in the Basle Cantons.

5. POSSIBLE SOLUTIONS TO DISPOSE OF AGGLOMERATION SPILLOVERS IN THE FEDERAL INSTITUTIONAL FRAMEWORK

Spillovers between the core and the suburban municipalities are considered as sources of inefficiencies in the production of public goods and generators of political tensions. They should, therefore, whenever possible, be eliminated. As spillovers are spatial externalities, there is in principle only one way of eliminating them, and that is, through spatial internalization. However, as there are three overlapping layers of government within the Swiss territory, the modes of internalization can be numerous and complex. If we restrain ourselves to quote those which have been either suggested or, in some cases, actually applied in one of the major agglomerations, we come up with the following list (Frey, 1988)

- Privatisation of public tasks
- Territorial reforms
- Transfer of activities to the cantonal government
- Redistribution of activities among the local authorities inside the agglomeration
- Financial compensations between the ring municipalities and the core city
- Financial transfers in favour of the core city
- Redistribution of part of the tax revenues among the agglomeration municipalities

Practical schemes which are implemented in order to overcome the spillover problems can involve one or more of the measures listed above (Buschor, 1987; Roh, 1985; Nyffeler, Schmassman, Wyss, 1987; Linder, 1989).

With respect to the spillover problems and the ways one tries to solve them, our conclusion is that no pragmatic way seems more appropriate than the others. In principle, when the size of the spillovers is not great and the suburbanization process not too extensive, the easiest solution, and probably the nearest to economic efficiency, seems to be the one which consists in the granting of compensation payments by the suburban municipalities to the core city. In this case, the area where the public goods produced by the core city are consumed, corresponds to the area which contributes to the financing of the production costs. The solution is nearly optimal, the only thing which is still missing is the possibility for the consumers resident in the suburban municipalities to express their preferences through the vote on the way the services are provided by the core city. Further, it is to be expected that the payments for the suburban municipalities will

be computed on the basis of some average costs without worrying about the actual willingness of the suburban consumers to pay.

As the size of the problem increases, so also do the difficulties to solve it. It would appear that general solutions are needed. Spillover balances are made in order to show that in the agglomeration one finds both spill-ins and spill-outs. One looks for solutions internalizing the spillovers either through compensation between the spill-ins and the spill-outs of the various municipalities or groups of municipalities, or through the intervention of the higher institutional layer, that is to say the canton. These kinds of solutions do not seem to be optimal, because

i) when the canton is involved, they actually ask tax-payers who do not live in the agglomeration and probably do not draw any benefit from the spillover services, to contribute financially to them. New geographical externalities are thus created in order to dispose of the agglomeration spillovers;

ii) even if we suppose that the tax-payers living outside the agglomeration should make use of the spillover services, and therefore that it is correct that the canton pay, the political imbalances in the negotiation of the distribution key are such that the solution will not correspond to that which economic efficiency would suggest.

We must add however, that when general solutions are introduced, the politicians who promote these solutions do not seem to worry much about their economic efficiency. Instead, their first worry is to get a coalition of interests large enough to get a majority in the ensuing popular vote. Costs will therefore be distributed in an inverse proportion to the number of heads in the population, rather than in proportion to the effective shares of users. Let us finally note that this kind of general solution has the character of a one and one time only reform. The long struggle to get a majority on the series of measures proposed cannot be repeated every two or three years. Depending upon the dynamics of the suburbanization processes this lack of flexibility could be a heavy burden for the political powers involved in the negotiations.

Consequently, it seems that the best situation is the one where only a few negotiators sit around the table. This is notably the case of the Basle agglomeration where the main spillovers can be regulated by agreements between two cantons, the Basle town and the Basle country canton. Each year the country canton pays approximately 50 million Swiss francs to the core city canton to compensate for services supplied by the city to the inhabitants and the economic agents of both Cantons. However, according to the people who studied the case of Basle spillovers, these payments do not suffice to compensate for the benefits that the country canton population and economic agents draw from the city public

services. (Frey, 1988). Even in the case of Basle there is, therefore, scope for further development of the compensation payments.

PART III: The financial difficulties of the core-cities

The tendency to suburbanization does not only generate spillovers, but it also creates real financial difficulties for the municipalities of the core cities. As a civil servant of the Zurich municipality once explained to us, from the point of view of the fiscal revenues of the core city municipality, at least two new jobs are needed to compensate for the loss of revenues produced by the departure of a tax-payer. The fiscal revenues related to the firms are less sure and stable in their growth than the revenues produced by the income tax, yet the financial situation of the major core cities of Switzerland, as it can be deduced from the published financial statistics, appears to be very healthy. This is a paradox which demands to be explained. We will try such an explanation in the next sections of the paper.

6. THE DEVELOPMENT OF PUBLIC FINANCE IN THE CORE CITIES

In order to understand the development of public finance in the Swiss core cities, it is important to know some structural and strategic characteristics of the Swiss municipalities budgets and financial management.

i) Importance of fiscal revenues derived from direct taxation and from the supply of services

Most of the revenues of the core cities originate from local sources such as the local direct taxes (which always represent more than 60 percent of total revenues) and the receipts from the supply of public services such as rents, tariffs etc. (more than 10 percent of the total). Out of their estates (apartments, in general, but also farms, forests and shares in private or semi-public companies), core cities get another 5 to 10 percent of their revenues. We further observe, that around 2/3 of the direct tax receipts come from the taxation of the residents' income.

To complete the picture, let us add that the transfers from higher institutional levels and the public debt do not represent an important share of the financial means available to the cities' municipalities compared to the situation existing in other European countries.

As a corollary of the large share taken up by the revenues from income taxation, one has to recall the important role that, until the begin of the eighties, was played by inflation in the determination of the revenue growth rate. From then on provisions were introduced nearly in every canton to

eliminate the so-called "cold progression" in the income taxation, i.e. the increase in the taxation provoked only by inflation.

ii) *The law by which the municipalities have to equilibrate their current accounts, and the political not-written rule by which the overall taxation rate should never increase*

Municipality accounting procedures are regulated by cantonal accounting laws which foresee that the revenues and expenditures of the current account must be equilibrated annually. In principle, this rule should have a strong influence on municipality finance, as local authorities could always try to adjust the revenues to the expenditures by the setting of an appropriate overall taxation rate (Steuerfuss). However, in the political reality of most core cities the overall taxation rate cannot be changed, or, when it is changed, it can only decrease, because a taxation increase would be supported neither by a political majority in the municipality parliament, nor by an electorate majority in the possible ensuing popular vote.

iii) *The not-written rule by which municipalities should not accumulate too large a public debt*

As a consequence of this rule, core cities (like the other urban municipalities) have to look in their own budgets for a good share of the means necessary to finance investment. Year after year, core cities should finance at least 50 percent of the investment expenditure (after deduction of the transfers from higher institutional layers and of the contributions from private people) with their own financial resources.

These three characteristics point to the extreme importance of the revenues, and, in particular the importance of the revenues derived from direct income taxation, for the finance of the core cities. As long as the population of the core cities increased, in a situation of sustained real, and especially, nominal growth, these characteristics did not cause special difficulties. In the last 20 years, however, the financial authorities of the core cities' municipalities have had to combat the negative consequences on the growth of their revenues of both a very low inflation rate and of provisions tending to eliminate the so-called "cold progression", on the one hand, and of a diminishing population on the other hand.

At the same time transfers from higher institutional layers were frozen. A financial crisis ensued, characterized by important deficits in the current accounts, which lasted through the seventies and was overcome only at the end of that decade.

7. THE SHORT-TERM STRATEGY TO COMBAT THE FINANCIAL CRISIS

As we have already said, for most of the core cities the financial crisis of the seventies was successfully overcome, in the span of a few years.

In this section we will present a series of measures which characterize the "financial austerity management strategy" (Rossi, 1984). It would take too much time to analyse the details of this strategy. Instead we prefer to present it in a summarized form on the basis of the experiences gained in three of the major core cities, namely Geneva, Lausanne and Zurich. One can maintain that the austerity strategy consisted of three phases.

i) The first phase where investment were significantly cut

The immediate strategy with which the core cities tried to combat the financial crisis of the seventies was to cut down investment. The 1981 investment, in nominal terms, was, in the five Swiss core cities with more than 100,000 inhabitants, 7.4 percent lower than 10 years before (Rossi, 1984). This percentage indicates that over a relatively long period, investment in the major cities stagnated. In the most acute period of the financial crisis, that is to say from 1976 until 1979, investment was cut down in a proportion varying between 20 and 40 percent. This was the immediate, and probably unique, response of the local political powers to the appearance of large deficits both in the capital as well as in the current accounts.

ii) The second phase, where an attempt was made to discipline the budgeting process

In this second phase, the authorities began to stabilize the expenditures side of the current account. As the current expenditures had to be approved within the yearly budget, this objective was reached by the modification of the procedure by which the budget was prepared.

The new procedure involved:

- a setting of limits to the increase in current expenditures for a number of specially chosen kinds of current expenditures. In particular for staff costs growth rates were fixed at the beginning of the budgetary process and could not be overcome by the administrative units of the municipalities. The respect of these provisions was on the other hand facilitated by staff policy measures which foresaw the reduction or at least a zero growth rate in the number of people employed by the municipalities.

- an introduction of a new uniform accounting model: this model foresaw a number of reforms in the financial management system, in particular the need for the municipalities to ensure through the constitution, in the current account, allowances for capital depreciation the partial financing of their investment. Its main aim was however to improve, through the introduction of uniform norms and definitions, the transparence of the local authorities accounting, in order to permit comparisons and a better control by the local parliaments. It is important to observe that the introduction of the new model was not decided at the municipality level, but at the cantonal level, through modification of the laws governing municipality accounting. The relative speed with which the new model was introduced, especially in the more urban cantons, has to be considered as an exceptional phenomenon in a federal country. We believe that the extremity of the financial difficulties with which a number of core cities were faced, helped to speed up the adoption process.

- an increased strategic importance of the budget: as the expenditures side of the budget is, more than before, strictly regulated in its development, a mid-term review becomes indispensable. Short-term financial plans and longer-term investment plans are prepared in a attempt to anticipate further financial crisis or financially critical moments (Willke, 1984).

iii) The third phase, where a redistribution of the financial weights is realised

From the beginning of the eighties onwards the reform in financial management does not seem to suffice in order to grant a long-term equilibrium in the current account of the core cities. This is also so, because, in homage to the new centre and centre-right majorities, overall taxation rates had to be decreased. The scissor-like blade edges of the revenues and expenditures in current accounts tended to come dangerously closer, even though the political authorities of the core municipalities continued on their path of financial austerity. Something different had to be done on the expenditure side, to avoid the return of deficits. A debate over the longer term financial strategy developed in which different solutions were proposed, aimed at reducing the amount of current expenditure the core cities had to support.

8. THE LONGER TERM STRATEGY

Without any corrections the suburbanization tendency could lead to a situation of financial crisis in the core cities. How should they cope with these difficulties which, as we show, will be of a structural kind?

Three views have been advanced in the debate over this issue.

The first view tends to dispute the need for dramatic changes and affirm the advantages of a pragmatic strategy of successive adjustments by which the financial loads would be transferred from the core city to the suburban municipalities or to other institutional layers. The most interesting development in this context is the recent proposal of a new key for distributing the financial costs of the agglomeration transport (both the costs generated by the public transport companies as well as those of the road network) among the three institutional layers. The kernel of this proposal is that the Confederation should subsidize, through a substantial modification of its actual practice, the construction and the maintenance of local and regional roads (Gueller, 1988).

The second view consists in the proposal to create a new institutional layer between the canton and the municipalities which could cope with the agglomeration problems. What is new in this proposal, is that one does not look to the new institutional layer to solve the problems of the core city, but to create a political institution which could deal with the development of the agglomeration on a very large scale, and in the perspective of the international role which the main urban agglomerations of Switzerland could be playing in the future (Linder, 1988). At the same time, however, this new institution would represent a place where the conflicting interest of the core and of the ring municipalities could meet and where the search for a compromise could be carried out. It is necessary to add, that such a political institution could probably be created only in the case of a few large agglomerations (Bern, Lausanne, and perhaps Zurich) situated in large cantons. Otherwise a serious conflict of competence between the Canton and the new institution could arise.

That this possibility of conflict is not remote, is shown by the third view of the core city problems, a view defended particularly by representatives of cantonal interests (Buschor, 1987). Their argument is a very straightforward one. Let suburbanization continue and let the core cities extricate themselves from the tangle by their own means, in full agreement with the subsidiarity principle. This would mean that the core cities should try to cut expenditures first by rationalizing where they still can improve the efficiency of their administration, and, secondly, by relinquishing, if necessary, a part of the services they are actually supplying in their role of regional centres (Buschor, 1987). The future agglomeration, as visualized by the partisans of this view, is a large region in which there would be several centres of activity and not just a single pole, as is the case now. This would mean, on the one hand, that the position of the actual core city will be curtailed, but, on the other hand, that the spatial externalities will also probably be reduced, as the core city will loose part of its tasks but win back groups of population.

This is the situation in the debate on the financial future of the core cities as work is starting on a large national research programme, which should, over the next

three years, explore ways for possible solutions in this as well as in other urban problem fields.

9. CONCLUSIONS

The mandate we received for this essay was to present the challenges that urban change raise in a federal country. We believe that the idea lying behind the invitation was firstly to see whether a country, in which the political power is very much decentralized, experiences different urban problems and, secondly, whether the decentralization of political power could help in solving them. We tried to answer these two questions in the three parts of our paper.

If we were to summarize the results of our analysis we would maintain that the challenges that urban change have raised in Switzerland are not very much different from those one would meet with in other developed countries. The size of urban problems is, however, definitely smaller, because, on the one hand, the urban system is composed of a relatively large number of centres, which (with the exception of the alpine region) are very uniformly distributed over the whole country, and, on the other hand, because the Swiss urban centres are of modest size. Consequently, central services, and in particular government services, are accessible to most of the population at a very short distance. In so far as the spatial distribution of centres was influenced by the decentralization of political power, federalism has to be considered as an institutional setting with a favourable influence on urbanization.

Our answer to the second question is, however, less straightforward. We believe that the subsidiarity principle and the rights which the system of semi-direct democracy allow to every citizen can contribute to improve the solutions which are designed for the urban problems, because they allow, on the one hand, a better consideration of individual preferences and, on the other hand, the reaching of a larger consensus. However, we have seen that the large degree of autonomy enjoyed by the municipalities can cause difficulties every time urban problems cross the borders of the core city, that is to say, every time when spatial externalities arise. A political and administrative system in which competence is decentralized to the lowest layer, is bound to have more difficulty in coping with this kind of problem than a system where competence lies on a higher institutional level.

The same remark can be made with respect to the financial difficulties which are being experienced by the large core cities (Geneva representing an exception). In order to cope with them, one should in fact recognize a kind of special municipality status, a status of "primus" of the core city agglomeration. The least we can say, with respect to this claim, is that it is against the traditional federalistic view, which opposes any kind of power concentration and any kind of

differentiation among institutions at the same institutional level. Seen from this point of view, the request made by some students of the financial problems of the core cities, that the cities should learn to extricate themselves from the tangle by their own means, is more than understandable. Its realization would, however, demand that one departs from agglomerations with a single centre and attempts to introduce multipole agglomerations. This is perhaps the most interesting challenge which the future urban change will raise in the larger Swiss agglomerations.

REFERENCES

Aebi, D. (1989): **Die kantonale Wirtschaftsfoerderung aus der Sicht solothurnischer Unternehmungen**, Schoenenwerd

Amt fuer Raumplanung des Kantons Zuerich (1986): Raumplanungsbericht (1987): **Bericht ueber den Stand und die Entwicklung der Bodennutzung und Besiedlung in der Schweiz**, Bern

Buschor, E. (1987): *Funktionswandel in der Schweizer Agglomerationen*, in "**DISP**" no. 88, Zuerich, pp. 20-26

Cosinschi, D., Cunha, A. (1988): *L'armature urbaine*, in Rorep, **Les enjeux de l'urbanisation**, Bern, pp. 69-90

Cunha, A. (1989): **Culture et économie à Lausanne**, Lausanne

Frey, R.L. (1988): *Spillovers*, in Rorep, **Les enjeux de l'urbanisation**, Bern, pp. 141-156

Geilinger, U. (1984): **Ausmass, Ursachen und Folgen der funktionalen Arbeitsteilung zwischen Regionen in der Schweiz**, Zuerich

Gueller, P. (1988): *Verkehr*, in ROREP **Les enjeux de l'urbanisation**, Bern, pp. 203-216

Keller, T. (1978): **Innenstaedtische Arbeitsplatzverlagerungen am Beispiel von 5 Banken in der Stadt Zuerich**, Zuerich

Knecht, A., Linder, E. (1986): **Die Verflechtungen der Kernstadt Bern mit ihrem Umland**, Bern

Kesselring, H. Ch. (1979): **Kommunaler Finanzausgleich und Regionalpolitik**, Zuerich

Linder, W. (1988a): **Local Government and Urban Affairs in international Perspective: the Case of Switzerland**, Bern (manuscript)

Linder, W. (1988b): **Die groesste Herausforderung der Neunziger-Jahren: die Agglomeration**, Bern (manuscript)

Nyffeler, P., Schmassmann N., Wyss P. (1987): **Partnerschaft zwischen Basel-Stadt und Basel-Landschaft, Grundlagen, Hintergrund, Stossrichtungen**, Basel

Roh, Ch. (1985): **Problèmes financiers des centres d'agglomération**, Lausanne

Rossi, A. (1983): **La décentralisation urbaine en Suisse**, Lausanne

Rossi, A. (1984): **Evolution des stratégies de gestion dans les grandes villes suisses en perte de population**, Lausanne (manuscript)

Rossi, A. (1987): *Gli aspetti economici dell'urbanizzazione della Svizzera nell'ultimo secolo*, **Storia Urbana**, No. 41, 1987, pp. 63-85

Rossi, A. (1988): **Les relations intercommunales dans les agglomération suisses**, Lausanne (manuscript)

Rossi, A. Haehni, P. K. (1989): **Concentration des entreprises et dépendance économique spatiale en Suisse**, Bern

Volksabstimmungvorlage zur kantonalen Volksabstimmung vom 2. Dezember 1984 (Kanton Zuerich)

Willke, H. (1984): *Budgetaere Restriktionen lokaler Politik*, **Archiv fuer Kommunalwissenschaften**, pp. 25-42

THE RISE OF A NEW POLITICAL STYLE

by

Ronald Inglehart

INTRODUCTION

One of the most interesting recent developments in urban politics has been the emergence of a very distinctive type of politician. A cross-national group of political sociologists has described them as "New Fiscal Populists." Their rise may be an early symptom of a fundamental change in the nature of political life throughout advanced industrial societies. This important new phenomenon has been summed up as follows:

"In the late 1970's a new type of political leader emerged in the U.S. ... They are most successful at the local level, and thus have had only moderate media attention. But here their success is considerable - including Mayors Dianne Feinstein in San Francisco, Kathy Whitmire in Houston, William Green in Philadelphia, and many others in smaller cities. The Democratic Presidential candidate in 1984, Senator Gary Hart from Colorado, stressed similar themes, but was defeated by the more traditional Walter Mondale in the Democratic Primary election.

How are these leaders different? They share five traits which distinguish them from the traditional Left and Right.

They are *fiscal conservatives*, preferring lower taxes. While less fiscally conservative than traditional Republicans like Ronald Reagan, they are distinctly more cautious than the classic New Deal Democrats from Franklin Roosevelt through Lyndon Johnson.

Yet *on social issues they are progressive*. Here they are closer to the more traditional Left in favoring more equal treatment of racial and ethnic minorities, women, and tolerance of diverse life-styles such as gays. They share a youthful acceptance of these life-styles that disturb many older persons.

They appeal in *populist* manner to individual citizens. They thus rely heavily on the media, direct mail campaigns, door-to-door visits, and similar activities which convey their concerns to individual citizens.

They *distrust organized groups*: unions, churches, ethnic group associations, and especially party organizations are far less legitimate. Usually New Fiscal Populists come to power by campaigning against these groups which have supported more traditional (especially Democratic) candidates. Once in office they seek to implement policies that can be responsive to the disadvantaged and maintain services, while also not increasing taxes. This means improving productivity, which often leads to "breaking heads" of some government workers, especially union leaders who resist these changes.

Fifth, they tend to *stress public goods which appeal to all citizens* rather than private or separable goods which are consumed individually. Low taxes and productivity are classic goods stressed by New Fiscal Populists, in contrast to patronage and clientelism - the awarding of contracts to one's friends and allies in more traditional Leftist manner. But they differ from the traditional Right in seeking to maintain services. They thus do not propose simple across-the-board cutbacks or tax reductions like Ronald Reagan and other traditional conservatives. Improving productivity, doing more for less, "new ideas," are the slogans of New Fiscal Populists. Were these only heard on the campaign trail, the normal reaction would be to treat them as vacuous - still the case for many national commentators. But at the local level where New Fiscal Populists (NFPs) have held office, they have actually implemented programs improving productivity in ways that have been documented; they not only mean what they say, they are implementing these approaches across America" (Balme et al., 1986/87, pp. 264-265).

We believe that the rise of the New Fiscal Populists reflects two pervasive underlying processes:

1. A gradual shift in the basic political values of Western publics; and

2. A transformation of the participant potential of Western publics that makes them less dependent on the established bureaucratic organizations, such as unions and political party machines, and more readily mobilized by direct appeals to individuals.

The preconditions for this second set of changes have been established by the process of "Cognitive Mobilization" (Inglehart, 1977; 1990), which we will discuss below. Before doing so, let us examine the theory and evidence pointing to an intergenerational value shift.

THE PROCESSES OF INTERGENERATIONAL VALUE CHANGE

The possibility of intergenerational value change was first explored in a cross-national study conducted in 1970 (Inglehart, 1971). We hypothesized that the basic value priorities of Western publics had been shifting from a Materialist emphasis toward a Postmaterialist one - from giving top priority to physical sustenance and

safety, toward heavier emphasis on belonging, self-expression and the quality of life. Our investigation was guided by two key hypotheses:

1. *A Scarcity Hypothesis.* An individual's priorities reflect the socioeconomic environment: one places the greatest subjective value on those things that are in relatively short supply.

2. *A Socialization Hypothesis.* The relationship between socioeconomic environment and value priorities is not one of immediate adjustment; a substantial time lag is involved for, to a large extent, one's basic values reflect the conditions that prevailed during one's preadult years.

The scarcity hypothesis is similar to the principle of diminishing marginal utility in economy theory. The recent economic history of advanced industrial societies has significant implications in the light of this hypothesis. For these societies are a remarkable exception to the prevailing historical pattern; the bulk of their population does not live under conditions of hunger and economic insecurity. This fact seems to have led to a gradual shift in which needs for belonging, esteem and intellectual and esthetic satisfaction became more prominent. By and large, we would expect prolonged periods of high prosperity to encourage the spread of Postmaterialist values; economic decline would have the opposite effect.

But there is no one-to-one relationship between economic level and the prevalence of Postmaterialist values, for these values reflect one's subjective sense of security, not one's economic level per se. While rich individuals and nationalities tend to feel more secure than poor ones, these feelings are also influenced by the cultural setting and social welfare institutions in which one is raised. Thus, the scarcity hypothesis alone does not generate adequate predictions about the process of value change. It must be interpreted in connection with the socialization hypothesis.

One of the most pervasive concepts in social science is the notion of a basic human personality structure that tends to crystallize by the time an individual reaches adulthood, with relatively little change thereafter. This doesn't imply that no change occurs during adult years. In some individual cases, dramatic behavior shifts occur, and the process of human development never comes to a complete stop (Brim, 1966; Mortimer and Simmons, 1978; Levinson, 1979; Brim and Kagan, eds., 1980; Riley and Bond, 1983). Nevertheless, human development seems to be more rapid during preadult years than afterward, and the bulk of the evidence points to the conclusion that the likelihood of basic personality change declines after one reaches adulthood (Glenn, 1974, 1980; Block, 1981; Costa and McCrae, 1980; Sears, 1981, 1983; Jennings and Niemi, 1981; Jennings and Markus, 1984).

Taken together, these two hypotheses generate a set of predictions concerning value change. First, while the scarcity hypothesis implies that prosperity is

conducive to the spread of Postmaterialist values, the socialization hypothesis implies that neither an individual's values nor those of a society as a whole are likely to change overnight. Instead, fundamental value change takes place gradually; in large part, it occurs as younger birth cohorts replace older ones in the adult population of a society. Consequently, after a period of sharply rising economic and physical security, one would expect to find substantial differences between the value priorities of older and younger groups: they would have been shaped by different experiences in their formative years.

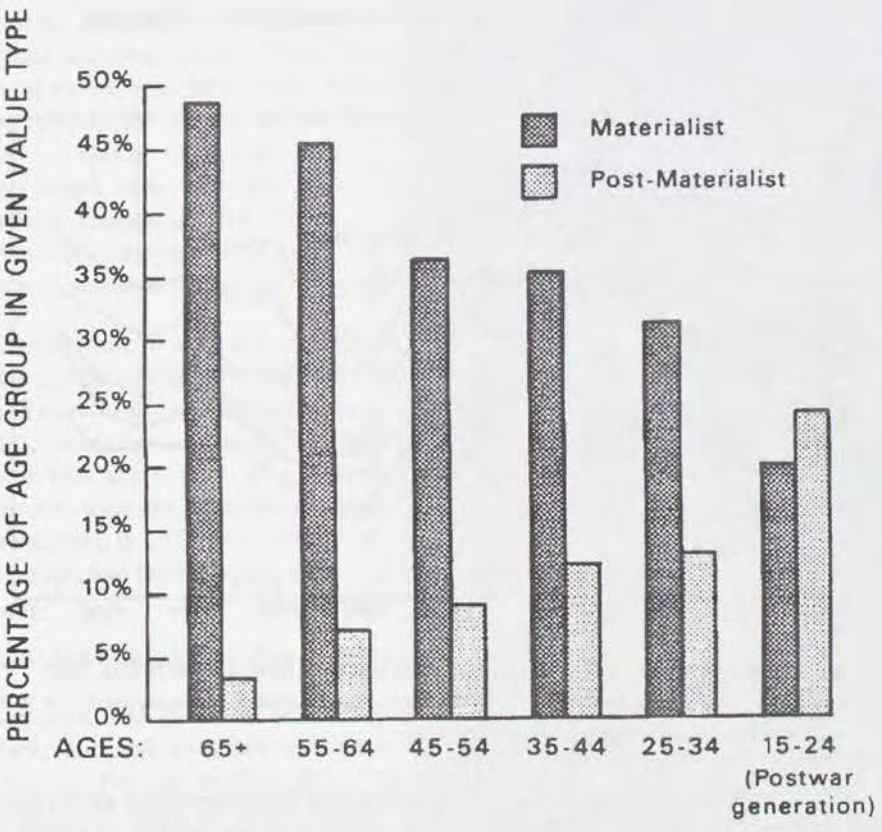
Furthermore, if Postmaterialist value priorities emerge among those groups that have experienced relatively high levels of economic and physical security during their pre-adult years, then we would expect these values to be most widespread among the more prosperous strata of any given birth cohort.

These hypotheses were tested in a cross-national survey carried out in 1970 with representative national cross-sections of the populations in Great Britain, France, West Germany, Italy, The Netherlands, and Belgium. Our respondents indicated which goals they considered most important among a series of goals designed to tap economic and physical security, on one hand; or belonging, self-expression and the non-material quality of life, on the other hand (Inglehart, 1971). Those whose top two priorities were given to the former type of goals were classified as a pure Materialist type; those whose top priorities were given exclusively to the latter type of goals were classified as a pure Postmaterialist type. Those who chose some combination of these goals were classified as mixed types.

As predicted, we found that those raised in relatively prosperous families were most likely to emphasize Postmaterialist items. The predicted skew by age group is equally manifest. Figure 1 depicts this pattern in the pooled sample of six West European publics interviewed in our initial survey. Significant cross-national differences exist, but the basic pattern is similar from nation to nation; among the older groups, Materialists outnumber Postmaterialists enormously; as we move toward younger groups, the proportion of Materialists declines and that of Postmaterialists increases. Thus, among the oldest cohort, Materialists outnumber Postmaterialists by a ratio of more than 12 to one; among the youngest cohort, the balance has shifted dramatically: Postmaterialists are about as numerous as Materialists.

The Materialist and Postmaterialist types have strikingly different opinions on a wide variety of issues, ranging from women's rights, to attitudes toward poverty, ideas of what is important in a job, and positions on foreign policy. Within each age group, about half the sample falls into the Mixed value types. On virtually every issue, their position is about halfway between the Materialists and Postmaterialists: they seem to be a cross-pressured group that could swing either way.

Figure 1 Value type by age group among the publics of Britain France, West Germany, Italy, Belgium, and the Netherlands in 1980

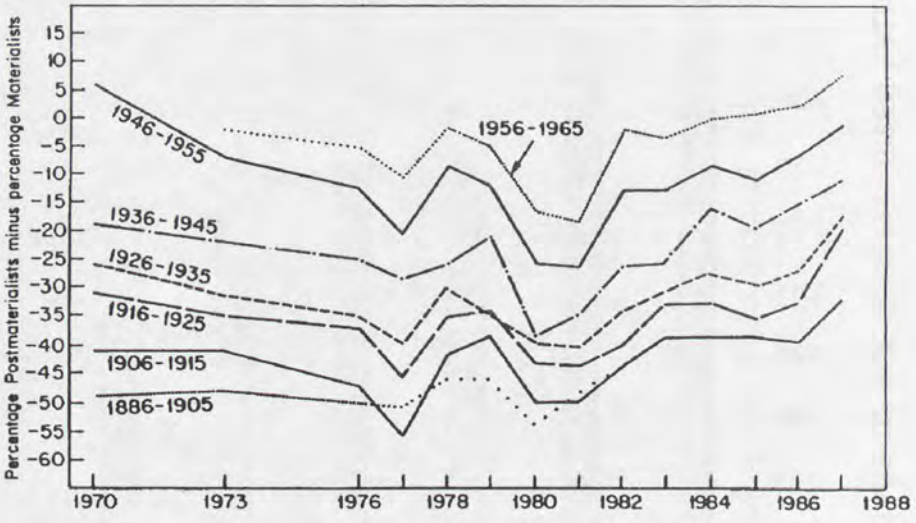


The age-related differences shown in Figure 1 are striking. But one immediately wonders whether this pattern reflects life cycle effects, birth cohort effects, or some combination of the two. Though our theory predicts the emergence of birth cohort differences, it is conceivable that these remarkable differences between the priorities of young and old might reflect some inherent tendency for people to become more materialistic as they age. Is it possible that aging makes one place ever-increasing emphasis on economic and physical security, perhaps through some immutable physiological process?

Since Materialist/Postmaterialist values were first measured in 1970, the battery used to measure them has become a standard feature of the Euro-Barometer surveys carried out each Spring and Fall in each of the European Community countries from 1973 to the present. These values have also been measured in surveys carried out in the United States from 1972 through 1988, and

in surveys in many other countries, including the 1981 World Values Survey. Our longest time series, with the most frequent measures, comes from the six nations first surveyed in 1970. Let us examine these results.

Figure 2 Value priorities of six West European publics, 1970-1988.*



* Based on data from representateve national surveys of publics of France, Great Britain, West Germany, Italy, Belgium and The Netherlands, interviewed in European Community surveys of 1970, 1973 and Euro-Barometer surveys 6 through 29.

Figure 2 traces the balance between Materialists and Postmaterialists within given birth cohorts from 1970 to 1988. This analysis is based on the pooled data from all six nations, totaling more than 190,000 interviews. Each cohort's position at a given time is calculated by subtracting the percentage of Materialists in that cohort from the percentage of Postmaterialists. Thus, the zero point on the vertical axis reflects a situation in which the two groups are equally numerous (which is about where the cohort born in 1946-1955 was located in 1970).

There is no sign of the overall downward movement that would be found if the age-differences reflected life-cycle effects. Each cohort retains its relative position with striking consistency throughout the 18-year period. There are also significant short-term fluctuations; each cohort shows a brief downward swing in 1977 and again in 1980-1981. These fluctuations seem to reflect period effects linked with the economic recessions of the mid 1970's and early 1980's, with inflation rates being a particularly important factor. But by 1986, inflation had subsided approximately to the 1970 level. With period effects held constant, there is no

indication of the gradual conversion to Materialism that would be present if a life-cycle interpretation were applicable.

The fact that we find a much narrower gap between the 1966-75 cohort and its predecessors, than the gap between the two other postwar cohorts and their predecessors, is another indication that these value differences reflect historical change rather than some permanent life cycle tendency for the young to be less Materialist than the old. For the recent narrowing of this gap reflects the impact of the relatively uncertain economic conditions of the past 15 years on the youngest cohort - but to explain it in terms of life cycle effects, one would need to invent some reason why the human life cycle had made a sudden change in the 1980's. Overall, we find large and enduring inter-cohort differences, which can not be attributed to life cycle effects. The pattern seems to reflect value change based on cohort effects.

A great deal of population replacement has taken place since 1970. Are these demographic shifts reflected in the distribution of Materialists and Postmaterialists in Western Europe? Very much so. In 1970-1971, within the six nations as a whole, Materialists outnumbered Postmaterialists by a ratio of almost 4 to 1. By 1988, this ratio had fallen to 4 to 3. The Postmaterialists were much closer to an even balance with the Materialists. Even in the United States, the change has been substantial: in 1972, Materialists outnumbered Postmaterialists by 3.5 to 1. In 1987, this ratio had fallen to only 1.5 to 1 (Inglehart, 1990 - forthcoming).

POSTMATERIALISM AND THE NEW FISCAL POPULISTS

A generational shift from Materialist values toward Postmaterialist values is taking place, and this shift has given rise to a growing constituency for New Fiscal Populists. For like the New Fiscal Populist candidates, the Postmaterialists take a progressive stand on social issues - and have moved sufficiently far from the traditional left position on economic issues that, under current circumstances, they often will support fiscal conservatives.

It would be going too far to describe the Postmaterialists as economically conservative, however. On social welfare issues, they tend to be slightly more liberal than the electorate as a whole. But they no longer endorse the traditional Leftist position that the expansion of government automatically constitutes progress. On the contrary, they are suspicious of big government, especially in so far as it encroaches on individual autonomy. One of the key characteristics of Postmaterialists is the high priority they accord to self-expression. Accordingly, they resist hierarchical bureaucratic organizations and centralized authority - making them less amenable to control by the oligarchical political machines and the authority of church and labor union that provided the infrastructure of political mobilization in late-19th century and most of the 20th century. Though unwilling to serve as the disciplined troops of old style political

machines, Postmaterialists *are* relatively amenable to mobilization through appeals based on specific issues, and addressed directly to the individual - an approach that has been mastered by new Fiscal Populist politicians.

Table 1 Degree of liberalism on social issues (percentage agreeing with statement)

"Women should have the same chances as men to gain political offices."	
Materialist	38
Mixed	52
Postmaterialist	70
"More severe penalties should be introduced for acts of terrorism."	
Materialist	80
Mixed	69
Postmaterialist	38
"Stronger measures should be taken to protect the environment."	
Materialist	59
Mixed	61
Postmaterialist	74
"Economic aid to Third World countries should be increased."	
Materialist	17
Mixed	19
Postmaterialist	32
"Nuclear energy should be developed to meet future energy needs."	
Materialist	25
Mixed	22
Postmaterialist	10

Source: Combined 10-nation data from Euro-Barometer survey No.19 (April 1983). Results weighted according to population of each country. Unweighted N = 9,789.

Moreover, though the Postmaterialists tend to be fairly liberal on social welfare issues, their liberalism is not motivated by direct pursuit of economic self-interest that underlaid the struggle of the haves vs. the have-nots during the era when social class conflict was the dominant axis of political polarization. On the contrary, most Postmaterialists are relatively affluent; they are the ones who will pay for redistributive programs, through higher taxes. Hence, their support for expanded social welfare programs is not unconditional: it is sociotropic, governed by the perception that these policies serve the interests of society as a whole. If, in an era of severe budgetary deficits, they can be convinced that the general welfare

is best served by fiscal austerity, they may support the New Fiscal Populist candidates. Precisely this seems to have taken place in many settings.

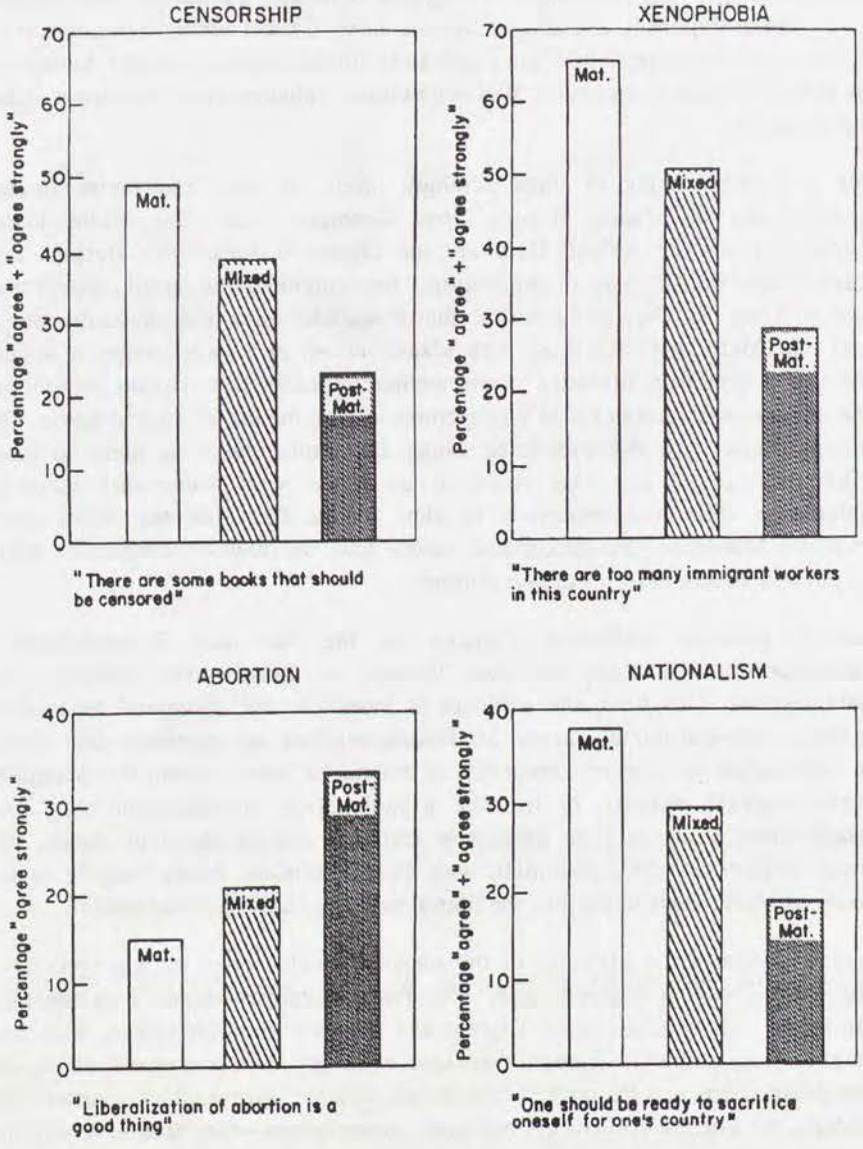
In short, we suggest that both their basic values and their preferred organizational style make the growing Postmaterialist segment of society a potential constituency for New Fiscal Populism. Let us demonstrate each of these points. First, is it true that those with Postmaterialist values tend to be liberal on social issues? A massive body of survey data, from twelve Western nations, indicates that the answer is an unequivocal yes.

Table 1 presents some of these findings, based on Euro-Barometer survey 19, carried out in France, Britain, West Germany, Italy, The Netherlands, Belgium, Luxembourg, Ireland, Denmark, and Greece in April, 1983. Because the pattern is consistent across all ten nations, the combined ten-nation results are shown in Table 1. They demonstrate that Postmaterialists are markedly more liberal than Materialists (or those with Mixed values) on a wide variety of social questions, ranging from attitudes toward women's equality to terrorism, protection of the environment, and to Third World countries and the use of nuclear power. By and large, those with Postmaterialist values are almost twice as likely to take the "liberal" position on these issues as are those with Materialist values - an impressive difference especially in view of the fact that the items used to measure Materialist/Postmaterialist values have no obvious connection with most of these issues, in terms of face content.

Figure 3 presents additional evidence of the fact that Postmaterialists are disproportionately likely to have "liberal" or "progressive" attitudes on social questions. This time, the evidence is based on the combined ten-nation data from Euro-Barometer survey 21. Postmaterialists are markedly less likely than Materialists to support censorship of books, to have xenophobic attitudes toward immigrant workers, or to have a nationalistic outlook; and they are markedly more likely to have permissive attitudes toward abortion. Again, all of these differences are substantial, with Postmaterialists being roughly twice as likely as Materialists to support the liberal position on these social issues.

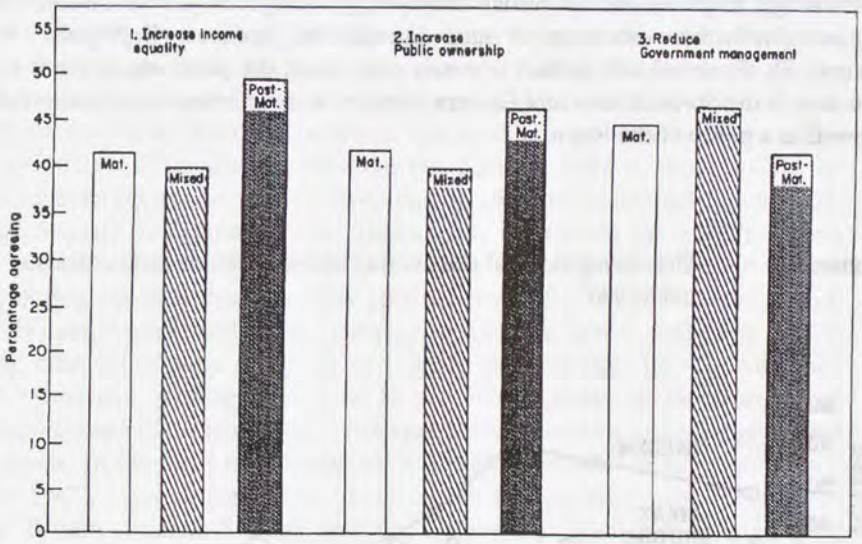
Figure 4 compares the attitudes of the respective value types on key economic issues - and it tells a different story. The Postmaterialists are not economically conservative - they tend to be slightly less so than the Materialists. But the differences are minimal. Though they have strikingly different views on social issues, Materialists and Postmaterialists do not polarize over economic issues. On the whole, the Postmaterialists are not fiscal conservatives - they tend to be willing to spend more on education, sports and leisure, social security and the environment than are the Materialists (as further evidence from Euro-Barometer survey 21 demonstrates). But they are less willing to spend more on defense, crime, and aid to business than are the Materialists.

Figure 3 Social attitudes by value type



Source: Combined data from Euro-Barometer survey 21 (April, 1984)
N = 9,745

Figure 4 Economic attitudes by value type



Questions asked were:

1. "Greater effort should be made to reduce inequality of income." (percentage "strongly agree" shown)
2. "Public ownership of private industry should be expanded." (percentage "agree" + "strongly agree" shown)
3. "Government should play a smaller role in the management of the economy." (percentage "agree" + "strongly agree" shown)

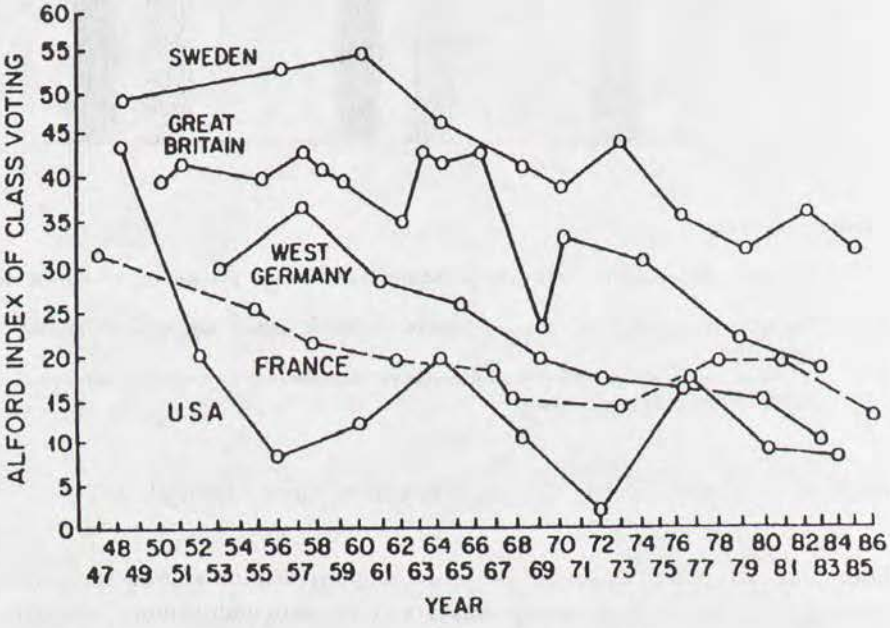
Source: Combined data from Euro-Barometer survey 19 (April, 1983)

Both Materialists and Postmaterialists are supportive ofthe welfare state in its existing form, but neither group wants to push state intervention very much further.

Public ownership of industry, once viewed by the Left as a panacea that would strike at the root of all social evils, today is supported by only a minority of West European publics, whether they have Materialist, Mixed, or Postmaterialist goals. Furthermore, the cross-national differences on these issues are revealing: support for the classic policies on the Left - redistribution of income, state government control and planning of the economy - is strongest in the least developed countries of Europe, such as Greece and Ireland. Mass support for these policies is weakest precisely where these policies have moved farthest - in such countries as Denmark and West Germany: public support for increased state intervention tends to be

greatest where it is least developed; but as the modern welfare state matures, it reaches a point of diminishing marginal utility, where it has alleviated the problems it can most readily handle and where the costs of these policies become increasingly large and the tax burden increasingly widespread. Consequently, mass support for further extention of state intervention declines (Inglehart, 1990: chapter 8). If carried still farther, one may even reach the point where (as is now the case in the Soviet Union and Eastern Europe) state intervention and control is viewed as a policy of the Right.

Figure 5 The Trend in social class voting in five Western democracies, 1947-1986*



* Adapted from Lipset (1981): 505; updated by present author with results from recent elections.

Source: British data, Books and Reynolds (1975), Finer (1980), 1983 results calculated from Euro-Barometer, No. 19 data; Swedish data, Stephens (1981), Zetterberg (1966); German data, Baker, Dalton and Hildebrandt (1981), Dalton (1984); American data based on whites only, Abramson et al. (1985); French data, MacRae (1964), later data from surveys conducted by Converse and Dupeux (1963), Converse and Pierce (1985) and Euro-Barometer surveys.

Ironically, in so far as the policies of the classic welfare state *succeed*, the problems that engendered them become less salient and social class conflict begins to yield its position as the dominant bases of political polarization. Even today, there is still a tendency for working class voters to support the parties of the Left and for middle class voters to support the Right, but over the past four decades, social class voting has gradually declined throughout advanced industrial society, as Figure 5 demonstrates. If 75 per cent of the working class voted for the Left, and only 25 per cent of the middle class did so, one would obtain an Alford class voting index of 50 (the difference between the two figures). This is about where the Swedish electorate was located in 1948, but by 1985 the index had fallen to 31. Norway, Sweden and Denmark have traditionally manifested the world's highest levels of social class voting, but all have shown declining levels of social class voting during the past three decades (Borre, 1984: 352). In the United States, Great Britain, France, and West Germany, in the late 1940's and early 1950's, working class voters were more apt to support the Left than were middle class voters, by margins ranging from 30 to 45 percentage points. In the most recent national elections in these countries, this spread had shrunken to the range from 8 to 18 points. In the most recent national elections for which we have data (from 1983 to 1987), class voting fell to or below the lowest levels ever recorded to date in Britain, France, Sweden and West Germany. Though long-established political party loyalties tend to maintain the traditional pattern, it is being eroded by the fact that (1) new support for the Left increasingly comes from middle class Postmaterialists; and (2) by working class shifts to the Right, in defense of traditional values (Inglehart, 1977; Lipset, 1981).

It is important to note that the class-conflict model of politics is not a mere straw man: a few decades ago it provided a fairly accurate description of reality. But that reality has changed, gradually but pervasively, to the point where today, class voting in most democracies is less than half as strong as it was a generation ago.

This does *not* mean that an End of Ideology is at hand. Political conflict persists, but both the issues and the social groups on which it is based have been shifting. Though the economic issues linked with social class conflict have become less salient, new issues connected with the quality of life have become more central: such questions as abortion, the role of women, protection of the environment, or nuclear power today engender far more heated controversy than such classic concerns as public ownership of industry.

Concurrently, we seem to be witnessing an intergenerational change in the meaning of Left and Right in Western societies. For the older generation (those respondents 60 to 80 years of age in Euro-Barometer survey 19), the strongest correlates of whether one places oneself on the Left or the Right side of the political spectrum are: (1) the strength of the respondent's religious orientation, and (2) the respondent's attitude toward redistribution of income. Whether one has Materialist or Postmaterialist values is only weakly related to Left-Right

self-placement. Among the younger generation in Western Europe (those 15 to 29 years of age), the situation changes dramatically: among all the variables dealt with in this paper, Materialist/Postmaterialist values are the *strongest* correlate of whether the respondent identifies with the Left or the Right - far stronger than such social class indicators as income, occupation, and education, and slightly stronger even than one's religious outlook. For the younger generation, to support the Left means that one support the Postmaterialist positions on defense, nuclear power, terrorism, aid to Third World countries, and only to a much lesser degree does it refer to state ownership and control of the means of production.

Thus we have the seemingly paradoxical phenomenon of the Postmaterialists: a relatively young, well-educated and growing segment of the public, which sympathizes with the Left, and views itself as located on the Left - but which is not significantly more supportive of the classic economic policies of the Left than is the electorate as a whole. The paradox resolves itself when we realize that the cutting edge of social change no longer lies in nationalization of industry or increased state control and planning of the economy, but in enhancing the opportunity of self-expression and autonomous choice for all individuals, including wo-

Table 2 Value type by respondent's occupation and age group, 1980-1986*

	Ages								
	Under 35			35 - 49			50 and over		
Occupation	Mat.	Post-Mat.	N	Mat.	Post-Mat.	N	Mat.	Post-Mat.	N
Top management & civil service	19	27	(1,150)	23	25	(1,415)	24	15	(902)
Student	20	24	(11,677)	-	-	-	-	-	-
Professional	20	21	(869)	20	22	(608)	29	15	(505)
Non-manual employee	25	20	(11,623)	31	14	(7,166)	36	11	(3,871)
Unemployed	28	17	(4,958)	33	11	(1,218)	37	8	(1,565)
Self-employed business	31	12	(2,257)	40	9	(2,797)	41	7	(2,104)
Manual worker	30	13	(10,926)	36	9	(6,904)	41	8	(4,817)
Housewife	36	10	(7,787)	43	8	(7,192)	46	6	(9,824)
Farmer	38	11	(401)	45	8	(706)	46	6	(1,111)
Retired	-	-	-	37	11	(412)	46	6	(19,526)

* Based on combined data from Euro-Barometer surveys 13-26, carried out from April 1980 through November 1986 in Great Britain, France, West Germany, Italy, Netherlands, Belgium, Luxembourg, Denmark and Ireland.

men, sexual and ethnic minorities; and in protecting the environment and enhancing the quality of life. Government has a role to play in attaining these goals, but the old supposition of the Left that increased state intervention is good, virtually by definition, no longer seems tenable. From a Postmaterialist perspective, it may even seem counter-productive, even to those most interested in social change.

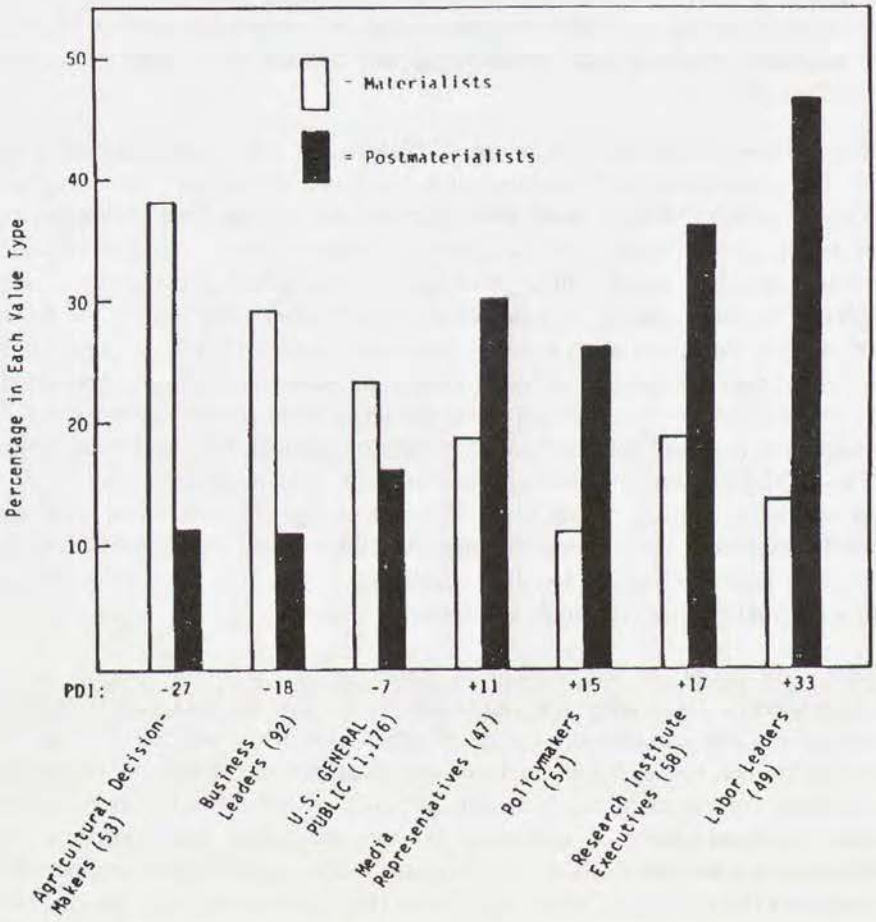
To what extent has the Postmaterialist perspective actually penetrated the politics of Western societies? Though their numbers have grown substantially during the past two decades, Postmaterialists are still outnumbered by Materialists in the general publics of most Western countries. When Postmaterialists first emerged into political relevance in significant number, in the mid 1960's, they were concentrated almost entirely in the student milieu. Today, that has changed to an impressive degree. The Postmaterialists have matured. And because they are concentrated among the better-educated strata, Postmaterialists have penetrated into a number of elite groups, including younger political elites, such as the New Fiscal Populists.

Table 2 shows the relative distribution of Materialists and Postmaterialists in the West European labor force, drawing on a combined survey data base of almost 125,000 interviews. Among those more than 50 years of age, Postmaterialists are Still heavily outnumbered in all occupational categories. Even among those under 35, Postmaterialists are still outweighed by Materialists in such categories as self-employed business person, manual workers and farmers. But among the young professionals, Postmaterialists are slightly more numerous than Materialists. They are clearly more numerous than Materialists in the student population. And among the future elites of these nations - the younger people in the highest strata of management and civil service-Postmaterialists outnumber Materialists by almost 1.5 to 1. There is nothing inherent in elite status that necessarily makes one a Postmaterialist: among those over 50 years of age in this same category, Materialists hold a clear preponderance. And these older members of the elite strata still hold most of the top decision-making posts. But among the younger elites, Postmaterialists have made substantial inroads.

Table 2 is based on the combined results of a large number of public opinion surveys. Analyzing the responses of the top occupational strata from these surveys, one can obtain a reasonably good idea of the outlook of elites, but the samples are not designed to focus on elites *per se*. Figure 6 enables us to compare the values of the U.S. general public with the results from a survey of elite decision-makers - consisting of top executives from Fortune 500 companies, key members of the U.S. Congress, editors of leading newspapers and newscasters from major television networks, executives of international agricultural firms and chief executives of agricultural organizations, leaders of major labor unions and other top-level decision makers. The results show a sharp polarization between different types of elites. On one hand, top business

and agricultural leaders are overwhelmingly Materialist in outlook, even more so than the U.S. public at large. But among several elite categories - including the mass media, political leaders, labor leaders and leaders of academic and commerical research institutions, people with Postmaterialist values are far more numerous than those with Materialist values. Substantial generational cleavages exist *within* the respective elite groups. But by 1987, a Postmaterialist outlook had already become numerically predominant in several elite categories.

Figure 6 Balance between Materialist and Postmaterialist value priorities among elites and public in the United States, 1987*



* Based on surveys of American public and U.S. opinion leaders carried out by the Gallup Organization in November, 1987 (No. G08217)

The emergence of the New Fiscal Populists in urban politics seems to reflect a pervasive cultural shift from Materialist to Postmaterialist values in two ways: first, because the New Fiscal Populist politicians, themselves, are likely to have Post-materialist values; and because the emergence of an increasingly Postmaterialist electorate has given rise to a constituency that is likely to support the distinctive policies of these leaders.

The rise of the New Fiscal Populists does not reflect the process of value change alone. It is also linked with the emergence of new ways of appealing to and mobilizing voters. This new organizational style, in turn, has become possible because of a gradual rise in the political skills of the general public - an historic development that we describe as "cognitive mobilization." Let us examine the origins of this phenomenon.

COGNITIVE MOBILIZATION: THE SHIFTING BALANCE OF POLITICAL SKILLS

In early face-to-face political communities such as the tribe or city state, political communication was by word of mouth and dealt with people or things one knew first hand. Virtually everyone possessed the skills necessary for political participation, so politics could be relatively democratic, with decision-making sometimes taking place through councils in which every adult male had a voice.

The emergence of extensive political communities, based on much larger areas and governing millions rather than thousands of people, required special skills, starting with literacy. Word of mouth communications were no longer adequate; written messages had to be sent and received across great distances. Human memory was no longer capable of retaining such details as the tax base of thousands of villages or the military manpower they could raise; written records were needed. And personal chains of loyalties were inadequate to hold together large empires; legitimating myths or ideologies based on abstract symbols had to be propagated.

The extensive political community had a greatly enlarged population and resource base, and it eventually drove smaller competitors out of existence. But a heavy price was paid. Elites with specialized skills developed to perform the necessary coordinating functions. A wide gap opened between ordinary people, who did not have the specialized training needed to cope with politics at a distance, and a small elite that was involved in national politics. The peasant masses became more or less irrelevant to the politics of large agrarian nations.

Industrialization makes it possible to narrow again the gap between elites and masses. Lerner (1958) has analyzed the profound changes that take place as parochial peoples become urbanized, literate, and in contact with mass media - and consequently, able to relate to the national political community rather than

just their village or tribe. Deutsch (1964, 1966) gave further insight into this transformation with his analysis of "social mobilization." This process begins when people are uprooted from physical and intellectual isolation, and from old traditions, occupations, and places of residence. Gradually they became integrated into modern organizations and extensive communications networks - expanding their horizons beyond the scope of word-of-mouth communications and increasingly coming in touch with national politics.

Western countries have long since completed the outwardly visible stages of social mobilization, such as urbanization, basic industrialization, widespread literacy, mass military service, and universal suffrage. Nevertheless, the core of the process continues: the dissemination of skills needed to cope with an extensive political community. The term "cognitive mobilization" refers to this aspect of the social mobilization process (Inglehart, 1970, 1977; Dalton, 1984; Dalton, Flanagan, and Beck, 1986). Though formal education is by no means the same thing as cognitive mobilization, it is probably the best readily-available indicator.

Almond and Verba (1963) demonstrated that the more educated a person is, the more likely he or she is to have a sense of "subjective political competence" - and to take part in politics. Numerous other studies in various countries have found that people with higher socioeconomic status are most apt to participate in politics (Milbrath and Goel, 1977; Verba, Nie and Kim, 1978; Barnes, Kaase et al., 1979). But is this due to cognitive mobilization, or to social status itself? In other words, are the better educated more likely to have more say in politics because they have the skills needed to press their demands more effectively - or simply because they have better social connections, and more money with which to induce officials to bend the rules on their behalf?

It would be naive to think that wealth and personal connections are irrelevant. But rising levels of skills and information are important too; and from the standpoint of long-term changes, these cognitive variables are particularly significant. By definition, there will always be an upper third, a middle third and a lower third in socioeconomic status. But pronounced growth has occurred in *absolute* levels of education and information, and this may be shifting the balance of political skills between elites and mass, giving the citizens a better chance to make significant political inputs.

Participation springs from two fundamentally different processes, one underlying an older mode of political participation, the other a newer. The institutions that mobilized mass political participation in the late nineteenth and early twentieth century - labor union, church, and mass political party - were hierarchical organizations in which a small number of leaders or bosses led a mass of disciplined troops. They were effective in bringing large numbers of newly enfranchised citizens to the polls in an era when universal compulsory education had just taken root and the average citizen had a low level of political skills. But

while these elite-directed organizations could mobilize large numbers, they usually produced only a relatively low qualitative level of participation, generally the simple act of voting (Converse, 1972).

A newer elite-directing mode of participation expresses the individual's preferences with far greater precision and in much more detail than the old. It is issue-oriented, and based on ad hoc groups rather than on established bureaucratic organizations. And it aims at effecting specific policy changes rather than simply supporting the representatives of a given group. This mode of participation requires relatively high skill levels.

Thus, if we take one's formal education as an indicator of political skills, we find that sheer literacy seems sufficient to produce voting. The bulk of Western citizens reached this threshold generations ago. But while literacy alone may be sufficient to produce a high rate of voting, taking the initiative at the national level seems to require at least a secondary education, and probably a university education. This is particularly true of elite-directing types of political behavior; as Barnes, Kaase et al., (1979) demonstrate, high educational levels are very closely associated with participation in unconventional forms of political action. But their study also goes a step farther and develops measures of political skills. It finds that a high level of political conceptualization is an even stronger predictor of unconventional political behavior than is education - and far stronger than social class *per se*.

It seems likely that the rise of post-industrial society or information society, (Bell, 1973, 1976), also leads to a growing potential for citizen participation in politics. Increasingly, not only one's formal education but one's job experience as well, develop politically relevant skills. The traditional assembly-line worker produced things, working in a hierarchical system that required (and allowed) very little autonomous judgment. Workers in the service and information sectors deal with people and concepts; operating in an environment where innovation is crucial, they need autonomy for the use of individual judgment. It is inherently impossible to prescribe innovation from above, in hierarchical fashion. Accustomed to working in less hierarchical decision-structures in their job life, people in the information and service sectors are relatively likely to have both the skills and the inclination to take part in decision-making in the political realm as well.

The new mode of political participation is far more issue-specific than the old and more likely to function at the higher thresholds of participation. It is new in the sense that only recently has a large percentage of the population possessed the skills required for this form of participation. And it is new in that it makes the public less dependent on permanent, oligarchic organizations.

We suggest that at high levels of development, traditional kinds of organizational involvement become progressively less effective. With a wide range of alternative channels of information and redress, people rely less and less on such established organizational networks as labor union, church and old-line urban political

machines. Both union membership rates and church attendance have been falling in most Western countries, and traditional political party ties have been weakening. This can have the effect of *depressing* certain types of political participation such as voting, that are heavily dependent on elite-directed mobilization, and may require little or no cognitive response to current issues. But at the same time, elite-directing types of participation, aimed at influencing specific policy decisions, are becoming more widespread. The Iron Law of Oligarchy is very gradually being repealed. Inglehart (1990 - forthcoming: chapters 10 and 11) presents longitudinal survey evidence that this shift has been taking place throughout advanced industrial society.

Political participation remained dependent on permanently established organizations as long as most of the people with bureaucratic skills held positions within these institutions. But today, ad hoc organizations can be brought into being more or less at will, because the public has an unprecedentedly large leavening of non-elites with high levels of political skills. A balance between elites and mass that was upset centuries ago is in the process of being redressed.

Strong organizational networks can help less advantaged groups attain higher participation rates than groups with higher skill levels. Situational factors are also important; indeed during a given period, they may well swamp the effects of more gradual, underlying changes. But in a long time perspective, changes at the individual level are even more significant. Exciting periods tend to alternate with dull periods of politics. In the short run, the period effects predominate; but in the long run, they are apt to cancel each other out. The long-term effects of individual-level change, on the other hand, tend to be cumulative. They set new limits to the rise and fall of activism in response to given events. Cognitive Mobilization may be gradually raising the baseline of potential political participation, particularly the potential for elite-directing types of political behavior. This process has made it possible for the New Fiscal Populists to adopt a populist approach that relies on direct appeal to individual citizens, rather than depending on established party organizations. Together with the shift from Materialist to Postmaterialist priorities described above, Cognitive Mobilization is gradually changing the nature of politics.

THE INTERACTION BETWEEN COGNITIVE MOBILIZATION AND VALUE CHANGE IN MASS PARTICIPATION

The two historical changes we have just described reinforce each other to promote a new style of political mobilization that appeals directly to the citizen, addressing issues and values rather than using hierarchical organizations that rely on authority and group loyalties to mobilize the masses. This new political style is facilitated by the fact that today's publics are not only better educated and informed than those of a generation ago, but also by the fact that, in so far as these publics have become more Postmaterialist in outlook, their attention is less likely to be

Table 3 Unconventional political behavior reported in 1980-81, by value type in 1974

(Percentage having engaged in two or more types of protest in past ten years)

Value type in 1974	West Germany	Netherlands	U.S.A.
Materialist	1	3	17
Mixed (Materialist)	2	5	23
Mixed (Postmaterialist)	12	8	25
Postmaterialist	34	23	45
(Total)	(4%)	(9%)	(22%)
N =	(898)	(743)	(910)
Gamma =	.39	.37	.16

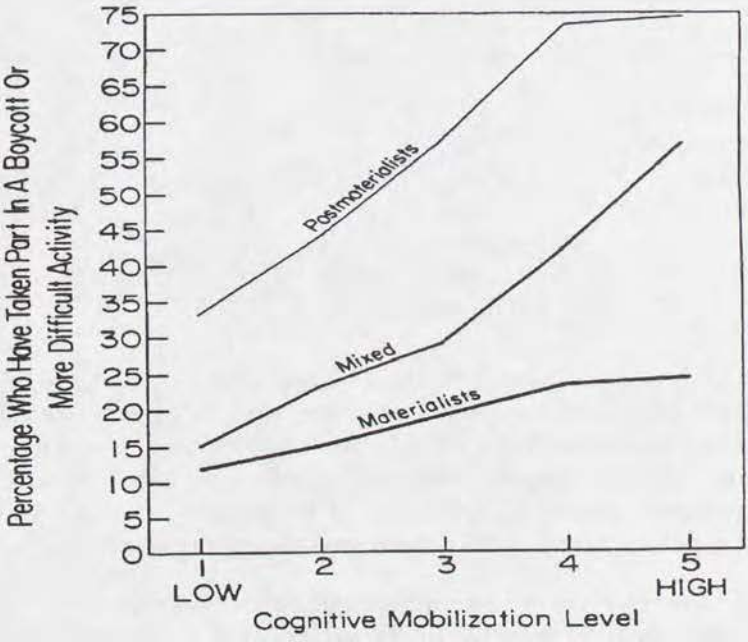
absorbed by the struggle for economic security; they have more energy to devote to non-material concerns such as politics. Moreover, since they give a relatively high priority to self-expression, they tend to be unwilling to serve as disciplined troops in old-style political organizations; they are far more amenable to appeals addressed directly to themselves as individuals, and relatively apt to intervene in politics directly, in elite-challenging or elite-directing fashion.

Thus, even *apart* from the fact that they are relatively well-educated, Postmaterialists are more likely to be interested in politics. Thus, in the 24-nation World Values Survey carried out in 1981-83, only a minority of the Materialists (35 per cent) described themselves as "interested in politics." Among those with Mixed values the figure was higher, but still short of a majority (44 per cent). But among the Postmaterialists, a solid majority (59 per cent) said they were interested in politics.

The contrast is even stronger when we deal with actual behavior. For example, in the same 24-nation survey, only 29 per cent of the Materialists reported that they had ever signed a political petition - as compared with 57 per cent of the Postmaterialists. And the contrast becomes stronger still when we move to more "difficult" actions that are carried out by relatively small fractions of the public. Thus, while only 4 per cent of the Materialists in the World Values Survey reported ever having taken part in a politically motivated boycott, 19 per cent of the Postmaterialists did so: while they were only about 1 1/2 times as likely to say they were interested in politics, the Postmaterialists were about *five* times as likely as Materialists to have participated in a boycott.

Panel survey data indicates that one's values actually influence one's behavior. The Political Action panel survey interviewed respondents in three nations in 1974, and then reinterviewed the same persons again in 1980-81. As Table 3 demonstrates,

Figure 7 Unconventional political participation by Cognitive Mobilization and value type, combined eight-nation data from Political Action study, 1974-1976

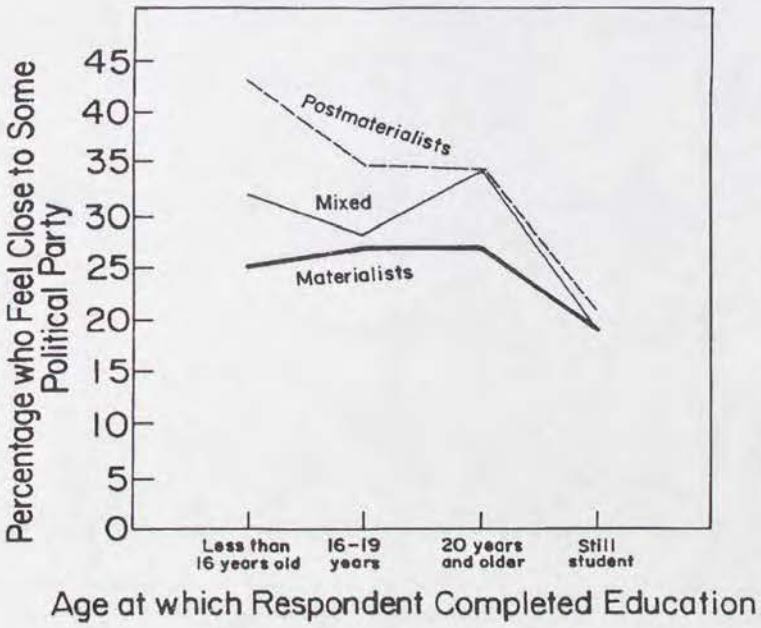


the individual's values (as measured in 1974) are powerful predictors of subsequent elite-challenging political action (as reported in 1980-81): those who showed Postmaterialist values in the 1970's were vastly likelier than Materialists to report having engaged in political protest when reinterviewed in the 1980's.

Postmaterialist values and Cognitive Mobilization have a multiplier effect, in facilitating elite-directing political action. While each factor is conducive to direct participation, those who rank high on both variables are *far* likelier to participate than those who are high on only one of the two factors. Figure 7 illustrates this phenomenon. Overall, only a small minority of the publics interviewed in the first wave of the Political Action study reported having taken part in a boycott or more "difficult" form of action; but almost 75 per cent of those who had both Postmaterialist values and ranked high on Cognitive Mobilization had taken part in a boycott or some more difficult political action.

At the other end of the scale, among Materialists who rank low on cognitive mobilization, only 12 per cent show this level of participation.

Figure 8 Political party loyalty, by values and education



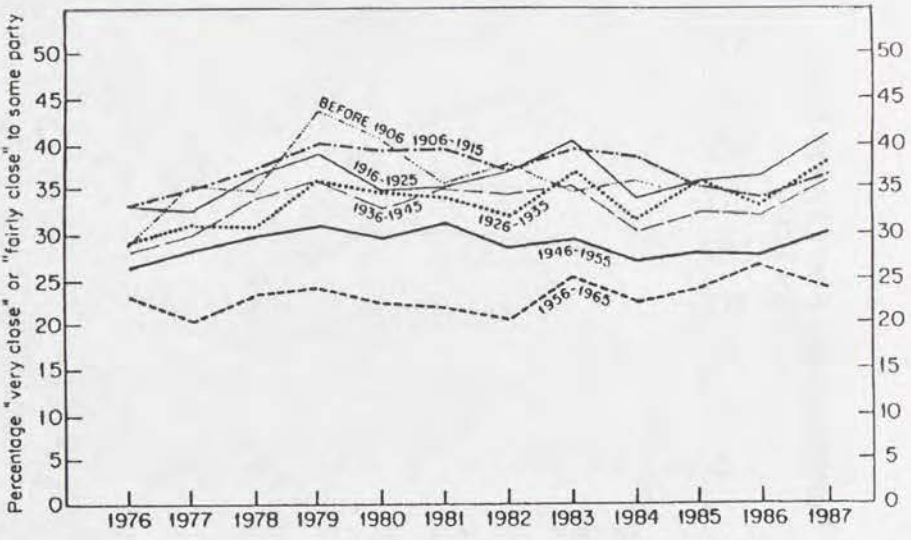
Source: Combined data from Euro-Barometer survey 21 (April, 1984)

Taken together, one's values and political skill levels explain a large share of the variance in elite-challenging political action.

But here, again, we encounter a situation that seems paradoxical. Postmaterialist values and high levels of education and political cognition are strongly linked with high levels of political participation. And we are witnessing an intergenerational shift in which the younger birth cohorts are much better educated, and much more Postmaterialist in outlook, than the older cohorts whom they are gradually replacing. Logically, it would seem, we should be observing a steady rise in political participation. But we know that voting turnout has not been rising. On the contrary, it has been stagnant or even falling in most Western countries. How can this be occurring?

The answer is that while Postmaterialism and Cognitive Mobilization are strongly conducive to elite-challenging forms of political participation, they are *not* conducive to the conventional elite-dominated forms of participation such as voting. Indeed, in so far as voting is simply seen as affirming one's loyalty to the leaders of a given political party, these two intergenerational shifts may actually erode voting rates. For Postmaterialism and education interact in a way that tends

Figure 9 Strength of partisan loyalties, by age cohort, 1976-1987*



* Based on combined samples from France, Italy, West Germany, The Netherlands, Belgium, Great Britain, Ireland, Luxembourg and Denmark, weighted according to population of each country.

to erode political party loyalties. Figure 8 demonstrates this phenomenon - and it provides a striking contrast to Figure 7.

Overall, Postmaterialists are likelier to feel close to some political party than are Materialists. But higher education does not increase political party identification rates among this group - indeed, it is linked with a decline in party loyalties. And among the student population, party identification drops to a low point at which Postmaterialists are virtually indistinguishable from those with other values.

One might argue that this low rate of partisan loyalty among the student population simply reflects a transient life cycle effect; students are relatively young; they will develop strong party loyalties when they are older.

Theoretically, this could happen - but we believe it would require the evolution of political parties that are better adapted to appeal to politically sophisticated Postmaterialists, in terms of the issues stressed in their programs, and in their organizational style. This has not yet taken place, in general, though such phenomena as the emergence of the New Fiscal Populists (and the Environmentalist parties of Western Europe) seem to indicate a movement in that direction. Overall, however, the parties have not modified themselves sufficiently to overcome the younger generation's disenchantment with the existing party systems. As Figure 9 indicates, low rates of party loyalties remained a

Table 4 Political party loyalty rates, 1976-1987

(Percentage who consider themselves close to some political party)

Year	Percent	N
1976	69	(17,103)
1977	67	(17,605)
1978	67	(17,351)
1979	70	(17,472)
1980	66	(8,835)
1981	71	(16,455)
1982	63	(17,954)
1983	65	(17,508)
1984	64	(17,655)
1985	61	(17,767)
1986	61	(17,650)
1987	61	(8,653)
Net change:	-8	

Source: Combined data from Euro-Barometer surveys carried out in given years, in France, Italy, Great Britain, West Germany, The Netherlands, Belgium, Luxembourg, Ireland and Denmark, weighted according to population.

stable and distinctive feature of the outlook of the younger birth cohorts from 1976 to 1987. The younger cohorts showed lower rates of partisanship than the older ones throughout this period, and did *not* develop stronger party loyalties as they aged.

Consequently, there has been a gradual erosion of partisan loyalties in most Western countries, linked with intergenerational population replacement. Abramson (1979) has documented this phenomenon for the United States. Table 4 demonstrates the erosion of partisanship in Western Europe.

Mobilization of Western electorates by traditional political organizations is gradually becoming less effective. Conversely, new appeals addressed directly to the individual, and based on issues and values of concern to that individual, are becoming increasingly potent. Both the issues and the organizational basis of Western politics is being transformed.

REFERENCES

Balme, Richard et al. 1986/87. *New Mayors: France and the United States*. **The Tocqueville Review 8**, pp. 263-278.

Barnes, Samuel H., Max Kaase et al. 1979. **Political Action: Mass Participation in Five Western Democracies**. Beverly Hills: Sage.

Bell, Daniel. 1973. **The Coming of PostIndustrial Society**. New York: Basic Books.

Bell, Daniel. 1976. **The Cultural Contradictions of Capitalism**. New York: Basic Books.

Block, J. 1981. *Some enduring and consequential structures of personality*, in Albert Rabin et al. (eds.), **Further Explorations in Personality**. New York: Wiley, pp. 27-43.

Brim, Orville G., Jr. 1966. *Socialization through the life cycle*, in Orville G. Brim, Jr. and Stanton Wheeler (eds.), **Socialization After Childhood**. New York: Wiley, pp. 368-388.

Brim, Orville G. and Jerome Kagan (eds.). 1980. **Constancy and Change in Human Development**. Cambridge, MA: Harvard University Press.

Converse, Philip E. 1972. *Change in the American electorate*. In Campbell, A. E. and Converse, Philip E. (eds.), **The Human Meaning of Social Change**. New York: Russell Sage.

Costa, Paul T., Jr and Robert McCrae. 1980. *Still stable after all these years: Personality as a key to some issues in adulthood and old age*, in Paul B. Baites and Orville G. Brim (eds.), **Life-Span Development and Behavior, Vol. 3**. New York: Academic Press, 65-102.

Dalton, Russell J. 1984. *Cognitive mobilization and partisan dealignment in advanced industrial democracies*. **Journal of Politics 46**, pp. 264-284.

Dalton, Russell J. 1984. *The West German party system between two ages*. In Dalton, Russell J., Flanagan, Scott C., and Beck, P. A. (eds.), **Electoral Change in Advanced Industrial Democracies: Realignment or Dealignment?** Princeton: Princeton University Press, pp. 104-133.

Deutsch, Karl W. 1964. *Social mobilization and political development*. **American Political Science Review 55**, No. 3 (September), pp. 493-514.

Deutsch, Karl W. 1966. **Nationalism and Social Communication**. Cambridge: MIT Press.

Glenn, Norval D. 1974. *Aging and conservatism*. **Annals of the American Academy of Political and Social Science 415**, pp. 176-186.

Glenn, Norval D. 1980. *Values, attitudes and beliefs*, in Orville G. Brim, Jr. and Jerome Kagan (eds.), **Constancy and Change in Human Development**. Cambridge, MA: Harvard University Press, pp. 596-640.

Inglehart, Ronald. 1971. *The silent revolution in Europe: Intergenerational change in post-industrial societies*. **American Political Science Review 65**, No. 4, pp. 991-1017.

Inglehart, Ronald. 1977. **The Silent Revolution: Changing Values and Political Styles Among Western Publics**. Princeton: Princeton University Press.

Jennings, M. Kent and Richard Niemi. 1981. **Generations and Politics.** Princeton: Princeton University Press.

Jennings, M. Kent and Gregory B. Markus. 1984. *Partisan orientations over the long haul*, **American Political Science Review 78**, pp. 1000-1018.

Lerner, Daniel. 1958. **The Passing of Traditional Society**. New York: Free Press.

Levinson, Daniel J. 1978. **The Seasons of a Man's Life**. New York: Knopf.

Lipset, Seymour M. 1981. **Political Man: The Social Bases of Politics**, 2nd edition. Baltimore: Johns Hopkins University Press.

Milbrath, Lester W. and Goel, M. 1977. **Political Participation**, 2nd edition. Chicago: Rand McNally, pp. 114-128.

Riley, Matilda and Kathleen Bond. 1983. *Beyond ageism: Postponing the onset of disability*, pp. 243-52 in Matilda Riley, Beth B. Hess and Kathleen Bond (eds.), **Aging in Society: Selected Reviews of Recent Research**. Hillsdale, NJ: Lawrence Erlbaum.

Sears, David O. 1981. *Life-stage effects on attitude change, especially among the elderly*, in S. B. Diesler et al. (eds.), **Aging: Social Change**. New York: Academic Press.

Sears, David O. 1983. *On the persistence of early political predispositions: The roles of attitude object and life stage*, in L. Wheeler (ed.), **Review of Personality and Social Psychology (Vol. 4)**. Beverly Hills: Sage.

Verba, Sidney, Nie, Norman H., and Kim, Jae-On. 1978. **Participation and Political Equality**. Cambridge and New York: Cambridge University Press.

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Statens offentliga utredningar 1990

Systematisk förteckning

Statsrådsberedningen

Strömgatan 18 - Sveriges statsministerbostad. [10]
Välfärd och segregation i storstadsregionerna. [20]
Staden. [32]
Urban Challenges. [33]
Stadsregioner i Europa. [34]
Storstädernas ekonomi 1982-1996. [35]
Storstadsliv. Rika möjligheter- hårda villkor. [36]

Justitiedepartementet

Meddelarrätt. [12]
Översyn av sjölagen 2. [13]
Översyn av upphovsrättslagstiftningen. [30]

Utrikesdepartementet

Förbud mot tjänstehandel med Sydafrika m.m. [6]
Organisation och arbetsformer inom bilateralt utvecklingsbistånd. [17]

Försvarsdepartementet

Svensk säkerhetspolitik i en föränderlig värld. [5]
Beredskapen mot oljeutsläpp till sjöss. [15]
Förmånssystemet för värnpliktiga m. fl. [26]

Socialdepartementet

Överklagningsrätt och ekonomisk behovsprövning inom socialtjänsten. [2]
Samhällsstöd till underhållsbidragsberättigade barn. Idéskisser och bakgrundsmaterial. [8]
Handikapp och välfärd? - En lägesrapport . [19]
Tobakslag. [29]

Kommunikationsdepartementet

Transportrådet. [4]
Storstadstrafik 5 - ett samlat underlag. [16]
Post & Tele - Affärsverk med regionalt och socialt ansvar. [27]

Finansdepartementet

Långtidsutredningen 1990. [14]
Lag om folkbokföringsregister m.m. [18]

Utbildningsdepartementet

En idrottshögskola i Stockholm - struktur, organisation och resurser för en självständig högskola på idrottens område. [3]
Lagstiftning för reklam i svensk TV. [7]
Vidgad vuxenutbildning för utvecklingsstörda. [11]

Arbetsmarknadsdepartementet

Perspektiv på arbetsförmedlingen. [31]

Bostadsdepartementet

Kostnader för fastighetsbildning m. m. [9]
Tomträttsavgäld. [23]

Industridepartementet

Företagsförvärv i svenskt näringsliv. [1]

Civildepartementet

Ny kommunallag. [24]
Konkurrensen inom livsmedelssektorn. [25]
Att följa upp kommunal verksamhet - En internationell utblick. [28]

Miljö- och energidepartementet

Den elintensiva industrin under kärnkraftsavvecklingen. [21]
Den elintensiva industrin under kärnkraftsavvecklingen. Bilagedel. [22]

Statens offentliga utredningar 1990

Kronologisk förteckning

1. Företagsförvärv i svenskt näringsliv. I.
2. Överklagningsrätt och ekonomisk behovsprövning inom socialtjänsten. S.
3. En idrottshögskola i Stockholm - struktur, organisation och resurser för en självständig högskola på idrottens område. U.
4. Transportrådet. K.
5. Svensk säkerhetspolitik i en föränderlig värld. Fö.
6. Förbud mot tjänstehandel med Sydafrika m.m. UD.
7. Lagstiftning för reklam i svensk TV. U.
8. Samhällsstöd till underhållsbidragsberättigade barn. Idéskisser och bakgrundsmaterial. S.
9. Kostnader för fastighetsbildning m. m. Bo.
10. Strömgatan 18 - Sveriges statsministerbostad. SB.
11. Vidgad vuxenutbildning för utvecklingsstörda. U.
12. Meddelarrätt. Ju.
13. Översyn av sjölagen 2. Ju.
14. Långtidsutredningen 1990. Fi.
15. Beredskapen mot oljeutsläpp till sjöss. Fö.
16. Storstadstrafik 5 - ett samlat underlag. K.
17. Organisation och arbetsformer inom bilateralt utvecklingsbistånd. UD.
18. Lag om folkbokföringsregister m.m. Fi.
19. Handikapp och välfärd? - En lägesrapport. S.
20. Välfärd och segregation i storstadsregionerna. SB.
21. Den elintensiva industrin under kärnkraftsavvecklingen. ME.
22. Den elintensiva industrin under kärnkraftsavvecklingen. Bilagedel. ME.
23. Tomträttsavgäld. Bo.
24. Ny kommunallag. C.
25. Konkurrensen inom livsmedelssektorn. C.
26. Förmånssystemet för värnpliktiga m. fl. Fö.
27. Post & Tele - Affärsverk med regionalt och socialt ansvar. K.
28. Att följa upp kommunal verksamhet - En internationell utblick. C.
29. Tobakslag. S.
30. Översyn av upphovsrättslagstiftningen. Ju.
31. Perspektiv på arbetsförmedlingen. A.
32. Staden. SB.
33. Urban Challenges. SB.
34. Stadsregioner i Europa. SB.
35. Storstädernas ekonomi 1982-1996. SB.
36. Storstadsliv. Rika möjligheter- hårda villkor. SB.