INDUSTRIAL SPACE IN CONTEMPORARY ATHENS: THE DEVELOPMENT AND TRANSFORMATION OF A SOUTHERN EUROPEAN METROPOLIS

Elias A. Kourliouros

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University of London, London School of Economics and Political Science

-Geography Department

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ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

To the memory of my beloved mother...

SYNOPSIS

This thesis aims at contributing to our understanding of how spatial-industrial processes take place in a southern European capitalist metropolis, Athens, and how those processes are shaped not only by economic forces and tendencies, but by social, political and cultural forces as well -forces which are unique in the Greek case making, therefore, necessary a departure from the conventional theoretical corpus of urban industrial geography which has been almost exclusively centred around the primacy of economy and production.

In that context, a critical examination of conventional theories was advanced (chap. 1) and an alternative explanatory framework for interpreting the very "logic" of structuration and change of the Athenian urban-production space was tentatively constructed (chap. 2). Since industrial processes in urban space form constituent parts of the social reality as a whole, it was necessary to address some major facets of the contemporary Greek social formation and of its relations with spatial structure. Thus, aspects of the modern Greek society, its relations with urban production space, the role of the political sphere and the nature of urban planning was explored. Analysis was then concretised as the thesis' scope moved gradually in more detailed analytical levels to encompass the key-aspects constituting the multifaceted nature of the contemporary Athenian industrial spatiality. Therefore, an analysis of the post-war drive of Greek industry from development to crisis and "negative restructuring" was undertaken and the spatial implications of those changes were addressed (chap. 3) in order to help us understand the wider context of spatial - industrial change in Attica -the region of Greater Athens. Sub-regional and intra-urban industrial change was then addressed (chap. 4). Analysis starts from a historical perspective of the structuration of the Athenian production space and then it addresses the major trends of the industrial geography of contemporary Athens. A further inquiry into this industrial geography was then undertaken in a detailed survey of a growing suburban industrial locality (chap. 5). In the remaining chapters some crucial socio-political and cultural forces affecting the Athenian industrial spatiality were examined. Thus, an analysis of recent policies and measures for the reorganization of the Athenian industrial space was undertaken, and compared against European experiences (chap. 6). The analysis was followed up by an examination of the major social and political factors contributing to the creation and diffusion of anti-industrial culture in the contemporary Athenian society (chap. 7). This point was further concretised in a detailed analysis of the socio-political tensions and controversies arisen between the central government and various social actors over an official project aiming at a planned reorganization and renewal of a major part of the Athenian industrial space during the early 1990s (chap. 8). It was argued in concluding (chap. 9) that the major problems of the Athenian industrial space are not mostly linked up with structural deficiencies in the sphere of economy and production, alone, but, moreover, with the inability of Greek society and the state machine to "produce" even a minimum amount of consensus on how the production space of the Greek capital should be organized and in what directions it should develop in the future.

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LIST OF ABBREVIATIONS

ASDA	Development League of Western Attica
DEH	Public Enterprise of Electricity
DEPOS	Public Enterprise of City-Planning, Settlement and Housing
DIANA	The party of "Democratic Renovation"
EAR	The party of "Greek Left"
EETM	Union of Greek Technological Engineers
EKA	Athens Labour Centre
EOMMECH	Greek Organization of SMEs
EPA	Enterprise of Urban Reconstruction
ESCHP	National Council of Regional Planning and Environment
ETERPS	Special Fund for the Implementation of Structure and Local Plans
ETVA	Hellenic Bank of Industrial Development
GA	Greater Athens
GBR	General Building Regulations
GPS	General Urban Plans
GSEE	Confederation of Greek Workers
KEPPE	Detachments for Controlling Environmental Quality
KKE	Communist Party of Greece
KKE es.	Communist Party of Greece -Interior
LD	Legislative Decree
MC	Ministry of Co-ordination (later Ministry of National Economy)
MNE	Ministry of National Economy
ND	The party of "New Democracy"
NSSG	National Statistical Service of Greece
OA	Athens' Organization
OAE	Organization for the Restructuring of Enterprises
OTE	Public Telecommunications Company
PASOK	The party of "Panhellenic Socialist Movement"
PD	Presidential Decree
SADAS	Association of Architects
SATM	Association of Survey Engineers
SEV	Association of Greek Industries
SD	Floorspace/plot ratio
SK	Ratio of covered by total plot's area
SPA	Structure Plan of Athens
SPME	Association of Greek Civil Engineers
SVAP	Association of Athens & Piraeus Industries
SYN	The party of the "Coalition of the Left and the Progress"
SYNDESMOS ELEONA	League of Eleonas
TEDKNA	Local Union of Municipalities and Communities in Attica Prefecture
TEE	Technical Chamber of Greece
VIPA	Industrial Parks
VIOPA	Handicraft Parks
YCHOP	Ministry of Environment, Spatial Planning and Public

	Works (later YPECHODE)
VEE	Greek Chamber of Handicraft Industry
ZEA	Zones of Controlled Development
ZEP	Operational Urban Planning Zones
ZOE	Zones of Urban Control
ZOVI	Industrial Zones

ACKNOWLEDGEMENTS

This thesis would not have been completed without the stimulating encouragement of some key-persons the most encouraging of which was my wife, Georgia, although her interests are quite different from mine. When I decided to start up this thesis, I was already completing my Dr. Eng. dissertation at the National Technical University of Athens (NTUA) in the field of Urban and Regional Planning. So, it was not an easy decision to start a new doctorate research without a generous initial "push" given by a person that had no the slightest idea of what industrial geography was all about. The other key-person was NTUA Professor and co-researcher Dr. Louis Wassenhoven, which provided me with the initial piece of information about undertaking doctorate research at the UK and especially at the Geography Department of the LSE, and brought me in contact with my supervisor, Dr. Ian Hamilton.

Special thanks are due to my supervisor, for encouraging me to undertake this endeavour during our first meeting in Athens some years ago, and for helping me overcome "the friction of distance" between London and Athens in supervising my research. I am forever grateful to him.

Two research projects at the NTUA in which I worked over a long time as a major researcher, have been invaluable sources of knowledge and experience on issues related directly or indirectly to this thesis' subject. The first project (1985-88) on planning and organization of two major industrial areas in Attica (RG 1988), was funded by the Ministry for Environment, Spatial Planning and Public Works (YCHOP later YPECHODE). Insight offered by this project (under the direction of NTUA Professor Louis Wassenhoven) is gratefully acknowledged. Analysis presented in chap. 5 of this thesis, draws freely from my 3-years research experience in that project. The second project (1991-93) was funded by a league of local authorities in Athens and was divided in two sub-projects: The first one (ERG 1992a), was jointly directed by NTUA Professors L.Wassenhoven, N.Markatos and L.Papagiannakis, and was addressed to the study of the economic, spatial and environmental aspects of the Eleonas industrial area in central Athens. The second one (ERG 1992b), was directed by NTUA Professor L.Wassenhoven and was a kind of "extension" of the former in the field of urban renewal. Analysis presented in chap. 8, draws freely from my research experience in those two sub-projects.

Last but not least, I would like to acknowledge the kind assistance offered to me by the staff of the LSE library as well as of the Athens' libraries (a) of the National Statistical Service of Greece -and especially Mrs. Maria Papacosta of the NSSG Computing Centre that provided me with unpublished statistical data in computer printouts; (b) of the Technical Chamber of Greece (TEE); (c) of the National Centre of Social Research (EKKE) and (d) of the Centre for Planning and Economic Researches (KEPE).

Due to its importance, Eleonas is well-studied both as a field of geographical inquiry and a field of planning interventions, hence lots of researchers and planners have contributed to that so far. Amongst them, I would like to mention especially the contributions of Louis Wassenhoven, Lefteris Papagiannakis, Pavlos Delladetsimas, Popi Sapoutzaki, Maria Mandaraka, Dafni Lipovatz-Kremezi and Michalis Christolis. Many hours of fruitful discussions with all those people in various occasions (team work, formal and informal meetings and collaboration with ministries' officials, etc., etc.), have stimulated my own way of viewing things and of developing my particular approach to the Eleonas' issue.

INTRODUCTION

Statement of the Problem and the Thesis' Aims

After two post-war decades of a continuous economic upswing and uninterrupted capital accumulation, the late 1960s/early 1970s marked a turning point in the western economies: Manufacturing industry in most parts of the advanced capitalist world entered a state of combined crisis and restructuring (Peet, ed. 1987; Allen and Massey eds. 1988; Kafkalas and Komninos 1993). Traditional manufacturing branches and areas which sustained the first post-war decades of western economic prosperity, like steel industry, automobiles, chemicals, textiles, ship-building industry, etc., presented serious decline in their outputs, investment and employment, whereas new growth poles of high-tech activities started to emerge away from the former traditional clusters. For many analysts this phenomenon is associated with the decline of Fordism as a mode of production organization and a form of welfare state regulation, combined with a growing emergence of "post-fordist" structures based on production and labour flexibility and neo-liberal forms of regulation based upon the primacy of private over welfare state capitalism (Hirsch 1993; for a review of relevant discussions see Bonefeld and Holloway, eds., 1993). Bluestone and Harrison, two well-known analysts of the US deindustrialization phenomenon (Bluestone and Harrison 1982), assert that one of the major causes of this "great U-turn", is the growing emergence of a "casino society" -a society in which "the expansion of the stock exchange speculation directs resources away from real productive investments" (Harrison and Bluestone 1994: 52). Whatever the causes and the specific forms of deindustrialization and restructuring in the various advanced economies, a common element is that this phenomenon is closely associated with geographical shifts of production from core to peripheral countries (Frobel *et al.* 1981; Lipietz 1990; CEC 1991), and/or with shifts within the economic geographies of the capitalist countries themselves -shifts which

have greatly transformed the past industrial configurations (Martin and Rowthorn eds. 1988; Allen and Massey eds. 1988; Scott 1988).

Since Greece is incorporated into the European capitalism as a full EC member, these wider changes affected its economy in general, and its manufacturing industry in particular (chap. 3, sect. 3.1). In the post 1973/74 crisis period the previous weaknesses of the Greek economy were immensely magnified and its past industrialization successes were questioned. As F.E.Ian Hamilton wrote in addressing the problems of industrialization in developing and peripheral regions,

> the international economic crisis -deepened but not necessarily caused by the oil-price inflation of the 1970s and its multiplier effects- has sharply exposed the weaknesses of previous industrialization attempts and trends in those regions (Hamilton, ed. 1986: preface).

These weaknesses were further enlarged in the recent years. As stated in a report issued recently by the Committee of the European Communities, the development lag between Greece and the other EC economies was further widened (CEC 1994: 12). Chances for attracting direct foreign capital investments -which played in the past a considerable role in initiating the country's industrial growth- seem to have diminished as the geographical position of Greece away from the major European economic centres, the lack of appropriate infrastructure networks (especially high-tech information transmission ones), the poor quality and the lack of specific skills in the Greek labour market, have brought Greece in a relatively disadvantageous position (CEC 1994: 85).

These problems have stimulated a growing concern about the prospects and possibilities of the Greek economy as well as about the orientation of industrial policies in a highly antagonistic international economic environment (Giannitsis ed., 1993). The ongoing deindustrialization of major cities and wider areas of the Greek territory -e.g. Lavrion, Patras, Egion, Kozani, Ptolemais, Evia, and recently Volos (Conference Organizing Committee 1993)- by raising pressing problems of mass unemployment, has revived interest

and debate about the developmental and locational problems of Greek industry and about its future possibilities.

In spite of some views asserting that Greek manufacturing industry has no viability any more and that economic priorities should have been reoriented long before to other forms of economic activity in which Greece seems to have a comparative advantage as for instance tourism (*Economikos Tachydromos*, No 35, 1992: 27), the growing concern about the future of Greek manufacturing reveals that the central core of the country's economic system continues to be concentrated around the processes of material commodity production. The tone of public discussion and political debate becomes more "hot" when problems related to economic and industrial change are associated with problems of industrial location across urban space and especially across the Athenian space. The focused analysis of such public concerns undertaken in this thesis can reveal that although pure economic aspects continue to attract a major portion of interest, there are some other dimensions (social, political, institutional and cultural) which cannot be derived from purely economic considerations, and which seem to play a considerable role in the way the Athenian spatial-industrial processes are shaped and re-shaped under the dynamics of the Greek semi-peripheral capitalism.[1]

In that context, this thesis aims at examining the fundamental geographical, economic, socio-political and cultural processes which in their mutual interaction underlie the structuration and change of the contemporary Athenian industrial space. Analysis is firstly focused on sketching out a comparative conceptual framework addressed to the examination of the extend to which the conventional approaches to urban-industrial geography are capable of providing adequate explanations of the unique urban - industrial processes in a South-European metropolis, Greater Athens. The

[1] The term "semiperiphery" was introduced first by Wallerstein in his analysis of the capitalist world economic system (for a brief but comprehensive presentation of Wallerstein's analysis see Henderson 1989: 13-6). Mouzelis (1987), also, makes use of this term to characterise capitalist societies like Greece that entered late the stage of industrialization. Although this term implies a rather "geometrical" than a socio-economic meaning, we will also make use of this term eventually in order to distinguish Greece from both the advanced countries of the capitalist "centre" and the third world countries of the "periphery" (see chap. 2).

basic point is that those approaches are not appropriate for this (chap. 1), and that what is needed is a retheorisation of the urban space - industry dynamic on the basis of a holistic and quite detailed research of the geographical, economic, socio-political and cultural specificities -specificities in which the social, political and cultural spheres tend to play an equally important role with economy and production in the organization of the Athenian industrial space (chap. 2). It was therefore explicitly accepted that modern societies and localities are integrated complex wholes whose internal dynamic necessitates an insight into the interaction between the various spheres -geographical, economic, social, political and cultural- which constitute those wholes (see also Labrianidis 1986: 232; IFRESI-CNRS 1993: 11). This conceptual framework is then extended and put at work in concrete empirical research.

Industrial development of advanced capitalist cities, has been for long the object of scientific study and policy implementation. In Greece, however, it was only in the post-dictatorial period (1974 onwards), and especially during the 1980s-early 1990s, that the spatial organization of industry in Athens emerged as a concrete field of public policy and social concern (see chap. 6 to 8). The central role of the Athens' region -Attica- in the country's economic geography is reflected on a growing number of studies addressed to the regional scale of activities (see indicatively Koutsoumaris 1963: chap.4; Kottis 1980: part A; Wassenhoven 1980: chap.7, sect. C; Wassenhoven 1984; Kintis 1982: chap. V; Stathakis 1983; Kafkalas 1984; Kafkalas 1990; Andrikopoulou and Kafkalas 1985; Katohianou 1984; Konsolas *et al.* 1985; Nikolinakos 1985; Vliamos 1988; Papamichos and Tsoulouvis 1987 and 1990; Labrianidis 1989; Andrikopoulou 1990). However, the study of industrial development and location within the Athenian space economy was not receiving much research attention at least till the early 1980s. A study published in 1970 by the National Centre of Social Researches (Burgel 1970), referred to the intra-metropolitan industrial structure of Greater Athens in a brief and descriptive way lacking adequate statistical support (see ibid.: 197-201). Another study carried out by the same writer some years later (Burgel 1976), had the same deficiencies as the previous one. The most influential work of the 1970s, was a comprehensive and detailed study of the location of industry

in Attica which was jointly carried out by the "Societe Centrale pour l' Equipement du Territoire" and the Hellenic Bank of Industrial Development (SCET 1974). This study recorded and identified in detail the major characteristics and problems of the industrial spaces in the whole metropolitan region of Athens -Attica- as well as the developmental trends of the Athenian manufacturing, in order to identify the future needs for industrial spaces and to estimate the related costs in terms of infrastructural provision, land development works, investments, services provision, etc. However, this study is of a limited interest today, because the evidence on which it was based has changed significantly since then. Another research report -published in 1978 (TEE 1978)- referred to the location of industry in Athens as part of the broader urban structure and to the problems which were associated with the excessive concentration of population and production activities in the Greek capital (ibid.: 15-23). The major industrial concentrations in Athens were roughly identified on the basis of 1969 industrial census data (ibid.: 21-2) without proceeding in analytical details. Fortunately, the research "gap" of the 1970s was filled to a good extend by work undertaken during the 1980s. In a PhD thesis (Leontidou 1981a) exploring the urban history of Athens and the role of working class in land allocation patterns during 1880-1980, we can find a systematic analysis of the post-war spatial structuring and change of Athenian industry (see especially Leontidou 1981a: chap. 5). This work was further concretized and updated in later contributions made by the same researcher (see Leontidou 1981b; 1982; 1983; 1986; 1990: chap.5). Contributions made by other researchers during the 1980s (see Hadjisocratis 1983; Tsekouras *et al.* 1985; Agelidis 1989; Karka-Agelidi 1989) were also important in sheding light into various facets of the Athenian industrial spatiality. However, most of the relevant literature -by over-emphasising the role of economy and production- tend to underestimate the role of political, institutional and cultural forces, which, along with economy and production interrelate and affect the structuration and change of the Athenian industrial space as a whole. Moreover, several important developments which took place during the last years, have still remained outside of any research concern. An analysis of such new developments in the context of this thesis, is hoped to contribute to the existing knowledge in the

field by revealing new evidence and by advancing a critical understanding of the major forces and processes which underlie the changing industrial spatiality of a modern South-European metropolis, namely Greater Athens. The study is therefore a theoretically informed empirical research and in its chapters we try to present the existing scientific discussion on each of the examined issues, to evaluate new empirical evidence and policy priorities, and on this basis to develop our own critical interpretation. The time-horizon of the study is the decade of 1980s- early 1990s, but it is eventually extended backwards for reasons of coherence in the process of analysis.

It is broadly accepted that the development and location of manufacturing industry in urban space is a matter of crucial importance for any city's life, since it affects (and is affected by) many other aspects of urban social and economic life. However, such concerns were rather rare in the case of Athens: Industrial location has mostly been faced by the official planning bodies as a matter of "proper" legislation alone (see chap. 6) separated in practice from other development programmes and initiatives, like, for instance, industrial parks. In other words, the planned location of manufacturing was never faced as a specific "tool" for the city's industrialization and development, as it was in other, both developed and developing, countries (for the role of planned industrial location and industrial parks in economic and spatial development see Bredo 1960; UN 1962; Roterus et al. 1969; UNIDO 1978; Buck 1980; Vliamos *et al.* 1991; Kourliouros 1991b).

However, during the decade of 1980s this situation seemed to change. It was the first time a socialist party came to office (1981) under typical electoral processes. For the first time, Athens acquired an institutionalised Structure Plan (Law 1515/1985) (*Official Gazette* 18A/1985) which proposed the development of a system of industrial parks (VIPA) and handicraft parks (VIOPA) within and around the Athenian agglomeration for promoting the planned location, relocation and modernization of the city's manufacturing activity. Other relevant policy measures for this purpose were also ratified by Presidential Decrees (e.g. PD 84/84). An ambitious project -Enterprise of

Urban Reconstruction (EPA)- aiming at planning the whole Greek settlement system, was undertaken by the Ministry of Environment and regional development plans were drafted for most prefectures (Wassenhoven 1993a). The institutional framework for urban and regional planning was legislated by the Law 1337/1983 (*Official Gazette*, 33A/14-3-1983). The development and location of industry in Athens was given a special concern: A "pilot project" for the organization and planning of two major industrial parks in Greater Athens was carried out by the National Technical University of Athens -Department of Urban and Regional Planning (RG 1988)- while many other industrial parks' planning projects were carried out along the lines and standards set out by the NTUA pilot study. During the first half of this decade, a widespread sense of optimism was creating the impression that most of the urban-industrial problems of Greater Athens had got under way for solution. Nowadays, in the decade of 1990s, it has become evident that all this past optimism was mostly founded on ephemeral grounds. The "sorry reality" -to recall A. Losch's (1954: 4) familiar words- evolved in somehow different ways. The following event is characteristic of that "sorry reality": The May Day of 1991, after the traditional labour demonstration in the centre of Athens, thousands of citizens, members of various ecological organizations and political parties, artists, mayors and MPs, gathered at Eleonas (an inner-city major industrial zone) and planted thousands of trees to the unbuilt spaces, demonstrating -by this symbolic action- their antithesis to a governmental initiative (PD 74D/1991) which -without taking into consideration that according to the Athens' Structure Plan (Law 1515/85) the area of Eleonas has been characterised as "industrial park" with abundant open spaces for collective use- allowed for private appropriation and building-up of those spaces. This symbolic action was the prelude of a growing social and political mobilization against the governmental initiative -a mobilization that resulted to the submission of official applications at the Council of State requesting the judicial review of the governmental PD. (We will analyse in detail the socio-political debates and alternative proposals over the future of this area in chap. 8). What has happened, therefore, and why, to the optimistic prospects of the 1980s for a rational reorganization and

development of the Athenian industrial space? This is the crucial question the thesis will try to answer.

Industrial development and location in contemporary Athens, set forth a number of related issues as fields of both theoretical and practical significance. First, it is the major problem of constructing an appropriate conceptual framework for the empirical analysis of the unique urban-industrial processes and location policy guidelines. Theoretical developments are roughly shared between those addressed to the study of urban - industrial processes in the core countries on the one hand, and those addressed to the peripheral world on the other. The lack of theoretical interest for socio-spatial phenomena in semiperipheral capitalist countries like Greece, sets forth the major task of sketching out a tentative conceptual framework for empirical investigation of the unique Greek realities -and this is what is attempted in chapter 2 of this thesis. The second major concern is the old "general-versus-concrete" issue: There is much work and debate on the role of the Greek capitalist state and of its relations to society and spatial structure -in general- but there is little empirical evidence on how state's interventionism was expressed in concrete industrial location policy cases and how the involved social groupings reacted to those interventions. Detailed analyses of such issues will try to fill the "gap" -even partially- in this field.

The thesis' subject, has, I believe, both theoretical and socio-political aspects of interest. The theoretical interest concerns the extend to which urban-industrial processes in Athens are determined by economic forces and structures (as the major conventional approaches to urban industrial geography indicate), and the extend to which some other non strictly economic forces unique to the Greek case have also affected those processes. The social aspects of interest, stem from the fact that the changing geography of production in the Greek capital is by its very "nature" interconnected with the way of life and work of the city's active population. To put the same issue in Massey's words:

> Changing geography compounds the challenge facing the labour movement. The changing location of industry breaks down established

> relations between workplaces, and between workplaces and communities. And the new locations are different. The factory or office is situated in a different context, to which previous forms of organization may be inappropriate (Massey 1987: 105).

Although the thesis does not aim at policy suggestions, its findings might have some definite political aspects of interest. These aspects are linked to the role of the modern Greek state in organizing the capital-city's productive base and to the "nature" of the relationships it develops with the various social groupings and collective organizations (political parties, local authorities, scientific and professional organizations, industrialists, etc.) involved in the city's industrial development and change. The analysis of those socio-political and cultural relationships is of crucial importance for understanding the very "nature" of the modern Greek urban - industrial planning interventions and for evaluating their role to the development of manufacturing activity in contemporary Athens.

The Approach

The problem of selecting an appropriate framework for analysis is one of the most crucial issues every research endeavour has to face from the outset, especially when the researcher has been influenced by a variety of intellectual streams, sub-streams, ideological propensities and contrasting methodologies.[2] The selection of the "proper" approach, therefore, is a tentative action whose validity is not given a-priori but has to be proved and substantiated throughout the whole research endeavour (see more analytically Bitsakis 1980; Vaillancourt 1986).

This thesis' approach and its associated analytical tools have been tentatively conducted upon an effort to synthesise elements drawn from three major intellectual streams of thought:

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[2] There are no such things as "neutral" methodological considerations in socio-spatial sciences as positivists might have believed. As Fahrenkrog (1984: 7) puts it, "in fact, what appear to be methodological questions are very often political issues couched in a 'scientific' debate."

(a) The structural (or capital restructuring) school of thought in industrial geography studies.

(b) The basics of the Marxian conceptualisation of capitalist social dynamic.

(c) The criticisms to economism and the efforts to substantiate the specificity of the political, institutional and cultural spheres of capitalist formations -as expressed especially in the work of LSE professor Nicos Mouzelis (1987: chap. 4; 1992).

A detailed discussion of the above intellectual streams, with all their merits and demerits, is outside the scope of this study. However, it is necessary to address in brief the most fundamental points which stem from those streams of thought and which have been of a considerable validity in the way this thesis' approach has been conducted.

The significance of the structural school in shaping this thesis' approach, did not originate from an a-priori intellectual preference, but from some concrete experiences and problems. A long planning experience on issues related with industrial location in Greece has been strongly convincing that changes in the spatial structure of production -changes that could be empirically defined and measured- are somehow linked by means of a cause-and-effect "chain" with more general changes in the country's economic and production system as a whole. Field-works and surveys aimed at investigating the locational behaviour of manufacturing firms in various localities, were always ending in showing the significance of a multiplicity of individual factors which were taken into account by firms when locational and/or relocational decisions were to be made. The efforts, however, to generalize those factors as to grasp the aggregate processes of the surveyed areas as structured totalities, were always leading analyses to more or less contradictory results, which were giving the impression that the only forces prevailing in the sphere of the "spatial" were the forces of randomness, subjectivity and uncertainty. This, of course, was very annoying and inconvenient, since it was unable to lead to some concrete conclusions, or, much more, to spatial development objectives and planning guidelines. On the

other hand, it was unable to offer convincing explanations of how and in what sense all those individual locational choices were added-up and "synthesised" as to formulate real aggregate processes of spatial organization and change, which, moreover, were in some cases at the centre of hot political debate and public concern. It was therefore evident, that behind the "subjective" aspects of the examined spatial phenomena some more general processes were at permanent work, and that the task of any research endeavour was precisely the conceptual foundation and empirical substantiation of those underlying structural processes. It was exactly this point that necessitated the adoption of the structural approach in studying spatio-industrial phenomena. Of course, the various subjective factors of location were always taken into consideration in concrete empirical researches; however, the "window" through which these factors were viewed was expanded to include a wider optic linking them with their wider economic milieu. In other words, they were viewed as active elements of a broader network of determinations created by the prevailing economic dynamic.

However, the contribution of the structural approaches in surpassing the "individual actions -vs- structures" locational dichotomy, was not enough. Their main concern is still revolving around the central notions of economy, production and work process. But the economic concepts -by themselves- are analytical tools operating at a very high level of abstraction. In reality, these concepts are nothing else than social relations expressed in specific quantitative forms in the process of production, exchange, distribution and consumption of the social product (Marx 1973 edn: 83-100). Consequently, the exploration of the relations between particular spatial-industrial configurations and wider economic processes would be incomplete without taking into consideration the fundamental social relations in the context of which economic processes across space acquire a concrete dimension. As it will be revealed in subsequent chapters, there exist fundamental relationships between (i) the way modern Greek social relations are structured and reproduced, (ii) the way by which the various socio-economic interests across urban space are interlinked in alliance/conflict situations, and (iii) the way

those interests conceive the spatial organization of production and set forth their particular attitudes and prospects. The need to interpret these relationships in the context of this thesis, necessitated the adoption of the basic principles of the second intellectual stream, that is, of a Marxian approach to capitalist social dynamic and especially of its key-concept of "social interaction/conflict" as characteristic "moment" in the process of social evolution. This approach, expressed at the concrete spatial level of that study, sets forward the task of identifying the specific forms of social alliance/social conflict situations raised eventually over the use of the contemporary Athenian industrial space, as well as the concrete attitudes held by the various social groupings and organizations involved in the city's industrial development and change.

However, even the above intellectual contribution was not enough for an integrated approach to the thesis' subject. Any effort to examine the very logic of state's industrial location policies and legislative measures, set forth from the outset the crucial question on the nature of the political sphere and on its mutual relations to economy and society. Here comes the contribution of the third stream of thought, i.e. the criticisms to economism and the efforts to substantiate the specificity of the political, cultural and institutional spheres of modern capitalist formations. This point needs to be more clearly addressed. As it is known, the weakest point of Marxist thought is its inherent economism (Mouzelis 1992: 11), the view that the sphere of economy determines -even in final analysis- all other spheres and aspects of social reality (politics, ideology, cultural values and attitudes, institutions, etc.) (dichotomous base/superstructure theory). The intellectual origins of the "specificity of the political" approach, can be traced back in the work of Max Weber and especially in a lecture he delivered on 1918 at the Munich University entitled "Politik als Beruf" (Politics as a Profession) (Weber 1987 edn.: 95-168). The specificity and relative autonomy of the political sphere in capitalist formations was further stressed in the work of Marxist writers such as Gramsci (see Glucksmann 1984; Trikoukis 1985), Althusser (1983) and Poulantzas (1978; 1982; 1984; Poulantzas ed. 1978 and 1984). As Mouzelis remarks:

> At the methodological level, the view stressing the predominance of economy ... ends in a refusal to formulate conceptual tools which could be able to take seriously into account the specificity and the relative autonomy of the non-economic institutional spheres. Thus, we are mathematically driven in endeavours identifying political and cultural phenomena by means of economic categories, that is to say (we are driven in the question) to what extend these phenomena are related with, and contribute to, the reproduction needs of the dominant mode of production or to the interests of the ruling classes (Mouzelis 1992: 72-3).

If we transfer the "logic" of economism to the field of spatial analysis, we will have to accept that urban policies and the associated legislative frameworks -and especially industrial location policies- are nothing else than simple mechanical "reflections" of the dominant economic forces operating across urban space and expressed under a political-legislative covering. However, a number of Greek research works -with perhaps best example a detailed study of local problems and planning regulations (Pshychopedis and Getimis 1989)- have made quite clear that spatial policies have their own dynamic which cannot be directly derived from the prevailing economic situation in each examined locality. This does not mean that there are not cases of spatial policies that have been drafted out as direct political "reflections" or "photocopies" of dominant economic interests across spaces and localities. This means, inversely, that the relations between the sphere of space-economy and the sphere of spatial policies should be rather a matter of enquiry than an a-priori deterministic belief. On the other hand, the rejection of economism does not mean the adoption of the other extreme -that is, a "subjectivist" approach leading to a vicious cycle in which spatial policy decisions are "explained" through themselves and by themselves in isolation from every other aspect of the prevailing socio-economic and spatial dynamic (for a criticism see Castells 1977: 246-59). The broader significance of Mouzelis' work in tackling with this economy/policy dichotomy -at least as I have interpreted it- can be resumed in the effort to identify the specific forms of political domination, administration of power ("political technologies") and ideology formation, as particular research subjects in their own terms and with their own conceptual and analytical tools. This approach

does not contradict the need of analysing in detail the economic processes underlying the examined phenomena. It is rather an interdisciplinary research endeavour trying to establish conceptual links in the study of different processes which, however, "meet" each other on the grounds of the concrete reality. The acceptance of the specificity of the political, cultural and institutional spheres as distinctive study areas not only in the wider field of social thought, but in the particular field of geographical analysis, has led this study in an examination of the various state policies and legislative measures affecting the development and location of manufacturing industry in contemporary Athens, in connection with an examination of the various cultural attitudes, reactions, contrasting views and alternative proposals posed by various social groupings and organizations about the developmental prospects of the Athenian industrial space.

Methodology and the Thesis' Structure

The thesis has been based on the combination of a macroscopic and a microscopic methodological perspective assigned to both spatio-economic and spatio-political, institutional and cultural processes. The macroscopic perspective was necessary in helping us interpret the more general processes underlying the phenomena under exploration. However, because it may be contingent whether or how these processes are expressed and/or differentiated at the concrete levels, it was the microscopic perspective that helped in "grasping" the subject under exploration at its substantial unique dimensions. (On the relationships between "abstract" and "concrete" or "extensive" and "intensive" research in approaching "space" see Sayer 1985: 49-66; Sayer and Morgan 1985: 150-4; Duncan and Goodwin 1988: 55-6).

The first stage of the research was mainly devoted to an extended reading of literature related to:

- Industrial geography (with special emphasis on intra-urban industrial location and change).
- Issues and experiences of industrial location policies.

- Post-war Greek economy and society.
- Regional processes (with special emphasis on the role of the Athenian industrial economy in the wider industrial system).
- Urban processes (with special emphasis on Athens' industrial space).
- Planning and the role of Greek state in spatial development processes.

The next stage of the research involved analysis and interpretation of a wide range of primary sources of information. This information included:

- Statistical data of the National Statistical Service of Greece (NSSG) and of other reliable sources (Bank of Greece, National Accounts, OECD statistics, etc.).
- Unpublished statistical data provided in computer print-outs by the NSSG computing centre.
- Survey material collected in fieldwork by means of questionnaires (the format of the questionnaire is presented in appendix II) and complementary interviews (when needed).
- Selected material from newspaper archives, periodicals, bulletins, reviews, etc.
- Official documents and programs, statutes, plans, technical reports, Ministries' special studies and reports, etc.

Secondary material drawn from published work (books and articles, academic research projects, etc.) and adapted for the specific purposes of this study was also complementarily used.

The quantitative aspects of the research have been based on simple statistics, graphs and computations.

The writer of this study, is fully aware of his limitations in trying to approach the complex and multidimensional urban-industrial phenomena in a metropolitan area which concentrates around 1/3 of the total Greek population and over 1/2 of all country's economic activity. Only parts of this "puzzle" are expected to be examined in this thesis. Much research work has

yet to be carried out in order this "puzzle" to be completely "reconstructed" on paper. On these grounds, the thesis falls into 9 chapters. More specifically:

Chapter 1 advances a critical examination of the major conventional approaches to intra-urban industrial location and change in capitalism and argues that these approaches -as they stand- are inappropriate for interpreting the unique nature of the contemporary Athenian industrial spatiality. An alternative explanatory framework is then sketched out (**chapter 2**), by examining the fundamental forces and processes shaping social and urban phenomena in Athens as well as the role of state planning policies in these processes.

The remaining chapters aim at putting the above framework at work in concrete empirical research.

Chapters 3 to 5 are addressed to economic-geographical considerations. **Chapter 3** examines the fundamental aspects of the post-war Greek economic and industrial change in the drive of manufacturing from growth to crisis and "negative restructuring",[3] and highlights the major underlying causes. It further examines the spatial changes caused by the successive restructuring phases of the post-war industry and identifies the role of the wider Athenian area in this changing landscape of production. **Chapter 4** examines the aggregate transformations of Athenian manufacturing and of its intra-metropolitan geography during the shift from development to crisis. **Chapter 5** undertakes a further inquiry into the industrial geography of contemporary Athens by surveying in detail a concrete suburban industrial locality (Metamorphosis) situated at the northern fringe of Greater Athens.

Chapters 6 to 8 are addressed to the critical examination of the basic socio-political and cultural forces and processes affecting the Athenian industrial spatiality. More particularly, **chapter 6** sets forth a critical analysis of basic policy priorities and legislative measures undertaken during the 1980s

[3] This term was used first by Mandaraka and Papakonstantinou (1992: 35). For a precise analysis of what this term means, see chap. 3, sect. 3.2 → 127

for the development and reorganization of the Athenian industrial space, as well as a brief review of analogous initiatives undertaken in some European cities affected by deindustrialization and job loss. **Chapter 7** examines the conditions and the "motive forces" of the creation and reproduction of an anti-industrial culture within the major political parties, collective organizations and public opinion in contemporary Athens -a culture which has played a major role to the maintenance of the present problems of the Athenian industrial space. **Chapter 8** concretizes the above issues by exploring the contemporary socio-political debates over the future of Eleonas -a major part of the Athenian industrial space.

In the last chapter of the thesis (**chapter 9**) a synthesis is attempted and the basic conclusions of the thesis are drawn.

CHAPTER 1

A CRITICAL EXAMINATION OF THE CONVENTIONAL THEORETICAL APPROACHES TO INTRA-URBAN INDUSTRIAL LOCATION AND CHANGE

1.1. Introduction

As it is known, the major theoretical evolutions in the field of socio-spatial sciences in general, and in the field of industrial geography in particular (at least in the Anglo-American literature), were addressed to the study of geographical phenomena in the advanced industrial world. That is, in societies which have based their development path upon the lines of industrial revolution / economic rationalism - modernization and have long established traditions of democratic government and welfare state policies aiming at what is more or less broadly accepted as the "common good". Thus, as we will see in this chapter, all relevant approaches take as granted that there exists an inherent rationality in the structure of the social system, which directs the locational preferences of both individual production units and wider social groupings across urban space. This assumption stems from the cultural tradition of western enlightenment and rationalism that underpinned the historical development of industrial capitalism (see Rosenberg and Birdzell 1987; Kremmydas 1989). On the contrary, Greece -a semiperipheral social formation- entered the stage of industrialization late (Mouzelis 1978; 1987; 1993) and this makes a considerable difference: The relations between social dynamic, production process, urban change and planning policies, developed across different paths from those followed in the cities of advanced capitalism. The location of industry in urban space, as an integral part of those relations, followed, also, quite unique directions. This chapter's aim is to advance a critical interpretation of the conventional approaches with regard to their methodologies and the socio-political assumptions they adopt, so as to identify their strenghts and weaknesses and to set the ground for the construction

of a more appropriate framework for analysis which will be highlighted in the next chapter.

1.2. Industrial Location in Context

The main conventional theoretical approaches to intra-urban industrial location and change in market economies -which will be critically examined in this chapter- fall into two major distinctive groups: A "location factors" school of thought, and a "structural" -or "capital restructuring"- one. Another major group of approaches -the behavioural approaches- is not discussed here, not because it does not deserve serious attention, but because these approaches are more interested in explaining "how" location decisions are made within complex organizations (firms) in various changing environments, than explaining "why" the actual spatial configurations of industry are being produced and transformed. (For a presentation of the behavioural approaches see Labrianidis 1982: 31-4; Lever 1985: 19-28; Chapman and Walker 1987: 19-22).

As it will be argued in the following analysis, both schools of thought have contributed to the understanding of industrial processes across urban space and both have their demerits as well in terms of their methodologies and the socio-political assumptions they adopt.

The "location factors" group of approaches has drawn its premises from a variety of intellectual origins: The Chicago school of urban ecology provided a framework stressing the idea of an evolutionary self-balanced growth of urban land uses (Chapin 1965: 16 ff.; Nelson 1971: 78; Hoyt 1971: 86 ff; for a criticism see Castells 1977; Scott 1980: 71; Giddens 1989: 125; Cook 1983: 135-6). Urban economics -mostly of neoclassical origins- also included aspects of industrial location in urban centres (Lean and Goodall 1966: 153-72; Hirsch 1973: 13-44; Richardson 1972, Vol. A: 155-200; Kottis 1976: 280-301; Balchin and Kieve 1979: 30-1). Such approaches have treated urban-industrial location and change as an aggregate land-use phenomenon, and not as concrete spatial configurations of different types of industrial activity. More influential, however, has been the early work of the traditional industrial

location theorists such as A.Weber (1969 edn.), E. Hoover (1948), A.Losch (1954; 1964), L.Greenhut (1956) and D.M. Smith (1973) -just to name a few. Despite their differences in scope, their approaches have something in common: The assumption that the development of industry in space is the aggregate outcome of rational individual locational choices and actions. Individual rationality is, as Horkheimer (1987: 16) has written, the ability of the human mind to set forth alternative means-ends combinations, in order to decide which is the optimum one, i.e. the one that maximizes the subjective sense of satisfaction.[1] In this context, the optimum location of an industrial investment is the one that is in accord with some individual criteria of economic rationalism -either these criteria refer to the minimisation of costs, or to the maximisation of revenues, or, to a mini-max combination of the two.

A. Weber for instance, regarded as the optimum plant location among alternative places the one that minimizes the total transport costs (assembly costs + distribution costs) with all other factors (e.g. labour costs) being equal across space (see also Hamilton 1971: 370-4; Lloyd and Dicken 1972: 59-63; Glasson 1978: 127-32; Richardson 1972, Vol.A: 61-6; Holland 1979: 2-6; Chapman and Walker 1987: 32-9). He was one of the first location analysts to assume that by theorising one separate empirical aspect of the industrial location phenomenon (i.e. transport costs) it would be possible to "grasp" the "general laws" determining the geographical patterns of production in the early 20th century Germany. In this attempt, he adopted a mode of reasoning that abstracted from any socio-political and other macroscopic considerations in favour of a monocausal optic focused upon transport costs influences upon industrial plants in various locations. Although he recognised the possibility of deviations from optimum plant locations due to differential labour costs and/or agglomeration-deglomeration economies across space, (critical isodapanes is a Weberian technique for checking out these labour divergences from transport minimising locations -see Weber 1969 edn.: 102-4, 122, 144, etc.; Alonso 1964: 88-94; Bale 1988: 52-3), the dominant explanatory factor in his model remained the factor of transport costs minimization.

[1] The conceptual basis of these neo-classical assumptions is grounded on Bentham's social and political philosophy. (For an overall criticism of these assumptions see Myrdal 1985; Kourliouros 1989).

Hoover (1948) attempted to make more realistic the weberian model by adding in its logic some variable factors (e.g. variable transport costs per distance and means of transport, varying production and labour costs, varying land prices and rents across space, etc.). Although Hoover tried to "relax" the strict monocausal optic of the Weberian theory, he kept the basic criterion of cost minimization in determining optimal plants' locations.

By contrast to the "cost minimization" approach, Losch (1954; 1964) accepted that the scale of demand for a given product varies considerably across space, hence the basic criterion for rational locational decisions is demand maximization in the context of perfect economic competition (see also Holland 1979: 7-12; Glasson 1978: 132-4; Gore 1984: 30-6; Bale 1988: 63-5). In his analyses he adopted a pure geometrical formalism (crystallised in his ideal hexagonal economic landscape) in which producers attain the maximum profit on the one hand, and consumers the maximum amount of goods each one of them can buy on the other (maximization of both producers' and consumers' satisfaction). In this "equilibrating" ideal economic-spatial landscape, no one could improve his "position" without harming the position of another (Pareto optimal; on that optimal see Karageorgas 1979: 43).

Another well known industrial location theorist, L. Greenhut (1956) attempted to overcome the monocausal logic of both "least cost" and "market area" approaches, by combining their central ideas in a "mini-max" conceptual scheme. In this scheme, Greenhut adds to the demand and cost factors the potential impacts purely personal factors may have upon rational decisions (1956: 279-80), making, thus, a step away from classical economism and geometrical determinism towards a more behavioural optic.

D.M. Smith (1973), in turn, tried to break with the abstract formalism of all past theory in favour of a more empirical one. As he stated, "industrial geography is concerned with the description and interpretation of the real world rather than with the derivation of abstract theory" (Smith 1973: 126). Going back to the "first principles" of industrial location theory, he

introduced the concept of the "spatial margins to profitability". Having in mind that there are factors driving away from optimal plant locations (e.g. information constrains, entrepreneurs' abilities), he accepts that there exist definite spatial margins within which any firm can operate more or less profitably. These margins define the area in which the "space revenue curve" for a given firm exceeds its "space cost curve". The optimal location is the point where total revenues exceed total costs by the greatest amount. All other locations within the area would be considered as sub-optimal ones. As he writes in concluding:

> from the foregoing analysis it is possible to state the fundamental principle underlying industrial location in any cost/price situation. Spatial variations in total costs and total revenue impose limits to the area in which any industry can be undertaken at a profit. Within this area the amount of possible profit is likely to vary, and unless maximum profits are sought, the individual manufacturer is free to locate anywhere (Smith 1973: 128).

1.3. Intra-Urban Industrial Location and Change

Despite the contradictory results of the empirical tests of the classical theories (Lloyd and Dicken 1972: 62-3), the contemporary "location factors" approaches to intra-urban industrial location and change continue to base themselves on the classical conceptual background. Bale (1988: 158-66) for instance, identifies four different types of intra-urban locations, namely: (1) the weberian type locations, (2) the central locations, (3) the suburban locations and (4) the random ones. All these locations are identified by reference to various factors' push-pull combinations upon different types of industrial activity in urban space under criteria of individual economic rationality. For example, the materially oriented industries, or those processing bulky raw materials, tend to locate along the waterfronts of the urban area, or near transport terminals and motorways in order to minimize the assembly costs (in accordance to the principles of the weberian model). The central-city industries have spatial margins that form a "ring" around the centre and have "traditionally operated in small units which have important linkages with each other" (ibid.: 159; see also Kottis 1976: 286; Chapman and Walker 1987:

232). In such industries, the linkages are of vital importance for creating positive externalities that help individual firms keep costs down, while on the same time they are easily accessible by labourers, suppliers and consumers. Such firms, serve the basic needs of the urban population (i.e. clothing, footwear, bakeries, typing and printing, furniture, etc.) and tend to cluster traditionally in small "niches" within the urban centres. Due to their small scale of operation and their low capital equipment, such firms are not usually affected by technological developments and economic restructuring that generate relocation pressures, displaying, thus, a remarkable degree of "resistance to change" (Wassenhoven *et al.* 1989: 11). Furthermore, central locations are usually of a small plot size with low rents, and seem to be preferable by firms serving the whole city-market. In several cases, such central firms operate as subcontractors of bigger ones located elsewhere (Scott 1983). Because the labour intensive firms often make use of female labour, they tend to cluster near the central-city residential areas in order to take advantage of the "housekeeping - shopping - children's care - working" time routine of the female workforce. Factors of historical continuity and "tradition" do also play their role in keeping small firms linked to the central-city areas (Wassenhoven *et al.* 1989). On the other hand, suburban industries, are normally independent of local inputs and markets, require large tracts of land that simply are not available to the centre, and seek close proximity to motorways, container terminals etc. (Bale 1988: 164-65).

A similar optic has been adopted by various studies focusing upon industrial movement and change instead of "patterns" -i.e. upon the decentralization/ suburbanization trends of manufacturing in the major urban centres of advanced economies. In these studies, industrial mobility is seen as the outcome of the changing "mix" of location factors. Many of those studies are simple descriptive analyses. I.e. they tell us much about how these location factors change, but little about why they change -and this makes a considerable methodological difference: Although the "how" of changes is a necessary part of the explanation, it is the "why" that actually integrates our knowledge of the social phenomenon at issue (see Carr 1984: 88). As Massey states

> while location factors might indicate why movement took place from area A to area B rather than from area Y to area Z...they gave no help in explaining why there was movement in the first place (Massey 1988: 66).

Such studies (for a brief presentation see Komninos 1986: 149-51) have regarded industrial mobility in the contemporary urban centres as the combined outcome: (a) of plant "deaths" in the city-centres; (b) of the inability of those centres to attract new investment; (c) of the decentralization of production in suburban rings and regional local centres. According to Bale (1988: 70), the excessive concentration of activities in central-city areas creates diseconomies of scale and other negative externalities that push upwards the individual production costs of central plants. This entails an increased relocation mobility to the suburbs. Moreover, the increase of their scale of operations, the expansion of their markets beyond the single city-market and the adoption of technological improvements in production (automated assembly-line processes) unfreeze industries from local bonds at the city centres (suppliers, buyers etc.) and create strong pressures for migration to the suburbs (Bale 1988: 195, 201; Chapman and Walker 1987: 110-13). Lever (1973: 194-205) explains the suburbanization of industry in terms of capital substitution for labour, increased automation of production, need for single-storey land intensive buildings (in order to accommodate the assembly-line production process), transport space and car parking, office and landscape facilities. Such needs, he argues, create increased demand for space, which, in turn, drives to the abandonment of the old central locations and the development of new, suburban ones. Moreover, the establishment of industrial estates on or near the urban periphery provides positive externalities that reinforce the outward migration trend of central industry. Land cost variations have also been decisive: As Lever states, the external economies available at the city centre, are insufficient to outweigh the differentials in rent between central and peripheral sites. Hamilton (1971: 410) remarks that there exists a dynamic relation between industrial inertia and migration. The locational behaviour of an industry, at any given time, is the combined outcome of the interplay of two contrasting forces -those associated with the benefits of existing locations on the one hand, and those associated with the potential merits of different ones

on the other. The ability of a locality to maintain its industrial capacity is permanently threatened by strong forces of technological change, which, as Hamilton argues "is a major cause of migration". Such a change, disconnect industry from local bonds, while "motor transport and electricity transmission have further unfrozen industrial concentrations... This suggests a radial migration model...in which inner or outer suburban firms construct branches outside the conurbation which are accessible by the line of 'least transport effort'. This involves the shortest and most direct exit through the suburbs" (ibid.: 412). The role of energy and transport networks expansion along the urban periphery in stimulating out-migration of centrally located plants is also underlined in some other works (see e.g. Lean and Goodall 1966: 155; Balchin and Kieve 1979: 30).

Other relevant studies, have been based upon the "product cycle" concept (Chapman and Walker 1987: 110-13). The basic idea is that any industry passes through certain stages of development -the first one being its infancy, at which industry is bred by the external economies offered at central-city locations, and the other being its maturity, at which industry prefers to decentralize as its operations become fully standardised and its needs for skilled and expensive central labour less pressing (Bale 1988: 196-97). This decentralization trend, is more likely to characterise big firms than small ones in two senses: First, big firms, due to their scale of operations, can internalise the necessary external economies of scale, hence they can easily become independent of local inputs (suppliers, buyers, etc.), while, on the contrary, small firms cannot. This is why industrial growth, technological change and decentralization were not able to totally remove small-sized manufacturing firms from their traditional "ecological" niches in the city centres -as mentioned earlier. Second, big firms can more easily afford the costs of moving materials, products etc. in greater distances.

It is actually meaningless to present in detail other contributions to the study of intra-urban industrial location and change within the "location factors" school of thought, because the main points of argument are to a great extend identical. The slight variations do not change the underlying

conceptual and methodological structure: I.e. the reduction of the explanation to the study of separate individual location factors, and a certain explicit or implicit emphasis upon individual economic rationality as the fundamental mechanism underlying the location and mobility of industrial activities across urban space.

* * *

Classical industrial location theory has been thoroughly criticised so far, from a radical and Marxist political-economic standpoint (see e.g. Massey 1973a and 1973b; Holland 1979: 1-35; Labrianidis 1982: 22-6 and 1985: 114; Cooke 1984: 111-19). What has to be underlined here, however, is that the "location factors" basic idea has been based on a profound formalism. It seems that one of the classical theorists, A.Losch, was fully aware of that formalism, but he considered it as primary with regard to reality itself. He believed that "the real duty of the economist is not to explain our sorry reality, but to improve it. The question of the best location is far more dignified than determination of the actual one." (Losch 1954: 4). In a similar perspective, Lean and Goodall have asserted that

> location theory goes a stage further for it argues that the explanation of an actual location or pattern of land use must be distinguished from an explanation of a rational location or pattern of land use. Not only should society seek an explanation of what is present or has happened but it should also seek to improve upon existing situations (Lean and Goodall 1966: 153).

These statements are partially true: Society, indeed, needs to improve upon existing situations on the basis of ideal ones that have been set as objectives to be achieved. The element of idealism and formalism, however, is in that the ideal situations (as conceived in the classical approaches) have been overally "divorced" from what is currently taking place: The knowledge of how a future reality ought to be, cannot result from abstract reasoning, but only from the knowledge of the real processes and trends that are currently taking place.

The excessive emphasis these approaches have put on the influence of individual location factors upon the intra-urban industrial configurations, stems from the adoption of a pure reductionist logic tending to dismantle the internal connections that constitute the complicated socio-spatial wholes and to project them as mere aggregates of separate elements. This logic has its origin to the Hobbesian philosophy and methodology that tried to reduce the complex social and political phenomena in fundamental human motives that were determined by the geometrical and mechanical movements of the infinitesimal corpuscles of matter (Oizerman *et al.* 1963: 191-94; Maniatis 1979). Such "elementalist" and reductionist methodologies may have some relative value in the case of the mechanical sciences, but not in the social and geographical ones: The great ancient Greek philosopher Aristotle (quoted in Gemtos 1985: 166) had mentioned that the "whole" is something more than the mere aggregate of its constituent parts (for a systematic critique of "elementalism" and "reductionism" in social and philosophical thought see Blauberg *et al.* 1977: 15-28; for criticisms of the application of those methodological principles in spatial development and planning thought see Kourliouros 1987; 1989; 1990a; 1990b and 1991a). And Massey and Meegan argue that this kind of "additive causality" in spatial analysis is mistaken, since, because of factors interconnections "there is no simple way in which factors can be first disaggregated and then added together again" (Massey and Meegan eds. 1985: 8).

The disaggregation of the complex socio-spatial wholes into separate location factors that correspond to the subjective motives of the "rational economic man", serves two basic ideological tasks: The first one, has been mentioned -in a different context- by Georg Lukacs. He stated that the emphasis of mainstream social and historical theories upon separate "facts" instead of "wholes", makes impossible the knowledge of those underlying processes and causal relations, which, by guiding social evolution, show on the same time the possible paths of social reform (Lukacs 1975: 58-71). Thus, the emphasis of the classical approaches to industrial geography on individual locational choices instead of holistic socio-spatial relations, makes difficult for peoples and localities to understand that the problems they face (of, say, deindustrialization, disinvestment and unemployment) are not simply the

contingent outcomes of the one or the other individual locational/relocational decision, but are causally linked to wider socio-economic, political and territorial restructuring. The second ideological task presents the internally contradictory and conflictual spatiality of capitalist society (see Soja 1985) as a self-balanced linear process that takes place without severe internal tensions, breakdowns and dramatic restructuring. This logic drives analyses to the sort of a "social-darwinist" optic after Spencer's and Pareto's theories of balanced social evolution (Timasheff and Theodorson 1983: chap. 3, 10 and 18), as well as after the more contemporary structural-functionalist approaches to social change (see Parsons 1951; see also Strasser and Randall 1981: chap. 4; Abraham 1982: chap. 3, 4; Timasheff and Theodorson 1983: chap. 3, 10 and 18). By presenting capitalist industrial spatiality as a self-balanced aggregate of rational individual locational choices, the classical approaches become advocates of those socio-political forces in capitalism that strive to disguise the conflictual nature of spatial-industrial development and to present it as a "natural" and unproblematic evolutionary process.

The emphasis upon the role of purely spatial factors in determining the changing industrial spatiality of the capitalist urban centres, serves also the ideological task of presenting the urban social and economic problems as "technical" ones: The complex urban-industrial configurations are reduced to just one dominant "technical" factor -that of accessibility. As Lean and Goodall assert

> The amount and growth of economic activity ... depends upon its access at competitive costs to markets for the products. An individual business activity will find that its production costs and sales revenues vary from one site to the other depending upon access to factors and markets (Lean and Goodall 1966: 155).

Thus, as Gottdiener (1982: 59-60) remarks, in all classical approaches "the spatial generating factor of complex modern social formations is the quality of movement". In all these approaches, the notion of "access" or the "friction of distance" is considered to be the main factor determining the arrangement and change of industrial activity in urban space (see Richardson 1972, Vol.A: 156; Hirsch 1973: 32). With regard to this, we can agree, along with

the above approaches, that accessibility, transport and geographical distance, play, indeed, an important role in industrial location/relocation decisions, but in a different context than that proposed by the preceding approaches. Marx's political economy does provide a useful conception of this role: Marx in VolI of his "Capital" (1978 edn.: 398-99) had emphasised the endogenous need of industrial capitalism to continuously revolutionise the general conditions of production -the means of communication and transport- in order to facilitate its territorial expansion and exploitation of remote natural and labour resources, markets etc. In "Grundrisse" (1973 edn.: 521-26, 533-55) and in VolII of "Capital" (1978a edn.: 146-49, 246-48) he connected directly transport and distance with the drive of capital to shorten its material circulation time and the costs of this material circulation -the costs of movement- and thus to accelerate its total turnover rhythms. As he wrote in "Grundrisse"

> The more production comes to rest on exchange value, the more important do the physical conditions of exchange -the means of communication and transport- become for the costs of circulation. Capital by its nature drives beyond every spatial barrier. Thus the creation of the physical conditions of exchange -of the means of communication and transport- the annihilation of space by time- becomes an extraordinary necessity for it (Marx 1973 edn.: 524).

Thus, from the standpoint of capital, physical space and geographical distance is an "obstacle" that has to be overcome, and as Duncan and Goodwin (1988: 64) remark, it is a barrier which inflates turnover time. It becomes evident from the above, that what makes the difference between the classical conception of accessibility and that of a political-economic spatial perspective, is the different context of that concept in each case. For the classical approaches, accessibility is an independent variable, a "technical" problem of physical city planning, which, if solved rationally, determines the scale of individual demands for potential intra-urban locations in the line of the least effort or maximum utility. On the contrary, for the political-economic spatial standpoint, accessibility is not a simple technical "rationale" of physical city-planning, but the product of a wider socio-spatial dynamic developed in macro - economic way in the sphere of the state's urban development and expenditure policies. It does not merely refer to the geometrical features of a

socially "neutral" space, but to the collective investment (investment of social capital) in urban infrastructure and built forms for production, exchange, circulation and consumption through which urban space -hence accessibility- is "produced" (see Scott 1980; Harvey 1982, 1982a, 1985a and 1985b; Roweis and Scott 1981; Smith 1984). It is, therefore, evident, that the concept of accessibility on which the classical "location factors" approaches have been overally based, cannot be the "point of departure", but, instead, part of a wider socio-spatial dialectic which continuously shapes and reshapes the conflictual spatiality of industrial capitalism (see Soja 1983; 1985).

In the above context, the reduction of the socio-spatial problems of industry in individual factors of location, has also some impacts upon the conceptualisation of "planning rationality". No matter whether planning is conceived as a process rather than as a plan, no matter whether it is conceived as a centralized (Up-Bottom) or decentralized (Bottom-Up) activity with or without citizens' participation, the principle of planning rationality, as Harvey remarks,

> is an ideal - the central core of a pervasive ideology - which itself depends upon the notion of harmonious processes of social reproduction under capitalism... Political struggles and arguments may ... be reduced to technical arguments for which a "rational" solution can easily be found (Harvey 1985b: 117).

This reduction drives to the ideological domain of "technological determinism" which supports an apolitical posture with regard to the socio-spatial processes.[2]

* * *

To the antipode of the "location factors" school of thought, another group of major approaches has been developing since the early 1970s. These approaches have been based on a radical perspective which has been part of a "wider

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[2] Such ideological views are still present among the planning fraternity in contemporary Greece (for criticisms see Kourliouros 1990a and 1990b) but tend to fade away as the political dimensions of the so called "spatial problems" in contemporary Greece are increasingly becoming evident (see especially the case of Eleonas in chap. 8).

academic interest in the application of Marxist ideas in the social sciences" (Chapman and Walker 1987: 26). According to this perspective, "there are no such things as purely spatial processes; there are only particular social processes operating over space" (Massey 1984: 51-2; 1985: 11). Because these approaches emphasise the role wider social structures and relations play in the changing urban and regional industrial geographies of capitalist society instead of separate locational factors, they are also identified as "structural" approaches (Chapman and Walker 1987: 26) while others prefer the term "Neo-marxist" (Basset and Short 1989: 180). Because such approaches view the changing industrial geographies of contemporary capitalist societies as outcomes of wider restructuring processes that take place in the international and national economic spheres, they have also been identified as the "restructuring of capital" approaches (Massey 1988: 65; Labrianidis 1982: 41; 1985: 114). Whatever the "label", however, the most significant contribution of this school of thought, "lies not in its mode of explanation, but in its challenge to the ideological basis of industrial geography" (Chapman and Walker 1987: 27-8).

On the basis of the methodological departure from the separate "location factors" to the changing relations of capitalist production and labour organization, a number of interesting analyses have been developed so far. With regard to the de-industrialization of the British economy and to its changing urban and regional industrial geography over the last decades (see Massey and Meegan 1978 and 1982; Massey 1981, 1986 and 1988; Allen and Massey eds. 1988; Martin and Rowthorn eds. 1988), the explanation is briefly the following: The loss of the old leading role of British industry in the international economy, imposed serious pressures for restructuring upon a series of industrial branches and companies. Each industry, and each company, separately, reacted in varying ways to those external pressures in order to retain their profits. The decentralization of production (or of sections of it), has been part of those restructuring strategies. For some firms, in example, the urgent need to reduce their immediate labour costs pushed them to move from central conurbations to peripheral areas of cheaper -and less militant- labour. This move was more urgent for labour intensive firms. For others, the rationalization of

production through the application of technological improvements, shifted their labour requirements, released them from ties to the traditional skilled central labour and pushed them to decentralize elsewhere.

The post-war internationalisation of capital and associated developments in the intra-firm divisions of labour between R+D, manual and assembly processes, have also resulted in spatial segregation and decentralization of industrial activities from core to peripheral countries, regions and local centres, leading, thus, to the emergence of new forms of socio-economic and geographical inequalities (see Palloix 1978; Frobel *et al* 1981; Peet 1987: 9-32; Hamilton ed. 1986; Henderson 1989). As Ross explains:

> viewed from the office towers of the global cities at the centres of the world communication and control system, the space economy of capitalism is a mosaic of regional opportunities for investment ... Each part of the mosaic represents a conjunctural outcome of world systemic tendencies and local historical and geographical particularities (Ross 1987: 249).

In this context, the problem of de-industrialization of the traditional industrial cities and regions, cannot be interpreted as problem of those cities and regions themselves, but rather as the necessary outcome of wider changes in the international division of labour and in the role of the separate national economies within it as they strive to adapt themselves to the changing international environment.

Other analyses based upon identical methodological lines (see e.g. Dunford and Perons 1988), consider spatial restructuring and geographical unevenness as resulting from functional differentiation in the process of accumulation and social reproduction -i.e. as the spatial expressions of the changing social division of labour within an economy. The historically changing "regime of accumulation", has been considered the major cause of change in the industrial geography of advanced European and North-American capitalism (see Scott 1988). As Dunford and Perrons assert:

> the historical development of the capitalist mode of production has been associated with the establishment of a succession of broad phases

> or regimes of accumulation characterised by the conditions of production, the pattern of technical change, and the nature of the labour process in the main areas of economic activity, by the leading sectors of the economy, by the ways of life and the mode of consumption of the wage earning class, by a whole set of institutional forms and procedures and by patterns of behaviour that enable the economic and social system to function, by a pattern of territorial development, and by a system of international relations...The material side of the labour process is of necessity and more obviously constituted in space, and is of considerable importance in explaining the geographical location...of economic activity (Dunford and Perrons 1983: 227-28).

The historical changes in the accumulation process as the motive forces of intra-urban industrial change have been considered in two relevant studies of the American cities. D.M.Gordon (1984) links the three phases of capitalist accumulation (i.e. commercial accumulation, industrial (or competitive) accumulation, and corporate (or monopoly) accumulation) with corresponding forms of urban development and industrial location. He further argues that "the transitions between stages of urban development have been predominantly influenced by problems of class control in production, problems erupting at the very centre of the accumulation process" (1984: 22). In this context, Gordon explains the intra-urban industrial mobility in the American cities by means of a monocausal factor -that of class struggle between industrialists and labourers over the control of the accumulation process. According to him, the transmission from commercial to industrial capitalism, brought about new relations to the organization of industry and labour discipline in places where the control of production by the industrialists would be easier -the big manufacturing plant in the urban centres. As he states:

> a major reason for the concentration of manufacturing in the largest cities flowed from the dynamics of *labour control in production*. At its more general level, the hypothesis proposes that large cities became increasingly dominant as sites for capitalist factories because they provided an environment which more effectively reinforced capitalist control over the production process (ibid.: 33).

However, as capitalism was gradually shifting to the corporate (or monopoly) stage, the concentration of labour force and production in the big city-centres was increasingly causing severe problems to the "normal" process of accumulation: The concentration of labouring people's residential areas

around the downtown factory districts was making it easier for them to organize their resistance against capital's commands over production and labouring processes. The growing militancy of the central labour, forced industrialists to relocate their plants to the suburbs hoping that this would isolate workers and break down their class-organization and militancy. The decentralization of industry released downtown districts which gradually were allocated to tertiary uses and caused a growth of the suburbs. The form, therefore, of the corporate city has started to emerge.

P.J.Ashton (1984) follows the same lines of argument, but he adds some "technical" factors in order to explain the suburbanization of manufacturing industry in the American cities. As he points out, "the conditions which motivated capitalists to move their industrial facilities out of the central city were both technical and social" (1984: 60). By this it is meant that "despite capitalists' strong motivations to leave the city, however, the decentralization of industry would not have been possible without facilitating economic and technical developments". In those "facilitating developments" he includes: (a) The wave of mergers that provided the form of the giant corporation which was able to invest big amounts of capital to the building of new big plants in the suburbia. (b) Scientific management and assembly line forms of production organization was facilitated by a new, more technically efficient factory architecture (spread-out, one, or two storeys factories). The existing old multistorey plants at inner-city areas were inappropriate for that purpose; furthermore, the cost of land in the city centres was too high for such land-demanding operations. (c) The expansion of electric power and electric trolleys released industry from inflexible locations. (d) The gradual "invasion" of monopoly capital in the central areas in the form of an office-building boom, forced industrial land uses out. (e) The development of truck transport increased further the locational flexibility of industry. However, these factors, Ashton admits, "*facilitated but did not create* suburbanization, as so many bourgeois social scientists would have it" (ibid.: 63). For Ashton, as previously for Gordon, the major force underlying the suburbanization of industry is the class struggle between industrial capital and labour over the control of the accumulation process.

Instead of emphasising the influence of class struggle upon the exodus of manufacturing industry to the suburbs, other structural theorists adopt a more "economistic" perspective that takes into account the historical changes between capital and labour ratios (organic composition of capital) in the development of the capitalist commodity production. For instance, in A.Scott's (1980: 87-109) approach, the central idea is that urban-industrial processes pass, in a historical perspective, from an initial stage of labour intensive activities to a stage of capital intensive ones (see also Bull 1985: 86-8; Chapman and Walker 1987: 232-33). That is, "a basic dynamic involving the progressive substitution of capital for labour in the internal structure of commodity production" (Scott 1980: 88). This production shift entails associated shifts in the intra-urban locational preferences of industry: I.e. shifts from the traditional central agglomerations (which presented in the past marked comparative advantages for labour intensive and small scale interlinked activities) to outward locations which favour capital intensive assembly-line and vertically integrated processes making use of large tracts of land and standardised semi-skilled or unskilled labour. This development is not a linear or unproblematic one: The historical process of the increasing organic composition of capital due to technological improvements in production, displaces living labour and thus undermines the only source of surplus value, -causing, therefore, system's instability and crisis prone development. This is why Scott (1980: 87) claims that the evolution of production space "encounters internally generated breakdowns".

M.Webber (1984: 90-2) also, adopts a similar perspective to explain the locational shifts of industry in contemporary capitalist cities. He asserts that the competition between firms leads them to reduce labour inputs by mechanisation of production and increasing plant size, as well as to the search of new markets outside the main conurbation. Moreover, these changes have been accompanied by increased concentration of market power in a few big firms, so that most plants do not serve a single city any more, and the accessibility "push-pull" variations are likely to play less important role than that of

spatial variation in production costs -and especially the cost of land. As Ball points out:

> The importance of changes in methods of production and the means by which they occur place agglomeration economies in context. The significance of agglomeration economies depends on: the production process in question; the degree to which it can be segmented spatially; and the conditions of commodity exchange in which production is placed -including workforce requirements, as well as the buying of other inputs for production and the selling of the final output ... cases arise where changes in production involve a segmentation of its location. In this way, the new production methods may enable the firm to take advantage both of centrality and of locating elsewhere (Ball 1984: 73).

Bull (1985), drawing from Massey's (1978; 1979) "successive layers of economic activity" concept, states that "industrial change may be usefully conceptualised in terms of successive rounds of investment (and disinvestment) through time. That is, in terms of a process in which each new round of investment alters the industrial geography of an area -a change which itself is strongly influenced by the existing distribution of investment from previous time periods" (Bull 1985: 84). He also follows Scott's (1980) emphasis upon capital/labour shifts in explaining the intra-urban industrial dynamic, but he proceeds a step further by incorporating Nortcliffe's analysis of fixed and circulating capital costs in relation to plants' locational variation. He distinguishes three groups of manufacturing activities in contemporary urban areas according to their "mix" of labour cost-fixed capital cost-and circulating capital cost. The first group (central locations) has low labour and circulating capital costs, with relatively high fixed capital costs, and favours labour intensive activities. The second group (suburban locations) has low fixed and circulating capital costs, but relatively high labour costs, and is favourable to capital intensive automated operations with increased demand for space. The last group involves non metropolitan locations, where labour and fixed capital costs are low, but the circulating capital costs rise along the site's distance from the urban area.

The preceding analysis makes clear that the "restructuring of capital" approach represented, indeed, a remarkable development in the interpretation

of the contemporary urban-industrial processes in advanced capitalism. By contrast to the individualistic "location factors" logic, these approaches stressed the influences wider structural economic changes might exert upon the location of manufacturing industry in urban space. However, these approaches take as granted the predominance of the "rationale" of capital's accumulation and reproduction in shaping spatial processes over all other aspects which in their interaction characterize the complex spatial-industrial realities.

1.4. Conclusion

It becomes evident from the above, that both schools of thought, in spite of their relevant differencies, have been based upon a couple of common explicit or implicit assumptions:

(a) The assumption that the locational preferences and choices of industrial capital determine to a great extend the structure of socio-economic interests across urban space as a whole.

(b) The assumption that there exists an inherent rationality in the structure of industrial society, which directs the locational preferences of individual production units ("location factors" approaches) or the "rationale" of capital's accumulation and systemic reproduction as a whole (structural approaches).

Both assumptions are incompatible with the specificities of the Greek socio - spatial and industrial realities, as we will see analytically in this thesis. More particularly, the "location factors" approaches -despite their unquestionable analytical contribution to the concrete study of manufacturing in urban space- cannot form a satisfactory framework for the analysis of the unique particularities of the Athenian industrial spatiality, because, as the presented evidence will reveal, the development and location of Athenian manufacturing is affected not only by economic, but by a nexus of non strictly economic (social, political and cultural) forces as well. Forces that cannot enter in the

manufacturing units' economic calculations when making locational or re-locational decisions, but which -by shaping the "environment" of those decisions- play a much important role in determining real spatio-industrial processes.

The structural -or "restructuring of capital"- approaches, on the other hand, represent, indeed, an important development in the field of the geography of industry. By considering the impacts of wider processes upon the changing geography of production, they adopt a holistic optic which is better suited to the complex nature of the urban space - industry dynamic in the capitalist mode of production. However, because structural approaches are addressed to spatio-industrial phenomena in the advanced capitalist world, they are also inappropriate -as they stand- for countries like Greece, whose capitalist transformation developed in essentially different ways as we will see in the next chapter. They have to be retheorized on the basis of the unique Greek socio-spatial political and cultural realities. In the following chapter we will try to set forth an analysis of the most fundamental facets of those realities.

CHAPTER 2

MODERN GREEK SOCIETY, PRODUCTION AND URBAN SPACE

2.1. Some General Characteristics of the Greek Society

There has been a lot of discussion on the differences between urbanization in the advanced capitalist world and in peripheral, less developed economies (for a critical review see Leontidou 1981a: 22-39; 1989: 256-71). The most striking difference is the reverse relationship between industrialization and urbanization: While in advanced societies industrialization "produced" cities and urban growth -19th century Manchester as analysed by Engels (1974 edn.) provides a good example of such a relationship- in peripheral world, instead, it was population concentration and the external economies of urbanization that generated comparative advantages for the emergence of city industries, and hence for "creating" industrialization (for Latin American cities see Furtado 1970: 82-6; Santos 1979).

Such explanatory models, although used occasionally for the Greek case (see e.g. Burgel 1976), are definitely inappropriate for interpreting the contemporary Greek socio-spatial realities. Greece, along with other South European countries, is historically and geographically situated at the crossroads between core, periphery and the former socialist European societies (Leontidou 1990: 1). In its territory various cultural currents, attitudes and social behaviours meet each other in numerous combinations. Patriarchal or matriarchal remnants of social organization still survive (mostly in remote rural areas), albeit not as much as active elements of social life, but rather as "folklore" elements.[1] Due to the growing incorporation of agriculture in modern

[1] For instance, in Ikaria island, there is a folklore matriarchal tradition in which one day each year all men stay home doing all homework while women walk around in bars and cafes playing backgammon and cards, drinking ouzo, and generally behaving in an extreme "masculine" fashion.

capitalist relations and production methods (Moisidis 1986) - a process strengthened by the inflow of EC funds in the agricultural sector since 1981 (Maravegias 1989)- precapitalist forms of social organization in the countryside are being permanently destroyed by being incorporated into the "crusible" of the dominant capitalist mode of production on a growing scale, while urban populations have long before adopted western values in economic, social and cultural terms. As a survey of modern Greece published in *The Economist* (22 May 1993) remarks:

> The Greeks ... are not quite like anybody else, anywhere, and they are *especially different* from the Slavs and Turks and Arabs who occupy so much of the neighbouring part of the world...
>
> These 10m people live at the south-eastern edge of the culture-area called the West. Their Parthenon-building ancestors began that culture, and their Byzantine ancestors kept it alive when the rest of Europe had fallen into the dark ages. If the West eventually gave the World the Enlightenment, it was Greeks who had provided much of the light...
>
> The Greeks of 1993 are still recognisably their ancestors' descendants. The original blood has been blended with the blood of Turks and Slavs and others, but *the face in a modern Athens street or a rural corner of the Peloponnese is not a face from Istanbul or Belgrade.* (Beedham 1993: 3; emphasis added).

Although the capitalist transformation of Greece was never completed as in the core economies, its socio-economic structure has not a dual character like most Third World countries.[2] As Tsoucalas (1990: 19) remarks, the contemporary Greek economy and society has the major features of the advanced ones in terms of production and consumption levels, educational system, cultural and political institutions, etc. But on the other hand, these similarities do not imply that Greece has a "pure" capitalist character. As we will see later, employment in agriculture has remained high -despite the sector's growing incorporation in modern capitalist relations and production methods. The percentage of self-employed remains high in relation to the core countries, multiple forms of employment and informal economic

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[2] The discussion of "dualism" in socio-economic development, was recently extended to include advanced capitalist countries like US which present a significant schism between zones of growth and wealth on the one hand, and zones of poverty and marginalisation on the other (see Albert 1993: 49-53; Wolff 1994).

strategies are usual, and tax evasion has been a kind of "national sport" (see Tsoucalas 1986; Negrepondi-Delivani 1990; Tsiros 1991; Kanellopoulos 1992; Karakousis 1992; Lytras 1993).

These characteristics -which Greece shares with other South European countries like Italy, Spain and Portugal (FMS 1986)- reflect the unique path Greek society followed in the process of its capitalist transformation. However, the relative lack of interest of conventional theories for the semi-periphery, has led Greek writers and researches to adopt explanatory models addressed to either advanced capitalist societies[3] in which monopoly capital relations and analogous forms of state intervention predominate (see e.g. Mallios 1979; Samaras 1982; Dovas 1980; Pavlidis 1987), or, inversely, to Third World societies characterised by dual forms of production organization (see e.g. Vergopoulos 1975; Mouzelis 1978; Fotopoulos 1985; Lambos 1988). Both theoretical perspectives agree that the contemporary Greek social formation is long before dominated by capitalist relations (Lytras 1993: 151 ff). The points of disagreement, however, refer to the type and character of capitalism's penetration in Greece.

The first group of approaches asserted that state-monopoly capital relations have fully grown within the Greek production system, but in a distorted manner stemming from the country's dependence upon imperialist centres and especially upon USA. According to their views, Greek capitalism is a distorted and dependent state monopoly capitalism with an average level of development of its productive forces. These views can be questioned on three particular grounds: First, they presuppose the predominance of industrial monopolies in the contemporary Greek economy. However, as will see more analytically in chap. 3, sect. 3.1, it is rather the SMEs that predominate -by most respects- within the Greek industrial system. Second, they presuppose the existence of a perfectly organized state apparatus able to express with the most efficient way the collective interests of the industrial class by means of long-term planning policies and procedures. However, as we will see

[3] On the conceptual and methodological problems that arise when societies like Greece are approached by means of explanatory schemes that stem from the theory and experience of advanced capitalism, see Tsoucalas 1981a: 15-9.

later on in this chapter, the Greek state machinery and its planning capacities are far away from such an efficiency. Third, by attributing to foreign dependency a predominate role these views have underestimated the internal socio-economic transformations which have played an important role to the development of post-war Greece, as we will see more analytically in chap. 3.

The second group of approaches, asserted that post-war Greece shares some common characteristics with dual societies of the "Third World" periphery, as for instance (a) the coexistence of modern capitalist relations and precapitalist forms of production and social organization, especially in agriculture and industry, (b) the decisive role of petty producers in the development of Greek economy, (c) the problematical articulation between the primary and the secondary sectors, (d) the dependence of industry upon foreign capital, (e) the political dependence of the native bourgeoisie upon foreign decision centres, etc. These views had strong reflections on early PASOK Socialists' (1970s-mid 1980s) politico-ideological rhetoric (Elefantis 1991: chap. 3). However these views faded away as it was gradually revealed during Socialists' service to office in the 1980s that they rather functioned as ideological elements of a populist political rhetoric, than as elements of real policy. At the scientific level, they have been also criticised (Milios 1988: 318-24) on two particular grounds: (a) Firstly, despite their relevant contribution in analysing particular aspects of the post-war Greek economy and society, they also tended to overemphasise the role of external forces and determinations (economic and political dependency), at the expense of internal transformative processes -just like the "state-monopoly capital" approaches. In the lights of this criticism, we assert that these transformations should be understood in systemic and dialectical terms: Modern Greek society, in its post-war drive to economic growth and industrialization (chap. 3, sect. 3.1) has internally incorporated various traditional (precapitalist) and modern capitalist features, external and internal forces and determinations, and has re-synthesized them into a unique capitalist structure having its own particular logic of development and reproduction differing from both the advanced and peripheral capitalism. (b) Secondly, these approaches tend to identify the existence of petty ownership and petty production in the industrial sector

with patterns of simple commodity production and further with precapitalist remnants (Lytras 1993: 154-58). However, as Marx (1978a edn., Vol. 1: chap. 12) has shown, the development of small manufacturing units is functional to industrial capitalism and hence their existence does not contradict the very "nature" of capitalist relations. Furthermore, in an era of flexible specialization, SMEs have been regarded as a viable alternative to the crisis of mass production (Piore and Sabel 1984; Storey, ed. 1985; Scott 1988). As stated in an report prepared for the Commission of the European Communities (CEC 1991: 53, 57), the growth of SMEs over the last years in the developing "Mediterranean arc" of Europe, has brought about the emergence of a new economic dynamism that tends to reduce the traditional socio-economic disparities between the industrially developed core regions and the less developed agrarian ones. The cases of "Third Italy" (Scott 1988: 43-59; Bagnasso 1992; Garofoli 1992) and of some Spanish areas (Vasquez-Barquero 1983; 1991) are good examples of such a SMEs-led new industrial dynamism. There is growing evidence that such production structures have started to emerge in certain areas of contemporary Greece (Hadjimichalis and Vaiou 1987; 1990) and in certain manufacturing branches like e.g. plastics (Lyberaki 1991; 1991a), garments (Lyberaki 1992) and chicken meet processing manufactures (Labrianidis 1992). In that context, it seems that the view according which the domination of the capitalist mode of production within a developing economy implies inevitably the growth of big capitalist units and an associated disappearance of the small ones, is rather simplistic -at least for the Greek case. As we will see later on (chap. 3, sect. 3.1), SMEs played a much important role during the period of the country's rapid capitalist expansion and industrial growth (1960s - mid 1970s). They not only showed a remarkable degree of resistance to change during this big company-led industrialization period, but, also, they were not seriously affected by deindustrialization and crisis in the post 1973/74 era, by contrast to big companies which were seriously hurt. For the most part of post 1973/74 crisis period, not only SMEs were adding new manufacturing jobs in the labour market, but they were also absorbing redundancies created by the crisis of big enterprises. SMEs, thus, functioned as a kind of "safety valve" within the Greek industrial system which prevented deindustrialization and unemployment from attaining explosive social dimensions as it happened in

some advanced industrial economies like for instance US, UK, or Germany (see Bluestone and Harrison 1982; Harrison and Bluestone 1994 for the US case; Martin and Rowthorn, eds. 1986; Allen and Massey eds. 1988 for the UK case; Frobel *et al.* 1981 for the Germany case).

2.2. The Social-Urban Interrelationships

In discussing the "nature" of the spatiality of social life, Edward Soja (1985) made two very important points: The first is that "the production of space is not simply a mechanical extrusion of a frozen matrix which acts passively to contain society" and that "spatiality and temporality, human geography and human history, intersect in a complex social process which creates a constantly evolving historical sequence of spatialities, a spatio-temporal structuration of social life which gives form not only to the grand movements of societal development but also to the recursive practices of day-to-day activity." (Soja 1985: 94). The second point is that "as a social product, spatiality is simultaneously the medium and outcome, presupposition and embodiment, of social action and relationship." (ibid.: 98).

The above points can form the context for the examination of the way post-war Greek society and urban space interacted in multiple combinations to "produce" a unique socio-urban dynamic, within which the development and location of the Athenian manufacturing industry, as well as the associated socio-political actions and cultural attitudes, can be more easily addressed.

The fundamental elements that constitute the post-war Greek social-urban interrelationships are briefly the following:

(a) The rural exodus to the urban centres and especially to Athens during the first post-war decades (tables 2.1, 2.2), was the driving force of the country's socio-economic transformation, industrialization and incorporation into the world capitalist market (see Wassenhoven 1980 and 1984; Stathakis 1983; Andrikopoulou and Kafkalas 1985: chap.5). Indicative of this is that the growth of urban population all over the post-war period, coincided with the

growth of industrial and manufacturing production -although in a much slower rate (table 2.3).

Table 2.1 *Greek population by urban, semi-urban and rural areas, 1951-81*

Census year	Total	%	Urban	%	Semi-urban	%	Rural	%
1951	7,632,801	100	2,879,994	37.7	1,130,188	14.8	3,622,616	47.5
1961	8,388,553	100	3,628,105	43.3	1,085,856	12.9	3,674,592	43.8
1971	8,768,641	100	4,667,489	53.2	1,019,421	11.6	3,081,731	35.1
1981	9,740,417	100	5,659,528	58.1	1,125,547	11.6	2,955,342	30.3
% Change 1951-61	9.9		26		-3.9		1.4	
% Change 1961-71	4.5		28.6		-6.1		-16.1	
% Change 1971-81	11.1		21.3		10.4		-4.1	

SOURCE: Adapted from NSSG, *Statistical Yearbook of Greece 1986*, Athens 1987: table II.5 (own calculation of percentages).

Table 2.2 *Population of some main Greek urban centres, 1951-1991.* (*)

Urban cenres	1951	1961	1971	1981	1991
Greater Athens	1,378,586	1,852,709	2,540,241	3,027,331	3,072,922
Thessaloniki	297,164	380,648	557,360	706,180	749,048
Patras	93,037	103,985	120,847	154,596	170,452
Irakleio	58,285	69,983	84,710	110,958	132,117
Volos	65,090	81,383	88,295	107,407	116,031
Larissa	41,016	55,391	72,336	102,048	113,090

(*) Only centres with 100,000+ of population (1991) are included

SOURCE: NSSG, *Greece in Figures 1994*, Athens 1994: table I.b.

Table 2.3 *Indices of urban population, industrial and manufacturing production 1951-1991.*

	1951	1961	1971	1981	1991
Urban population (a)	100	126	162	197	...
Industrial production (b)	100	243	614	894	1,005
Manufacturing production (b)	100	214	588	949	965

SOURCE: Own calculations (a) from table 2.1 (b) from table A.1 (appendix I).

(b) However, post-war economic growth and industrialization was never completed to such a degree as to break down the historical links with former traditional forms of economic activity, like petty agrarian production,

small handicraft and artisanal activities, or petty commerce. Despite employment growth in non primary activities, agricultural employment has still remained high in comparison to other OECD countries (table 2.4). The peasants

Table 2.4 *Employment by sector in Greece and OECD as a percentage of civilian employment 1951-1988.*

Sectors		1951	1961 (1960)	1971 (1974)	1981	1988
Agriculture	-Greece	59.3	55.7	41.4	28.1	26.6
	-OECD	.....	21.6	11.8	9.4	7.9
Industry	-Greece	17.3	19.8	27.0	30.1	27.2
	-OECD	.....	35.3	36.0	33.2	30.0
Manufacture	-Greece	14.2	13.9	17.5	19.2	19.3
	-OECD	.....	26.0	26.5	23.8	21.1
Services	-Greece	23.4	24.4	31.6	41.8	46.2
	-OECD	.....	43.1	52.5	57.3	62.1

SOURCE: For 1951-81 Greek data, own calculations from table A.3 (appendix I). For 1988 Greek data: OECD *Historical Statistics 1960-1988*, Paris 1990: 40-1. For OECD data (all years): OECD (ibid.).

which moved to the big cities -and especially to Athens- searching for jobs, were not alienated from their properties as in Europe during the period of primitive accumulation -which Marx analysed in his *Das Kapital* (Marx 1978a edn., Vol.I: 738-88). This, allowed them to occupy more than one "positions" in the "map" of the division of labour and in the class structure of society (Tsoucalas 1986). There seems to exist a kind of social and geographical "continuum" between city and country allowing for income transfers between these two poles (Tsoucalas 1990: 59-60; Androulakis 1991; Lytras 1993: 169). For instance, people employed normally in the urban economy, may simultaneously have supplementary earnings from agricultural or/and tourist activities in the countryside. According to an estimation (Tsiros 1991) two thirds of those having multiple employment live in rural areas. This is due to the fact that seasonal work in agriculture allows local people to engage in other forms of economic activity and income earning, in sectors like tourism (Tsartas 1991), or even to work as part-time employees in manufacturing SMEs that have started to flourish at certain rural areas near peripheral urban centres

(Hadjimichalis and Vaiou 1987 and 1990). It also seems that the ongoing emergence of manufacturing subcontracting in such peripheral areas (Labrianidis 1992) allows the local populations for more "freedom" in choosing multiple forms of employment. The structure of the family facilitates such practices in that the younger prefer to move to the urban centres (while keeping regular contacts with their rural birthplaces), the elderly stay in the countryside to take care of the property, while the whole family operates as a single entrepreneurial and income distribution unit among its members. A big metropolitan economy -like the Greater Athens' one- seems to offer ample chances of multiple forms of employment: People employed normally in the industrial or service sector of the urban economy may own and run on the same time (usually with the assistance of their families) a small shop or a small artisanal firm and work there on the afternoons as self-employed independent merchants or craftsmen. Public servants (especially engineers, technicians of various kinds, or Hospital doctors), may own their private service offices. Relevant evidence revealed that almost 50% of employed in the public sector, have a second (and usually not declared) job (Karakousis 1992). The reasons for multiple employment and informality have definitely to do with the post-war dramatic increase of the living costs, combined with the inability of the formal economy to provide working people with satisfactory incomes -due to its structural weakness and its long-lasting crisis (see chap. 3, sect. 3.1). In that respect, multiple employment and informality can be seen as a form of "resistance" of working people against the worsening of their living standards and against the suffocating presence of the state in the economic sphere. But on the other hand, this phenomenon is definitely associated with the widespread "culture" of consumptionism and with the strive of Greeks for social ascent and social success.

(c) Of crucial importance to the formation and reproduction of the contemporary Greek social and urban structure, has been the role of landed property. Broad pre-war agricultural reforms initiated by Eleftherios Venizelos, favoured the landless refugees of the Minor Asia disaster (1922) and the land workers: It is estimated that public lands were shared among 250,000 families reaching a total population of 840,000 persons (Lytras 1993: 158). The

maintenance of their properties (along with their savings) allowed those who emigrated to North European industrial centres in the 1950s and 1960s for work, to come back and re-enter the economy not as industrial workers as in the receiving countries, but as self-employed in their own small commercial, manufacturing or artisanal firm in the cities -i.e. it allowed them to upgrade their class position in the capitalist division of labour (Tsoucalas 1990: 24-6).

More specifically, the ownership of plots of land in Athens by working people, allowed them to live in private houses, constructed mainly through self-finance practices (Economou 1993: 336-7) or through the practice of "antiparohi" (FMS 1993: chap. 7). That is, a form of exchange "in kind" between the landowner and the developer, in which

> the developer makes a legal pact with the landowner, whereby the former can develop the land and pay off the landowner with a percentage of the newly-built floorspace. In this way, the landowner becomes a joint owner of this condominium property ... along with subsequent purchasers of shops or apartments in the new building (Wassenhoven 1984a: 19).

In that context, as empirical research has revealed (Maloutas 1990a; 1990b), a considerable part of working people in Athens live in private houses -a situation allowing them to feel "secure" in periods of economic recession and instability. As a matter of fact, the ownership of urban land and/or apartments brings income (in the form of rent or sale price) that allows them not to enter the labour market as dependent (wage) labourers, but, instead, to carry on their own jobs as independent (self-employed) individuals. According to available 1983 data, wage earners represented 73% of the economically active in Greater Athens, while employers and self-employed jointly represented the relatively high percentage of 24.7% (table 2.5). In a comparative viewpoint, the percentage of dependent labour in Greater Athens is much more lower than in other European metropolises (Tsoucalas 1986: 241). This is broadly reflected on the percentage of salaries and wages in the GDP: Comparative data show that this percentage in Greece is much lower from other European countries (table 2.6). It is very likely that incomes stemming from

Table 2.5 *Employers/self-employed and wage earners in Athens 1983.*

Type of employment	No	Percent
Independent (employers/self-employed)	238,123	24.7
Dependent (wage earners)	704,233	73.0
Not-paid members of family businesses	22,363	2.3
Total	964,719	100.0

SOURCE: Adapted from Padazidis and Kasimati 1984: table III.9 (own calculation of percentages).

Table 2.6 *Salaries and wages as percent of GDP in Greece and in several other European countries 1977, 1982*

European countries	1977	1982
Greece	36.0	39.0
Spain	57.0	52.0
Germany	56.0	56.0
Franch	55.0	56.0
Italy	57.0	56.0
Portugal	58.0	54.0
United Kingdom	61.0	57.0

SOURCE: Adapted from Tsoucalas 1993: table 4.

private ownership of land and/or apartments, along with multiple forms of employment, might be the keys in explaining the "resistance" of the Athenian people to dependency from industrial capital and proletarization.

The relatively high percentage of self-employed in the active population, has been perceived by analysts (Fotopoulos 1985; Vergopoulos 1986) as an indicator of the country's "dependent development". Dependency, in fact, was evident during the first post-war decade when the decision centres of the country were shifted from parliament and government to the US embassy and the Greek economy was heavily based upon the American aid (and especially upon the Marshall Project -see Tsoucalas 1981). However, nowadays, one can hardly agree with such "dependency" schemes (Hletsos 1990: 153). By contrast, the answer should be searched to the specific mode of the country's capitalist transformation and to the role of the state in sustaining broad self-employed social strata in order to ensure and broaden its legitimation basis (Tsoucalas 1986; Lytras 1993).

(d) The rural exodus during the first post-war decades, initiated a strong housing demand which triggered the growth of building industry -mainly in Athens. The share of gross fixed capital investment in dwellings during the 1950s and 1960s was much higher than that in manufacturing -something that kept on in the following decades (table 2.7). The growth of

Table 2.7 *% share of gross fixed capital formation by sector, 1950-1991.*

Sectors	1950	1955	1960	1965	1970	1975	1980	1985	1991
Agriculture	11.2	8.0	17.4	12.3	10.6	10.5	6.7	9.2	5.1
Mining/Quarrying	1.1	0.9	0.5	1.2	2.1	2.4	5.9	4.5	1.9
Manufacturing	22.7	12.2	9.9	14.3	14.2	17.6	16.1	13.4	17.9
Energy	3.4	10.2	8.0	9.7	7.2	8.2	7.2	12.9	7.6
Transport/Commun/tion	17.1	9.3	18.8	17.1	20.8	19.0	21.0	22.0	21.9
Dwellings	29.7	44.2	29.2	31.6	27.9	27.4	29.4	20.8	22.2
Public administration	6.3	2.4	1.4	0.4	1.2	0.8	0.5	1.2	1.4
Other service industries	8.4	12.9	14.7	13.4	16.0	14.1	13.2	16.0	22.0
Total	100	100	100	100	100	100	100	100	100

SOURCE: Own calculations from table A.11 (appendix I).

building industry, in turn, stimulated (through various linkages) the growth of other manufacturing branches, like e.g. metal products, cement, non metallic minerals and wood products (Economou 1993: 346), facilitating, therefore, the processes of industrialization, urbanization and economic growth as a whole in a cumulative causation manner (see Papagiannakis 1981; Antonopoulou 1987).

(e) Post-war industrialization was mostly capital intensive (chap. 3, sect. 3.1), hence offering little opportunities for job creation on a massive scale. Indicative of this is that the percent increase of gross manufacturing product over the 1958-1988 period was much higher than that of manufacturing employment over the same period (table 2.8). This is why in spite of the industrial growth which took place during the 1960s - mid 1970s, migration to the industrial centres of Northern Europe -and especially to those of West Germany- took on massive dimensions (Andrikopoulou and Kafkalas 1985: 143). However, unemployment continued to form a potential threat to the ef-

Table 2.8 *Gross manufacturing product (*) and employment 1958-1988.*

	1958	1969	1978	1988	% 1958-88
Gross manufacturing product (a)	16,554	42,637	84,341	91,116	450.4
Manufacturing employment (b)	441,092	501,521	671,496	706,307	60.1

(*) Million Drs at constant 1970 prices.

SOURCE: (a) Table A.4 (appendix I); (b) For 1958 table B.4 (appendix I); for 1969-88 table 3.22 (chapter 3).

forts undertaken by the post-war governments to stabilize the capitalist social order which was seriously questioned by the forces of the Left during the civil war (1946-49). Employment offered in the wider public sector -throughout extended patronage networks (Mouzelis 1978a; 1992a; Kazakos 1991)- relaxed the social pressures for jobs provision on the one hand, and consolidated the ideological basis of the post-war Greek capitalist order (legitimation) on the other. On the same time, it increased centralization since the major governmental and public organizations were located in the Greek capital, and deprived the productive sectors of the economy from a major portion of the Greek labour force. For instance, between 1974 and 1991 public employment was increasing by 5.7% per annum (table 2.9), whereas manufacturing employment was increasing (1978-1988) by only 0.5% p.a. (calculated from table B.4 -appendix I).

Table 2.9 *Employment in the wider public sector 1974, 1991.*

	1974	1991	Average annual public employment growth
Central government (a)	179,889	311,272	+ 4.3 %
Public Organizations (b)	142,500	322,000	+ 7.4 %
Local Authorities	21,600	42,000	+ 5.6 %
Total Public employment	343,989	675,272	+ 5.7 %

(a) Including mainly Ministries. In the numbers are also included: (i) the staff working at the various levels of public education and the priests (Ministry of Education and Religion) (ii) the hospital doctors (Ministry of Public Health), (iii) the corpse of Judges (Ministry of Justice) and (iv) the staff of the security forces (army, police, etc.).

(b) Various agencies and Organizations directly or indirectly controlled by the public sector.

The above categories do not include special public employment groups (like e.g. medical staff of the Social Insurance Institution (IKA), extra staff for covering seasonal needs in public organizations, etc.

SOURCE: Adapted from *Anti*, No 503: 34. (Own calculation of the percents).

This process, which was initiated and maintained by clientelistic practices and not by any prospects of creating a strong social state (as in Sweden for instance), contributed to the creation of an excessively inflexible and inefficient urban-public sector, whose "servants" were more interested in maintaining their special privileges,[4] rather, than in contributing to the efforts for rational regulation of the country's problems.

* * *

Urban space and its socio-economic structure, has been functional to the post-war capitalist transformation of Greece. Let us analyse the fundamental urban realities in modern Athens.

Even a simple observation of the urban structure of Greater Athens, can convince that the Greek capital shares many common characteristics with every typical western metropolis. Several such indicative characteristics are, for instance, the following:

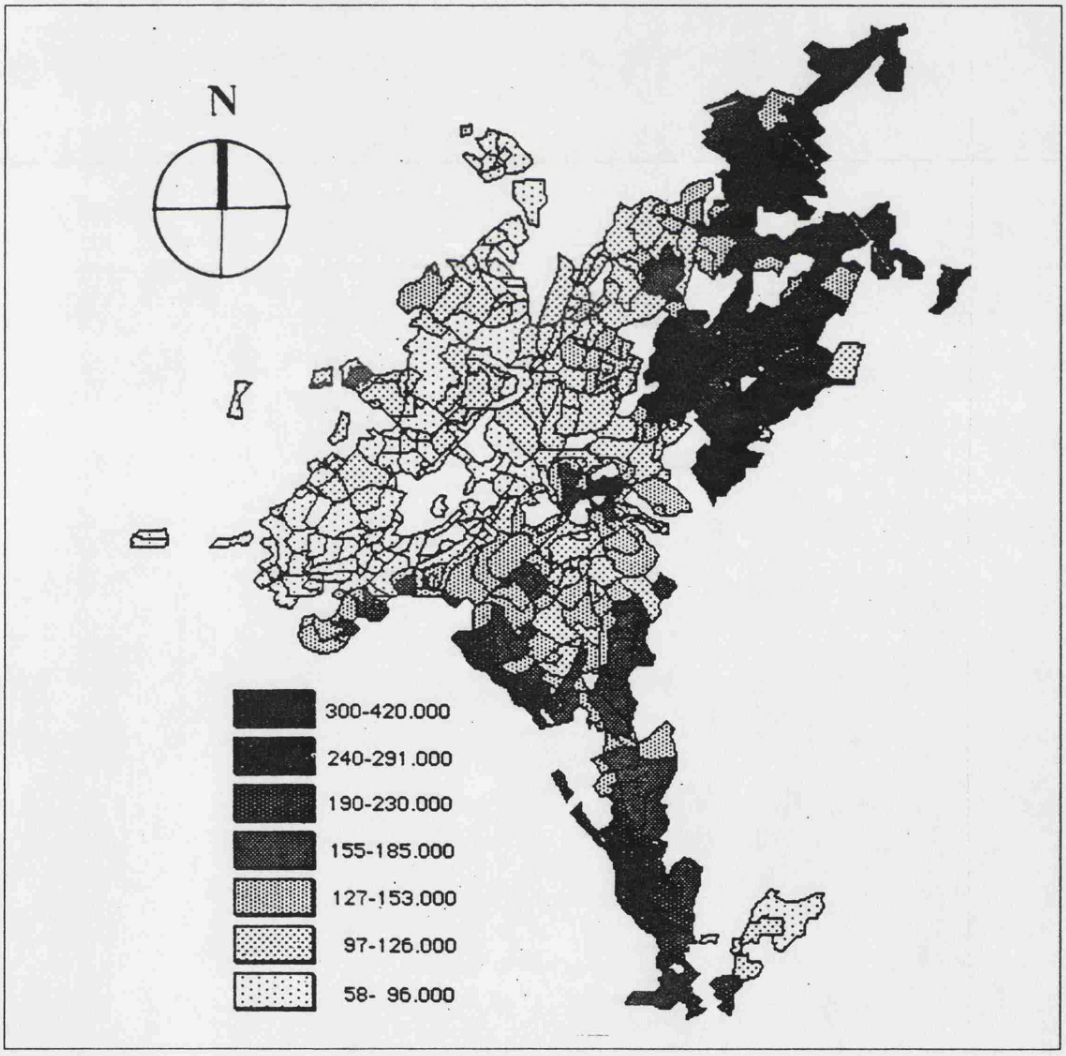
- The concentration in the CBD of luxury office buildings sheltering big national and international financial institutions (banks, insurance companies, headquarters of native and multinational enterprises, etc.), international hotels, luxury shopping centres, buildings of public administration and of other tertiary institutions.

- The decentralization of residential areas to the suburbs and their horizontal differentiation according to the socio-economic status of their inhabitants (TEE 1980: 12; Maloutas 1990a: chap. 3; 1990b: 135; 1992: 75-134). For instance, in the western and north-western municipalities of the Athenian agglomeration where traditionally working strata live, the residential apartment blocks are built in close proximity to each other, in poor condition, with striking lack of open spaces and social overhead facilities. On the contrary, in most areas of the northern, eastern and southern suburbs where wealthier (middle

[4] Such privileges, are for instance the job permanency of all public servants, extra allowances, lack of pressures for work productivity etc.

and upper strata) live, the apartment blocks are usually built in the midst of organized green spaces, with private car parking and other facilities (shopping centres, private schools and hospitals, athletic and recreation fields etc.). Certain downgraded inner-city areas, as for instance around Omonoia and Vathis, Kato Patissia, etc., offer residence to various ethnic minorities (immigrants from Pakistan, Polland, Turkey, and from other underdeveloped countries), involved in temporary, low-paid and often black jobs provided in the underground economy (for an analysis of those minorities' working practices see Petrinioti 1993a). The social segregation of residence, follows, in rough lines, the land value gradient as shown in figure 2.1.

Figure 2.1 *Spatial distribution of land values (*) in Greater Athens, 1991.* (In Drs per sq.m.)



(*) As estimated by the Ministry of National Economy.

SOURCE: Maloutas 1992: 124.

- The linear expansion of tertiary office, commercial and directorial activities from the CBD outwards along big avenues -e.g. Kifissias avenue, Piraeus avenue, etc. (Agelidis 1985 and 1989a).

- There are also historical central-city residential areas (e.g. Plaka) with old buildings of a remarkable cultural and aesthetic value, where upper-middle and bourgeois strata live after the displacement of former artisanal, commercial and entertainment activities through the implementation of a renewal programme and the operation of inexorable gentrification processes (Sarigiannis 1986).

- Clusters of manufacturing work and local linkages have remained in their traditional inner-city locations as for instance Eleonas (chap. 8), whereas new industrial localities have developed in specific suburban areas along major transport arteries (chap. 4).

From the above -descriptive- points of view, the aggregate socio-economic and geographical structure of contemporary Athens is in general lines similar to any typical western urban area.

However, things differ considerably if viewed more closely. The most striking difference between Athens and advanced capitalist cities is the element of mixture in the land-use fabric. By contrast to the strict socio-economic zoning of North European and American cities, Athens (like other cities of the Mediterranean South) manifests a remarkable heterogeneity and multiplicity in the organization of urban space and in its social structure. For instance, at almost every block of the city (with the exception of some upper-class suburbs), there is a variety of shopping and retail activities sheltered in the groundlevel of the apartment buildings; the upper floors shelter residential apartments and/or service offices (lawyers, dentists, doctors, engineers, etc.), while in many basements (especially at central city areas) there are warehouses or small manufacturing and handicraft firms serving the basic needs of the population. Although the suburbanization trend has pushed manufacturing to the outskirts since the 1970s (chap. 4), there still exist

numerous small manufacturing units in their traditional "niches" at central-city areas that present a remarkable degree of "resistance to change" -as focused research (Wassenhoven *et al.* 1989) has revealed. In some traditional central-city industrial areas, as for instance Eleonas, next to manufacturing plants there are residential buildings, schools, kindergartens, shops and warehouses, governmental and University buildings, bus and truck-transport stations, vacant land used for waste disposal, army camps and numerous other activities situated in an obviously chaotic manner (chap. 8). As a matter of fact, by contrast to the strict zoning principles characterizing for long the internal structure and growth of North European or American cities, every plot of urban space in Athens serves multiple economic purposes and is used simultaneously by a wide variety of social strata: Thus, the whole city resembles a "puzzle" of socio-economic activity at both the horizontal and vertical dimensions. As Leontidou writes,

> Southern European working-class communities are somewhat mixed socially ... This contrasts with Anglo-American social geography, where working-class areas tend to be the most segregated and socially homogeneous. This mixture of middle and working classes is due, among other factors, to alternatives to community segregation, which are not met in the North. The most widespread is *vertical differentiation* ... With the exception of some slum areas and modern housing districts, the middle and working classes live together in vertically stratified apartment blocks, the working class and service labourers in lower floors, the wealthier on top floors and in penthouses (Leontidou 1990: 12).

This mixed land-use pattern had in the past led to views stating that Athens is a parasitic city -a city resembling Third World ones (Burgel 1976). Such views have their origins to the studies of urbanization in Third World countries, as it was mentioned earlier. The conceptual transfer of such explanatory schemes to the case of Athens, is based upon a profound ideological bias driving analyses away from reality -as other writers (Leontidou 1979: 40-7; 1981a: chap. 5; 1986; Tsoucalas 1990: 54) have also remarked. Although during the inter-war period living and working conditions in Athens had certain similarities to Third World ones (see Pizanias 1993), post-war industrialization changed considerably the economic and social structure of the Greek capital (chap. 4).

Other views, by contrast, (see e.g. Friedmann 1992), regard the element of mixture in the socio-urban fabric as positive in that it contributes to the creation of a feeling of vitality, warmth, and variety in the everyday life of citizens -a feeling hard to find in the cold, impersonal and disciplined cities of advanced capitalism. Although one can possibly agree with the idea of implementing a kind of planned "land-use mixture" in the strict-zoning cities,[5] it's quite hard to agree with viewpoints, which, by overemphasizing the "psychological" aspects of everyday life in unplanned mixed-up cities, tend to underestimate the immense social and economic problems stemming from the inadequacies of planning controls and regulations, the spontaneous urban sprawl and the associated environmental problems, the lack of adequate infrastructure, the lack of elementary internal organization and hierarchy of urban functions and the associated negative externalities that tend to paralyze the economic efficiency of such cities and the social well-being of their inhabitants. This is especially true in the case of the Athenian industrial space where unplanned land-use development and change, contradictory social attitudes and prospects, inconsistent urban-industrial policies and legislative frameworks, etc., predominate over any sense of economic rationality, organization and efficiency: As we will see later on in that thesis, the locational patterns of Athenian manufacturing are not simply identifiable in terms of the firms' sense of economic rationality in their locational or relocational decisions, alone, nor in terms of the state's rational policies (land-use zoning and planning controls) as in the cities of advanced capitalism. The socio-economic structure of urban space in Athens follows a much more complicated and unique logic. A logic in which individual units' rational choices coexist and interrelate with public political attitudes and behaviours, social pressures and alliances, ideological and cultural priorities, local politics and contradictions, and so forth.

[5] Recently, the strict zoning principles of the advanced capitalist cities was questioned by a committee of the Council of Europe (Hourdakis 1993: 110). According to the newly drafted "European Chart of City Planning" which was presented at Strasbourg on March 1993 (ibid.) the planned mixture of land uses in the urban fabric is expected to revitalise the European cities and to raise the quality and diversity of their citizens' lives.

Population concentration in Athens, had also contributed in the past to the emergence of views about "overurbanisation", "pathological development", "cancerous growth", "monstrous size", "hydrocephalic form" of Athens, etc. Such views, by tending to overemphasize absolute numbers, neglected dynamic tendencies which show clearly that the Athenian population growth rate is continuously decreasing over the years (table 2.10). However, most relevant studies in the 1970s (and even in the 1980s) contributed to the same ideological current in which the major debates were revolving around the issue of whether or not the Athens' size was the optimum one (for a critical presentation see Wassenhoven 1980: 191-5). It is not our concern here to comment on the optimum city-size debate (on that issue see Gore 1984: 55-67). We can simply quote Wassenhoven's statement that "the critical issue is not how large Athens is, but rather how Athens functions in the broader context of the national economy" (1980: 191). This is why the population concentration in capital, alone, cannot be regarded as an adequate indicator of convergence to Third World urbanization patterns, nor as a justification of the past "hysterical warnings" of an oncoming disaster of Athens.

Table 2.10 *Population of Greater Athens and Greece 1961-1991.*

Census year	Greater Athens (G.A.)	Greece (total)	G.A. population as % of the total
1961	1,852,709	8,388,553	22.1
1971	2,540,241	8,768,641	28.9
1981	3,027,331	9,740,417	31.1
1991	3,072,922	10,200,000	30.1
Average annual growth rate 1961-71	3.71	0.45	
Average annual growth rate 1971-81	1.92	1.11	
Average annual growth rate 1981-91	0.15	0.47	

SOURCE: For 1961-1981: NSSG, *Statistical Yearbook of Greece 1986.* Athens 1987: 15, 25. For 1991: NSSG, *Greece in Figures 1994.* Athens 1994: 2 (Own calculation of the percentages).

The previously analyzed characteristics, are not just precapitalist remnants that sooner or later are destined to converge to western patterns in a Rostowian "stages of development" logic (for a brief presentation of Rostow's

theory see Keeble 1971: 249-53). Instead, they are functional to the country's unique capitalist structure, to the specific manner through which Greek society produces and reproduces the fundamental conditions of its existence. This is why, as we will see more analytically in this thesis, urban-industrial processes in Athens do not abide exclusively by the economic rationality norms of conventional theory, but, on the contrary, they should be studied and analysed in their own specific terms.

The above issues, pose the crucial question about the role of urban policies and spatial planning to the location of economic activity in Greater Athens. Since industrial location planning policy is part of the broader state's instrumentalities, the specific question cannot be separated from a more general discussion about the role of the modern Greek state and of its relations to social structure.

2.3. State and Spatial Planning in Contemporary Greece

2.3.1. Some Diverging Views

Free discussions on the state issue and the role of intervention policies in Greece flourished mainly after the collapse of the military dictatorship and the restoration of democratic institutions (post 1974 period). Apart from political and normative discussions on how the Greek state ought to function,[6] a common point made by writers and researches of various ideological persuasions, is that the Greek state is generally ineffective, lacking internal coherence and continuity in decision-making, and hence unable to stimulate a healthy economic development process (Nikolinakos 1987 and 1990; Giannitsis 1989; Floros 1990; Tabakopoulos 1990; Loverdos 1991; Mouzelis 1990; Petmezidou and Tsoulouvis 1990; Nikolaou 1991).

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[6] Such views are periodically expressed by politicians and writers of all the political spectrum. Conservative writers tend to emphasise the need for "less state" as a precondition of stimulating entrepreneurial initiatives and economic development (see e.g. Andrianopoulos 1987; 1992). Left-wing writers answer that "less state" stands for "more state" in the service of big capital and the ruling elite (see Bitsakis 1992; Fotopoulos 1991; Kotzias 1993). Left and socialist politicians and writers favour the strengthening of the social state's functions (see e.g. Dragasakis 1985; Papachristos 1989) and the need for decentralized decision-making through democratic social dialogue and consensus (Simitis 1992).

Discussions on the role of the state's spatial policies, in particular, are relatively few in Greece. The main reflections are roughly shared between those adopting a conventional view of the "political", and those adopting various Marxist and/or neo-Marxist perspectives.

In the context of the first group, spatial policies are interpreted in Keyensian terms as instrumentalities of a welfare state apparatus aiming at the decrease of socio-spatial disparities which are created by the free operation of the market forces (see e.g. Kottis 1980; Konsolas 1983). Such an outlook of planning policy transfers analogous foreign practices and organisational experiences in the case of Greece. However, these practices and experiences,

> were enacted and implemented in countries with a far better organized administration and a more widespread acceptance, among wide social strata, of the need to support an efficient government, operating for what is more or less recognised as the common good ... (They) rest on assumptions of rational organization, rational thinking and rational decision-making. Decisions are thus legitimised with reference on one hand to values shared by a broad spectrum of social groupings and on the other to a belief that organized society, validly and democratically represented by government and the state machine under the government's control, is capable of making rational decisions, worthy of a scientific and technological tradition, which was the maker of that society's affluence and wealth (Wassenhoven 1993: 94-5).

For Marxist Greek spatial analysts and planners, there exists a certain link between the state's spatial policies and the capitalist class interests across geographical space. Within this stream of thought, however, there are diverging views on the rigidity of that link - i.e. on the degrees of freedom it allows for spatial regulations that contrast with the strategic aims of the capitalist class and particularly of its more powerful fractions. These views are roughly shared between those adopting the "state-monopoly capital" theorems on the one hand, and those adopting Structural -Marxism or other Neo-Marxist perspectives on the other.

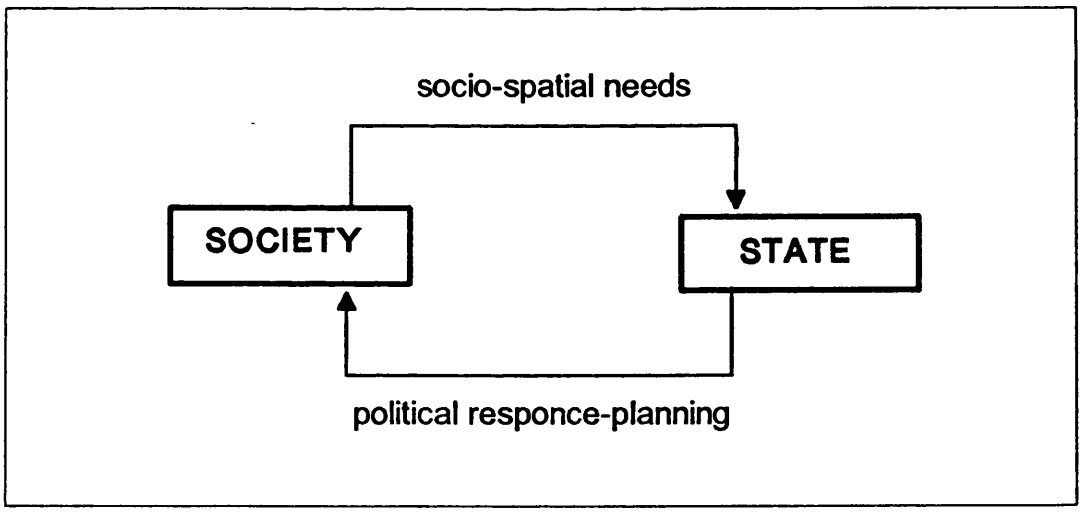
The first approach views spatial planning as an instrument in the hands of capital (especially the monopoly fraction of it) in order to facilitate its effective location across space and to regulate spatial order in such a way as to maximize its profit rates (Sarigiannis 1984; 1988). Such views, have indeed an empirical supportive base relating to particular cases -like the case of the location of a petrochemical industrial complex in Galatas, Etoloakarnania Prefecture (Sarigiannis 1982). Such specific cases, however, are not evidently generalizable as to form a cohesive theoretical body, and the reason for this is that the "cornerstone" of the Greek industrial system is not made up of large enterprises, but, inversely, of small and medium ones (chap. 3, sect. 3.1). Moreover, there is convincing research evidence (Lytras 1993: chap. 6; Moshonas 1986) that industrial capitalists are not the leading fraction (or the hard core) of the Greek bourgeoisie, so as to be able to use spatial policies as mere "instruments" for the effective location of their production units.

The second group of approaches rejects the "state-monopoly capital" /instrumental thesis as oversimplified and views spatial planning as a complex institution aiming at establishing and maintaining a relative balance between two contrasting sets of forces: (a) Forces leading to the creation of spatial conditions for the smooth functioning of capital accumulation; (b) forces leading to the creation of spatial requisites for the legitimation of the system and the maintenance of social harmony (Andrikopoulou-Kafkala 1984: 65; Getimis 1989: 17; Pshychopedis and Getimis 1989: 31). Such approaches, however, which have been based upon O'Connor's (1973) "accumulation -vs- legitimation" theory of the state, reflect the nature of planning in advanced capitalism (see e.g. Roweis 1981; Harvey 1985b: 175). That is to say, in societies in which the relations between the public and the private spheres are relatively more stable and coherent than those in societies like Greece in which these relations are at a permanent "motion" according to the prevailing social attitudes and political balances.

Although the previous approaches do have supportive empirical bases, we keep some reservations as to the extend they can form conceptual frameworks going beyond the narrow logic of particular cases. The assumption that

Greek state's spatial policies share the characteristics of typical advanced states, is questioned (Hadjimichalis 1988: 136-7; Petmezidou and Tsoulouvis 1990; Kourliouros 1992b) on the basis that this assumption presupposes the existence of relations of "externality" between state and society -which, as we will see in the next pages, simply do not exist to any considerable extend in Greece. Our basic reservation is that these approaches presuppose the existence of a rationality teleology, according which there is a reflective relationship (of a feedforward - feedback kind) between society and state -a relationship operating in a deterministic and relatively stable manner without internal tensions, distortions and deviations (fig. 2.2). It actually makes little difference if one accepts that this rationality teleology refers to a "common good" principle of spatial organization -as pluralist planning theories accept (e.g. Dahl 1961; Pahl 1975), or, inversely, to the "rationale" of capitalist accumulation and social reproduction across space as a whole, as Marxist spatial

Figure 2.2 *Rational conception of the society-state relationship in capitalism*



SOURCE: Kourliouros 1992b: 220.

analysts claim (e.g. Castells 1977; 1985; Preteceille 1981; Saunders 1984; McKeown 1987; Roweis 1981; Scott 1980; Lojkine 1976; 1977; Harvey 1985b). Both options, despite their eventual differences, seem to converge to a common point: To the existence of relations of externality between society and state driving to a rationality teleology principle which operates as a general

metric rule, or gnomon, regulating automatically the society-state relationships.

In the following lines we will try to show that things in the Greek context are usually much more perplexed and contradictory.

2.3.2. The Construction of the Greek Political Sphere and the "Double State"

As historical and political research has revealed (Kontogiorgis, ed. (n.d.); Tsoucalas (n.d.): 73-112; Mouzelis 1978a; 1987; Haralabis 1989; Kazakos 1991: 53-69; RG 1991), the historical construction of the political sphere in Greece, did not take place through the developmental dynamism of socio-economic and institutional modernization -as it did in the advanced western world (see Rosenberg and Birdzell 1987)- but through unique historical circumstances in which patronage and clientelism relations were playing a decisive role in the political decision-making process. It has been argued in various writings (for a detailed presentation see Wassenhoven 1980: 280-5) that the imposition of a foreign -Bavarian- political administration after the independence of Greece from Ottoman rule, led to the creation of a widespread "mistrust" between the citizens and the state. Confronted with a state machine which was not felt as "their" state and with laws which were not felt as "theirs", the Greeks were reacting by finding ways to get around the laws throughout their incorporation in extended patronage networks. However, this was not the result of historical reasons, alone. Economic and social change played a much important role: Towards the end of 19th century, the contradictions between a decentralized agrarian economy based on the traditional landed interests and a centralized urban economy based on industrialization and modern institutions and supported by an emerging urban bourgeoisie, had reached a peak (Svoronos 1992: 100 ff.). Western-oriented politicians and political parties -as representatives of this emerging bourgeoisie- were feeding the patronage model in order to increase their political influence upon the state machine "from the inside" (Mouzelis 1990). Thus, the state, as Wassenhoven (1980: 286) wrote, "was turned into an arena of conflict not of social classes fighting for their class interests but of individuals fighting for personal benefits."

Historical conditions have of course changed, and the modern Greek state is typically Greeks' state, but it seems that the citizens' mistrust for "their" state and "their" laws has remained -although in a different context. For almost three decades after the end of world war II, the Greek political arena was permanently experiencing successive periods of turbulence: Civil war during the second half of the 1940s, direct American involvement in political matters during the 1950s, exile of communists and official separation of Greeks according to their political beliefs into "lawfully thinking" (nomimofrones) and "unlawfully thinking" (which was synonymous to "traitors"), terrorism excersised by police and para-state organizations upon the Left, interference of the Palace in elected governments, extended political corruption, military coup d' etat imposed in 1967 -were just a few deviations from what Greeks could have felt as "their state" if things had developed in an ordinary democratic way.

The collapse of the military government in 1974 and the restoration of the typical democratic institutions in the period that followed, brought about a considerable improvement in the state-citizen relationships. Some major modernization developments took place. The parliamentary institutions were fully restored, the official discriminations between Greeks according to their political beliefs were removed, the Communist Party was legalized and the 1975 Constitution secured the equity of all Greeks. Under those conditions, the forces of socio-economic and political modernization increased their influence (Spanou 1993) and Greece became a full EC member in 1981. However, in spite of these changes, the state machine continued to keep most of its authoritarian/despotic characteristics inherited from the past (Mouzelis 1990). Since the weak industrial economy was unable to absorb labour surpluses, public employment kept to be the major aim of the clientelistic practices. In that context, the major Greek governmental parties operated as "vehicles" for the realisation of such practices, rather, than as makers of development policy and ideology (Nikolinakos 1990; Floros 1990; Androulakis 1991; Loverdos 1991; Tsatsos 1991).

The final result of the historical formulation of the political sphere, as described above, is a contradictory "scenery" characterised by the coexistence of multiple mechanisms of political function and control, which seem to create and reproduce a scheme of "double state" within the formal state itself:

The state as a technocratic and modernization mechanism. It refers to that part of the state apparatus which is influenced by technocrats, modern political reformers, and by the fraction of the entrepreneurial class that aims at economic rationalism/efficiency, technology-led industrial development and at establishing and diffusing major institutional and cultural reforms within the socio-economic structure of the country. This "part" of the state and its relations to society are dominated by formal social behaviours and political attitudes operating within more or less commonly accepted parliamentary institutions. Within this "environment" the prevailing type of social action is the one based on the logic of "class interest" and "class conflict".

The state as a patron/employer. It refers to that part of the state influenced by populist politicians of all major parties, which, through the state apparatus provide public employment opportunities and other special economic privileges to their political clients (individuals and/or organized interest groups). Within this "type" of state and of its relations to society, social action is based upon informal practices, and the corresponding political culture tends to favour individual gains instead of collective goals.

These two "types" of state function and control, are not isolated but operate in mutual relationship to each other, whereas the relative balance between them is not stable, but depending on the changing political circumstances.

It has been stated (Milios 1993: 60) that analytical emphasis on clientelism in approaching the Greek political sphere, tends to remain at the "surface movement of the world", and to disguise the real social processes which

continue to base themselves on the logic of class struggle. Probably this view stems from a reductionist interpretation of Marxism -an interpretation that tends to view social and historical processes, with all their peculiarities and complexities, in a monocausal manner as the "history of class struggle" alone. Definitely, class relations and class conflict do play an important role within the Greek socio-political arena, but not in isolation: Class-based social action and political attitudes interrelate in numerous combinations with informal practices, clientelistic strategies etc., posed by both separate individuals and organized social groupings. As a matter of fact, what normally results, is a complex "mosaic" which is hardly identifiable in terms of "pure" class relations, alone. It has also been argued (Kotzias 1993: 75-8) that patron - client relations are not only idiomorphic features of the semiperiphery, but characterise to a certain extend the advanced capitalist world as well. According to him (Kotzias 1993: 77), many social scientists from Max Weber to Talcott Parsons have referred extensively in their works to the role of clientelism in the advanced capitalist societies. What, however, seems to distinguish clientelism in the advanced industrial world from clientelism in the Greek semiperipheral society, is the extend to which this type of social practice has been diffused within the social tissue. While in the advanced world clientelism has been mainly associated with the establishment of "favourable" relations between separate big capital interests and state mechanisms (see Baran and Sweezy 1973 for the USA case) in Greece, instead, it has corroded much more extended "areas" of the social tissue, creating, thus, a mass culture and mentality based on the logic of "individual benefit" and not on the logic of collective values and goals.

Those basic features of the Greek political reality are inextricably bound together with the incomplete and insecure presence of a modernization culture in the structure of contemporary Greek society. Mouzelis (1992a) identifies two contrasting types of political culture which have been historically developed in contemporary Greece. As he asserts:

> Like most societies which in relation to the West entered lately in the process of development, Greece experiences a permanent and diffused dichotomy between two contrasting types of political culture. The first

> one is a more traditionally oriented type, autochthonous, internally oriented and hostile to the ideas of Enlightenment and Western institutions. The other type is a modern externally-viewing orientation, which is striving to "reach" West by adopting western institutions and values (Mouzelis 1992a: A10).

These two contrasting political cultures, which are reflected on -and operating into- the state apparatus, are constituted in such a way that the domination of the one over the other is not permanent, but depending on the changing political circumstances and balances (Demertzis 1990).

The major problem which reproduces the traditional scheme of political function and control and hinders the development and diffusion of the modernization culture in Greek society, is associated with the way the various socio-economic interests in post-war Greece were constituted, and with their relations to the state (Kazakos 1991: 53-69; Kioukias 1994). The operation of the patronage system over the years and the lack of democratic traditions in government and citizens' participation institutions, gave rise to a guild-type organization of the various socio-economic interests into separate antagonistic groupings and sub-groupings struggling for their partial state-provided privileges, without exhibiting any concerns or sensitivities for collective objectives. The state, on the other hand, especially under the Socialists' administration in the 1980s, promoted some forms of organized interests' representation to the decision-making bodies, which were giving the impression of typical corporatist processes. In practice, however, these forms operated rather as decorative elements within the political scenery -leading, therefore, to what Kazakos (1991: 61-2) identified as "pseudo-corporatism" and Christophilopoulos (1990: 113) as "pseudo-participation". The participatory forms were simply confined to accepting or rejecting the already made decisions and not to the actual procedures of their formulation. In that context, they rather formed elements of the "public relations" image of the governing party, than elements for the making and implementation of consensual long-term policy objectives (Kazakos 1991: 61).

Some other inherent characteristics of the contemporaray Greek economy and society have contributed to this "horizontally" diversified and

contradictory nexus of guild-type interests and to the type of relations they developed with the state. Multiple forms of employment and income earning -as we saw earlier in this chapter- have hindered the organization of socio-economic interests across class-based lines and collective bargaining strategies; instead, they have encouraged occasional alliances and fragmentary practices striving not to attain collective objectives but short-term individual gains. Underground economy and informality have also contributed to this process (for an analysis of the role of informal economy -or paraeconomy- in Greece, see Negrepondi-Delivani 1990; Kanellopoulos 1992).[7] Informal economic practices -no matter whether they are attributed to separate individuals or to broader socio-professional groupings- do not usually commit themselves to class-based strategies or to institutionalized procedures. Instead, they tend to pursue political support and legitimacy throughout "exo-institutional" (e.g. clientelistic) accesses to the centres of political power. Last but not least, there seems to be a direct relationship between the continuing economic recession and deindustrialization and the intensification of guild-type practices (Kazakos 1991: 66-7) -a relationship which has led to an increased inability of the state machine to promote co-ordinated planning objectives on a long-term basis.

The above make evident that in the contemporary Greek socio-political scenery: (a) the clear-cut logic of class interest/class struggle as a means of attaining collective objectives, is to a lesser or greater extend subordinate to the "opaque" logic of occasional guild-type claims and clientelistic practices, and (b) the logic of individual gains -i.e. what Tsoucalas (1993) calls "free rider" attitudes- tends to predominate over the logic of social benefit and of the associated collective values.

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[7] The fluid and unstable balances between formality and informality characterize -to a certain extend- all Southern European countries; for instance, the informal economy in Italy is estimated to reach about 20% of the GDP, in Portugal 22% and in Spain 15-25%, while one third of the employed in this country are working illegally (Kanellopoulos 1992: 39). Informality reflects the unique path of those countries' capitalist transformation in their drive to reach the growth levels of core economies. It is estimated that by 1988 informal activities in Greece, reached 31% of the GDP (ibid.: 39).

The above points can form the wider socio-political framework within which the characteristics and the role of urban planning policies in Greece can be addressed.

2.3.3. Spatial Organization and Social Attitudes: Some Empirical Examples

Let us start our approach to the "nature" and role of spatial planning, by providing a set of characteristic empirical examples of how spatial organization and social attitudes tend to interrelate in contemporary Greece.

-In March 1989, industrial workers prevented highly polluting plants from relocating outside Athenian residential areas; in doing so, they came in confrontation with police and local population resulting in lots of injured and arrested people (*Ta Nea,* 17 March 1989; *Proti,* 17 March 1989).

-It is a common practice that industrialists reject to locate their plants in ETVA's (Hellenic Bank of Industrial Development) regional industrial estates in order to avoid environmental and other labouring and production controls (Vliamos *et al.* 1991: 78), creating, thus, a chaotic industrial landscape which brings about more problems than benefits in regional economies. On the other hand, lot of money from the state budget has been spent for the construction of industrial estates in peripheral areas that had no the slightest comparative advantage for attracting and sustaining manufacturing, just because local pressures and politics imposed their will upon the governmental decision-makers (Vliamos *et al.* 1991: 77; Vliamos 1988: 134).

-University Faculties and Departments (without the necessary staff and equipment) have been scattered throughout the countryside without any relevant developmental goal -except, perhaps, the clientelistic satisfaction of local pressures by the state (Labrianidis 1993; see also *Ta Nea,* 18 February 1993).

-Local population in Nea Kallikrateia, Chalkidiki, -a coastal tourist area in Central Macedonia- along with construction workers, possessed the

local police station because the chief officer tried to hinder the construction of illegal tourist buildings ("rooms to let") in that area (*Enimerotiko Deltio TEE* No 1755: 3).

-Forest fires set at combined successions in woodlands around major urban centres (and especially around the Athenian agglomerartion) have been a usual means for public land grabbing, subdivision into plots and illegal development. The lack of a national cadastral survey system makes possible such practices covered typically by forged "property titles" which usually emerge as originating "legally" from the period of Ottoman rule. The inadequacies of the state's emergency machinery and local social alliances feed such practices, and any resistance raised eventually against them is met with open hostility (at the best). Two characteristic examples of such attitudes are the following events:

-In February 1992, public land occupiers in Agios Stefanos, a northern high land-price suburb of Athens, injured the vice-president of a local ecological organization -by shooting him (sic)- in order to suppress any likely resistance against public land grabbing and illegal housing development in that area (*To Vima*, 28 February 1992). The government reacted by sending bulldozers to demolish illegal housing. Local population came in confrontation with the police force which was sent to supervise the operation. Finally, only a few improvised cottages were demolished, despite the official claims that all illegal constructions in Attica would be bulldozed. Ironically, the illegal housing "clearance" operation ended a few days later, and the Under-secretary of the Ministry of Environment promised that illegally built-up areas in Attica (extending over 7,000 Ha or so) would be soon incorporated into the statutory city-plan (*Kathimerini*, 11 April 1993). Once more, Greek society as a whole, was forced to finance (through the state budget) the construction of urban infrastructure in those illegally built-up areas, in order land owners-grabbers to sell plots of privately appropriated public land in a much higher price than they did before.

Once more, local pressures and vote-catching political calculations predominated over the need for a rational organization of space.

-In December 1994, local population in Penteli, another northern high land-price suburb of Athens, prevented volunteer ecological organizations from reforesting a former public wooded area which was burnt some years ago, and which had been characterised by the Ministry of Agriculture as "land under reforesting". Local people asserted that the area was privately owned by them, and hence they had every legal right to subdivide and sell it as plots. In trying to "prove" their statements to the police officers which arrived at the area, they presented "property titles" provided in 1824! (sic). Due to timely police intervention, fights between local people and volunteer ecological organizations were finally avoided and the case took the normal way to the courts. The Secretariat of the Ministry of Agriculture, admitted that the lack of a national real estate registration system allows for private appropriation of public land for speculative purposes ("Sky 100.4" Radio news broadcast, December 6th, 1994).

-In June 1994, civil engineers, construction workers and local people in Santorini -a tourist Cyclades island- possessed the building of the prefectural authority and threatened that they would also take over the island's port and airport, because the Ministry of Environment decided to send specialists to check out whether some construction works in the island abided by environmental protection criteria or not (TV news on June 28th 1994).

-In November 1994, local population in Glyka Nera (a northern Athenian suburb), came in confrontation with police forces because they hindered the Public Electricity Enterprise from building energy transmission towers in their area, (which, supposedly, would downgrade the area) -although the project was considered to be of crucial importance for Athens' power supply needs (TV news on 21st of November 1994).

2.3.4. On the "Dichotomous" Nature of Greek Spatial Planning

There are numerous similar examples of such "social" (guild-type) attitudes relating with spatial organization, and there is no need to present them here in any further detail. However, if one sets forth an examination of the modern Greek spatial planning machinery on the basis of the published official documents and studies, the numerous planning statutes, the hierarchies of plans and programs ranging from the nation-wide scale of the 5-year social and economic development programs to the regional, metropolitan and local scales, the organization of governmental planning agencies, the planning professionals etc., he/she will not probably find considerable differences from the way spatial planning is practiced in most advanced capitalist countries, except, perhaps, the limited planning responsibilities appointed to local authorities and a considerable lag in efficient planning education (on that issue see Georgoulis and Kourliouros 1987).

Until the 1970s, urban planning was officially conducted under the provisions of the first Town Planning Act issued in 1923 for areas included "within the statutory city-plans", while areas "outside the plan" were governed by more general legislation covering the whole Greek territory. Settlements with a population less than 2,000 were governed by special statutes. The first General Building Regulation (GBR) which was ratified in 1929, addressed the various technical details and standards for building developments within the statutory city-plans, the making of topographic and other technical maps, and included provisions as to the maximum height of buildings by city-sector and other related land development issues. In that context, "city-plans" were nothing more or less than street lay-out plans making the distinction between private property and public space and providing specific regulations for building development (e.g. distances of the buildings' facades from the edge of streets, ratio of covered by total plot's area (syntelestis kalypsis -SK), floorspace/plot ratio (syntelestis domisis -SD), maximum number of storeys allowed to be erected by city-sector, etc.). In those physical city-plans there was no specific reference to, or connection with, such issues like land-use development priorities and strategies, zoning regulations, location of industrial and other

economic activities in the cities, transportation planning and social infrastructure provision, environmental planning etc., -which have been common in western city- planning theory and practice (see Chapin 1965).

It should be noted however, that this simplistic physical "planning model" was in accord with the way building practices in urban space were taking place (see sect. 2.2): That is, "exchanges in kind" between landowners and developers or self-financing practices and predominance of small independent developers in the building business. Since building industry for most part of the post-war period has been considered as a "safety valve" for re-warming the Greek economy (by means of its multiplier effects in other linked manufacturing branches and services), the land development procedures should be as fast and relatively simple as possible.

However, this "urban planning model" started to be questioned during the 1970s when the international economic crisis magnified the accumulated deficiencies and problems of the post-war Greek development process (chap. 3, sect. 3.1). Prior social pressures for official increases in the degree of urban land appropriation, resulted in L.395/68 which allowed for increases of the floorspace/plot ratios (FMS 1993: 123). Big cities -and especially Greater Athens- became more congested with less free space, poor infrastructure, inadequate social amenities, chaotic intra-urban industrial location patterns and growing negative externalities hindering their economic efficiency within the national economy. The need for planning reforms based on a new "philosophy" and new institutional tools was becoming increasingly urgent.

Several major attempts for modernization of the urban planning framework were undertaken during the early 1970s. The 1975 Constitution included for first time a set of provisions associated with spatial (urban and regional) planning. According to article 24, the country's spatial reorganization, the development of the settlement system, the internal organization and expansion of cities and towns, the acquisition of land for social facilities, the provision of housing for low-income groups and the management of natural environment are subjected to the responsibility of the state in order the

functionality of settlements to be efficiently served and better living conditions for all Greek people to be secured (Christophilopoulos 1990: 124). The LD 1262/72 offered official covering of the urban planning studies carried out since the late 1960s, and three distinctive hierarchical categories of plans were introduced -i.e. regional plans (at the prefectural scale), structure plans (at urban agglomeration scale) and general urban plans (GPSs) (at single municipality scale). Moreover, land-use zoning concepts and controls were introduced and a Special Fund (ETERPS) for financing the implementation of urban plans on the ground and the associated works was created (FMS 1993: 124). In 1976, a special organization -"Public Enterprise for City Planning, Settlement and Housing" (DEPOS)- was created for the purpose of enacting direct public involvement in organized land development and social housing provision initiatives within and/or around urban areas. In 1978 the Ministry of Environment, Spatial Planning and Public Works (YCHOP later YPECHODE) as the responsible governmental agency for the production and implementation of spatial plans and regulations was established, and a new planning law (L.947/1979) -drawing mainly from French and German experiences- introduced some major innovative tools in the way urban planning was conducted till then.

Two were probably the most important tools the new planning law introduced: The first one was the obligatory participation of land ownership (by 40% of each private plot's size and an additional amount of money) in the formation of the public spaces and in financing infrastructure works at urban development areas. The second was the introduction of the "Operational Urban Planning Zones" (ZEP) principle[8] in the planning system. Private land and money contribution for public benefit purposes in the cities was already in accord with the 1975 Constitution, and had to be a kind of "property tax" the urban landowners should have to contribute once and for all to the costs of development, "in exchange" for the higher value their remaining landed properties should acquire after the planned development. On the other hand, the tool of the "Operational Urban Planning Zones" (ZEP) introduced the

[8] The first version of this tool was introduced in 1971 (LD 1003/71) by the military government in an attempt to stimulate the involvement of big companies in organized land development programs.

possibility of public-private partnerships in undertaking organized development or re-development projects in urban sub-areas so defined as ZEP. These projects should abide by a comprehensive land-use plan for the development of the ZEP according to the more general strategic directions set by the Structure Plan of the wider urban area, or by other official programmes. This land-use plan was further concretized into more detailed plans ranging from buildings' lay-out plans, transport and infrastructural construction plans, landscape and architectural plans, etc.

Both of these innovatory tools were kept in the new planning law L.1313/1983 (*Official Gazette* 33A/14-3- 1983) which followed 4 years later under the Socialists' administration as a more elaborate and "socially just" version of the previous L.947/1979.[9] The most important contribution was the disconnection of the concept of planning from its past restricted physical dimensions and its association with socio-economic priorities for the orderly functioning and development of urban areas on a comprehensive basis. Emphasis was therefore shifted from the strictly "material" (built) context of cities to issues such as urban land-use organization and development, planning the location of CBDs, public spaces and social facilities provision, transportation planning and environmental protection, definition of land development standards (e.g. densities and average floorspace/plot ratios) by city sub-areas and neighbourhoods ("planning units"), planning the location of production (industrial and handicraft) activities and of other special uses within and around cities in "zones of urban control" (ZOE) so defined for these purposes, etc. It was also made possible the reservation of land for future social needs, the undertaking of renewal and organized housing construction programs in downgraded residential areas, etc. All those objectives and priorities should be included in the so called "General Urban Plans" (GPS) covering single cities or city-municipalities within metropolitan areas like Greater Athens and Thessaloniki which were covered by broader Structure Plans. The local authorities were given enhanced responsibilities to initiate the state's planning procedures as to acquire GPSs for their administrative areas ratified by Presidential

[9] L.947/1979 was accused as unpopular because the percentage of private land contribution to the formation of public spaces in cities was the same for both small and big landowners (Christophilopoulos 1990: 148).

Decrees, to express opinion on the proposed planning regulations in open meetings and to propose reforms of the plans. Before the final approval of plans, relating maps and diagrams were sent to the municipalities' buildings and were exposed at public view for a certain period of time, so that the citizens could be informed about the proposed regulations in their areas and they could express written objections in case of disagreement. However, the participation of local authorities and citizens was not given a substantial role in the planning process. It remained mostly advisory, and the final responsibility for the approval or not of GPSs remained within the control of central government (Christophilopoulos 1990: 109). The ratified GPSs were then concretized in more detailed plans at a lower (local) level which were also ratified by PDs. The local plans, finally, were followed up by more detailed plans for implementing the proposed regulations "on the ground". The contribution of private property to the formation of public spaces and infrastructure took on two forms: (a) land contribution (at percentages varying according to the plot size) and (b) money contribution to the cost of infrastructure works. Just as in the previous L.947, both forms were regarded as a kind of "property tax" the landowners would have to pay once and for all "in exchange" for the higher market value their remaining properties would acquire after the planned development.

The tool of "Operational Urban Planning Zones" (ZEP) -inherited from L.947/1979- was kept but in a different setting: Whereas L.947/1979 gave priorities in private initiatives for undertaking organized urban development or re-development ventures under the ZEP planning scheme, L.1313/1983 shifted priorities in private-public partnerships (including local authorities and the DEPOS) in which, however, the participating public organizations would have the best part of control.

Although lots of plans and programs ranging from the wider metropolitan to the lower local scales have been "produced" under the legislature of L.1383/1983, none of them has been implemented in practice. The reasons vary in each concrete case, and the explanations provided by writers and researchers tend to put the blame on the inadequacies of the planning machine.

Thus, it has been argued (FMS 1993: 128) that the lack of planning co-ordination between the urban and the wider regional and national geographical scales (as well as the different state agencies involved in each level) is the major reason for planning failures in contemporary Greece. It was also stated (ibid.: 129) that the encouragement of public ventures under the ZEP mechanism of organized urban development at the expense of private capital participation, has hindered the involvement of serious companies in the field. The excessive subdivision of land into very small plots in densely built areas around the cities makes difficult the acquisition of land for transport infrastructure and for covering elementary social needs in those areas (ibid.: 130). For others (see e.g. Christophilopoulos 1990) the inadequacies of urban planning are mainly associated with the fact that citizens' participation in the planning process as introduced by the new legislation was not substantial, but, contrarily, it was just a kind of "pseudo-participation" operating as a legitimation mechanism of the governmental planning decisions (ibid.: 113). Others blame the big urban landed interests for blocking out legislation's provisions on land acquisition for public benefit (Tzatzanis 1987). One could add, here, many other problems and inadequacies correlated with bureaucratic procedures and delays in the formulation and approval of plans, the lack of proper co-ordination between the various departments of the state's planning machine, the shortage of qualified personnel in the planning departments of the Ministry of Environment and Planning (much of its staff are architects and engineers without any prior expertise in planning), the frequent shifts in priorities at the top of Ministries' hierarchies due to frequent replacement of high-ranking officials according to the ever-changing correlations between the various "centres of power" within the state apparatus, and so forth.

The aforementioned inadequacies of the planning system and the related explanations are of course true, but they tend to deal with partial or surface aspects of the whole problem, whereas its substantial dimensions lie much deeper and are associated with what we call as "dichotomous" nature of planning in Greece -a nature linked up with the way Greek society and the state machine interrelate on the arena of spatial organization and change.

The point is that the prevailing socio-spatial and political relations in contemporary Greece, have led to serious contradictions and shortcomings in the real process of planning and consequently to a situation characterised by a persisting dichotomy between:

(a) formal planning procedures moving at the "surface" of things (according to relevant legislation and official planning structures) on the one hand, and

(b) "hidden" -or informal- practices and processes, taking place beneath that phenomenal "surface" on the other.

These informal practices and processes consist of transactions of a political "give-and-take" type, alliances/conflicts and unstable balances between individuals, social groupings, political parties, local authorities, various professional organizations etc., and state planning agencies (see also Giannakourou 1992). The new planning statutes introduced during the post-dictatorial period (1974 onwards) brought about new institutions and mechanisms which attempted to impose upon urban communities what could be called as a "violent modernization" movement. We call it a "movement" in the sense that it fed lots of ambitious prospects for a considerable improvement of living and working conditions in the Greek cities (see Tritsis 1983). It was modernization -led in that it introduced a quite different mentality in the way urban space and its organization was perceived in accordance with analogous European experiences. But on the other hand, it was a "violent" modernization in that the Greek urban community, without having any prior experiences of democratic government and developed participatory institutions, was forced to "adjust" to a new urban culture and mentality in a very short period of time. This "up-to-bottom" planning modernization effort was therefore met with suspicions and resistance by the broader urban masses that had been accustomed to the traditional "physical" practice of planning. Although during the 1980s all Greek major urban centres acquired official plans under the provisions of L.1313/1983 (Enterprise of Urban Reconstruction -EPA), in only a very few cases the produced plans were implemented "on the ground" and only a few

aspects of them (see Conference Organizing Committee 1993a: 19-22; Moutzalia 1993: 23-6). In most cases, local pressures and political calculations reduced the new innovative urban planning philosophy to what was prevailing before, i.e. to the making of physical plans aimed at setting on the ground the "borders" between private landed property and public space. This reduction reproduced the past popular mentality according which planning was not conceived as a spatial development mechanism, but as a chance to integrate private landed properties into a "government-sanctioned plan as to acquire a higher value because of the newly given possibility to "exploit" it by building on it a multi-storey block of flats with favourable building regulations and a commercially profitable plot ratio." (Wassenhoven 1993: 96). If planning, by contrast, gets conducted as to bring about major innovations to the way urban space is treated in the direction of solving complex development and environmental problems, it usually causes major misunderstanding and confusion among those strata that their economic interests prevent them from accepting change and from facing positively new challenges, development priorities and modernization in the structure of the urban economy. Governments and political parties, on the other hand, are usually reluctant to discourage the traditional mentalities and practices and to implement innovative planning objectives, since this would inevitably lead to considerable political costs for the party at office. As Wassenhoven points out:

> The governments capacity to plan and then implement change has remained in doubt, even in recent years, in spite of the ever-growing arsenal of statutory and institutional instruments that the state machinery has at its disposal. The disregard for government institutions within Greek society at large is the key to understanding this weakness, and the continued operation of the patronage system, even though less overt than in the previous century, in many ways characterizes the state-citizen relationship in Greece. The absence of a 'civic spirit' and of any readiness to face issues collectively, and the preference for personal, linear relations with friends and protectors near the centres of power, deprives the community of the moral and social prerequisites for collective action towards social and economic change. Under such circumstances town planning is but one more governmental function which is undermined through the network of family, extended kinship and political ties, and generally exploited for personal and political gains." (Wassenhoven 1984a: 7).

Thus, a "conservative" (i.e. anti-innovatory) model of planning is being maintained and socially reproduced, although a vast arsenal of modern planning tools and statutes has been at the state's disposal. This model is "by nature" unable to tackle with the new development challenges the Greek city faces (see e.g. the case of the Patras Science Park),[10] or to deal effectively with specific issues such as the organized location/relocation of production, economic restructuring, technological change and social inequality in urban space, transport reorganization and energy saving, economic and environmental regeneration of downgraded urban areas, etc.

The implementation of long-term urban-industrial planning policies, in particular, is confronted with enlarged difficulties stemming from the very nature of the Greek socio-urban dynamic: The multiplicity/heterogeneity of the nexus of socio-economic interests in the city, as we saw earlier, combined with the weak industrial base of the Greek production system (chap. 3, sect. 3.1), leads the logic of accumulation and reproduction of industrial capital across space in a disadvantageous position in relation to the position held by the numerous other urban-economic interests, and affects the social and political "balances" arising eventually between them. What predominates, therefore, is a complex and blurred "mosaic" lacking internal consistency -a "mosaic" in which the "borders" between social classes and interests are highly porous, hence difficult to get clearly identified (Tsoucalas 1990: 33). This contradictory nexus of heterogeneous socio-economic interests across urban space, is not necessarily associated with the industrial sector and the urgent need of its technological modernization and rational location, but with other urban activities and especially with those affiliated to a growing service economy.

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[10] See Kourliouros 1993a; 1993b.The project for the creation of a Science Park in a high land-value suburb of Patras -Rion- was met by local population with contradictory feelings and reactions instead of enthusiasm. There were irresponsible rumours that the S.P. would heavily pollute the area even with biological and nuclear wastes. Due to lack of proper timing and efficiency in information, the SPs administration was unable to show local people what a S.P. is, which is its role and what the neighbouring communities should expect from its operation. For the vast majority of local population, the S.P. would contribute to the gradual transformation of the area from a high status residential and tourist one into industrial, hence the land values would inevitably fall. (From personal contacts with local people since Patras is my birthplace).

2.4. Conclusion

The preceding analysis reveals that the ineffectiveness of planning in contemporary Greece is not just a matter of "technical" inadequacies or "improper" organization and operation of the planning machinery, but a much broader issue which is associated with what Greek society as a whole can accept as "planning objectives" and with the way these "objectives" are conceived by the majority of the urban population. Even with the best of intentions, the Greek urban society is still unable to accept major change in the way planning policies are carried out, because such change tends potentially to challenge the long established and perplexed nexus of private interests across urban space and the associated mentalities. Thus, as far as the contemporary Greek society retains its basic structural characteristics, there is little chance for long-term rational planning policies to meet the necessary social consensus in order to get implemented.

This chapter analyzed some key characteristics of the contemporary Greek society and of its relations with urban space and state planning, providing, therefore, the basic lines of argument which will be put at concrete empirical work in the remaining chapters of the thesis.

CHAPTER 3

A REVIEW OF POST-WAR GREEK INDUSTRIAL DEVELOPMENT AND SPATIAL CHANGE: PAST PROCESSES AND RECENT TRENDS

Post-war Greece has experienced two broad phases of industrial and geographical change: (i) A phase of economic growth and industrialization which took place mainly in the decade of 1960s and lasted till the world economic recession of 1973/74. (ii) A phase of deindustrialization and negative restructuring which started in the mid 1970s, was intensified after 1981 (year of Greece's accession to EC as a full member) and is still in progress. These two broad phases have also characterized post-war industrial change in other Southern European countries as for instance Spain (Vasquez-Barquero 1986). However, the concrete forms these changes took on in Greece, were shaped by several particular economic processes and policy priorities which are unique to the internal structure of the Greek social formation and which will be examined in the following section.

3.1. Greek Manufacturing at a Cross-Roads: From Incomplete Industrialization to Crisis and Negative Restructuring

The first phase followed a decade (1950s) of reconstruction of the Greek economy from the damages caused by the German occupation and the civil war.[1] In this decade the Greek economy was predominantly a "public works economy" (Wassenhoven 1980: 125), aiming on the one hand at stabilizing the social formation from the previous war period, and on the other at creating the material base for capital accumulation which would follow in the next period of economic growth and export-led industrialization (Andrikopoulou and Kafkalas 1985: 118-24; Skayiannis 1994: 115-32). As shown in table 3.1, the

[1] According to Svoronos (1992: 145) 7-8% of the total Greek population was killed during the German occupation and the civil war, agricultural production was decreased by more than 70% and more than 1,000 villages were completely destroyed.

best part of public investment in the first post-war period was directed to transport/communications, energy and agriculture (land improvement works).

Table 3.1 *Public gross fixed captal formation (GFCF) by sector, 1955-1986* (million drs at constant 1970 prices)

Sectors	1950	1955	1960	1965	1970	1975	1980	1986
Agriculture	1,309	371	2,312	2,006	3,468	2,828	2,057	2,103
Mining/quarrying	2	18	15	105	404	560	1,268	1,852
Manufacturing	---	107	494	109	28	128	679	2,616
Energy	100	1,340	1,969	4,579	4,994	5,899	6,710	6,954
Transport and communication	1,911	795	3,731	5,594	8,147	7,916	8,240	7,156
Dwellings	1,734	979	247	205	297	294	361	655
Public admin/on	1,024	348	417	181	828	579	482	740
Other service industries	483	347	672	1,152	1,760	2,850	2,443	4,124
Total GFCF	6,563	4,335	9,857	13,931	19,926	21,054	22,240	26,200

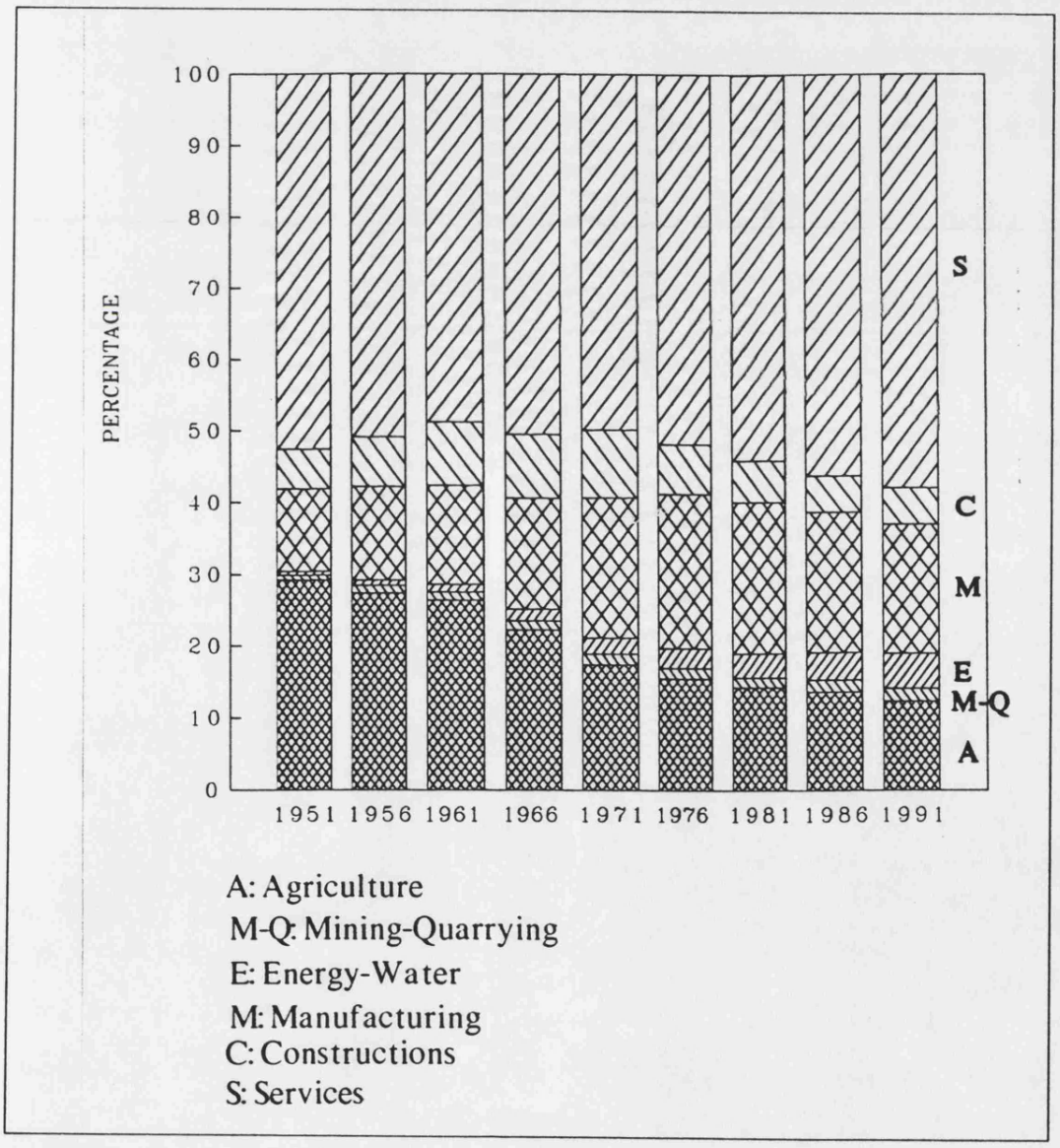
SOURCE: For 1950, 1955: *National Accounts of Greece 1958-75* (No 23), Athens 1976: 206-7. For 1960-75, ibid.: 156-8. For 1980 and 1986 *The Greek Economy in Figures*, Electra Press, Athens 1987: 140-1.

Despite some official attempts for liberalization, opening-up of the Greek economy to the external economic environment and export oriented industrialization through the attraction of foreign direct investments[2] -attempts which were accompanied by contrasting views on the "proper" economic policy that should be followed (Zolotas 1948; Varvaressos 1952; see also Karagianni and Nikolaou 1994: 96-101)- the basic orientation of economy and industry in the 1950s was similar to the pre-war pattern. That is, high percentage of agriculture in the GDP and orientation of manufacturing to the traditional consumer branches of light industry. In the mid 1950s the share of agriculture in the GDP was much higher than that of manufacturing (fig. 3.1), while the consumer branches accounted for more than 70% of the gross manufacturing product (fig. 3.2), employed more than 65% of total manufacturing employment (fig. 3.3) and came to concentrate almost 1/2 of the total

[2] 1953 Constitution and LD 2687/1953. The devaluation of the national currency by 50% in April 9, 1953 (Bank of Greece 1978: 371), was one more pull factor since it reduced by half the costs of labour, of raw materials and of other domestic resources for foreign investments in Greece.

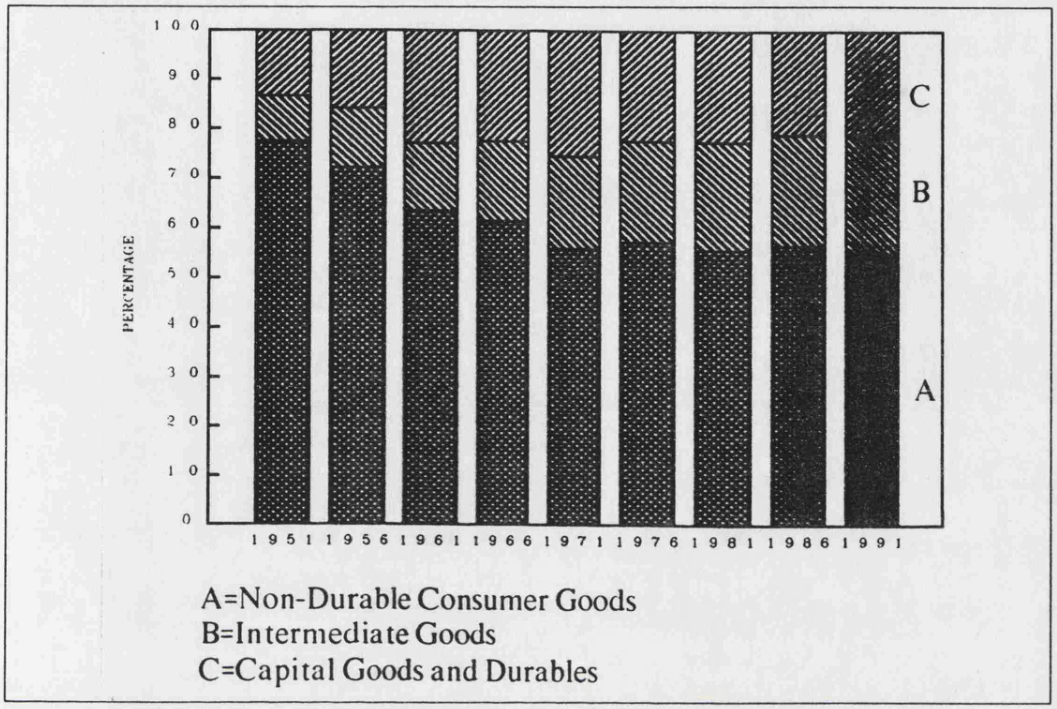
fixed capital investment in manufacture (table 3.2). The industrial backwardness of Greece during this decade, was also manifested by the value of exports (table 3.3) in which agricultural products were predominating. Most of the foreign aid fundings were directed to non-productive activities (Andrikopoulou and Kafkalas 1985: 120) such as military ones which absorbed 54% of the total foreign funding (Svoronos 1992: 145). The share of funding (21%) which was directed to productive activities was scattered mostly among light industry consumer units.

Figure 3.1 *Share of GDP by sector, 1951-1991*



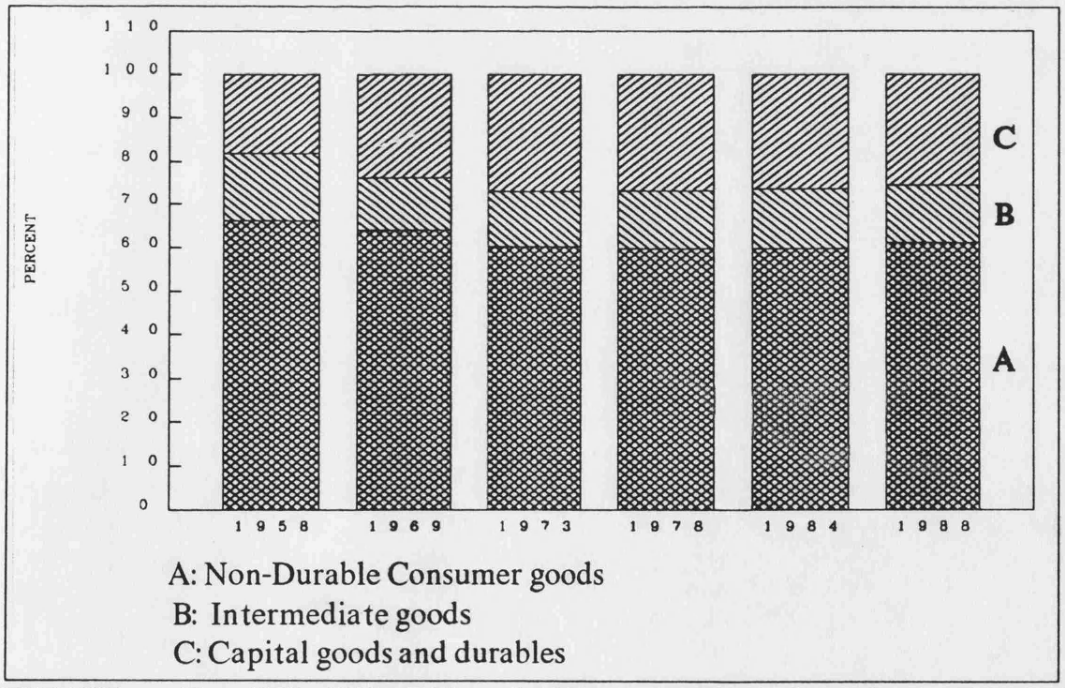
SOURCE: Own calculations from table A.1 (appendix I).

Figure 3.2 *Share of manufacturing product by branch group, 1951-1991*



SOURCE: Own calculations from table A.4 (appendix I).

Figure 3.3 *Share of manufacturing employment by branch group, 1958-1988*



SOURCE: For 1958, 1969, 1978 and 1988, own calculations from table B.4 (appendix I). For 1973 own calculations from NSSG, *Statistical Yearbook of Greece 1978,* Athens 1979: table X.1. For 1984 own calculations from NSSG, *Statistical Yearbook of Greece 1986,* Athens 1987: table X.1.

Table 3.2 *% share of fixed capital investment in manufacturing by branch 1958-1989*

Code	Branch groups[1]	1958	1973	1983	1989
Non durable consumer goods		47.9	35.7	29.8	48.5
20.	Foods	13.9	9.6	7.7	15.8
21.	Drinks	7.3	3.7	4.8	6.3
22.	Tobacco	1.9	1.0	1.6	1.8
23.	Textiles	19.8	13.1	7.9	13.8
24.	Clothing/Footwear	0.1	0.7	1.4	2.6
25.	Wood/Cork	0.1	1.5	1.0	1.3
26.	Furniture	0.2	0.4	0.2	0.9
27.	Paper	2.8	4.2	3.5	3.6
28.	Printing/Publishing	0.6	1.0	1.0	1.7
29.	Leather/Fur	0.9	0.3	0.2	0.3
39.	Miscellaneous	0.3	0.2	0.5	0.4
Intermediate goods		34.1	34.8	28.1	22.4
30.	Rubber/Plastic	0.3	2.8	1.4	2.9
31.	Chemicals	21.2	13.8	3.9	5.5
32.	Petroleum and coal products	0.5	6.4	5.8	8.0
33.	Non metallic minerals	12.1	11.8	17.0	6.0
Capital goods and durables		18.0	29.5	42.3	29.2
34.	Basic metals	4.4	15.3	18.7	6.2
35.	Metal products	7.9	4.8	6.5	4.1
36.	Non electric machinery	1.0	1.0	0.7	0.7
37.	Electric equipment	1.6	3.0	1.1	4.4
38.	Transport equipment	3.1	5.4	15.3	13.8
Total		100.0	100.0	100.0	100.0

[1] In the classification of branches in the 3 branch-groups, we followed Vaitsos and Giannitsis (1987: 39) grouping. This is approximate; a more accurate one would require a 3 or 4 digit classification of branches, which goes beyond the scope of this study.

SOURCE: For 1958, 1973 Hassid 1980: table 40. For 1983 own calculations from NSSG, *Statistical Yearbook of Greece 1986,* Athens 1987: table X.11. For 1989 own calculations from NSSG, *Statistical Yearbook of Greece 1990-91,* Athens 1994: table X.10.

Table 3.3 *Value of exports 1953-1985* (million drs).

Exported products	1953	1965	1976	1985
A. Agricultural products(1)	2,467	6,526	29,784	175,833
B. Raw materials(2)	604	1,947	14,909	122,446
C. Manufactured products(3)	325	1,360	49,088	330,806
Total	3,397	9,833	93,811	629,085

1. foods/drinks/tobacco, oils, fats -SITC 0, 1, 4.
2. inedible crude materials/mineral fuels, lubricants etc. -SITC 2, 3.
3. chemicals/manufactured goods classified chiefly by raw material/ machinery and transport equipment/miscellaneous products -SITC 5, 6, 7, 8.

SOURCE: For 1953 own calculations from NSSG, *Statistical Yearbook of Greece 1955*, Athens: 317-9. For 1965 own calculations from NSSG, *Statistical Yearbook of Greece 1967*, Athens: 277-80. For 1976 own calculations from NSSG, *Statistical Yearbook of Greece 1978*, Athens: 317-24. For 1985 NSSG, *Statistical Yearbook of Greece 1986*, Athens: 310.

However, this situation could not last for long. By the early 1960s, developments in the international division of labour facilitated the transfer of parts of the industrial production process from core to peripheral regions. As Palloix (1978) and Frobel *et al.* (1981) have shown, in the first post-war decades, western firms had already started considering the advantages of relocating part of their production process in less developed countries which could operate as export platforms for their products (see Dokopoulou 1986 for the case of Greece). Abundant and cheap working hands (Milios 1988: 316), lack of strict labour and environmental protection legislation, restriction of free trade unionism, lack of social policy tradition and totalitarian forms of government in the less developed world (Hirsch 1993: 37), were strong pull factors for direct foreign capital investments. By the early 1960s, basic transport and energy infrastructure in Greece had been constructed, or was in the stage of completion, the legislative framework for the protection of foreign investments had been ratified by the 1953 Constitution and the LD 2687/1953, and the social formation had been relatively stabilized from the consequences of the civil war.

During the 1960-mid 1970s period, Greece experienced a rapid industrial growth and restructuring which transformed the character of the country from an agrarian to a newly industrializing one. In 1962 the gross

product of industry exceeded for the first time that of agriculture (table 3.4). During this period, the share of agricultural employment in the economically active fell considerably, whereas the share of industrial employment raised

Table 3.4 *% share of GDP by sector, 1952-1991*

Sector	1952	1962	1972	1982	1991
Agriculture	27.4	22.7	17.0	14.5	12.3
Industry	18.7	25.9	33.5	31.0	29.8
-Mining-Quarring	0.9	1.2	1.5	1.6	1.8
-Energy-Water	0.6	1.2	2.4	3.5	4.9
-Manufacturing	11.4	14.5	19.4	20.7	18.0
-Construction	5.9	9.1	10.3	5.3	5.1
Services	53.8	51.3	49.5	54.5	57.9
GDP, Total	100.0	100.0	100.0	100.0	100.0

SOURCE: Own calculations from table A.1 (appendix I).

accordingly (table 3.5). The GDP, the gross product of industry and that of manufacturing were increasing with high annual growth rates (table 3.6), while manufacturing investments increased impressively as well (table 3.7).

Table 3.5 *% share of active population by sector, 1951-1991*

Sectors	1951	1961	1971	1981	1991
Agriculture	59.3	55.7	41.4	28.1	22.2
Industry	17.3	19.8	27.0	30.1	27.5
-Mining-Quarring	0.4	0.6	0.7	0.7	0.5
-Manufacturing	14.2	13.9	17.5	19.2	19.2
-Energy-Water	0.4	0.6	0.8	0.7	1.0
-Construction	2.4	4.8	8.1	9.4	6.8
Services	23.4	24.4	31.6	41.8	50.3
Total	100.0	100.0	100.0	100.0	100.0

SOURCE: Own calculations from table A.3 (appendix I)

Table 3.6 *Average annual growth rates of GDP by sector, 1960-1973*

Sectors	Average annual growth rate 1960-73
Agriculture	+4.7%
Industry (total)	+9.9%
Manufacturing	+10.7%
Services	+7.3%
Total GDP	+7.5%

SOURCE: Table A.1 (appendix I).

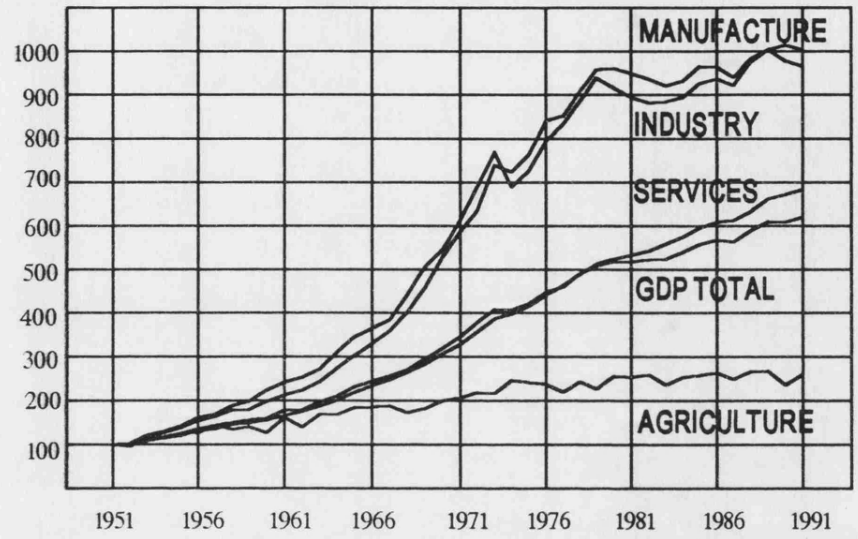
Table 3.7 *% increase of gross fixed capital investment in manufacturing, 1960-1973.*

	change 1960-1973
Manufacturing	+403.2%
Total gross fixed capital investment	+243.7%

SOURCE: Own calculations from table A.11 (appendix I).

As a result, the position of Greece amongst other OECD countries in terms of annual growth rates of real GDP, real GDP per capita, value-added and productivity in industry and manufacture, raised at the top -after Japan- exceeding even the growth rates of advanced industrial economies like US or W.Germany (see table A.2 -appendix I). The "engine" of this impressive upswing was industry and especially manufacturing industry, as figure 3.4 shows. As it can also be remarked (table 3.8), manufacturing establishments, employment and installed horsepower were continuously increasing all over the post-war period. Income per capita raised to a considerable extend, reaching, by 1970, the "threshold" of development set at the time at US $ 1,000 GNP per capita (Leontidou 1983: 81). Over the 1961-77 period, private consumption per capita increased by a rate exceeding even that of some advanced industrial economies like for instance France, Italy, W.Germany and USA (Tsoucalas 1986: 312). Shifts in the value composition of exports in favour of manufactured goods were also impressive: In just a decade's period (1965-76) they were increased by 36 times (calculated from previous table 3.3).

Figure 3.4 *Index of GDP by sector, 1951-1991* (1951=100).



SOURCE: Own calculations from table A.1 -appendix I.

Table 3.8 *Number of manufacturing establishments, average annual employment and installed HP, 1958-1988*

	1958	1969	1978	1988
No of establishments (a)	109,236	124,651	128,988	144,717
Average annual employment (b)	441,092	501,521	671,496	706,308
Installed horsepower (c)	775,760	2,014,417	4,519,618	6,880,057

SOURCE: (a) Table B.3 (appendix I). (b) Table B.4 (appendix I). (c) Table B.5 (appendix I). For 1988 horsepower data NSSG, *Statistical Yearbook of Greece 1990-91."* Athens 1994: table X:1

The changes post-war Greek economy underwent, were reflected on the composition of active population. In 1951-1991 agricultural employment decreased by 1,079,900 jobs (-57.2%), while industrial employment increased by 450,400 jobs (+81.9%) and service employment by 1,079,700 jobs (+144.8%) (calculated from table A.3 -appendix I). However, manufacturing employment increased with a much slower rate than that of the gross manufacturing product (table 3.9). As we will see, industrialization was mainly based on modern capital intensive activities which had little effects upon the creation of new jobs. This is why despite industrial growth of that period, migration of

Table 3.9 *% changes of manufacturing employment and product, 1961-1971*

	% change 1961-71
Manufacturing employment (a)	+13.5
Manufacturing product (b)	+174.5

SOURCE: (a) Table A.3 (appendix I); (b) Own calculations from table A.4 (appendix I)

Greek labour force to the industrial centres of Europe (and especially to those of W.Germany) took on endemic dimensions. Just to give a measure of this labour power drain, between 1960-1973 1,010,859 persons emigrated from Greece (own calculations from (a) NSSG, *Statistical Yearbook of Greece 1971*, Athens: 41 for the 1960-70 period; (b) NSSG, *Statistical Yearbook of Greece 1978*, Athens: 51, 68 for the 1971-73 period). Even if we take into account that 134,195 persons repatriated till 1973 (ibid.), there was a net loss of 876,664 persons -a number excessively large if we compare it with the country's active population in 1971 (about 3.2 million people) (see table A.3 -appendix I).

The causes of growth have been the liberalization of the Greek economy (1962 association to the EC and gradual removal of import tariffs, taxes etc. for manufactured goods) (Giannitsis 1988: 79) and the flow of direct foreign investments in modern intermediate and capital branches, -especially chemical industry (including petroleum and coal products, plastic and rubber), basic metallurgy and transport equipment (mainly ship-building) (Hassid 1980: 313-14). In 1963-73 these three branches, alone, concentrated more than 3/4 of the total foreign industrial investments which had been "imported" since 1954 due to LD 2687/1953 (ibid.: 313). Along with the inflow of foreign investments a wave of merger of domestic companies with foreign capital took place in an effort of Greek industrialists to avoid the increased pressures of external competition and to secure their position under the "protection" of foreign capital (Antonopoulou 1987: 88-90).

Branch analysis of manufacturing, shows that although traditional consumer goods (food/drinks/tobacco, textiles, clothing/footwear, wood/furniture, paper/printing and miscellaneous) were dominating all over the post-war period in terms of their share in the total manufacturing GDP (table 3.10), a

considerable restructuring towards the growth of modern intermediate and capital branches took place in 1960-73 (tables 3.10 and 3.11). Most growth dynamism was exhibited by basic metallurgy, chemicals/allied and transport equipment (table 3.12).

Table 3.10 *% share of gross manufacturing product by branch, 1951-1991*

Branch	1951	1961	1971	1981	1991
Non durable consumer goods	77.5	63.3	56.0	55.7	54.8
-Foods,drinks,tobacco	26.8	21.7	18.9	19.1	22.9
-Textiles	19.2	15.0	14.9	18.0	14.9
-Clothing & Footwear	19.2	12.5	9.2	8.6	6.4
-Wood & Furniture	5.3	6.1	6.1	3.7	2.8
-Paper & Printing	4.0	5.0	4.2	4.1	5.1
-Miscellaneous	3.0	3.1	2.7	2.2	2.6
Intermediate goods	9.0	13.7	18.6	21.8	23.6
-Chemicals & allied	3.9	7.3	11.2	13.2	16.1
-Non-metallic minerals	5.1	6.4	7.4	8.6	7.5
Capital goods & durables	13.5	23.0	25.4	22.5	21.6
-Basic metals	0.5	1.5	5.9	5.2	6.1
-Metal manufactures, machinery & electrical equipment	10.7	15.4	13.6	12.4	9.9
-Transport equipment	2.3	6.0	5.9	4.8	5.6
Total	100.0	100.0	100.0	100.0	100.0

SOURCE: Own calculations from table A.4 (appendix I).

Table 3.11 *Average annual growth rates of branch groups, 1960-1991*

Branch group	1960-73	1973-81	1981-91
Non durable consumer goods	9.3	3.3	0.0
Intermediate goods	13.2	5.0	1.1
Capital goods & durables	12.9	1.6	-0.2
Total	10.7	3.2	0.2

SOURCE: Own calculations from table A.4 (appendix I).

Table 3.12 *Index of gross manufacturing product by branch, 1951-1991* (1951=100)

Branch	1951	1961	1971	1981	1991
Non durable consumer goods	100	175	425	682	683
-Foods,drinks,tobacco	100	174	415	678	827
-Textiles	100	167	456	890	750
-Clothing & Footwear	100	139	283	424	322
-Wood & Furniture	100	247	679	664	516
-Paper & Printing	100	265	609	962	1,222
-Miscellaneous	100	225	530	704	842
Intermediate goods	100	326	1,211	2,289	2,523
-Chemicals & allied	100	397	1,670	3,176	3,930
-Non-metallic minerals	100	271	855	1,601	1,431
Capital goods & durables	100	365	1,109	1,582	1,544
-Basic metals	100	680	7,216	10,216	12,060
-Metal manufactures, machinery & electrical equipment	100	308	745	1,100	895
-Transport equipment	100	567	1,521	2,013	2,363
Total	100	214	588	949	965

SOURCE: Own calculations from table A.4 (appendix I).

Capital intensity[3] and productivity of labour[4] were also higher in the intermediate and capital branches than in the consumer ones (table 3.13). The composition of capital investments prevailing in the 1950s, was drastically reversed during the industrialization period: Whereas in 1958 the consumer

Table 3.13 *Capital intensity and labour productivity in manufacturing by branch group, 1978.*

	Non durable consumer goods	Intermediate goods	Capital goods and durables
Capital intensity (a)	4.90	13.72	7.33
Labour productivity (1977) (b)	149.1	266.2	184.4

SOURCE: (a) Own calculations from tables A.7 and A.9 (appendix I); (b) Vaitsos and Giannitsis 1987: 40.

[3] Measured as installed horsepower per worker. According to Giannitsis (1985: 187-8) this index manifests the Capital/Labour ratio and expresses the extend to which capital equipment is used intensively in the production process.

[4] Measured as value-added per worker.

branches concentrated almost 48% of the total manufacturing investment, by 1973 their share had fallen to 35.7% in favour of the capital ones (see previous table 3.2). This tendency was strengthened further in the early 1980s: By 1983, for instance, capital and intermediate branches, together, concentrated the vast majority (over 70%) of the gross fixed capital investment in manufacturing. However, as we will see later on, deindustrialization and negative restructuring re-oriented manufacturing activity to the traditional pattern of accumulation prevailing in the 1950s, that is, to the predominance of consumer branches: By 1989, the share of investment in those branches had exceeded even the 1958 level (see previous table 3.2).

In terms of growth rates the leading branches of the 1960-1973 growth period were: (a) basic metallurgy, (b) chemicals and allied and (c) transport equipment (table 3.14). These three branches, alone, absorbed 43,7% of the

Table 3.14 *Hierarchical classification of manufacturing branches according to their average annual growth rates, 1960-1973*

Branches	Average annual growth rate (%)
Basic metallurgy	27.8
Chemicals and allied	15.0
Transport equipment	12.2
Non-metallic minerals	10.8
Metal manufactures, machinery & electrical equipment	10.8
Textiles	10.7
Wood and furniture	10.7
Miscellaneous industries	9.5
Paper and printing	9.4
Food, drinks and tobacco	8.9
Clothing and footwear	7.8

SOURCE: Own calculations from table A.4 (appendix I).

gross manufacturing investments in 1973 (calculated from previous table 3.2) and reached very high levels of labour productivity (1970) (Vaitsos and Giannitsis 1987: 40). These branches, also, concentrated in 1966 the vast majority (83.2%) of total foreign investment in manufacturing (calculated from Hassid

1980: table 75). Some other modern at that time branches of heavy industry were also growing with relatively high average annual growth rates as table 3.14 shows.

According to Hassid (1980: 317-19), the main reasons for the attraction of foreign direct investments were: (a) the low cost of raw materials (abundant mineral resources); (b) the relatively low cost of labour; (c) the growing domestic demand for certain manufactured goods (e.g. fertilisers, packing materials, building materials and electrical cables), and (d) the favourable conditions created either by the LD 2687/1953 addressed to the protection of foreign investments, or by special deals between the Greek governments and foreign investors.[5] One has to add to these reasons the comparative advantages of Greece as an export platform for Multinational Enterprises (MNEs) since its 1962 association to EC (Dokopoulou 1986). Such companies, would be able to establish subsidiaries and produce in Greece with a much lower production cost than in the mother-countries, import raw materials, equipment and other intermediate inputs without import restrictions and tariffs, export their products in the EC market or in the markets of Middle East and Northern Africa just like the Greek industries, that is, without export tariffs (ETVA 1967: 63), and on the same time benefit from generous incentives and other facilities provided by the LD 2687/1953. The military dictatorship imposed in April 21st 1967, restricted drastically labour's claims and free trade- unionism, creating, therefore, favourable conditions for smooth capital accumulation. By 1968, the share of foreign investments to the total fixed capital of Greek manufacturing had reached 36,3% at the average (Giannitsis 1985: table 62). The share was much greater in certain branches like e.g. miscellaneous industries, petroleum and coal products, transport equipment, electrical equipment, rubber/plastic, metallurgy and metal products, while light industry consumer branches were left to the domestic capital (ibid.).

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[5] For instance, the 1960 deal between the Greek government and the French Pechiney (aluminium production company) provided that the public sector would contribute with 50% in the total investment and would participate with only a 12% in revenues. This deal was characterised as one of a colonial character (for more details on the arguments relating to such issues see Antonopoulou 1987: sect. II.2).

Much of the industrial growth of the period, was led by big manufacturing companies which, by the Greek standards, are those employing 50+ persons and having a net turnover of 100+ million Drs (KEPE 1989: 30). Those companies' share in the total manufacturing horsepower was higher than the share of SMEs (table 3.15). Capital intensity (HP per worker) was also much

Table 3.15 *Installed manufacturing horsepower by plants' size 1978, 1984*

Plants' size	1978	%	1984	%	1978-84
SMEs (up to 49 employees)	1,663,021	36.8	2,463,037	40.1	+48.1%
Large firms (+50 employees)	2,856,880	63.2	3,680,931	59.9	+28.8%
Total	4,519,901	100.0	6,143,968	100.0	+35.9%

SOURCE: Tables A.9 and A.10 (appendix I).

greater in larger companies than in SMEs (table 3.16). The participation of larger companies in the formation of the total value-added in manufacturing

Table 3.16 *Average capital intensity in manufacturing by plants' size 1978, 1984*

Plants' size	1978	1984	change 1978-84
SMEs (up to 49 employees)	4.12	5.66	+37.4%
Large companies (50+ employees)	10.65	14.77	+38.6%
Total	6.73	8.98	+33.4%

SOURCE: Own calculations from tables A.7, A.8, A.9 and A.10 (appendix I).

industry was greater than that of SMEs (table 3.17). However, the role of SMEs should not be underestimated, especially in forming the total number of manufacturing establishments and in employment creation (table 3.18). By 1978, SMEs accounted for 98.8% of total manufacturing establishments and for 60.1% of total manufacturing employment. These percentages were further increased in 1984 and 1988. SMEs' employment was greater in the consumer goods group than in the intermediate and capital ones (table 3.19).

Table 3.17 *Participation of large companies and SMEs in value-added of manufacturing, 1975-1986* (value-added in million Drs).

	1975	%	1980	%	1986	%
Large companies (50+ employees)	69,965,458	59.67	199,934,900	62.33	584,957	75.61
SMEs (up to 49 employees)	47,293,712	40.33	120,835,139	37.67	188,655	24.39
Total	117,259,170	100	320,770,039	100	773,612	100

SOURCE: For 1975: NSSG, *Statistical Yearbook of Greece 1978,* Athens 1979: table X:4. For 1980: NSSG, *Statistical Yearbook of Greece 1986,* Athens 1987: table X:6. For 1986: NSSG, *Statistical Yearbook of Greece 1990-91*, Athens 1994: table X:4.

Table 3.18 *Number of establishments and employment in SMEs, 1978-1988*

	1978	%	1984	%	1988	%	1978-1988
Number of SMEs (up to 49 employees)	127460	98.8	143044	99.0	143407	99.1	+12.51%
Number of larger companies (50+ employees)	1528	1.2	1419	1.0	1310	0.9	-14.27%
Employment in SMEs	403312	60.1	434926	63.6	480327	68.0	19.10%
Employment in larger companies	268182	39.9	249212	36.4	225981	32.0	-15.74%

SOURCE: For 1978 and 1984, tables A.5, A.6, A.7 and A.8 (appendix I.) For 1988 own calculations form NSSG, *Statistical Yearbook of Greece 1990-91.* Athens, 1994: tables X:2 and X:4.

The oil-related world economic recession of 1973/74 marked a drastic reversal of the previous growth tendencies and Greek industry entered a long lasting state of deindustrialization and negative restructuring whose effects were intensified after 1981 (year of Greece's accession to EC) due, mainly, to the inability of Greek industry to adapt effectively to the increased external competition (KEPE 1990: 205). The growth rates of the past were drastically decreased (table 3.20). According to available OECD data (table 3.21), value-added and productivity of labour in Greek industry and manufacturing fell dramatically since 1973.

Table 3.19 *Manufacturing employment by plants' size and branch group 1978, 1984*

Plants' size	1978	%	1984	%	% 1978-84
A. Consumer goods	401,833	59.9	409,093	59.8	1.8
-Large companies	144,324	21.5	138,080	20.2	-4.3
-SMEs	257,559	38.4	271,013	39.6	5.2
B. Intermediate goods	89,753	13.3	93,610	13.6	4.3
-Large companies	47,213	7.0	46,171	6.7	-2.2
-SMEs	42,540	6.3	47,439	6.9	11.5
C. Capital goods	179,858	26.8	181,440	26.5	0.9
-Large companies	76,645	11.4	64,968	9.5	-15.2
-SMEs	103,213	15.4	116,474	17.0	12.8
Total	671,494	100.0	684,143	100.0	1.9

SOURCE: Tables A.7 and A.8 (appendix I). (Own calculation of percentages).

Table 3.20 *Average annual rates of GDP, gross product of industry and gross product of manufacturing during the deindustrialization period*

	1973-1981	1981-1991
Gross Domestic Product (GDP)	3.0%	1.8%
Gross product of industry	2.1%	1.2%
Gross product of manufacturing	3.2%	0.2%

SOURCE: Table A.1 (appendix I).

Table 3.21 *Deindustrialization in Greece, 1973-1988* (percentages)

	1968-73	1973-79	1979-88
Average annual change of value-added in industry	11.8	3.3	0.3
Average annual change of value-added in manufacturing	13.2	4.3	0.3
Average annual change of productivity in industry	7.4	1.2	0.3
Average annual change of productivity in manufacturing	7.8	2.7	-0.8

SOURCE: Adapted from OECD, *Historical Statistics 1960-1988.* Paris 1990: 49, 50 and 52.

After 1978, although total manufacturing employment continued increasing, about half of the 20 2-digit Order branches started to present job losses (table 3.22). From the consumer branches the most seriously affected

during 1978-88 were leather/fur and textiles. Wood and furniture were also affected but to a less extend. From the intermediate goods non-metallic minerals and rubber/plastic experienced job loss, whereas from the capital goods metal products and electric equipment presented job loss as well.

Table 3.22 *Manufacturing employment by branch, 1969-1988.*

Code Branch	1969	1978	1988	% change 1969-78	% change 1978-88
Non durable consumer goods	321,119	401,825	436,018	25.13	8.51
20.Foods	81,517	94,324	104,307	15.71	10.58
21 Drinks	10,923	12,722	13,530	16.47	6.35
22 Tobacco	13,191	9,711	12,896	-26.38	32.8
23 Textiles	54,961	78,377	66,403	42.6	-15.28
24 Clothing/Footwear	62,232	87,284	116,924	40.26	33.96
25 Wood/Cork	30,274	33,009	30,949	9.03	-6.24
26 Furniture	26,507	31,263	30,467	17.94	-2.55
27 Paper	7,784	11,023	12,010	41.61	8.95
28 Printing/Publishing	14,123	17,285	22,621	22.39	30.87
29 Leather/Fur	10,312	15,548	12,018	50.78	-22.7
39 Miscellaneous	9,295	11,279	13,893	21.34	23.18
Intermediate goods	60,875	89,751	92,396	47.43	2.95
30 Rubber/Plastic	10,845	19,480	19,296	79.62	-0.94
31 Chemicals	16,250	26,009	27,769	60.06	6.77
32 Petroleum/Coal products	2,921	4,745	7,483	62.44	57.7
33 Non metallic minerals	30,859	39,517	37,848	28.06	-4.22
Capital goods and durables	119,527	179,861	177,893	50.48	-1.09
34 Basic metallurgy	5,709	9,816	10,418	71.94	6.13
35 Metal products	43,266	54,317	47,081	25.54	-13.32
36 Non electric machinery	17,214	22,323	22,320	29.68	-0.01
37 Electric equipment	18,282	30,401	28,424	66.29	-6.5
38 Transport equipment	35,056	63,004	69,650	79.72	10.55
Total	501,521	671,496	706,307	33.89	5.18

SOURCE: Table B.4 (appendix I). (Own calculation of percentages).

The large companies -irrespective of branch group- were especially hit in terms of job loss; however, the greater loss (-15.2% in 1978-84) was remarked in large capital goods companies (see previous table 3.19). The number

of such companies was also decreased over the same period in all branch groups and especially in the capital goods one (table 3.23).

Table 3.23 *Number of manufacturing establishments by size and branch group 1978, 1984*

Plants' size	1978	%	1984	%	% 1978-84
A. Consumer goods	82,434	63.9	86,405	59.8	4.8
-Large companies	935	0.7	907	0.6	- 3.0
-SMEs	81,489	63.2	85,498	59.2	4.9
B. Intermediate goods	8,682	6.7	10,547	7.3	21.5
-Large companies	247	0.2	243	0.2	-1.6
-SMEs	8,435	6.5	10,304	7.1	22.2
C. Capital goods	37,882	29.4	47,511	32.9	25.4
-Large companies	346	0.3	269	0.2	-22.3
-SMEs	37,536	29.1	47,242	32.7	25.9
Total	128,998	100.0	144,463	100.0	12.0

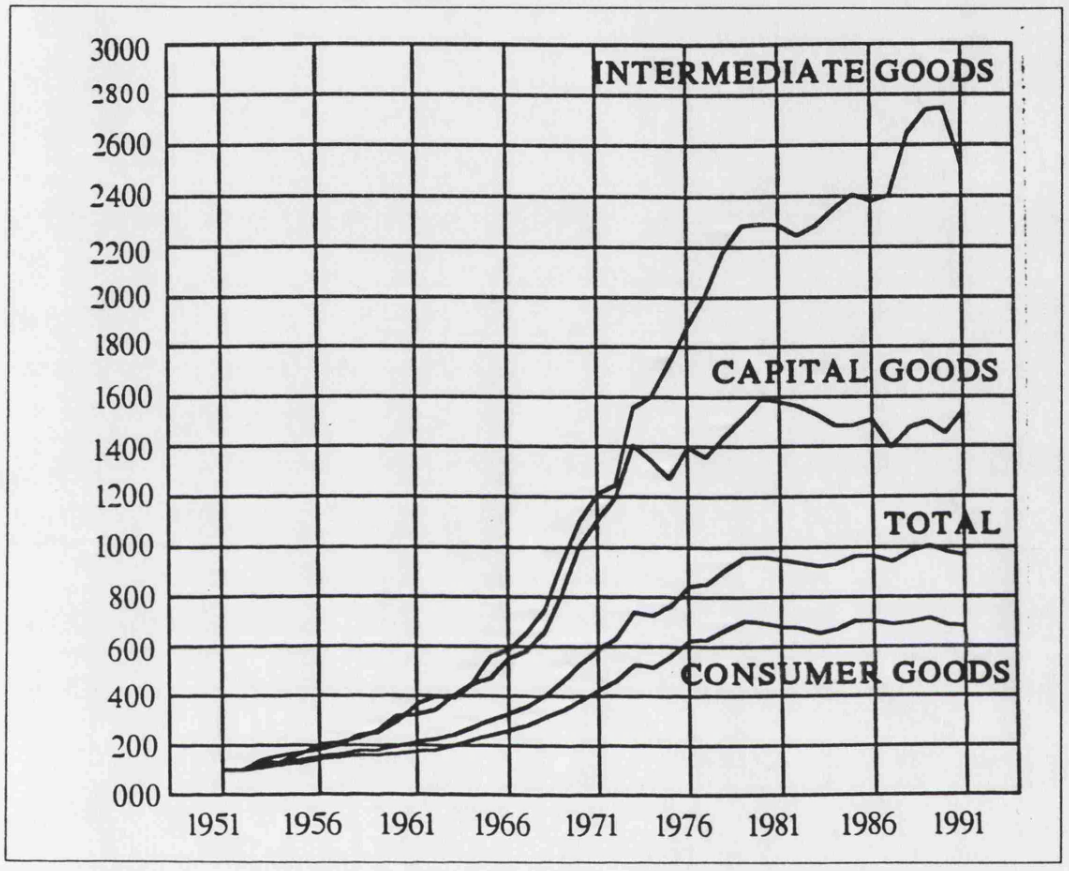
SOURCE: Tables A.5 and A.6 (appendix I). (Own calculation of percentages).

By contrast to large companies, SMEs showed a remarkable degree of resistance to crisis. Not only they managed to increase their number of establishments over the 1978-88 crisis period, but they also increased their employment (see previous table 3.18). However, their positive role was unable to totally counteract the wider effects of deindustriualization and negative restructuring. Total manufacturing investments experienced a serious decline in the post 1973/74 era. Whereas they represented 20% of the total gross fixed capital formation in 1974, they fell to 13.4% in 1985; they presented an increase in 1991, which, however, did not reach the 1974 percentage (calculated from table A.11 -appendix I). Their average annual growth rate fell from 13.8% in 1960-73 to -0.2% in 1973-81 and raised slightly to 1.9% in 1981-91 (ibid.).

Branch analysis shows that the capital goods group, which displayed a remarkable dynamism in the industrialization period, experienced a decline in the post-1978 era (fig. 3.5). Ironically, despite the decline in output, the share of investments in the capital branch group increased in 1973-1983 (see previous table 3.2) and this is probably due to the entrance of new capital good

firms in business (from 37,882 in 1978 to 47,511 in 1984 -see tables A.5 and A.6 -appendix I)). On the other hand, a reorientation of the industrial system to

Figure 3.5 *Index of gross manufacturing product by branch group, 1951-1991* (1951=100)



SOURCE: Own calculations from table A.4 (appendix I).

the consumer branches which characterized the accumulation pattern of the first post-war decade can be remarked (table 3.24 and fig. 3.6) The leading branches (1973-81) in terms of average annual growth rates, were non-metallic minerals, textiles, foodstuffs, etc; after 1981, the growth rates were further decreased and in a number of branches (non metallic minerals, textiles, metal products/machinery/electrical equipment, wood/furniture and clothing/footwear) were negative.

Another important feature of Greek deindustrialization is the further weakening of the already weak vertical integration trends. This point can be deduced from data relating: (a) to the degree of value-added in the various

branches, and (b) to the volume of manufactured imports. In most branches, especially intermediate and capital ones, value-added as a percentage of the

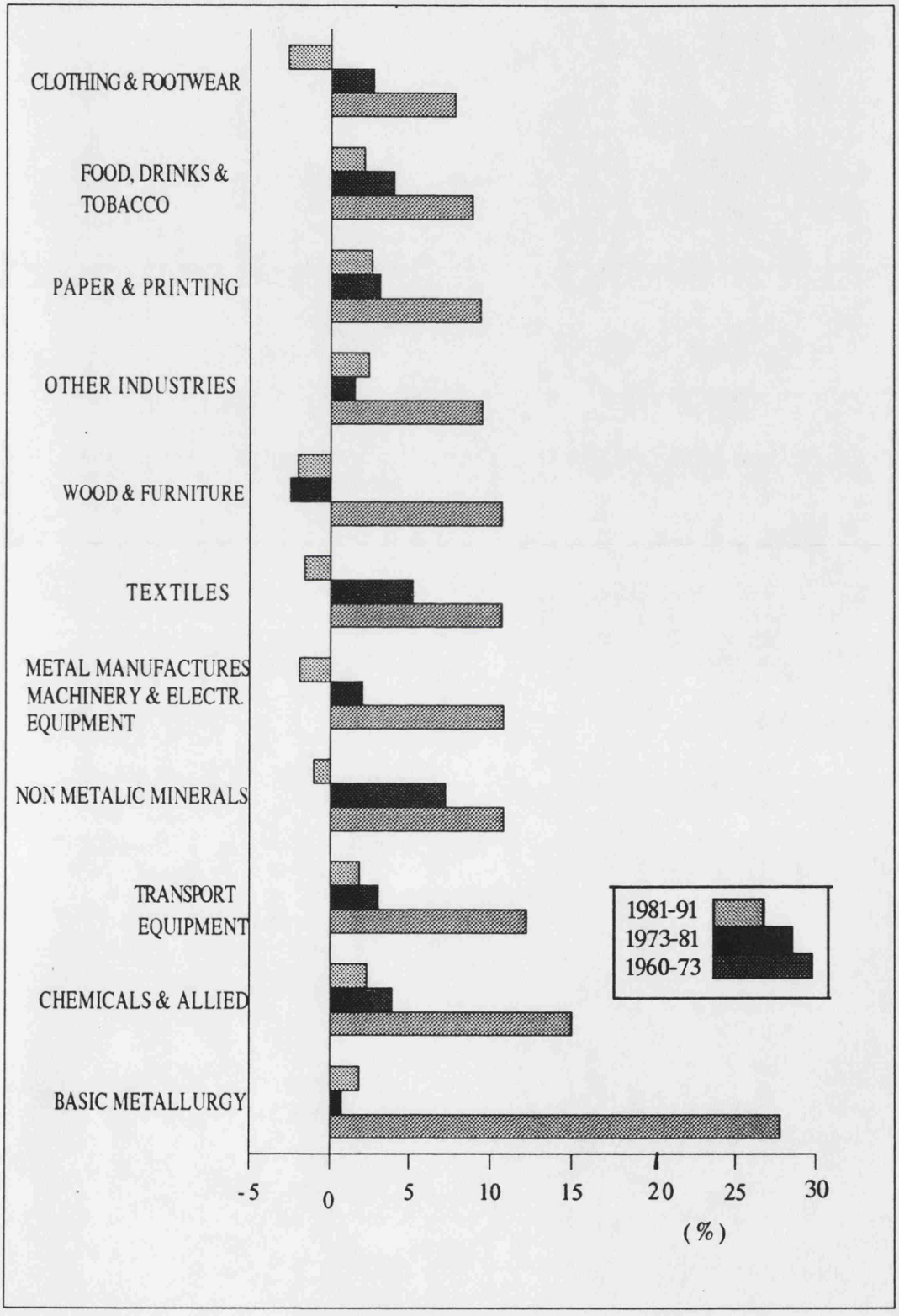
Table 3.24 *Classification of manufacturing branches according to their average annual growth rates in the period of deindustrialization (1973-1991)*

1973-1981	%	1981-1991	%
Non-metalic minerals	7.2	Paper & printing	2.6
Textiles	5.2	Miscellaneous	2.4
Foods,drinks,tobacco	4.0	Chemicals & allied	2.3
Chemicals & allied	3.9	Food,drinks,tobacco	2.1
Paper & printing	3.1	Basic metallurgy	1.8
Transport equipment	3.0	Transport equipment	1.8
Clothing & footwear	2.7	Non-metallic minerals	-1.0
Metal products, machinery & electric equipment.	2.0	Textiles	-1.6
Miscellaneous	1.5	Metal products, machinery & electrc. equipment	-1.9
Basic metallurgy	0.7	Wood & furniture	-2.0
Wood & furniture	-2.5	Clothing & footwear	-2.6

SOURCE: Own calculations from table A.4 (appendix I).

gross manufacturing product marked negative changes in 1973-80 (vertical disintegration) as we can see in table 3.25. The branches which were the hardest hit by disintegration were most of the strategic branches that led economic growth and industrialization in the 1960s-mid 1970s. It seems that domestic manufacturers, instead of pursuing vertical integration strategies, preferred to pursue the much cheaper "solution" (due to cut out of tariffs) of imported inputs (raw materials, intermediate manufactured goods). This is

Figure 3.6 *Average annual growth rates of manufacturing branches during the periods of industrialization (1960-1973) and deindustrialisation (1973-1981 and 1981-1991)*



SOURCE: Tables 3.14 and 3.24.

Table 3.25 *Value-added as percentage of the gross manufacturing product, 1973, 1980.*

Code Branch	1973	1980	% 1973-80
Non durable consumer goods			
20. Foods	25.7	23.8	-7.4
21. Drinks	33.2	36.3	9.3
22. Tobacco	25.1	24.8	-1.2
23. Textiles	40.0	38.1	-4.7
24. Clothing-Footwear	39.3	42.7	8.7
25. Wood-Cork	41.2	36.4	-11.6
26. Furniture	45.9	47.1	2.6
27. Paper	39.2	27.1	-30.3
28. Printing-Publishing	51.2	54.4	6.3
29. Leather-Fur	29.1	32.7	12.4
39. Miscellaneous	46.9	48.3	3.0
Intermediate goods			
30. Rubber-Plastic	49.2	39.7	-19.3
31. Chemicals	46.3	32.7	-29.4
32. Petroleum-Carbon Products	26.2	6.5	-75.5
33. Non metallic minerals	52.2	41.6	-20.3
Capital goods and durables			
34. Basic metallurgy	41.5	25.9	-37.6
35. Metal manufactures	40.5	34.7	-14.3
36. Non electric machinery	42.7	43.3	1.4
37. Electric equipment	37.5	34.7	-6.7
38. Transport equipment	55.5	56.9	2.5

SOURCE: Adapted from Vaitsos and Giannitsis 1987: 42.

why, despite the increasing value of manufacturing exports all over the post-war period, the Greek economy remained dependent on increasing imports of raw materials and manufactured goods (table 3.26), which was continuously worsening its external trade deficit. This deficit raised from 187 million US dollars in 1955 to 5,111.5 million by 1985, that is, it presented a huge increase of 2,633.4% in just three decades (calculated from Vaitsos and Giannitsis 1987: table 14).

Table 3.26 *% composition of the external trade of Greece, 1953-1985*

Year	Exports			Imports		
	A	B	C	A	B	C
1953	72.6	17.8	9.6	23.2	29.7	47.1
1960	64.8	25.2	10.0	10.8	16.8	72.4
1965	66.4	19.8	13.8	15.2	18.5	66.3
1970	41.1	17.9	41.0	10.5	15.3	74.2
1975	32.3	19.8	47.9	9.4	30.0	60.6
1980	25.7	23.4	50.9	8.4	30.1	61.5
1985	28.0	19.4	52.6	12.3	35.2	52.5

A: Agricultural products (SITC 0, 1, 4)
B: Raw materials (including oil, lubricants, etc.) (SITC 2, 3)
C: Manufactured products (SITC 5, 6, 7, 8).

SOURCE:
1953: Calculated from NSSG, *Statistical Yearbook of Greece 1955*, Athens: 312
1960: Calculated from NSSG, *Statistical Yearbook of Greece 1962*, Athens: 249
1965: Calculated from NSSG, *Statistical Yearbook of Greece 1966*, Athens: 255
1970: Calculated from NSSG, *Statistical Yearbook of Greece 1971*, Athens: 256
1975: Calculated from NSSG, *Statistical Yearbook of Greece 1977*, Athens: 298
1980: Calculated from NSSG, *Statistical Yearbook of Greece 1982*, Athens: 306
1985: Calculated from NSSG, *Statistical Yearbook of Greece 1982*, Athens: 310

The aggregate result of all these changes was the worsening of the comparative position of Greek economy among OECD countries, especially after 1979 (see table A.2 -appendix I). The loss of the previous leading role of industry in economic growth was countered, in the post 1973/74 period, by the increasing importance of the service economy (tertiarization), which kept on growing (see table A.1 -appendix I).

The preceding analysis reveals that Greek deindustrialization is a quite unique phenomenon differing in a number of respects from deindustrialization and restructuring in the advanced industrial economies:

(a) While in the advanced economies (e.g. USA, UK, Germany, etc.) deindustrialization and capital restructuring since late 1960s/early 1970s was associated with absolute declines in manufacturing output and employment (see e.g. Rowthorn 1986; Massey 1988; Mouzelis 1990a for the UK case; for the US case see Bluestone and Harisson 1982; Harrison

and Bluestone 1994; for the case of Germany see Frobel *et al* 1981), in Greece, by contrast, not only there was no job loss in manufacturing as a whole, but a continuing employment increase during all the post-war period (until 1988) took place. Job losses were branch-specific and emerged particularly in large companies after the mid 1970s. However, job losses in those branches and companies were countered by new jobs created mainly by SMEs which -by contrast to larger ones- exhibited a remarkable degree of resistance to job reduction.

(b) While in the advanced capitalist world deindustrialization and restructuring brought about the exodus of a vast number of companies from business, in Greece, contrarily, new manufacturing firms entered the market during crisis period. SMEs, again, played an important role in this. The increase of both number of manufacturing establishments and employment during crisis period, is the net output of two combined tendencies; (a) closures of larger companies and (b) entrance of new smaller firms in business.

(c) While in advanced world deindustrialization took on the form of a serious decline of traditional branches and the simultaneous restructuring of production through the adoption of technological improvements and rationalization strategies aiming at the development of high-tech branches and knowledge based firms, in Greece, on the contrary, restructuring took on a negative form by reorienting the production system to the traditional manufacturing activities which were prevailing during the first post-war decade. According to Giannitsis (1986: 245), the crisis of Greek industry "is identified by a dialectical relationship between stability and transformation, between surpassing of past frameworks and search of a new balance." In that "search", however, all evidence shows that the "past frameworks" continue to predominate over the creation of new production structures.

There are diverging views on the causes of Greek deindustrialization. State monopoly capital theorists (e.g. Samaras 1982) assert that the country's

economic and political dependence upon foreign decision centres hindered the development of a self-sufficient industrial base able to adjust effectively in the changing international circumstances. For underdevelopment theorists (e.g. Fotopoulos 1985), post-war foreign capital-led and export-oriented industrialization took on the typical form of an "enclave" within the whole economic system which remained technologically backward and underdeveloped, hence vulnerable to increased external pressures. These views are mostly stressing the impacts of external factors and determinations upon the country's industrial system. However, a series of internal, structural characteristics of the post-war Greek industrialization and economic growth process, as well as the role of policy priorities, should be given special attention in addressing the major causes of Greek deindustrialization and negative restructuring:

(1). As we saw in the previous chapter, the class structure of modern Greek society is not characterized by a strict polarization between capital and labour, but by the coexistence of a multiplicity of petty socio-economic interests creating an "opaque" social mosaic and making the "borders" between classes extremely fluid and porous. In this fluid social structure, the interests of industrial capital had not been dominant and compact -at least to the extend orthodox Marxists believed (see e.g. Papadopoulos 1987)- as to form a leading power for the country's industrialization and development along typical western patterns.

(2). In that context, post-war manufacturing investments represented only a small proportion of the total fixed capital investment in the economy by contrast to the construction of dwellings which absorbed much greater proportions of investment all over the post-war period (see table 2.7 -chap. 2). Although it is recognized that the growth of building industry stimulated the growth of other linked industries, it absorbed disproportionately large amounts of investments which otherwise could have been directed in the development of a more dynamic, modern and stable manufacturing base.

(3). Much less were the private investments in industrial R+D activities as Vaitsos and Giannitsis (1987: chap. 2) have shown. Only 21% of the Greek

industrial companies have R+D departments, whereas even less have ever collaborated with an academic research institute and/or University in technological R+D projects (Kakavelakis and Dimopoulos 1993). Even large companies having some research activity, tend to orient this activity to improving their existing products than to developing new ones. A UNIDO report (quoted in Hassid and Katsos 1992: 66) revealed that by 1984 only 57 capital goods (in a sample of 140) were produced in Greece; moreover, the production of 35 of them had started before 1970 and they did not present high degree of technical complexity. Greek manufactures were preferring to import technology and "know-how" than investing to produce it in the country. Thus, the competitiveness of Greek industry was increasingly relied upon factors which were beyond its own range of control (Giannitsis 1986: 252). Wassenhoven (1984) places the major problems of Greek industrialization in the small size of establishments, family-type ownership and low productivity, small degree of vertical integration, external sources of financing, dependence upon imported technology and equipment and consumption oriented production. A more recent article (*To Vima*, 23 October 1994) places the "three big problems" of Greek manufacturing (a) in the small size of establishments which restricts the creation of economies of scale and poses problems in firms' financing, (b) in the low productivity which restricts modernization and adaptation of firms to the increased external competition, and (c) in the small degree of integration between agriculture-industry and industry-services. In the light of the presented evidence, however, it seems that the small size of firms was not by itself a major problem. On the contrary, it could potentially operate as a stimulus of a new industrial growth based on flexibility as in the case of "Third Italy" (see Scott 1988: chap. 5; Bagnasco 1992; Garofoli 1992). What seems to be more important, is the burgeoning reorientation of the Greek manufacturing system in the traditional labour intensive and low-tech consumer branches. This reorientation presents a serious threat for the future of Greek industry and economy in general. These branches are world-wide declining in terms of demand (KEPE 1990: 207-8), and the country's specialization in them has to face an increasing competition from the NICs which have the comparative advantage of much lower labour costs. As Nijkamp *et al.* remark:

The focus on traditional production methods has a number of negative consequences for the Greek economy: (1) The share of low-tech industrial production to total industrial production is world-wide declining; stated otherwise: the Greek manufacturing sector is selling its products in markets with a growth rate below world average. (2) Low-tech production is characterized by price competition. The comparative advantage of the Greek industry has been low wage. For two reasons Greece is losing this advantage. Firstly, new industrial countries with lower wage rates have emerged. Secondly, since 1972 the monetary authorities have periodically devaluated the Drachma to improve the terms of trade, but EC regulations have restricted this policy option since June 30 1991. (3) Profit margins of low-tech production sectors are generally low (Nijkamp *et al.* 1992: 101).

It becomes obvious that the Greek economy today, pays the penalty of its twofold backwardness: On the one hand it cannot manage to maintain its competitiveness in branches in which NICs are currently specializing with much lower labour costs, and on the other it is unable to adopt modernization strategies and technological improvements in order to enter the paths followed by the more advanced economies (Giannitsis 1986; Giannitsis and Mavri 1993). Although some initiatives towards such paths have recently emerged,[6] they are still far from reversing considerably the grim "picture" of the Greek production system.

(4). The inability of Greek industry to restructure by adopting technological modernization and rationalization strategies, is the basic reason that the post-war industrialization process remained incomplete and insecure, hence vulnerable to pressures generated by negative economic circumstances (oil-related world economic crises of 1973/74 and 1978, increasing antagonism from low cost countries, etc.). The origins of this inability can be traced back to both the priorities of industrial capital and state policy during all these decades of lost chances. The primary role foreign capital played in the

[6] We refer to possibilities and initiatives of development of new high-tech knowledge based firms that will enable Greece to exploit its new competitive advantage -cheap brain power (Nijkamp, *et al.* 1992: 102)- and a considerable amount of commercially exploitable research products which have been developing in the Greek Universities and Research Centres during the last decade (see Kourliouros and Laskaris 1992; 1992a). New knowledge-based firms have already developed especially in software production and informatics technology (some of which export their products), telecommunications, etc.; three science parks have been already constructed and others are in the phase of completion.

country's industrial growth, was not only the result of wider relocation strategies in the context of an emerging new international division of labour as some Greek writers assert (e.g. Antonopoulou 1987), but, also, the result of the inability of both domestic capital and state policy to promote modernization and transformation of the industrial structures on the basis of endogenous strategic choices. Greek industrial capital -or at least a major fraction of it- instead of pursuing the conditions of its accumulation and profit in the impersonal forces of the market (as in advanced capitalism), was systematically searching for these conditions in state's protectionism policies and in building various clientelistic accesses to the decision-making bodies for gaining special privileges (e.g. various grants and loans, tax concessions, special incentives, etc.) (Giannitsis 1986: 261-62). At least till the mid 1970s the Greek production system was still "a society of protection" (Giannitsis 1988: 82). In this context, the "ideal type" of entrepreneur which was created, was the one that did not strive to improve productivity by undertaking the risks of technological modernization, but, inversely, to maintain the already state-provided privileges and to enjoy the "security" of a small but officially protected domestic market. Thus, the structures of Greek industry were found quite unready to benefit to any considerable extend from technological change and other developments initiated by the foreign direct investments in the modern intermediate and capital manufacturing branches. Greek industrialization, followed, thus, a process of horizontal -or surface- diversification and growth, under traditional, sluggish, and unplanned structures. Neither the complementarity between agriculture and industry, nor the complementarity between the various manufacturing branches was achieved to any considerable extend (Mouzelis 1990; 1993).

(5). The state, on the other hand, by responding positively to various clientelistic mechanisms, secured the survival of numerous unproductive, uncompetitive and state-dependent manufacturing firms, through incentive policies providing various grants and low-interest loans (Giannitsis 1986: 253) without setting on the same time strict presuppositions for promoting technological change and increasing productivity of subsidised firms. Such policies were supposedly aimed at helping industries face financial difficulties due to

international economic recession and increased external competition. However, what these policies achieved, factually, was the emergence (in the early 1980s) of the so called "overdebted and problematical enterprises". That is, industrial firms which were unable to pay back their accumulated Bank loans, and which were kept artificially in business during the 1980s by the Socialist's government for social and ideological reasons (for a detailed discussion see Sakellaropoulos 1992). The accumulated problems of Greek industry created a new "wave" of problematical and overdepted manufacturing companies in the early 1990s as it was recently revealed (*To Vima*, 23 January 1994). Most of those firms were technologically innovative and dynamic, but they started to decline because Banks were reluctant -due to liquidity problems- to finance their immediate costs (e.g. payments of suppliers). According to a recent survey, 25% of 884 manufacturing firms whose revenues exceeded 1 billion Drs. each in 1992, were not able to pay back their short-term financial obligations due to lack of liquidity (ibid.).

(6). The various tools of industrial policy which were undertaken during the post-war period were mostly of a traditional character. I.e., they aimed mainly either at reducing the costs of private investments (e.g. provision of grants and loans, provision of cheap energy, etc.), or at increasing directly the profits of manufacturing companies (e.g. freezing of salaries and wages, tax concessions, etc.) (see Giannitsis 1993: 23). By contrast, policy elements which could have enhanced the competitive advantages of industry and increased its productivity and dynamism -e.g. policies aiming at raising the educational level, the skills and the specialization of labour, at improving the quality of products, at increasing the level of embodied technology in production, at supporting dynamic branches, etc.- never drew a special and consistent attention by the state apart from some sporadic efforts. In that context, the major common characteristic of the post-war industrial policies was the protection and maintenance of the existing traditional industrial structures, instead of the creation of an "environment" which could stimulate the internal dynamism and development of the production system.

The major point that has to be made, is that all over the post-war period the relations between state and domestic industrial enterprises formed a kind of economic patronage which hindered both the development of a healthy entrepreneurial mentality and the making of long-term development policies. Thus, while in most countries which just like Greece entered the stage of industrialization late (e.g. Finland, Norway, etc.) the national states managed to modernize the industrial sector and to support restructuring initiatives based on technologically advanced production processes, in Greece, inversely, the state not only failed in helping domestic industry to modernize or to benefit from the presence of technologically developed branches during the growth period, but, on the contrary, it formed a "barrier" to development due to its planning inconsistencies and contradictions (see chap. 2). The state, thus, became the major cause of the country's deindustrialization, crisis and negative restructuring. Even nowadays, when almost all Greek Technical Universities and the Hellenic Bank of Industrial Development (ETVA) have undertaken co-ordinated action for the creation of a Greek "sunbelt" (a zone of Science Parks and Incubators) in order to help industry modernize and become more antagonistic, the Greek state has not yet created an appropriate legislative framework and other supporting mechanisms for this purpose (Kourliouros 1993a; 1993b). As Mouzelis remarks, the Greek state resembles "a mentally defective giant, an unshaped monster which is unable to react with flexibility and effectiveness in a rapidly changing environment." (1990: A7).

(7). One more determinant element of the crisis of Greek industry, is associated with the impacts of several social changes upon the production system -changes which took place after the collapse of the military dictatorship (post 1974 period) and the passing of Greece in a normal and stable representative democracy. These changes had to do with the restoration of trade union freedoms, the sensible increase of salaries and wages in industry (Vergopoulos 1986: 83 ff), the gradual removal of protectionism, etc. More sensible was the raise of wage rates in manufacturing. As comparative OECD data show, (table 3.27), manufacturing wages in Greece were increasing with much higher rates than in other EC and OECD countries (totals) since 1975. New conditions for the operation of industrial capital and its accumulation

started therefore to emerge in the Greek economy. The post-dictatorial (post 1974) improvement of the working conditions in the private and public sectors

Table 3.27 *Hourly wage rates (year-to-year percentage change) in manufacturing in Greece, EC and OECD, 1975-1988.*

	1975	1978	1984	1988
Greece	24.6%	23.6%	26.3%	18.4%
Total of EC countries	15.2%	9.3%	6.9%	5.5%
Total of OECD countries	12.0%	8.1%	5.2%	4.4%

SOURCE: OECD, *Historical Statistics 1960-1988.* Paris 1990: 95.

of the economy, the real increase in wages and salaries, etc., were the outcomes of mass mobilisations and strikes in which lots of working people were participating. As shown in table 3.28, the number of strikes and strikers between 1975 and 1980 increased to a great extend. However, after the

Table 3.28 *Number of strikes and strikers, 1975-1985* (*)

Year	Number of strikes	Number of strikers	Working hours lost
1975	142	46,374	1,743,353
1976	829	241,142	5,187,783
1977	401	393,592	8,217,264
1978	405	349,969	6,477,117
1979	372	638,635	9,950,074
1980	472	1,317,917	20,494,944
1981	313	361,106	5,341,961
1982	447	246,543	7,892,094
1983	261	148,174	2,986,957
1984	268	107,957	2,690,789
1985	453	785,725	7,660,879

(*) Private sector, public organizations and banks.

SOURCE: Adapted from Petrinioti 1993: 168.

coming of Socialists to office in the 1981 general elections, the strike movement decreased abruptly -probably because working strata were expecting that the newly elected government would satisfy labour's claims. But in 1985 (beginning of Socialists' austerity policy), the strike movement started to rise

again. However, apart from strictly economic claims (wage and salary increases) during the post-1974 era, the labour movement managed to gain a bundle of qualitative improvements (e.g. restoration and further development of trade-union freedoms, expansion of social insurance to all kinds of work, welfare policies and re-skilling programs for unemployed, official regulation of labour-capital relations through collective bargaining, establishment of social wage, etc. (Petrinioti 1993), which were gradually legislated by post-1974 governments, and which, finally, resulted at improving the relative position of labour in the nexus of capital-labour relationships (Katsanevas 1983: 156). However, these changes were not accepted unproblematically by industrial capital. Having for decades been accustomed to different social and political conditions (protectionism, special privileges, suppression of wages, restrictions of free trade unionism etc.) the Greek industrial capital found itself quite unready to adapt to the new socio-political circumstances, and continued to pursue the maintenance of the past frameworks.

* * *

Industrial change, brought about spatial change. The changing spatial structures and the role of Athens metropolitan region in the country's industrial geography will be examined in the next section of this chapter.

3.2. Transformations of the Industrial Space and the Role of Athens

3.2.1. Spatial Polarization and the Location of Industry

As Myrdal (1957), Hirschman (1958), and other advocates of the theory of uneven spatial development have argued, economic growth and industrialization never starts up evenly in all areas of geographical space; for natural and/or historical reasons, some areas are "endowed" with more production factors than others (availability of capital and land, workforce, mineral and other natural resources, entrepreneurship, industrial and commercial tradition and mentality, infrastructure, etc.). Economic growth tends initially to occur in

such areas to take advantage of those factors; once the developmental dynamic has been set up, it tends to accelerate in a "cumulative causation" manner that reinforces the initial inequalities ("backwash" or "polarization effects") (for a concise presentation of the theories of unbalanced spatial development see Holland 1979: 36-60; Friedmann and Weaver 1979: 114-39; Cook 1983: 120-6).

Spatial polarization characterized the location of production during the period of economic growth and industrialization in Greece. Greater Athens (including Piraeus), was historically a major pole of industrial location (chap. 4, sect. 4.1); it was a pool of skilled labour, and the port of Piraeus was the major transit centre of the country. Moreover, Athens -as the capital city of Greece- was from 19th century endowed with administrative, commercial, financial, social and cultural services (Karageorgas and Pakos 1986: 277), which, simply, did not exist to any considerable extend in other areas of the Greek territory. The inflow of refugees after the Minor Asia disaster in 1922, increased the Athenian population -hence the supply of labour force for production and the demand for manufactured goods. However, till the early 1950s, regional inequalities remained at relatively low levels. The dominant position of the agricultural sector in the Greek economy kept local populations tightly bound to their rural provinces (ibid.: 278).

By the end of the civil war, however, a first wave of rural exodus to urban areas and mainly to Greater Athens took place. This exodus had two interrelated causes: (a) People who had joined the Democratic Army of Greece against the national forces during the civil war (which took place mainly in rural areas), moved to Athens hoping that the anonymity offered in a big city would help them avoid reprisals and other consequences after the final defeat of the Democratic Army in 1949 (e.g. terrorism exercised by police and right wing para-state organizations, extraordinary martial courts, etc.) (see Fischer *et al* 1974; Svoronos 1992: 147 ff). (b) because regional economies and infrastructure networks were completely destroyed during a decade of wars (Svoronos 1992: 145), there were no chances of employment in the countryside. These masses were mostly employed in informal sectors of the Athens urban

economy, which, during the 1950s shared many common characteristics with Third World metropolises -i.e. subsistence wages and urban poverty, domination of informality and marginality, etc. (Leontidou 1990: 90).

Rural exodus continued to take place during the 1960s, but to a much greater extend and in a different context: Industrialization was in progress, the Athens urban economy was rapidly transforming into a productive industrial economy (chap. 4, sect. 4.2) and the people moving to the capital supplied manufacturing sector with abundant and cheap workforce. Other major urban centres manifested considerable percentage increases of their population, even greater from those of Athens (table 3.29). However, due to their small initial population, these increases did not manage to alter the dominant position of Athens as the major pole of concentration of population and activities and the major reason (along with migration abroad) for depopulation and economic backwardness of most peripheral regions.

Table 3.29 *Population changes of the main Greek urban centres 1951-1991*

Main urban centres	% 1951-61	% 1961-71	% 1971-81	% 1981-91
Greater Athens	34.4	37.1	19.2	1.5
Thessaloniki	28.1	46.4	26.7	6.1
Patras	11.8	16.2	27.9	10.3
Irakleio	20.1	21.0	31.0	19.1
Volos	25.0	8.5	21.6	8.0
Larisa	35.0	30.6	41.4	10.8
Chania	41.4	4.4	16.9	16.3
Ioannina	8.3	14.7	11.7	51.8
Chalkida	4.0	46.7	23.6	40.1
Acharnae	33.4	70.1	46.2	49.9
Kavala	5.7	3.9	21.9	2.9
Serres	9.0	-0.4	16.1	8.8

SOURCE: Own calculations from NSSG, *Greece in Figures 1994*, Athens 1994: table I.b.

Industrialization and growth of the 1960s-mid 1970s period, accelerated the initial inequalities. Population concentration in Athens and regional socio-economic disparities, have been usually considered as the two sides of

one and the same coin (Wassenhoven 1984: 3). By 1974, the index of GDP per capita in Attica (Greece: 100) was 121 whereas in most peripheral regions was much below the national average, reaching even 63 in Thrace and 67 in Epirus and Eastern Aegian Islands (ibid.: 5). The index of electric energy consumption per capita in Attica reached 178 in 1975 (Greece: 100), whereas in peripheral regions it fluctuated between 32 (Thrace) and 77 (Central and Western Macedonia) (Kintis 1982: 113). The index of number of inhabitants per doctor was 57 in Attica (Greece: 100), whereas it fluctuated between 313 and 92 in peripheral regions.

The geographical distribution of manufacturing industry (1969, 1978 and 1988) by planning region is shown in tables 3.30, 3.31 and in figure 3.7.

Table 3.30 *Geographical distribution of manufacturing establishments by planning region, 1969-1988.*

Planning region	1969	%	1978	%	1988	%
Greece, total	124,651	100	128,988	100.0	144717	100.0
Attica	43,803	35.1	51,350	39.8	54,707	37.8
-Greater Athens	40,956	32.9	47,332	36.7	48,656	33.6
-Rest of Attica	2,847	2.3	4,008	3.1	5,552	3.8
Eastern Macedonia + Thrace	6,430	5.2	6350	4.9	6,613	4.6
Central Macedonia	20,840	16.7	21,420	16.6	27,999	19.3
Western Macedonia	4,340	3.5	5,362	4.2	6,504	4.5
Epirus	3,241	2.6	3,246	2.5	3,661	2.5
Thessaly	8,230	6.6	8,150	6.3	9,158	6.3
Sterea Hellas	6,473	5.2	5,685	4.4	6,403	4.4
Western Greece	6,762	5.4	6,584	5.1	7,190	5.0
Peloponnesos	7,570	6.1	6,518	5.1	7,127	4.9
Ionian Islands	2,754	2.2	2,332	1.8	2,226	1.5
Northern Aegian	3,770	3.0	2,781	2.2	2,655	1.8
Southern Aegian	3,291	2.6	2,463	1.9	2,702	1.9
Crete	7,147	5.7	6,757	5.2	8,253	5.7

SOURCE: Table B.1 (appendix I).

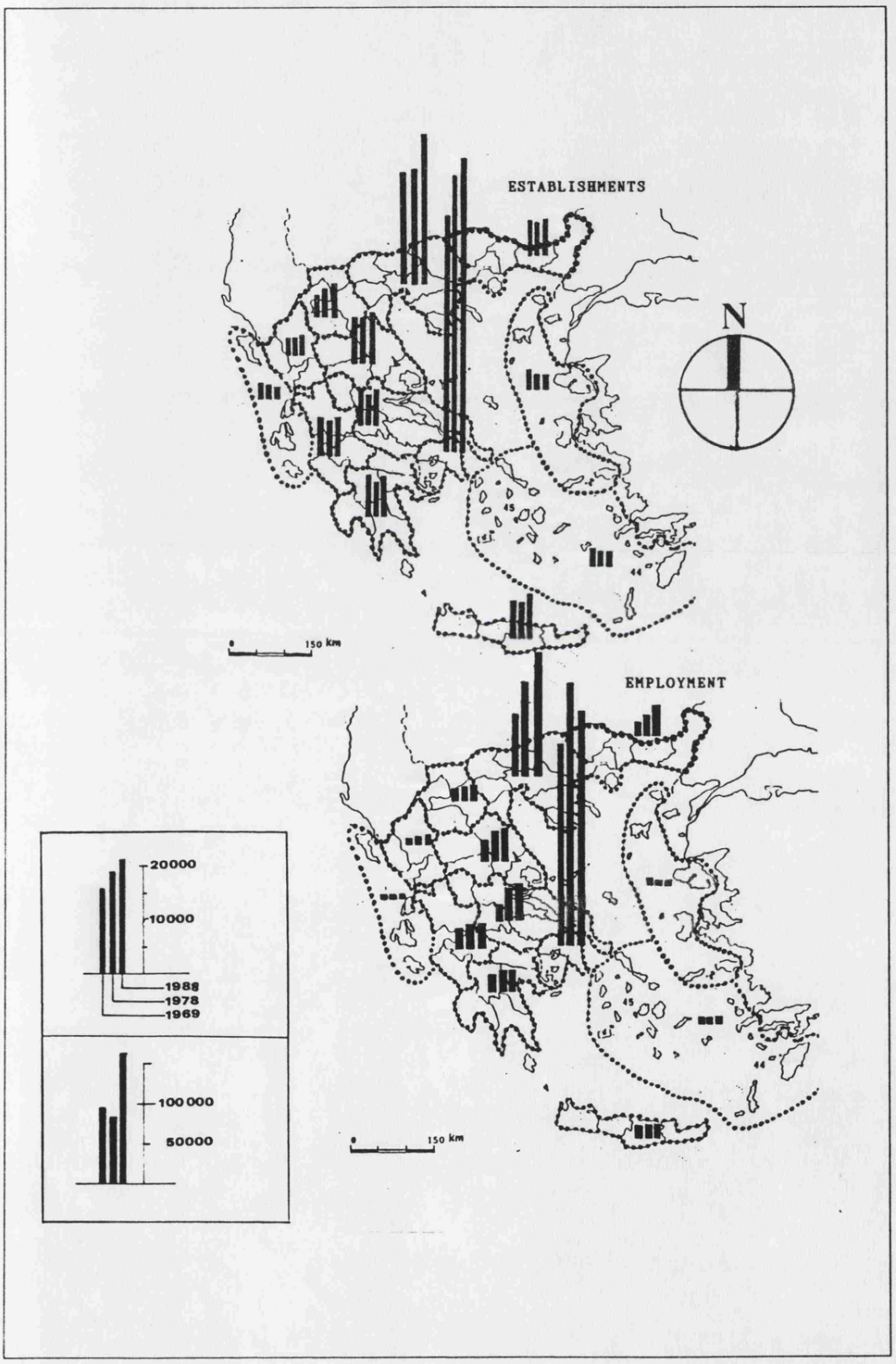
Table 3.31 *Geographical distribution of manufacturing employment by planning region, 1969-1988.*

Planning region	1969	%	1978	%	1988	%
Greece, total	501,522	100.0	671,496	100.0	706,308	100.0
Attica	251,711	50.2	327,779	48.8	292,509	41.4
-Greater Athens	233,779	46.6	281,821	42.0	246,880	35.0
-Rest of Attica	17,932	3.6	45,958	6.8	51,397	7.3
Eastern Macedonia + Thrace	17,747	3.5	25453	3.8	37,463	5.3
Central Macedonia	79,836	15.9	117,991	17.6	155,699	22.0
Western Macedonia	13,110	2.6	17,385	2.6	19,641	2.8
Epirus	7,700	1.5	10,351	1.5	11,992	1.7
Thessaly	25,626	5.1	37,571	5.6	41,246	5.8
Sterea Hellas	21,164	4.2	40,228	6.0	44,393	6.3
Western Greece	25,577	5.1	31,808	4.7	31,905	4.5
Peloponnesos	21,411	4.3	26,058	3.9	25,871	3.7
Ionian Islands	5,511	1.1	5,248	0.8	5,267	0.7
Northern Aegian	7,928	1.6	6,309	0.9	6,181	0.9
Southern Aegian	7,714	1.5	7,414	1.1	8,664	1.2
Crete	16,484	3.3	17,900	2.7	19,739	2.8

SOURCE: Table B.2 -appendix I.

As it can be remarked, during the industrialization period, the location of manufacturing industry was highly polarized. By 1969 the region of Attica (including the Greater Athens agglomeration and the rest of Attica), concentrated more than 1/3 of the total number of manufacturing establishments and more than 1/2 of total manufacturing employment. With the exception of Central Macedonia (which includes the second major urban-industrial pole, Thessaloniki), all other regions concentrated very low percentages of both number of establishments and employment. Only two urban-industrial centres, alone, (Greater Athens and Thessaloniki), concentrated in 1969 43.1% of total manufacturing establishments and 58.4% of total manufacturing employment (see tables B.1 and B.2 -appendix I).

Figure 3.7 *Geographical distribution of manufacturing establishments and employment by planning region, 1969, 1978, 1988.*



SOURCE: Mapped from tables 3.30 and 3.31.

The reasons for the concentration of industry in Attica, can be grouped into two broad categories: (a) reasons associated with the internal characteristics of the country's industrial system, and (b) reasons associated with the external "environment" in which this system was operating (see Koutsoumaris 1963: 132-42; TEE 1978: 15 ff; Kottis 1980: 22; Kintis 1982: 119-20). More analytically:

Internal reasons

- Despite the growth of intermediate and capital branches during the industrialization period, the industrial system continued to be dominated by consumer branches in terms of both their share in the manufacturing output and in manufacturing employment -as we saw in the previous section. Because these branches are market-oriented, they found their ideal location in Athens which is the largest consumption centre of the country.
- The lack of intercomplementarity between the industrial and the agricultural sectors (see Mouzelis 1993) prevented manufacturing from locating to peripheral agricultural regions.
- The dependence of Greek manufacturing upon imports (see sect. 3.1), led plants to locate within the range of the major transit centre of the country.

External reasons

- Existence of public and private services necessary for the operation of manufacturing firms (e.g. banks and other financial institutions, administrative, commercial, advertising, insurance, accounting and juridical services, technical services, etc.).
- Existence of infrastructure (energy, transport and communication).
- Existence of social overhead facilities (education, health, recreation and cultural facilities, etc.) and generally better conditions of life and of social status for entrepreneurs and managerial staff.
- Existence of abundant labour force.

- Lack of considerable differences in the wage levels between Athens and peripheral areas. (In formal activities wage levels are determined by national collective bargaining).
- Nodal geographical position of Athens in the country's national and international transport connections.
- Insufficient and inconsistent decentralization policies.

In a 1980 survey of 204 manufacturing enterprises located in Attica (Kottis 1980: chap. X), it was revealed that the most significant reasons for plants' attraction were (a) proximity to labour and (b) proximity to the market. Other reasons (e.g. existence of infrastructure, land ownership, proximity to urban services, etc.) played their role but to a less extend. In a more recent study (Tsekouras *et al.* 1985: 32) it was revealed that the most important comparative advantage of Attica in attracting industries has still to do with the external economies of location (proximity to labour, suppliers and market), while the most important disadvantage (encouraging decentralization tendencies) has to do with shortages and high cost of available land.

Forces of historical continuity and inertia should be also added to the "pull" dynamic: Qualitative factors, such as working tradition and discipline, labour specialization, etc., in Athens, although cannot be easily "measured" in statistical numbers, must have played an important role in attracting industries during the post-war growth period.

3.2.2. Towards a Reversal of the Industrial Location Pattern?

During the 1970s some changes in the structure of the Greek industrial space started to emerge along with the process of deindustrialization and negative restructuring. Some writers assert that these changes indicate a reversal of the past polarized industrial location pattern, a weakening of the dominant position of Athens and the gradual emergence of a new pattern of "diffused industrialization" based on flexible production processes, SMEs-led peripheral industrialization, multiple forms of regional employment, local initiatives and informality (see e.g. Hadjimichalis and Vaiou 1987; 1990; Leontidou 1990:

184-88). Such processes, are indeed currently in progress and have been addressed by both theoretical analysis (Getimis and Kafkalas 1990; Komninos 1990a) and empirical research (Lyberaki 1991; 1991a; 1992; Labrianidis 1992). Others (see e.g. Papamichos and Tsoulouvis 1990), assert that the spatial-industrial changes are rather marginal, and therefore they cannot outweigh the past polarized configurations which continue to remain dominant till nowadays. It is therefore important to identify in some more detail the extend of change.

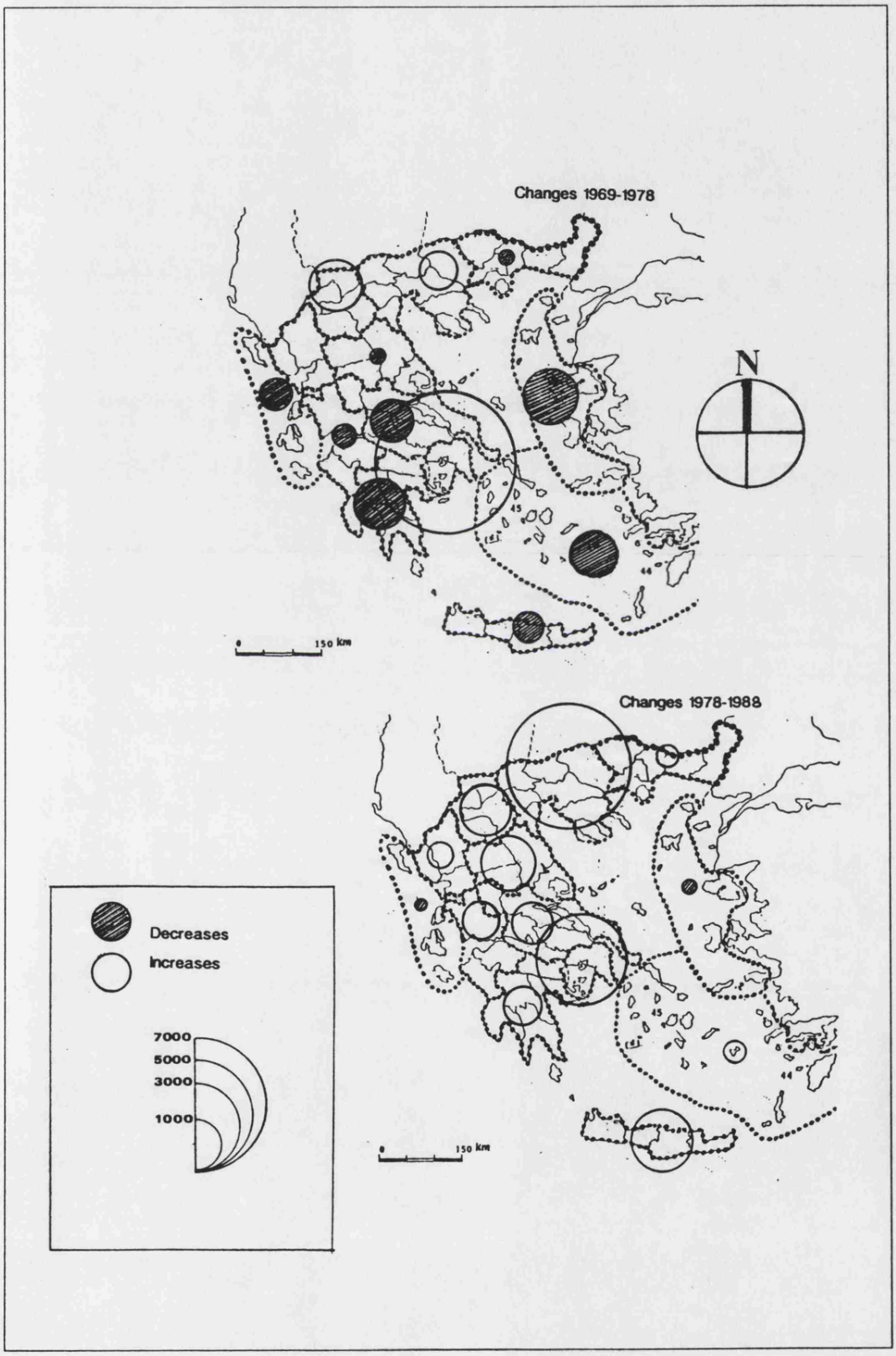
Statistical evidence reveals that despite ongoing deindustrialization since 1973/74, industrial concentration in space was further intensified by 1978 (table 3.32 and figures 3.8 and 3.9 -upper maps). In 1969-78 both manufa-

Table 3.32 *Percent change of manufacturing establishments and employment by planning region, 1969-1978.*

Planning region	% change of the number of establishments	% change of employment
Greece, total	3.5	33.9
Attica	17.2	30.2
-Greater Athens	15.6	20.6
-Rest of Attica	40.8	156.3
Eastern Macedonia + Thrace	-1.2	43.4
Central Macedonia	2.8	47.8
Western Macedonia	23.5	32.6
Epirus	0.2	34.4
Thessaly	-1.0	46.6
Sterea Hellas	-12.2	90.1
Western Greece	-2.6	24.4
Peloponnesos	-13.9	21.7
Ionian Islands	-15.3	-4.8
Northern Aegian	-26.2	-20.4
Southern Aegian	-25.2	-3.9
Crete	-5.5	8.6

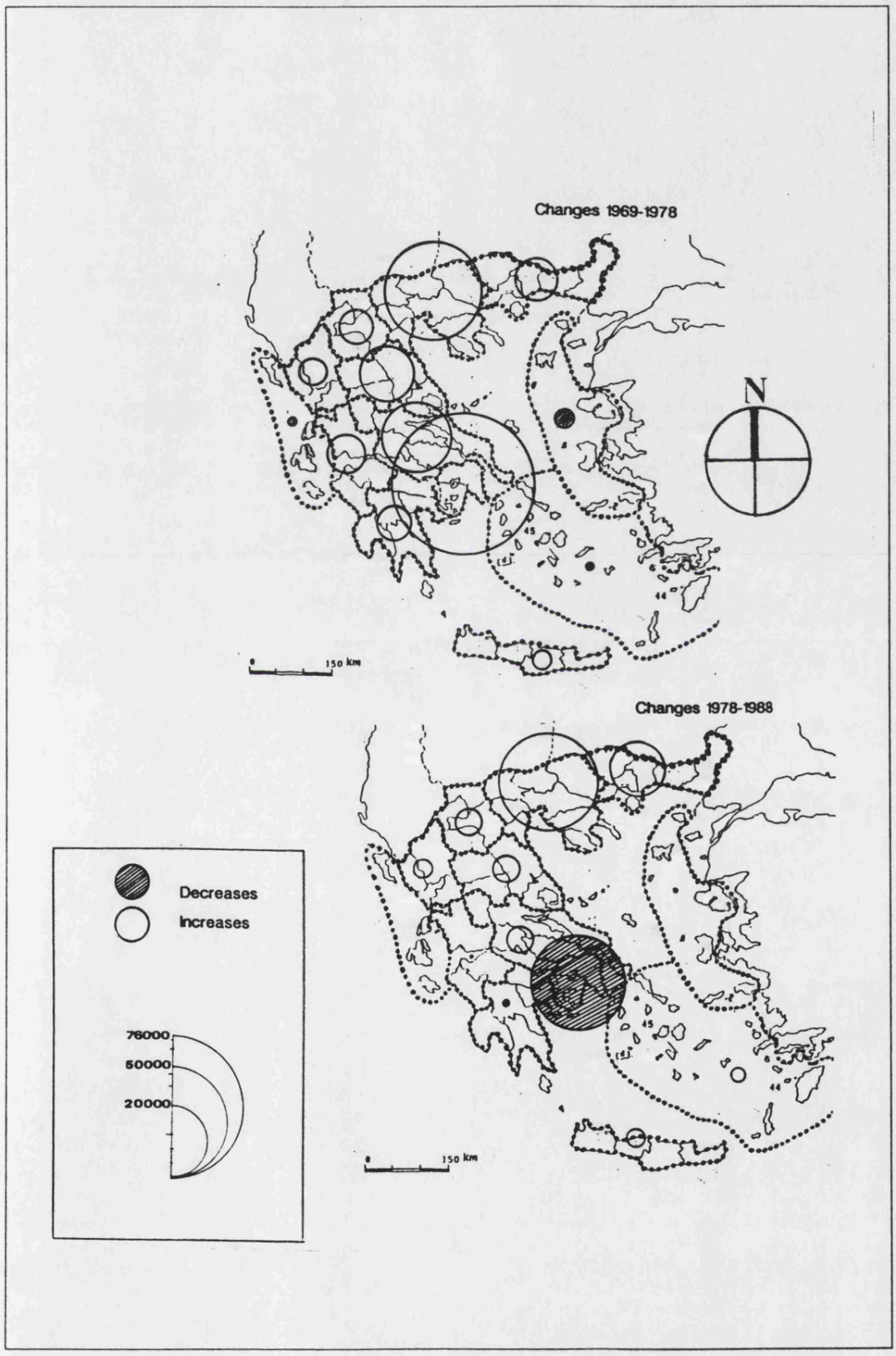
SOURCE: Tables B.1 and B.2 (appendix I.).

Figure 3.8 *Change of manufacturing establishments by planning region, 1969–1978, 1978–1988.*



SOURCE: Mapped from table B.1 (appendix I).

Figure 3.9 *Change of manufacturing employment by planning region, 1969-1978, 1978-1988.*



SOURCE: Mapped from table B.2 (appendix I).

cturing establishments and employment in Attica increased. A few regions (Western Macedonia, Central Macedonia and Epirus) increased their number of establishments, whereas the vast majority of Greek regions increased their manufacturing employment. This was partly due to new plants' location in peripheral regions and partly to relocation of existing manufacturing activities away from Athens. Larger units (Limited Liability and S.A. Companies) followed a process of "selective decentralization" of parts of their production processes during 1973-78 ; their concentration in Attica decreased from 52% in 1973 to 42% in 1978 (Leontidou 1990: 178). However, this selective decentralization was countered by the attraction of new manufacturing activity in Attica, which by 1978 had increased both its establishments and employment (table 3.32).

In 1969-78 most peripheral regions presented absolute decline in their number of manufacturing establishments and absolute employment increases; only three of them presented absolute declines in both establishments and employment (Ionian, northern Aegian and southern Aegian islands). This simply means that during crisis the dominant tendency was less and larger plants to locate into peripheral regions.

Statistical evidence assigned to large geographical units (planning regions) shows that from 1978 onwards the Greek industrial space is undergoing a notable depolarization trend (table 3.33 and figures 3.8, 3.9 -lower maps). In 1978-88, although a slight increase (6.5%) of Attica's manufacturing establishments took place, employment was decreased by 10.8% (and by 12.4% in Greater Athens). Most peripheral regions increased both their number of establishments and employment. However, a more detailed examination of statistical data at the scale of prefectures (tables B.1 and B.2 -appendix I), shows that what appears to be a depolarization trend, is actually an expansion of industrial activity along an S-shaped growth corridor stretching from Achaia and Korinthia Nomoi (prefectures) in Northern Peloponnesos, via Attica, to Viotia, Evia (around Chalkida), Magnisia, Larissa, Thessaloniki (with local deviations to Imathia, Pella and Serres) and ending in Kavala (fig. 3.10).

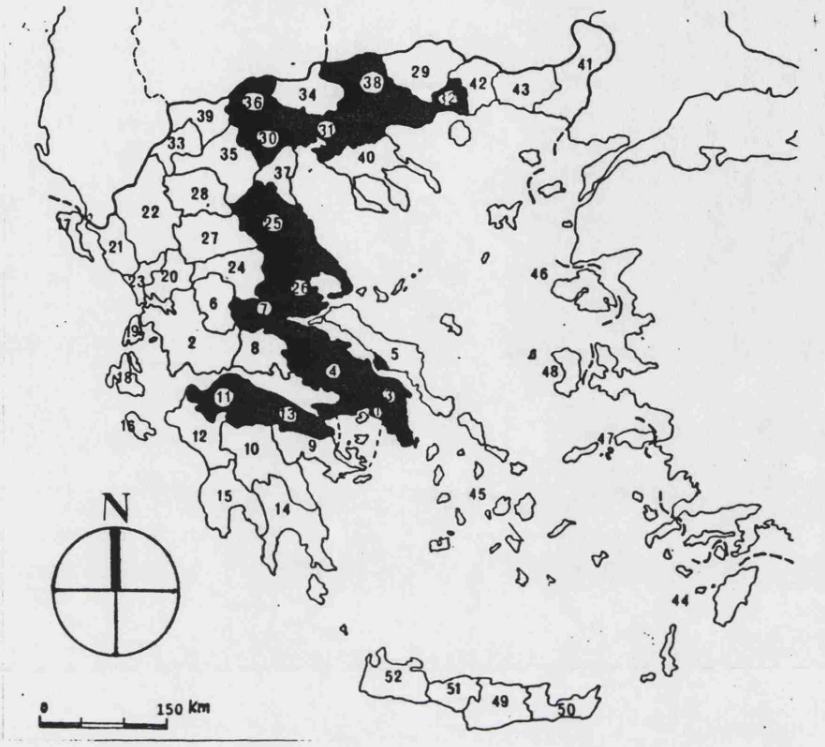
Table 3.33 *Percent change of manufacturing establishments and employment by planning region, 1978-1988.*

Planning region	% change of the number of establishments	% change of employment
Greece, total	12.2	5.2
Attica	6.5	-10.8
-Greater Athens	2.8	-12.4
-Rest of Attica	38.5	11.8
Eastern Macedonia + Thrace	4.1	47.2
Central Macedonia	30.7	31.9
Western Macedonia	21.3	13.0
Epirus	12.8	15.9
Thessaly	12.4	9.8
Sterea Hellas	12.6	10.4
Western Greece	9.2	0.3
Peloponnesos	9.3	-0.7
Ionian Islands	-4.5	0.4
Northern Aegian	-4.5	-2.0
Southern Aegian	9.7	16.9
Crete	22.1	10.3

SOURCE: Tables B.1 and B.2 (appendix I).

This growth "corridor", concentrated in 1978 65.8% of the total number of manufacturing establishments and 79.3% of the total manufacturing employment (calculated from tables B.1, B.2 -appendix I). In the early 1970s, intense industrial concentrations emerged next to the borders of Attica in the neighbouring prefectures of Viotia (Oinofyta locality) and Korinthia (Agioi Theodoroi locality) along the national highway Korinthos - Athens - Lamia (see also Karka-Agelidi 1989; Yoti-Papadaki 1988). In 1969-1978 manufacturing employment in Viotia prefecture increased by 128.1% and in Korinthia by 38.7% (table B.2 -appendix I). Incentive laws of early 1970s (L.1078/1971 and L.1312/1972 -see sect. 3.2.3) defined those adjacent prefectures as B-type assisted areas in which new manufacturing investments could receive enhanced incentives. Industrialists directed their investments to those areas for the purpose of benefiting from incentives, and on the same time benefiting from the dense network of the Athenian agglomeration economies. Thus, what seems at a first glance to be a notable depolarization-spatial equalization trend, is in

Figure 3.10 *The S-shaped industrial growth "corridor" on 1978.*



PREFECTURES

1.Greater Athens
2.Etolia-Akarnania
3.Rest of Attica
4.Viotia
5.Evia
6.Evritania
7.Fthiododa
8.Fokida
9.Argolida
10.Arkadia
11.Achaia
12.Ilia
13.Korinthia
14.Lakonia
15.Messinia
16.Zakynthos
17.Kerkyra
18.Kefalinia
19.Lefkada
20.Arta
21.Thesprotia
22.Ioannina
23.Preveza
24.Karditsa
25.Larissa
26.Magnisia
27.Trikala
28.Grevena
29.Drama
30.Imathia
31.Thessaloniki
32.Kavala
33.Kastoria
34.Kilkis
35.Kozani
36.Pella
37.Pieria
38.Serres
39.Florina
40.Chalkidiki
41.Evros
42.Xanthi
43.Rodopi
44.Dodecanissos
45.Cyclades
46.Lesvos
47.Samos
48.Chios
49.Iraklio
50.Lasithi
51.Rethymno
52.Chania

SOURCE: Mapped from tables B.1, B.2 (appendix I).

reality a transformation of the past form of industrial inequality between Athens/Thessaloniki -vs- the rest of Greek territory into a new form of inequality between this S-shaped growth corridor and the rest of regional industrial space. As Wassenhoven remarks, "more prefectures are now participating in the process of industrial development, but at the same time the gap separating the growing areas from those which fail to take part in this process is widening." (1984: 12; see also Economou 1983: 37).

By 1988 these trends had been consolidated, but a new element was added: For the first time in the post-war period manufacturing employment in Attica declined in both percentage and absolute terms. Its share in the country's total fell from 48.8% (1978) to 41.4% (1988), while in absolute terms it decreased by 35,270 jobs (-10.8%) (calculated from previous table 3.31).

The previous evidence reveals that deindustrialization and negative restructuring of the Greek economy as a whole, affected exclusively the region of Athens, -Attica. Thus, apart from that region, which increased only the number of its establishments, all other regions of the country (with the exception of Peloponessos, and the island regions of Ionian and northern Aegian) presented absolute increases in both manufacturing establishments and employment during 1978-88 (previous table 3.33). It seems that despite the entrance of new firms in business in Attica during 1978-88, the employment they offered was unable to outweigh the wider effects of its deindustrialization and job loss.

Job loss in Attica was mainly caused by plant closures (especially big ones) and by plants' relocations to peripheral regions. In 1978-84, employment in the big plants (50+ employees) of Attica was decreased by a much greater rate than that of SMEs (table 3.34). Three other regions of the country (Ionian islands, Peloponnesos and Crete) presented absolute employment decline in big plants as well. On the contrary, employment in SMEs was increased in all regions (with the exception of Attica). In terms of number of establishments, SMEs increased in all 13 regions, whereas larger plants decreased in 6 of them (including the Attica region) (table 3.35). It should be noted that in a period

Table 3.34 *Manufacturing employment change (%) by size of plant and planning region, 1978-1984*

Planning region	SMEs (1-49 employees)	50+ employees	Total
Greece, total	7.84	-7.06	1.89
Attica	-0.45	-24.59	-10.76
Eastrn Macedonia + Thrace	3.98	72.90	27.89
Central Macedonia	24.70	8.17	18.24
Western Macedonia	15.77	10.50	15.16
Epirus	20.80	16.74	14.96
Thessaly	6.30	10.95	8.11
Sterea Hellas	18.95	15.53	16.76
Western Greece	5.36	9.54	7.01
Peloponnesos	9.87	-14.12	0.51
Ionian Islands	7.77	-31.80	3.33
Northern Aegian	4.38	9.83	5.06
Southern Aegian	25.79	18.22	23.66
Crete	7.29	-34.68	1.30

SOURCE: Own calculations from table B.7 (appendix I).

Table 3.35 *Percent change of the number of manufacturing establishments by size of plant and planning region, 1978-1984*

Planning region	SMEs (1-49 employees)	50+ employees	Total
Greece, total	12.23	-7.13	12.00
Attica	6.92	-19.12	6.55
Eastern Macedonia + Thrace	1.07	47.69	1.54
Central Macedonia	27.10	6.69	26.80
Western Macedonia	19.64	-36.36	19.53
Epirus	18.07	13.33	18.05
Thessaly	13.61	10.00	13.57
Sterea Hellas	14.97	-4.96	14.55
Western Greece	13.81	-8.22	13.56
Peloponnesos	10.41	-24.29	10.03
Ionian Islands	1.80	-60.00	1.67
Northern Aegian	2.49	12.50	2.52
Southern Aegian	18.83	0.00	18.76
Crete	8.71	10.53	8.72

SOURCE: Own calculations from table B.6 (appendix I).

of economic recession, not only SMEs presented a remarkable degree of resistance to crisis, but they also increased their presence in the industrial and regional system in both number of establishments and employment creation -with the exception of Attica- as we mentioned earlier.

The decline of manufacturing employment in Attica was not associated -to any considerable extend- with technological modernization/rationalization strategies undertaken by whole branches and companies in order to remain antagonistic in a period of economic recession, instability and increased international competition, as in the advanced economies like for instance the UK economy (Massey and Meegan 1982; Allen and Massey eds., 1988). On the contrary, as we saw in the previous section, the major problem of Greek industry is its inability to modernize technologically: Job loss in Attica, therefore, can be seen as the combined outcome of two parallel processes: (a) closures of big companies and (b) moderate decentralization of manufacturing to peripheral lower cost regions. As a survey revealed, the major problems facing Attica's industries (which generate decentralization pressures) are associated with shortages and high cost of both land and labour (Kottis 1980: 248). According to another study (Leontidou 1981b: 41- 2), the major decentralization-stimulating forces are the following:

- Decentralization policies, environmental controls and associated popular and political pressures.
- Agglomeration diseconomies (congestion, rise of land prices, etc.).
- Shortages in labour supply due to young people's preference to tertiary forms of employment.
- Decrease of building activity in Athens has led linked manufacturing branches to seek relocation elsewhere.
- Accession to EC favoured regional industrial development.
- Technological modernization of Athenian manufacturing leads to labour redundancies and indirectly to increase of tertiary employment
- The energy crisis affects negatively the growth of manufacturing in Attica.

A focused survey undertaken during the mid 1980s (Tsekouras *et al.* 1985: chap. VI), revealed that relocation of manufacturing away from Athens region took actually place on a very limited scale and was met by lots of problems. More precisely:

- Most of the the relocated firms moved to adjacent regions. Thus, what seems to be an industrial decentralization tendency, is actually a geographical "extension" of the industrial space of Athens into its neighbouring areas as we saw earlier.
- Most of the relocated firms were of a very small size.
- Investments in the receiving sites were very small, contributing thus very little to peripheral job creation.

The reasons for relocating, as the survey revealed, were recorded as follows (according to importance):

- Need for expansion of the existing plants. (Lack of available space and its splitting into storeys or even into different buildings, entailed increased production costs especially in the case of larger companies).
- Pressures stemming from environmental protection concerns (reactions of people and local authorities of Attica against polluting plants, negation of state authorities to renew plants' operation permits, etc.).
- Regional incentives played a role in relocation -not by themselves but in parallel with other reasons.
- Lower labour costs away from Attica (and especially in informal types of work).[7]
- Efforts to gain new markets in parallel with maintaining the Athenian one by keeping warehouses and/or commercial exhibitions in the Greek capital.
- Disproportionately high prices of the existing plots in Attica in relation with their present (industrial) use.

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[7] E.g seasonal and part time jobs, subcontracting and work-at-home, etc., since formal work is covered by collective bargainining and there are no regional divergences in wage levels. According to recent evidence (Kopsini 1994) part-time jobs are steadily increasing especially in informal economic activities.

- Strictly personal reasons.

According to the survey, the relocation experiences that were recorded were not so encouraging (Tsekouras *et al.* 1985: 277-81). The surveyed firms had to tackle with a lot of problems associated with bureaucratic procedures and delays in getting relocation permits and incentives, inadequate infrastructure and services at the receiving areas, lack of working discipline by the peripheral workforce, etc.

For a number of reasons, income inequalities between the core region of Attica and the peripheral ones have started to diminish since the mid 1970s (table 3.36). The moderate decentralization of manufacturing, along with

Table 3.36 *Indices of gross regional income per capita, 1974, 1981.*

Regions	1974	1981
Eastern Sterea (including Attica) and Cyclades islands	114.1	109.8
Central and Western Macedonia	88.3	93.2
Peloponessos and Western Sterea	83.3	95.5
Thessaly	85.3	94.4
Eastern Macedonia	84.4	89.7
Crete	84.0	90.9
Epirus	73.8	81.4
Thrace	83.6	95.2
Eastern Aegian islands	84.8	87.6
Greece, total	100.0	100.0

SOURCE: Athanasiou 1991: 88.

modernization of the agricultural sector and tourist growth in certain peripheral areas, are some major regional convergence reasons. Multiple forms of employment (e.g. seasonal work in agriculture combined with employment in SMEs and involvement in tourist activities during summers) which are very customary work practices in certain peripheral areas, have played an important role to a considerable increase of regional incomes (Hadjimichalis and Vaiou 1987; 1990; Tsartas 1991). However, this convergence trend was not accompanied by a considerable shift of the industrial location pattern: Whereas

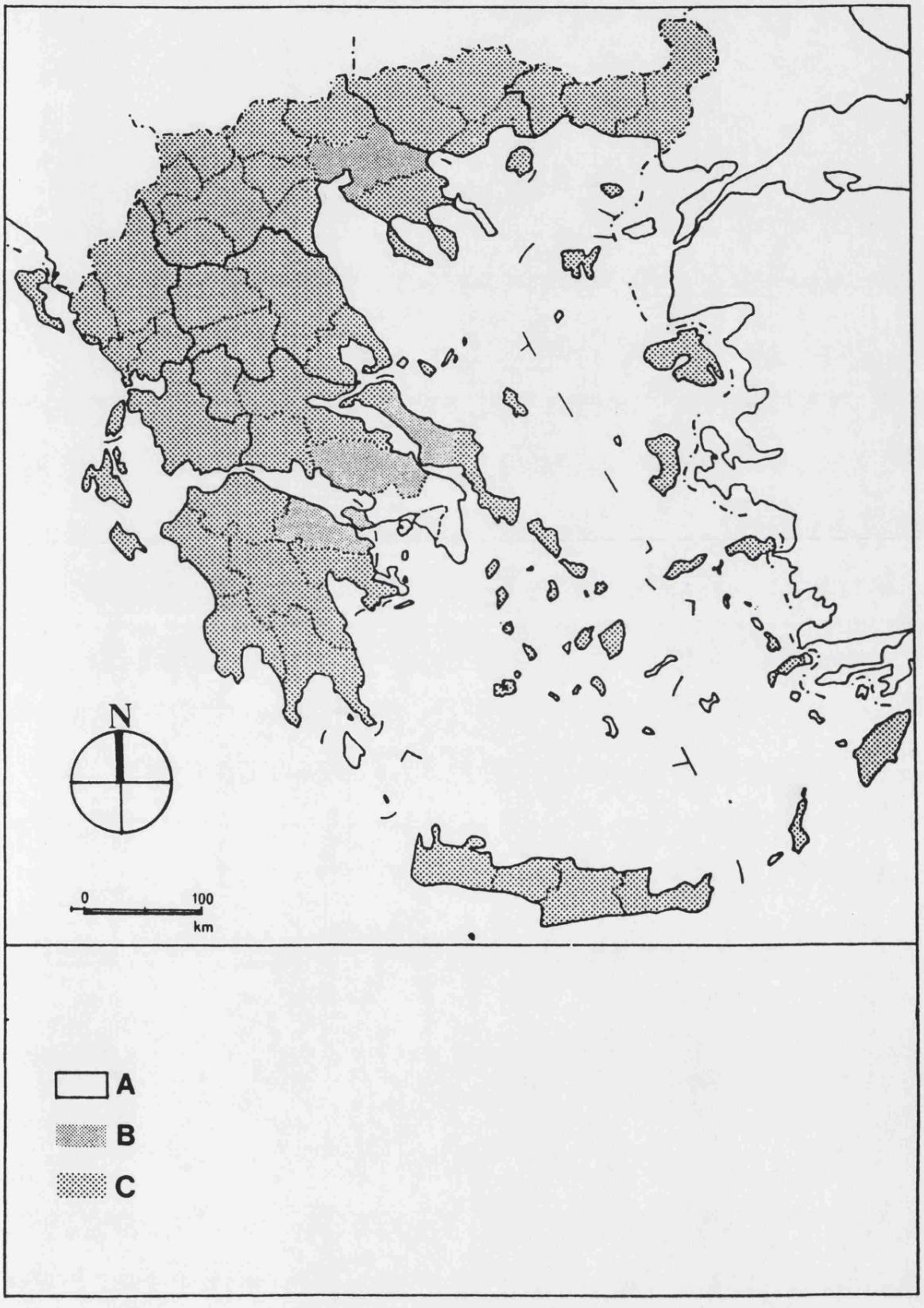
in the advanced countries deindustrialization and capital restructuring processes were associated with a wave of productive decentralization (see Martin and Rowthorn, eds., 1988; Massey 1988 for the UK case), in Greece, by contrast, empirical evidence presented previously revealed that decentralization trends were rather weak if not marginal: Despite some impacts on the development of regional industrial spaces, decentralization was unable to question the dominant position of the Athenian region in the country's industrial geography: By 1988, Attica continued to concentrate 37.8% of total manufacturing establishments and 41.4% of manufacturing employment (see previous tables 3.30 and 3.31). It seems that industrial restructuring in Greece took place rather as a process of internal transformation of the production system in its drive to maintain the "benefits" of the traditional pattern of accumulation, as we saw in the previous section, than as a consistent effort of industrial capital to create new spaces for new accumulation. The inefficiency of decentralization policies -as we will see in the last section- played a major role to the maintenance of the past geographical configuartion of industry.

3.2.3. Industrial Decentralization Policies: Regional Incentives and ETVA's Industrial Estates

The prevailing economic arguments in the first post-war decade on the model of development the country should follow, were mostly focused upon issues of economic growth and efficiency, hence offering little room for geographical equality considerations. The neo-classical doctrine that the free operation of the market would secure the balanced spatial distribution of economic activity was explicitly or implicitly assumed by governments at least until the mid 1960s (Andikopoulou and Kafkalas 1985: 132-3). Within this broader context, the legislation concerned with the decentralization of industry was quite limited and ineffective; every industrialist was quite aware that rapid economic growth and export oriented industrialization could not take place efficiently away from Athens (and to a lesser degree from Thessaloniki). The limited and geographically undifferentiated incentives offered by legislation in the 1950s and 1960s were quite unable to outweigh the favourable external economies of plants' location in Athens.

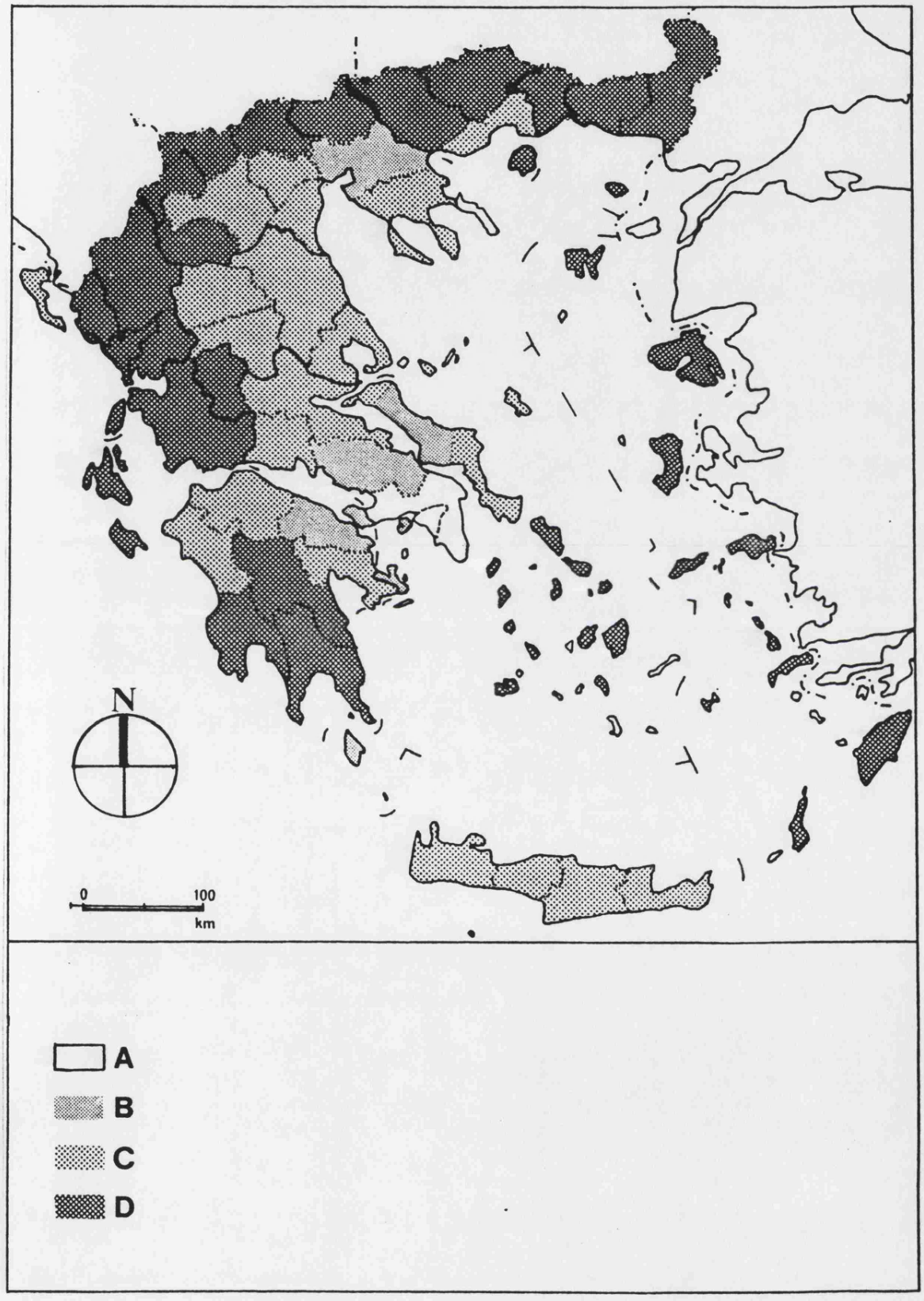
The most important measures for encouraging industry to locate in the provinces during the 1950s, were introduced by Law 2176/1952, LD 2901/1954, Law 3213/ 1955 and LD 3765/ 1957. These statutes did not make any further geographical differentiation of incentive-areas apart from Attica-vs-rest of Greece, and provided incentives of accelerated amortisation for the provincial industries, decreases of their turnover taxes, other tax concessions, subsidy of interest rates on bank loans, facilitated land acquisition for the establishment or expansion of industries in the provinces, etc. However, even the limited benefits provided to peripheral industries were later diminished, as soon as Laws 3949/1959, 4002/1959 and 4171/1961 extended most of them to include Athenian industries (Kottis 1980: 177-8). Legislation of the 1960s followed the same directions (with the exemption of Law 4458/1965 about the establishment of peripheral industrial estates which will be discussed later on). The first tangible effort to introduce spatially differentiated incentives was undertaken by LD 1078/1971, which made the distinction between 3 types of incentive-assisted areas (fig. 3.11). The incentives offered were of the same type as the earlier ones (tax concessions, subsidies of bank loans, etc.) and were enhanced in C type areas. Just one year later another Law (1312/1972) subdivided C areas into one more type (D) including western Greece, southern Peloponessos, northern border areas and islands (fig. 3.12) and receiving enhanced incentives. Grants on investments for the construction of manufacturing building (25% of the cost) were also provided in D type areas. Four years later, Law 289/1976 subdivided D areas into one more type (E) which included Thrace and eastern border islands (fig. 3.13). Enhanced incentives were provided in E areas and included not only manufacturing, but agricultural, mining-quarrying and tourist investments as well. A further subdivision into E1 and E2 areas was introduced by Law 849/1978 to offer enhanced assistance to a narrow geographical "strip" along the country's northern border (fig. 3.14) and a new type of incentives was introduced (subsidies and loans for decreasing industrial pollution and energy savings, for establishing R+D departments, for plants' relocation from A and B areas to more backward ones, etc.).

Figure 3.11 *Incentive-areas of LD 1078/1971*



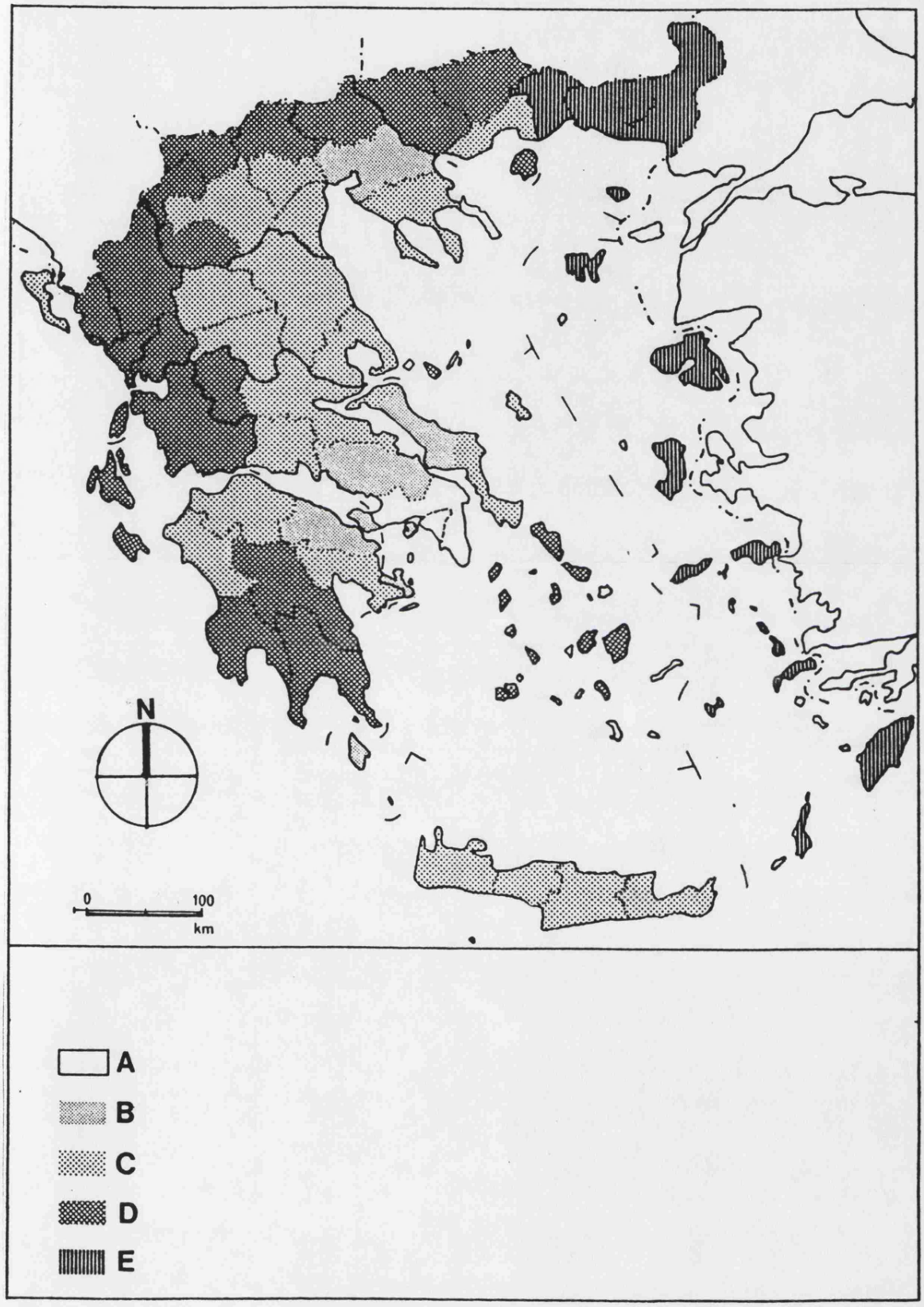
SOURCE: Andrikopoulou-Kafkala 1984: 161.

Figure 3.12 *Incentive-areas of LD 1312/1972*



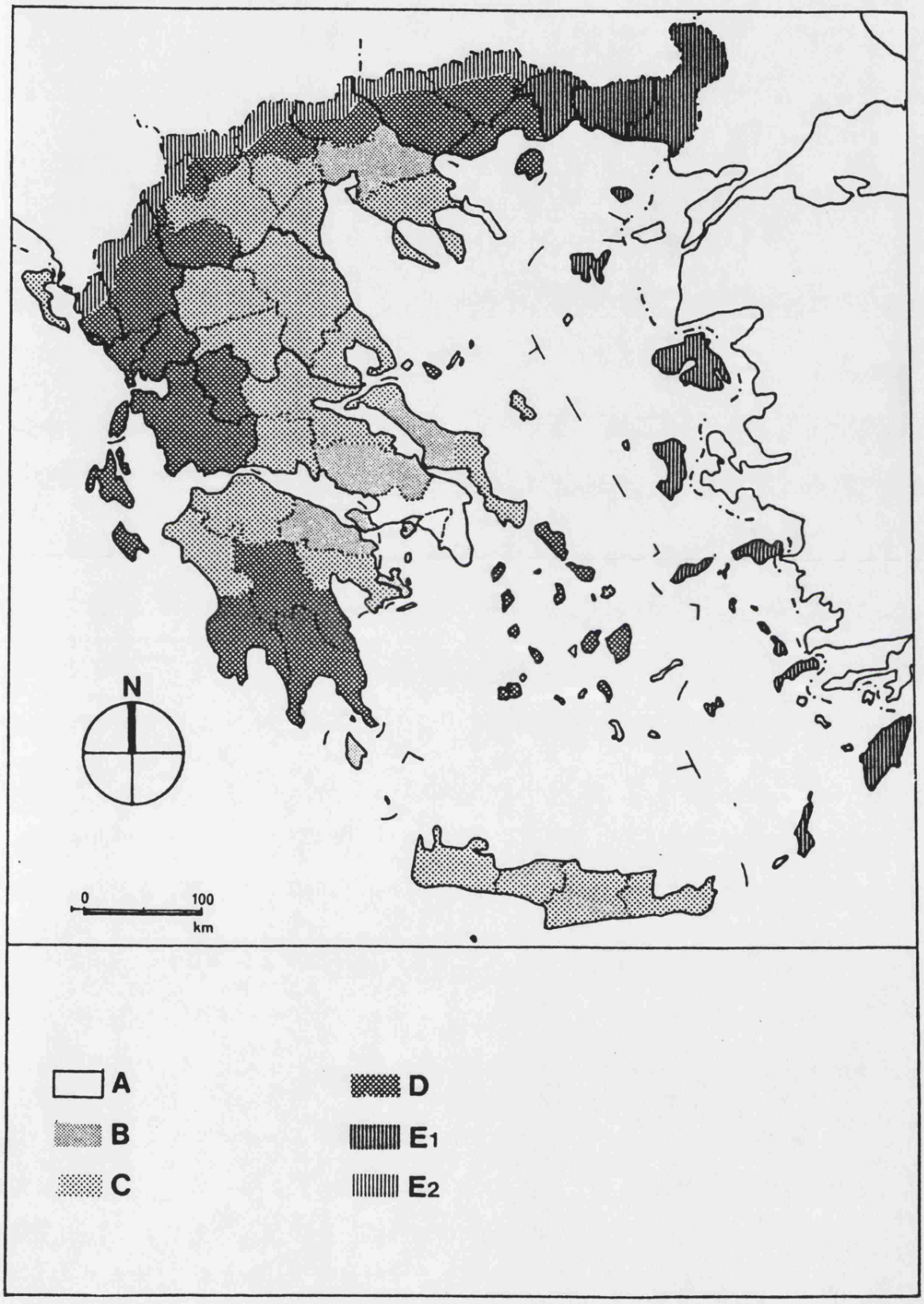
SOURCE: Andrikopoulou-Kafkala 1984: 163.

Figure 3.13 *Incentive-areas of Law 289/1976*



SOURCE: Andrikopoulou-Kafkala 1984: 165.

Figure 3.14 *Incentive-areas of Law 849/1978*

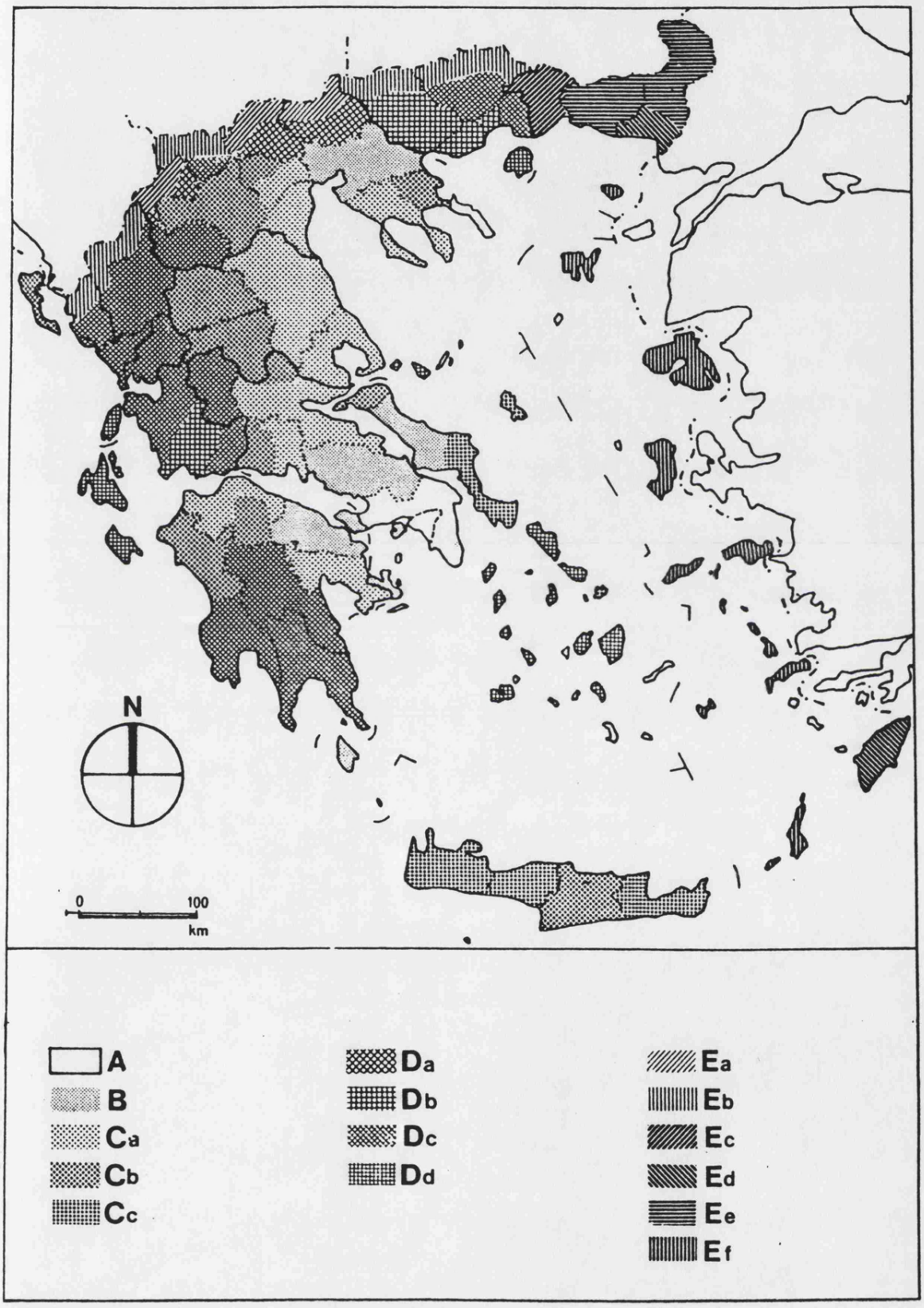


SOURCE: Andrikopoulou-Kafkala 1984: 166.

In a report prepared by the Centre of Planning and Economic Researches (quoted in Wassenhoven 1984: 14), the system of incentives was criticised on the basis that it was subsidising non-viable industries without "clearly defined objectives and priorities". It proposed the creation of various "packages" of incentives depending on the area, the industry involved and the investment agent. It also highlighted the need to introduce some other types of incentives, as for instance incentives for the creation of new jobs in peripheral areas, grants to encourage relocation of existing manufacturing in less developed areas, state's participation in industrial ventures through share capital, subsidies of transport costs in the backward regions, underwriting of loans for industrial investments, grants to industries undertaking workforce training programmes, etc. It also suggested that more attention should be paid in drawing the assisted areas' boundaries in order to fit more accurately to the real assistance needs and regional industrial development priorities.

A further differentiation of areas and incentives was introduced by an Act of the Council of Ministers (40/14-3-1979) (fig. 3.15). On the one hand, industries were classified into three assistance categories (of high, medium and low assistance priorities), and on the other C, D and E areas were divided in various sub-areas associated with the above assistance priorities. It was therefore the first official effort to link selectively the developmental prospects of certain areas to the development of certain manufacturing branches on the basis of a number of criteria associated with future growth prospects, with problems stemming from foreign competition, and with the level of each industry's technological development (Wassenhoven 1984: 14-5). However, this branch-selective incentive policy was not met unproblematically: In 1980, a report prepared by the Ministry of Co-ordination (later Ministry of National Economy) stated that this branch-selectivity could be problematical in that: (a) it might prove difficult and time-consuming for the administration to make the proper choices; (b) it might entail subjective criteria in deciding which branches should be additionally assisted and which should not; (c) it might drive the country's industrial development in wrong directions at the long-run; and (d) it might create confusion and uncertainty to potential investors (KEPE 1980: 188). Alternatively, it suggested a set of other criteria

Figure 3.15 *Incentive-areas of Act of the Council of Ministers 40/13-3-1979*



SOURCE: Andrikopoulou-Kafkala 1984: 169.

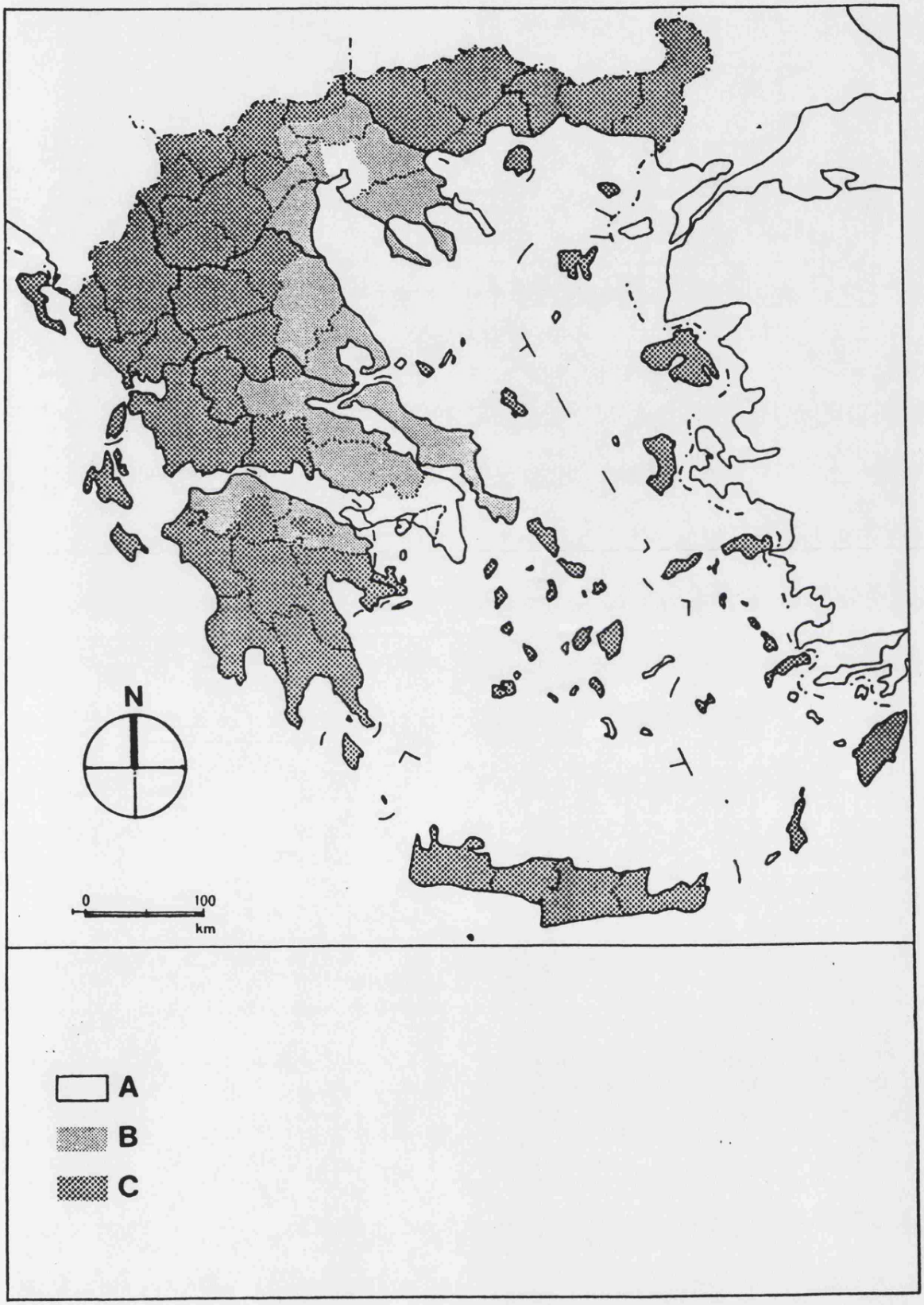
manufacturing firms should fulfil for receiving enhanced incentive assistance such as: (a) creation of over 100 jobs in a period of three years; (b) utilization of domestic raw materials and contribution to vertical integration or specialization of production; (c) export orientation (over 40% of total production) (d) orientation towards dynamic high-tech products; and (e) high percentage of skilled workforce.

However, the arrangements of the previous legislation proved to be extremely perplexed and led to bureaucratic procedures which were posing serious problems to the applying investors. In another report of the Centre of Planning and Economic Researches (quoted in Wassenhoven 1984: 15), it was suggested that the system had to be simplified and that greater use of investment grants -used in other EC countries- should be adopted.

Thus, some corrective measures were taken in the early 1980s (Laws 1616/1981 and 1262/1982) the most important of which was the introduction of investment grants. Free grants on productive investments were usual in all EC countries (see Lemonias 1991: chap. 6), were much more simple, transparent and effective, and encouraged the birth of new manufacturing activities, since they did not presuppose the existence of initial profits like the various tax-based incentives. Law 1616/1981 decreased incentive-areas in only 3 (A, B and C -fig. 3.16), while an Act of the Council of Ministers (45/ 4-3-1981) subdivided B and C types into various sub-areas (fig. 3.17). In the most backward C areas, investment grants reached 50% of the total investment for high assistance industries, 45% for medium and 40% for low assistance ones. Subsidies of interest rates on bank loans in the same areas were respectively graded (50%, 45% and 40%). Other incentives (accelerated amortisation, tax concessions etc.) were also offered.

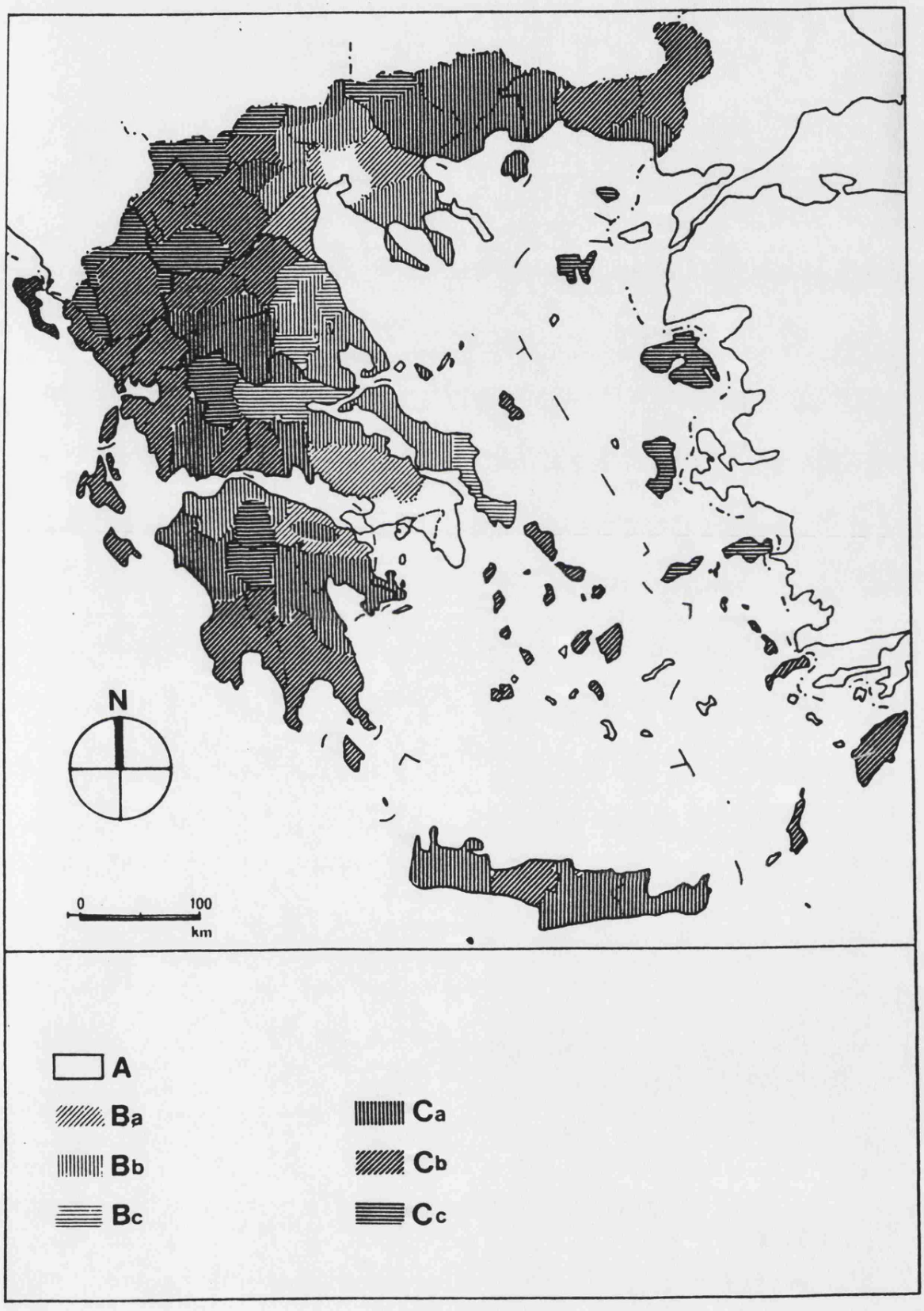
One year later, the Socialists' administration set forth Law 1262/1982 which revised again the incentive-areas division into four (fig. 3.18).The activities which could be subsidised ("productive investments") apart from usual activities such as construction, expansion, or modernization of industrial plants, included activities such as introduction of high-tech electronic and

Figure 3.16 *Incentive-areas of Law 1116/1981*



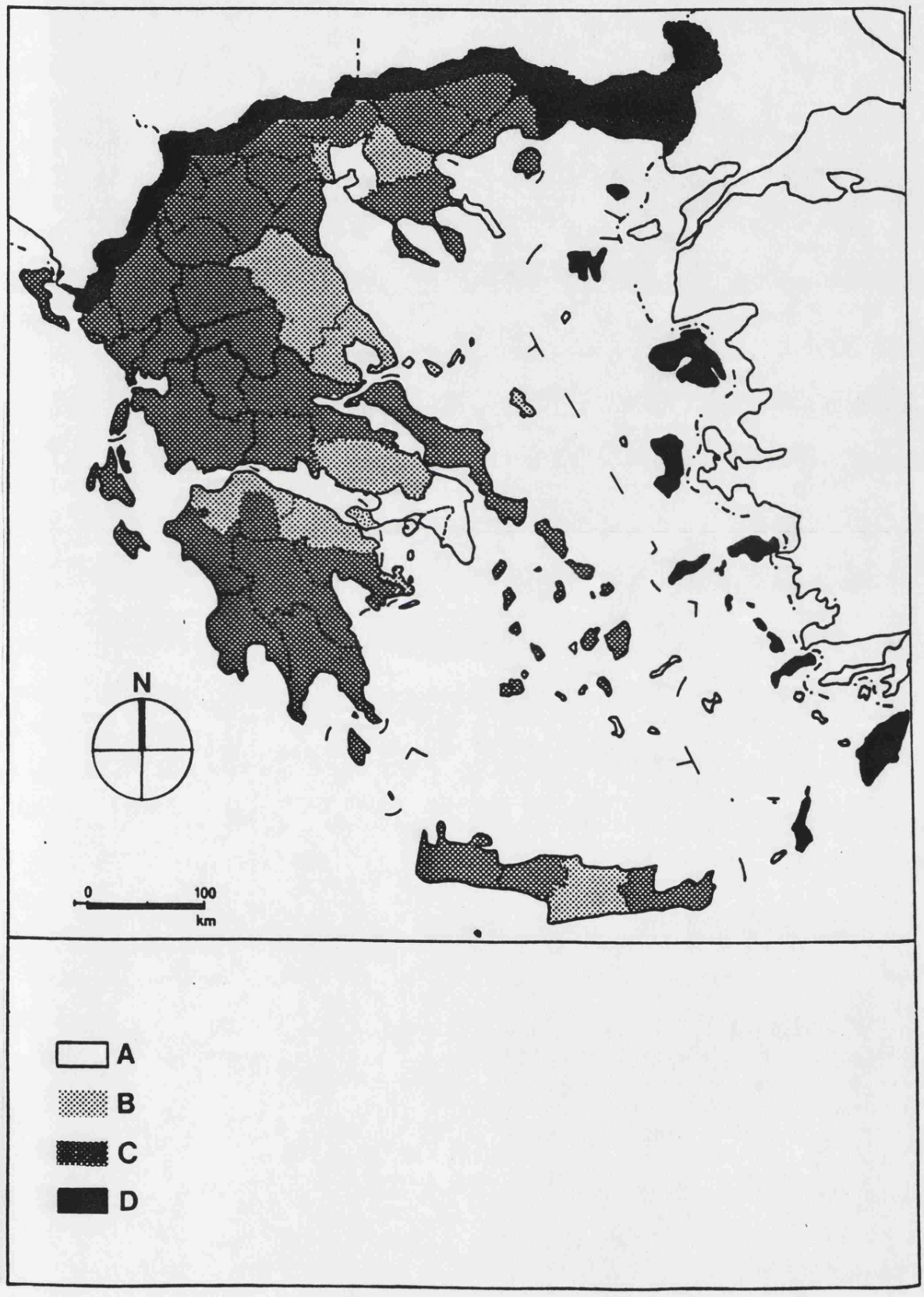
SOURCE: Andrikopoulou-Kafkala 1984: 188.

Figure 3.17 *Incentive-areas of Act of the Council of Ministers 45/4-3-1981*



SOURCE: Andrikopoulou-Kafkala 1984: 189.

Figure 3.18 *Incentive-areas of Law 1262/1982*



SOURCE: Andrikopoulou-Kafkala 1984: 196.

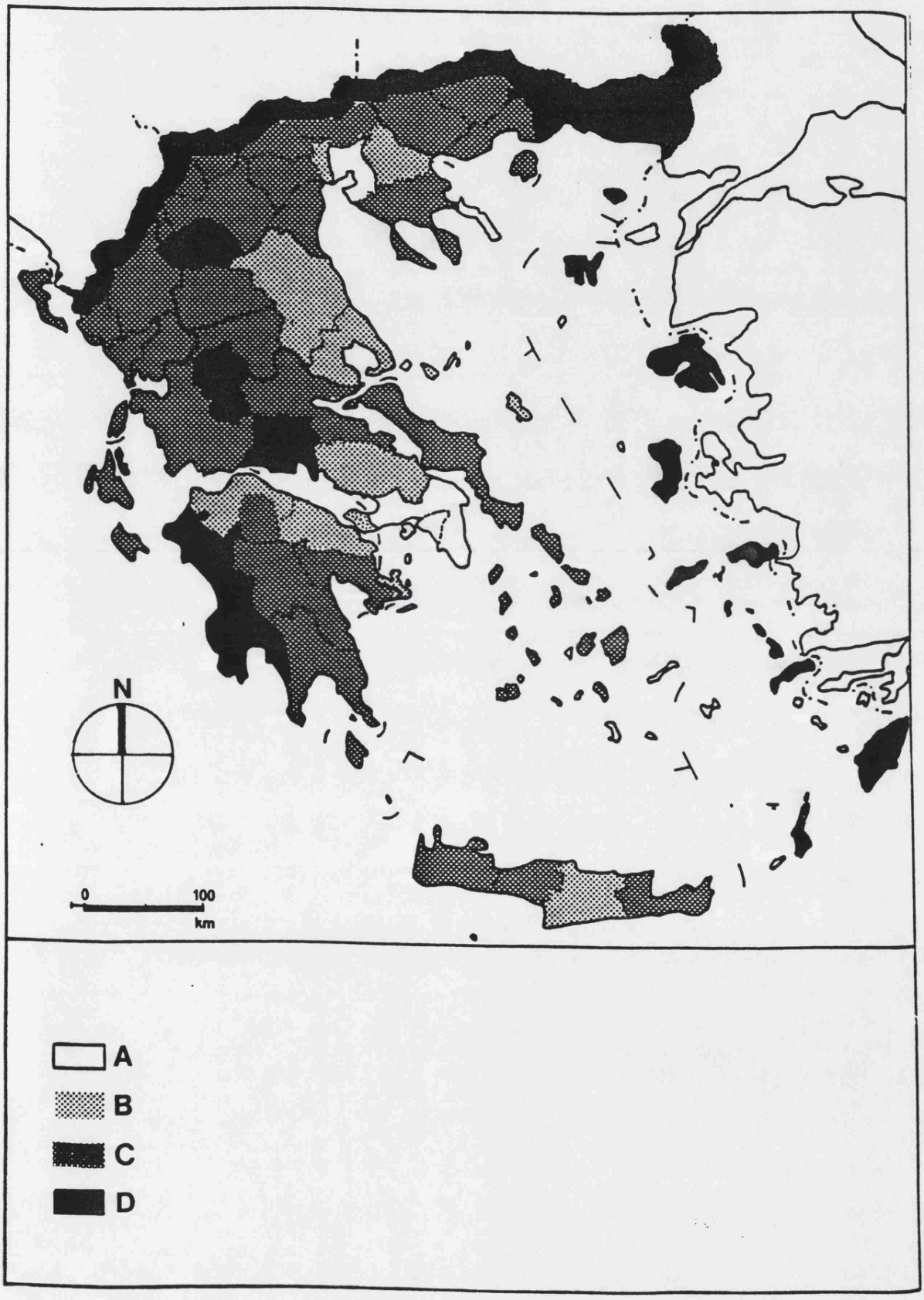
data processing equipment, relocation of plants in backward areas or in industrial estates within them, erection of warehouse facilities, purchase of transport means, building of workers' housing, purchase of industrial floorspace in ETVA's industrial estates, etc. (ETVA 1988: 3-5). Moreover, if the investment did not exceed an upper limit, the investment grants were offered free. If this limit was exceeded, part of the grand offered had the form of public sectors' participation in the share capital of the subsidised firm. This regulation was obviously reflecting the politico-ideological priorities of the Socialist administration aimed at imposing an increased social control on the productive forces (especially big investments), at strengthening the antimonopoly directions of the new economic policy and at encouraging private-public partnerships in the process of industrial development (see Lemonias 1991: 92). The amount of grants offered in each incentive-area was relatively flexible and depended on criteria such as: (a) the potential linkages of the investment with key-sectors of the economy (and especially its potentiality in creating multiplier effects in employment), (b) the level of technology and productivity of the investment, (c) export prospects and import substitution, energy saving, utilization of domestic raw materials and mechanical equipment, (d) job creation, level of pollution and quality of life, and (e) the "nature" of the investment agent (e.g. productive investments of co-operatives, local authorities, and repatriated Greek entrepreneurs were favoured) (ETVA 1988: 20-1). Moreover, investments in areas B, C and D were offered enhanced grants (up to 15%) for activities such as (a) environmental protection and relocation of polluting plants from residential areas into industrial estates, (b) replacement of traditional energy sources with environmentally friendly ones, (c) establishment of R+D departments in industrial, energy and metallurgical sectors, (d) production of especially high-tech products, (e) opening of companies owned by local authorities and/or co-operatives, and (f) investments especially designed for offering employment to persons needing special care (ibid.: 24-5). Apart from investment grants, other, more "traditional" kinds of incentives (subsidy of interest rates on bank loans, tax concessions and accelerated amortizations) were also provided to the decentralizing industries.

In the early 1990s the conservative administration of ND replaced Law 1262/1982 with Law 1892/1990 (ETVA 1991), which, however, followed the basic directions of the previous one. The only differences were: (a) The new Law put more emphasis upon tax concessions instead of investment grants. (b) The enhanced incentives offered by the previous Law to enterprises owned by social agencies (co-operatives, local authorities) were equalized to those offered to private investors. (c) Enhanced incentives were offered to highly polluting industries for relocating away from Athens and Thessaloniki. The types of incentive-assisted areas remained four (A-D) as in Law 1262/1982, but some prefectures -mainly those in mountainous central Greece and those in agrarian western Peloponnesos- were raised from C to D-type, receiving, thus, greater assistance (fig. 3.19). The productive investments which could be subsidised -apart from traditional ones- included investments in technological modernization (e.g. purchase of new mechanical equipment, introduction of informatics and computing technologies in production and administration of firms, education of staff), R+D activities, construction of pilot plants, etc. (ETVA 1991: 5-6). Investments in A areas (Greater Athens and Thessaloniki) were also offered grants (up to 40% of the total investment) in special activities related with: (a) environmental protection; (b) energy saving and replacement of traditional energy resources by new ones; (c) establishment or expansion of industrial, energy or mining research labs; (d) production of especially high-tech goods and services; and (e) investments undertaken by various social organizations offering employment to persons needing special care.

According to Kintis (1982: 123-7), the efficiency of incentives policy (at least till the 1980s) could not be regarded as satisfactory for a number of reasons, most important of which were the following:

- The state's unwillingness or incompetence to implement an integrated and consistent industrial decentralization and regional development policy.
- The lack of appropriate urban-industrial infrastructure in all provinces with the exception of Athens and Thessaloniki ones.

Figure 3.19 *Incentive-areas of Law 1892/1990*



SOURCE: ETVA 1991.

- The extremely centralized public/administrative system.
- The inadequacy of the incentives system.
- The restricted utilization of the country's natural resources.
- Considerable delays in the development of the country's economic relations with the neighbouring Balkan countries.
- Decentralization policy was not combined with measures for discouraging industrial concentration in Athens.

Some other major problems which have been recorded (Andrikopoulou - Kafkala 1984: 168-71), are related with: (a) The complexity of the incentives system and the frequent changes of assisted areas' and sub-areas' boundaries. It is remarkable that in a period of just 10 years (1971-1982), there were 8 changes of those boundaries (and associated changes of the incentives corresponding to each one of them). This presupposes a good organizational structure and special knowledge and capability on the part of firms -preconditions that tend to favour the existing (mature) big companies and to discourage small, new, or foreign ones. (b) The base of the system -at least till the 1980s- was formed by various tax concessions and subsidies of interest on bank loans, which operate long after the initial investment, and presuppose the existence of profits -a fact that also tends to favour mature industries and to discourage new ones (Kintis 1982: 123; Kalogirou *et al.* 1989: 48; Lemonias 1991: 19). It was only during the 1980s (Laws 1116/1981 and 1262/1982) that free investment grants started to be provided to the decentralizing firms. (c) The evaluation of the investment projects has in practice been appointed to the banks which tend to finance only the big mature companies (minimisation of banks' risks). It also results in considerable bureaucratic procedures and delays which discourage many firms from undertaking decentralization initiatives. (d) The incentives are oriented in financing the cost of capital, hence favouring capital intensive investments which have no considerable effects upon job creation to the assisted areas. (e) Subsidies of interest rates on bank loans were not so important as to influence decisively the inflow of considerable industrial investments in the less developed areas.

According to Kalogirou *et al.* (1989: 48-54), the failure of the incentive system in promoting a substantial wave of productive decentralization, can be attributed to the following reasons:

- The limited nature of incentives (the basis of the system till recently was formed by various tax concessions as previously mentioned).
- The diversification of assisted areas was not accompanied by clearly defined development priorities and objectives in each one of them.
- The relocation incentives were inadequate (they subsidised a very small portion of the total relocation cost) and were not combined with technological modernization incentives.
- The selective differentiation of incentives-by-branch and area was delayed, not clearly defined and the related decisions were left to the subjective opinion of the Minister of National Economy. In that context, the comparative advantages of certain areas for the development of certain branches were not properly evaluated and the growth of modern manufacturing activities was in most cases problematical.
- The complexity of the incentive system and of the areal differentiations caused bureaucratic delays in evaluating and implementing investment projects.
- The monitoring of the system was inadequate, causing, thus, a considerable flow of grants and other subsidies in activities other than those for which they had been initially appointed.
- Lack of co-ordination between the banking system (which provides subsidies under risk-minimization criteria) and the incentive system (which is supposedly based upon developmental criteria).

Labrianidis (1989a) identified the major problems of the incentive system as follows:

- Incentives for encouraging industrial decentralization were not combined with "negative incentives" (or dis-incentives) discouraging centralization of production in Athens.

- Relocation incentives were not differentiated from the other -general- incentives, and covered a very small proportion of the total relocation costs. They were not also combined with modernization incentives so as to encourage combined decentralization/rationalization initiatives.
- The regional differentiation of the incentive system emerged late (early 1970s) when industrial growth had already reached its peak.
- The differentiation of incentives-by-branch, emerged, also, very late (1978), and in an unsystematic way. There were no connections between specific areas and particular industry groups on a "comparative advantage" basis.
- The incentives legislation was loosely implemented, leaving, thus, lots of "open windows" for priviledged treatment of particular industrial interests (especially for investments in Attica).
- The official controls of the incentive-assisted companies were not systematic. After the initial controls for getting the investment permitts, most of the assisted firms could direct part or the whole of subsidies to purposes other than the officially agreed ones.

In an empirical study which analyzed the investment projects submitted for approval under Law 1262/1982 (Georgakellos *et al.* 1990), it was revealed that only 33.3% of them have been materialized in practice. It was argued that no matter how elaborate and complete an incentive system might be, industrial decentralization would remain restricted and ineffective if other complementary packages of measures were not undertaken. Such measures were considered to be the improvement of the quality of regional transport - communication - information infrastructures[8] and urban services, the vocational- technical improvement of industrial workforce and of the managerial staff, the simplification of the procedures for applying, approving and implementing investment projects, etc.

Another important tool, as it was hoped, for promoting the combined objectives of regional industrialization and decentralization of Athenian manufacturing, was legislated in the mid 1960s (Law 4458/1965). Under this

[8] The importance of infrastructure networks in regional industrial development was revealed in another study (see Petrakos *et al.* 1993).

Law, the Hellenic Bank of Industrial Development (ETVA) was given responsibilities to establish, organize and manage industrial estates near big peripheral urban centres for the purpose of (a) accelerating the industrialization of the country as a whole, (b) supporting regional economic development, and (c) encouraging decentralization of economic activity from Greater Athens (Vliamos 1988: 61). In another special study (Konsolas *et al.* 1985), the basic objectives of the industrial estates policy were listed as follows:

(1). *Strengthening of the country's industrial infrastructure.* The urban centres which were first selected for the location of industrial estates were relatively big cities having all the necessary facilities and comparative advantages for the attraction of manufacturing activity (urban-industrial growth poles) and for promoting industrialization of the country as a whole.

(2). *Encouragement of decentralization of manufacturing from Athens.* As it was hoped, the provision of appropriate infrastructure in the peripheral industrial estates, combined with incentives, would act as a pull factor for regional industrial growth and as a push factor for the Athenian industry.

(3). *Attraction of foreign investments.* It was remarked that foreign investors had to face various bureaucratic procedures and other "adaptation problems" with which they had not been familiar in their countries. The provision of land and infrastructure in industrial estates under relatively simple procedures, was hoped to facilitate the attraction of foreign capital investments in industry.

(4). *Improvement of productivity in industry.* The quality criteria adopted by ETVA for allowing industries to locate in industrial estates were expected to contribute to productivity increasing technological initiatives.

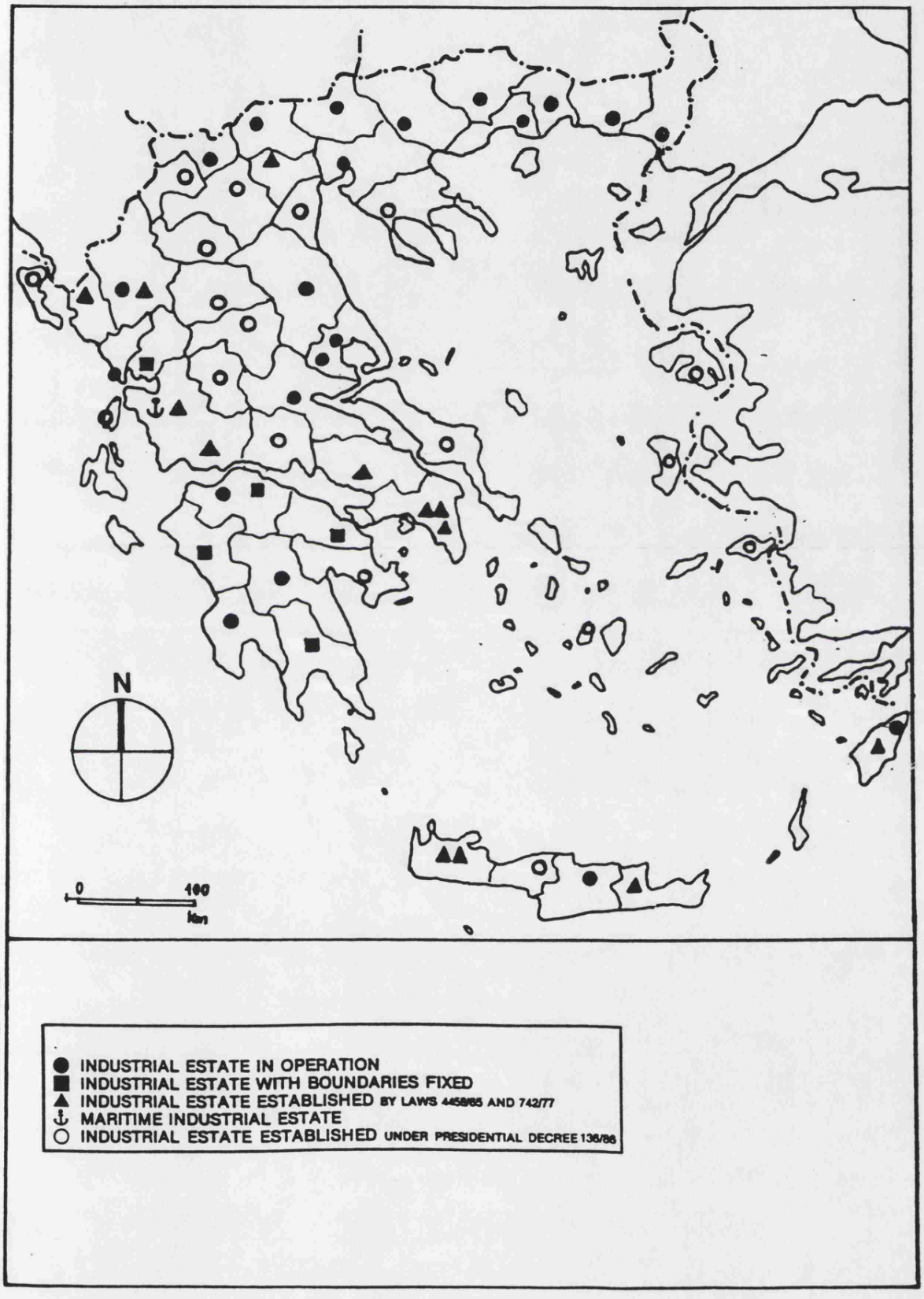
(5). *Modernization of SMEs.* It was expected that the accomodation of SMEs in properly organized buildings within the industrial estates, the organizational support they could receive from the estates' administration, the economic linkages they could develop with bigger estate firms and their participation in joint modernization projects, would help them in surpassing most of their problems.

(6). *Protection of environment.* It was expected that the clustering of industrial plants in the estates, would release the neighbouring urban centres from pollution, and on the other hand it would make possible the construction of common liquid waste treatment systems.

In the context of Law 4458/1965, 10 industrial estates were legislated till 1977 near major peripheral urban centres, but only three of them (in Thessaloniki, Volos and Irakleion) were actually completed and operated (Magana-Kakaounaki 1991: 39). However, Law 742/1977 added 20 new industrial estates in the existing configuration, while a 1986 Presidential Decree (PD 136/28-3- 1986) proposed the establishment of an industrial estate in every prefecture of the country. However, by 1993 only 21 industrial estates were actually in operation (fig. 3.20).

The tangible experiences from the implementation of the industrial estates program, cannot be considered by far as encouraging. Statistical evidence presented in the previous section, showed that the decentralization of Athenian manufacturing industry was not accomplished to any considerable extend. The relative development of industry in the peripheral regions cannot be attributed to the presence of industrial estates in them: Employment in 16 surveyed industrial estates by 1984 was only 14,096 persons out of a total of 222,122 manufacturing jobs to the prefectures in which those estates are located -that is, a 6.34% participation of estates in regional manufacturing employment (Magana-Kakaounaki 1991: table 31). The number of estate firms by 1988 was only 471 (Vliamos 1988: table 3.3) in a total of about 90,000 manufacturing establishments in the country's regions (calculated from table B.1 -appendix I) -that is, only a 0.52% participation. It is evident that while a certain

Figure 3.20 *Industrial estates in Greece, 1992*



SOURCE: ETVA 1993: 12.

growth of peripheral industry took place -as we saw previously- the industrial estates failed to participate to any considerable extend in that growth. As Papamichos and Tsoulouvis (1990: 101) have remarked, the existence of ETVA's estates in certain peripheral areas did not bring about major differentiations of those areas' industrial structure from the more general trends in the whole country. With the exception of a few industrial estates (those of Volos, Irakleion and Thessaloniki) whose land has been occupied by plants to a satisfactory extend (86.7%, 62,8% and 54,1% respectively), the other estates are in fact under-operating (Magana-Kakaounaki 1991: 128). Since the majority of estate firms tend to specialize in traditional consumer goods with low to average technological specialization and weak linkages to other more dynamic branches, the industrial estates failed to form regional "growth poles" as it was initially envisaged (see Petrakos *et al.* 1993: 84- 5).

The inadequacies of the industrial estates policy, have been addressed in a number of studies. In a detailed survey of industries which relocated into ETVA's estates (Tsekouras *et al.* 1985: sect. 6.3), it was revealed that the major criteria the firms took into consideration in choosing the receiving estate were firstly its geographical distance from a big urban centre (Athens and/or Thessaloniki), and secondly its proximity to existing markets. The problems, however, those firms had to face in the new location were equally pressing:

- Some firms regarded that the incentives they received for relocation into the estate were not adequate.
- The wider transport infrastructure was judged in certain cases as problematical (e.g. lack of proper loading-unloading platforms and installations in certain peripheral ports, problems with the rail network that increase the individual units' transport costs, bad connections of industrial estates with the local and wider road network, etc.).
- Problems related with the industrial estates' infrastructure -e.g. lack or inappropriate construction and operation of liquid-waste treatment installations, problems with water and energy supply, telecommunication problems, bad road network within certain industrial estates, lack of

collectively used spaces, bad condition and high rent of provided industrial floorspace, etc.

- Problems related with the quality of the local workforce -e.g. low productivity in comparison with the Athenian workforce, lack of working discipline and mentality, multiple forms of employment resulting in frequent absences from the factories, problems in attracting skilled managerial/scientific/clerical staff, etc.).
- Problems related with the quality and efficiency of public services and of the broader urban facilities.

According to Vliamos (1988: 130-4), the major problems associated with the policy of industrial estates are the following: (a) Their legislation was not accompanied by concrete measures which would facilitate the fast acquisition of land and the construction of infrastructure. (b) The incentives offered to industries in order to locate into the estates were not so attractive as to discourage industries from locating outside of them. (c) The economic benefits of location in the estates (agglomeration economies and economies of scale) were not given adequate publicity as to become widely known both to the interested investors and to the local public opinion. There were cases local organizations and people prevented the construction of industrial estates in economically feasible sites for reasons of environmental protection, hence the construction of those estates had to take place in cost-increasing sites. Consensus and co-operation between the estates' administration, the social organizations and the local population has not been achieved to any considerable extend. (d) The estates failed to form regional "growth poles" because: (d1) the industries located into them belonged mostly to the traditional manufacturing activities, with low technological specialization, lack of growth dynamism and weak linkages with the local economic environment; (d2) many of the cities selected to accommodate industrial estates had neither the appropriate infrastructure nor the specialized services for supporting a dynamic local industrial growth. Many of them were selected under persistent social pressures and vote-catching political calculations and not under economic efficiency criteria. The cost of infrastructures was increased since the estates'

administration had to finance the construction of networks which normally should be provided by the local authorities.

Konsolas *et al.* (1985: 159-65), regard that the major problems associated with the industrial estates policy have to do with: (a) Bureaucratic procedures, reactions and lack of co-ordination between the various social and public organizations involved in the processes of establishment, construction and operation of the estates. (b) Lack of co-ordination between the policy of industrial estates and other regional development programs (see also Petrakos *et al.* 1993: 86). (c) Inappropriate urban infrastructure in the estates' wider areas. (d) Delays in estates' site selection and/or disadvantageous (economically) sites due to local reactions and pressures. (e) Delays in the completion of estates because of poor co-ordination between public organizations, lack of construction studies' standardization, perplexed public works legislation, lack of specialized construction workers in the estates' areas, etc. (f) Inadequate programme for the construction of standardized industrial buildings. (g) High participation of the cost of land in the total estate's cost because of land-use conflicts and upswinging land prices around urban areas. (h) Centralization of the estates' decision-making procedures.

3.3. Conclusion

The shift of Greek industry from growth to crisis and negative restructuring did not bring about major transformations of the country's polarized industrial geography. By the late 1970s, during crisis, the industrial polarization tendency was further intensified. By the late 1980s, deindustrialization and job loss in the region of Athens -Attica- was accompanied by a relative growth of peripheral industry. However, the moderate decentralization trends did not question the predominant role of Attica within the country's industrial geography; the changes, therefore, were rather marginal. Industrial decentralization policies (mainly regional incentives and industrial estates) were generally ineffective in reversing the polarized geography of production. The most basic problem, however, is the quite different development priorities posed by the state on the one hand, and by the private investors on the other:

While the drafting of the incentive-assisted areas and the location of industrial estates followed a long-term pattern of supporting industrially backward regions, the pattern of private investments was mostly directed to the already dynamic areas along the S-shaped development corridor, as we saw in the previous section. The laissez-faire spatial development philosophy of the post-war Greek governments, on the one hand was offering incentives and organized industrial spaces in which private investors could potentially locate, but on the other was quite reluctant in defining spaces in which they could not be allowed to locate. It would be quite simple, for instance, if the legislation had included the definition that grants and subsidies would be offered only to those industries locating or relocating within the industrial estates. It would be quite simple as well if there has been a branch specialization and vertical integration policy for each industrial estate and each area, according to that area's comparative advantages/disadvantages, its local economic and employment structure, its infrastructure and service provision network, its level of technology and labour skills, its natural resources, its import/export needs, the wider regional development priorities and strategic objectives, etc. As Lemonias (1991: 166-7) points out, a major problem is that the Greek state paid more attention to individual incentives and less to other complementary measures such as the construction of appropriate infrastructure in the less developed areas, the rational organization of the administrative system, the fostering of a healthy entrepreneurial climate, etc., which would have reinforced the effectiveness of the incentive system. As they stood, without any real connections with broader spatial development priorities and programs, both incentive and industrial estates policies operated rather at reinforcing the already existing moderate decentralization tendencies than initiating or altering them. The existing from the previous growth period spatial divisions of labour, did not allow for major territorial change to take place during the period of deindustrialization and negative restructuring. However, this point is reversed if we shift our analytical scope into the intra-metropolitan industrial geography of Athens, where, crisis and negative restructuring was accompanied by a drastic change of the industrial location pattern; that is, a wave of suburbanization of production combined with a serious decline of inner-city manufacturing as we will see in the next chapter.

CHAPTER 4

TRANSFORMATIONS OF THE INDUSTRIAL SPACE OF GREATER ATHENS

4.1 The Historical Heritage

The historical origins of Greek industrialization are rooted in 19th century (Agriantoni 1986; Hadjiiosif 1993). Manufacturing industries like textiles (mainly cotton), metallurgy (mainly iron), metal products, ship-building etc., were developing in Greece during the best part of 19th century after the country's liberation from Ottoman rule. Other consumer industries like typing/printing, silk textiles, leather and drinks (mainly wine), were developing as well, whereas some of them -silk, leather and wine- were exported abroad (Leontidou 1989: 98). These industries were domestically owned, numbered only a few plants and functioned rather as "enclaves" within the Greek economy which was largely dominated by agricultural activities at the countryside and by comprador ones at the urban centres. Foreign direct investments were directed at mining and quarrying, with best example the French lead-ore mining and processing company at Lavrion, near Athens (see Manthos 1990; Kordellas 1993; Kourliouros and Laskaris 1992). The gradual incorporation of various Greek areas into the national territory -and hence the expansion of the domestic market- was the key-factor for initiating early industrialization. However, this process took place without the distinctive landmark of an industrial revolution and with considerable shortages of both capital and labour. As Wassenhoven wrote,

> for the best part of the century the national economy was generally stagnant, and following the War of Independence with the Turks in the 1820s, the emerging urban bourgeoisie and a nascent industrial sector suferred severe setbacks. Rather, it was the rural landed classes that tended to prosper, and their grip on local politics hampered the rise of

the entrepreneurial urban classes and the growth of industry and manufacturing (1984a: 5).

The native bourgeoisie had no any prior industrial tradition and most part of it had a comprador mentality which was hostile to production activities since it was believed that the development of industry would restrict the freedom of Greeks which were traditionally inclined to commerce (Leontidou 1989: 99). A prosperous bourgeoisie (Greek diaspora), consisted mainly of merchants and businessmen, was living abroad -mainly in Egypt, Asia Minor and around the Black Sea (Svoronos 1992: 89 ff.)- hence having no direct interests in undertaking industrial development initiatives at the country.

Despite those historical setbacks, the emergence of the steam engine in the 1860s, gave a generous push to Greek manufacturing. During the 1870s economic modernization initiatives advanced by Charilaos Trikoupis' administration (see Svoronos 1992: 100 ff.), triggered the emergence of an ideological current favouring industrialization, whereas the political influence of the traditional rural classes was loosing ground in favour of an emerging urban bourgeoisie. Major infrastructural works (roads, railways, ports, etc.) were constructed during Trikoupis' administration (on railways construction see Papagiannakis 1982). However, despite the widening of national territory and the accompanying expansion of the transport network, Greek industry did not manage to take off. It was only in the early 20th century -and especially after the arrival of the Minor Asia refugees in 1922- that a more comprehensive endeavour for the development of Greek manufacturing was undertaken (Hadjiiosif 1993: 279 ff).

Piraeus, along with other city-ports (Patras, Ermoupolis, Kalamata, Thessaloniki and Volos) attracted considerable manufacturing activity since the very beginnings of Greek industrialization (Leondidou 1989: 100 ff). By contrast to West European experiences in which industrialization emerged at the countryside and then expanded gradually to the urban centres, in Greece, city-ports were the major poles of early industrial development (Weberian type locations). By the end of 19th century, Piraeus, in particular, concentrated

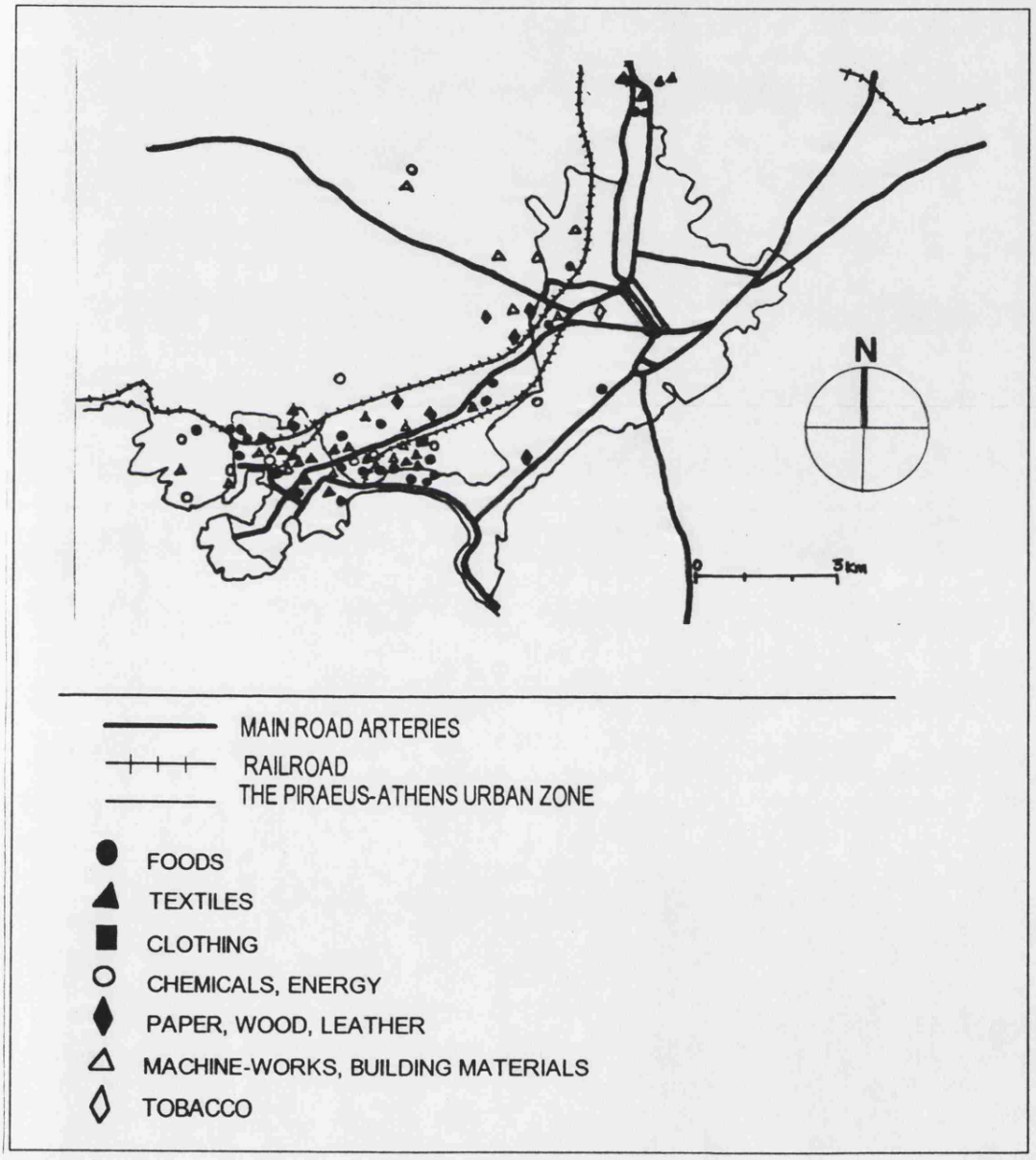
considerable manufacturing activities (mainly of consumer orientation) such as corn-mills, oil-press factories, tobacco industries, clothing (Retsinas' plant), etc. (Burgel 1970: 197). In 1909, the first chemical factory of the country (fertilisers) was established in Drapetsona, at the south-western edge of Piraeus' port, while, a year later, the same firm established another plant (ceramics) to the fringe of Piraeus next to the Piraeus-Athens transport axis. This example was followed by other industrialists. By the early 1900s, the polarization of manufacturing along the Piraeus - Athens urban zone was already observable. By 1920 an industrial axis connecting Piraeus and central Athens was formed; it concentrated relatively big plants in branches like foods, tobacco, textiles, clothing, chemicals, energy, paper, wood, leather, machine-works and building materials (fig. 4.1). As Leontidou writes, "the big manufacturing plants tended to concentrate in Athens and Piraeus and the domination of capital over the new Greek industrial geography became absolute" (1989: 103). Just to give a measure of this, by 1920 the neighbouring prefectures of Attica and Viotia concentrated more than 16% of the total manufacturing plants and more than 27% of the total industrial employment (ibid.: 104).

The reasons for this early polarization of manufacturing had definitely to do with the existence of infrastructure (energy, communication and transport), the existence of abundant and cheap working hands in Athens, especially after the arrival of the Minor Asia refugees, the existence of administrative, commercial and financial services, as well as with the existence of the major consumption market for manufactured goods.

By the early 20th century the location of manufacturing in Greater Athens (including Piraeus) followed Hoyt's sectoral model across the major road and rail axes leading to the Piraeus port (Leontidou 1989: 135). The existence of cheap and big plots of land encouraged the early attraction of industries in this zone (Burgel quoted in Leontidou 1983: 96). Around the industrial axis major working class communities were gradually formed (Keratsini, Drapetsona, Tavros, etc.), whereas the wealthier social strata tended to reside in some central Athens areas (Kolonaki, Syntagma, Plaka, etc.) or in

suburban "garden-city" areas (Psychiko, Filothei, Kifissia, Ekali). However, deviations in the social segregation of space were remarked: Working class communities were also formed as "niches" amidst wealthier middle-class areas in a pattern that Leontidou (1989: 137) has called "dotted social segregation".

Figure 4.1. *The industrial axis between Piraeus and Athens by 1920.*



SOURCE: Mapped from Leontidou 1989: 136.

The production activities of the industrial axis were expanded northwards, especially after the arrival of Minor Asia refugees in 1922. Industrial

localities specializing in textiles were created at the northern fringe of Athens (Nea Ionia, Nea Philadelphia and Nea Chalkidona), where the Minor Asia refugees continued to exercise the skills (weaving) they had acquired in their former lands (Burgel 1970: 199).

These developments had important impacts upon the Athenian urban economy which was gradually transforming from a parasitic to a productive one -a process which was intensified only in the post-war period (sect. 4.2). Over the 1840-1920 period, the percentage of economically active raised; industrial employment raised considerably, while service activities (mostly of a comprador character) declined (table 4.1).

The major part of Athenian industries during the inter-war years was oriented to the production of consumer goods. By 1930 light industry consumer branches (food, drinks, tobacco, textiles, clothing/footwear, wood, furniture, paper/printing, leather and miscellaneous) represented 76.43% of the

Table 4.1 *Composition of employment by sector in Athens, 1840-1920*

Sector	1840	1879	1920
Agriculture	8.69	7.43	13.88
Industry	12.48	34.01	32.87
Services	71.06	43.83	28.90
Economically active	39.86	39.55	47.07

SOURCE: Adapted from Leontidou 1989: 107.

total manufacturing establishments in Athens and 78.43% of manufacturing employment, whereas the percentages for Piraeus industry were 76.13% and 70.17% respectively (Leontidou 1989: table 20). However, in comparison with other urban areas Greater Athens presented a remarkable specialization in heavy industry branches such as metallurgy and metal products, machinery, rubber and chemicals (ibid.).

The above processes indicate that although the inter-war urban economy of Greater Athens had not yet reached the status of a fully productive economy -phenomena of mass urban poverty, subsistence wages,

marginalization etc. were still present (see Pizanias 1993)- a noticeable shift from precapitalist to modern capitalist industrial structures was gradually set in motion. This process was further intensified during the post-war period as we will see more analytically in the following section.

4.2. Industrial and Spatial Change in Greater Athens

4.2.1. Industrial Structures

In spite of the post-war changes Greek economy underwent in its drive to economic growth and industrialization, and in spite of relevant transformations of the Athenian economy, some views (by drawing abstractly from underdevelopment theories) continued to regard post-war Athens as an unproductive and parasitic capital of an underdeveloped Third World type (see e.g. Burgel 1976). However, concrete statistical evidence (table 4.2) shows that the great majority of the economically active population of Athens is employed in activities which by no way could be regarded as precapitalist, parasitic or marginal. More precisely:

- Employment in the secondary sector and manufacturing increased absolutely over the 1961-1983 period, but decreased as percentage of the economically active population due to faster employment growth in the tertiary sector. Despite the tertiarization trend, the share of manufacturing employment was still high in comparison to other southern European metropolises. For instance, in 1970/71, manufacturing employment in Athens represented 32.98% of active population, while in Rome, Naples, Lisbon and Madrid the percentages were 18.47%, 30.30%, 25.48% and 29.64% respectively (Leontidou 1990: table 3.7).

- Over the examined period, the share of employed in productive sectors such as primary sector, mining and quarrying, manufacturing, energy, construction industry, transport and communications, was relatively high -reaching almost 1/2 of Athens' active population.

Table 4.2 *Employment in Athens by sector of economic activity, 1961, 1983*

Sector	1961	(%)	1983	(%)
Primary sector (agriculture, etc.)	10,133	1.4	2,116	0.2
Secondary sector	273,256	38.7	340,927	35.3
-Mining and Quarrying	2,769	0.4	1,891	0.2
-Manufacturing industry	203,391	28.8	260,687	27.0
-Electricity, Gas and Water	6,951	1.0	12,640	1.3
-Constructions industry	60,145	8.5	65,709	6.8
Tertiary sector	374,673	53.0	612,053	63.4
-Commerce, Hotels, etc.	126,961	18.0	179,688	18.6
-Wholesale	25,852	3.7	45,002	4.7
-Retail	75,291	10.7	103,436	10.7
-Restaurants and Hotels	25,818	3.6	31,250	3.2
-Transport, Warehouses and Communications	62,216	8.8	113,202	11.7
-Transport & Warehouses	56,049	7.9	97,579	10.1
-Communications	6,167	0.9	15,623	1.6
-Banks, Insurances and allied	29,393	4.2	66,425	6.9
-Banks and Insurances	12,445	1.8	32,381	3.4
-Allied	16,948	2.4	34,044	3.5
-Services	156,103	22.1	252,738	26.2
-Governmental services	53,402	7.6	97,005	10.1
-Social services	46,760	6.6	109,263	11.3
-Personal services	47,233	6.7	12,229	1.3
-Other[1]	8,708	1.2	34,271	3.5
Not Declared Activities	48,272	6.8	9,623	1.0
Total of economically active	706,334	100.0	964,719	100.0

[1] 1961 data includes those employed in health, recreation and cultural services.

SOURCE: For 1961 Leontidou 1982: 396. For 1983 Padazidis and Kasimati 1984: 76-7. (Own calculation of the percentages).

- Employment in the tertiary sector expanded from 53% of the active population in 1961, to 63.4% in 1983. The growth of this sector should not be regarded as indicating a pattern of Third World parasitism, but, instead, as indicating a process of convergence of the Athenian urban economy to North-European patterns of post-industrialism and service economies: As shown in table 4.2, the growth of this sector is mainly

due to the development of modern service activities such as commerce, transport and communications, banking, insurances and other financial activities, administrative services etc.

- The activities which could be regarded as parasitic or marginal, are: (i) a fraction of the retail activities (the part consisting of various wandering salesmen and kiosk keepers), (ii) a part of the various "personal services", and (iii) the not declared activities. But even if we make the rough assumption that 1/2 of employed in retail are kiosk keepers and street salesmen (an assumption that can be easily rejected even by a mere observation in the city), all the respective percentages added together, which represented 18.85% of the active population in 1961, have fallen to only 7.65% in 1983.

By 1983, therefore, almost 89% of the Athenian active population was employed in typical -and to a good extend modern- capitalist activities. The existence of a relatively high percentage of self-employed in comparison to other western metropolises (Tsoucalas 1986: 241; Tsoucalas 1993: table 4), does not contradict the typical capitalist character of the Athenian urban economy. On the contrary, it reflects the unique path Greece followed -just like other southern European countries- in its capitalist transformation, as we saw more analytically in chapter 2 of this thesis.

The views about "parasitism" were also built upon the statement that post-war Athens concentrated mainly light industry consumer branches (Burgel 1976). This is true if viewed from a static perspective, but things differ if viewed from a dynamic one: From a static perspective we can remark that these branches were predominating all over the post-war period in terms of number of establishments (table 4.3) employment (table 4.4) and installed horsepower (table 4.5). But from a dynamic perspective the same data shows that their importance within the Athens manufacturing system was continuously decreasing over the time whereas the importance of intermediate and capital branches was continuously increasing. This importance becomes even more obvious if we examine the branches in which Greater

Athens was specializing all over the post-war period in comparison to the whole country. Location Quotient values over 1.0 are rather observed in the capital and intermediate branches (taken in aggregate), than in the consumer ones (table 4.6).

Table 4.3 *% share of manufacturing establishments in Greater Athens by branch, 1958-1988*

Code Branch	1958	1969	1978	1988
Non durable consumer goods	72.2	65.9	61.5	59.8
20 Foods	7.6	7.0	7.3	7.9
21 Beverages	0.7	0.5	0.3	0.3
22 Tobacco	0.1	0.1	0.0	0.0
23 Textiles	5.7	5.5	4.8	3.8
24 Clothing-Footwear	33.4	24.2	20.1	20.6
25 Wood-Cork	5.0	6.2	7.1	5.9
26 Furniture	9.8	11.2	10.5	8.8
27 Paper	0.6	0.7	0.7	0.7
28 Printing-Publishing	3.4	3.7	4.1	4.9
29 Leather-Fur	1.6	1.6	1.6	1.3
39 Miscellaneous	4.2	5.1	5.0	5.8
Intermediate goods	5.6	7.7	7.7	7.9
30 Rubber-Plastic	0.6	2.1	2.5	3.3
31 Chemicals	1.4	1.2	1.2	1.1
32 Petroleum-Coal products	0.1	0.1	0.1	0.1
33 Non metallic minerals	3.5	4.2	3.9	3.4
Capital goods and durables	22.2	26.4	30.7	33.2
34 Basic metallurgy	0.2	0.1	0.1	0.1
35 Metal products	10.2	10.7	9.5	7.7
36 Non electric machinery	2.3	3.0	3.4	3.1
37 Electric equipment	4.2	5.2	6.0	6.1
38 Transport equipment	5.3	7.5	11.8	16.2
Total	100.0	100.0	100.0	100.0

SOURCE: Table B.3 (appendix I).

Table 4.4 *% share of manufacturing employment in Greater Athens by branch, 1958-1988.*

Code Branch	1958	1969	1978	1988	
Non durable consumer goods	64.6	59.2	56.2	59.0	—
20 Foods	9.5	9.2	8.0	10.0	
21 Beverages	0.9	1.8	1.7	1.5	
22 Tobacco	3.2	1.8	1.0	0.9	
23 Textiles	16.1	13.1	11.7	8.8	
24 Clothing-Footwear	15.7	13.2	14.7	17.3	+
25 Wood-Cork	3.2	3.9	3.2	2.6	
26 Furniture	6.5	5.7	5.2	4.9	
27 Paper	1.6	1.8	2.1	2.1	
28 Printing-Publishing	4.1	4.8	4.9	6.4	
29 Leather-Fur	1.3	1.3	1.2	1.2	
39 Miscellaneous	2.6	2.6	2.6	3.4	
Intermediate goods	12.4	13.1	13.5	12.7	+
30 Rubber-Plastic	1.7	3.6	4.1	3.1	
31 Chemicals	5.8	4.5	5.3	5.8	
32 Petroleum-Coal products	0.2	0.5	0.3	0.7	
33 Non metallic minerals	4.7	4.5	3.8	3.1	
Capital goods and durables	23.0	27.7	30.3	28.3	+
34 Basic metallurgy	0.9	0.5	0.4	0.4	
35 Metal products	8.9	9.1	8.3	6.8	
36 Non electric machinery	2.5	3.7	3.2	2.9	
37 Electric equipment	3.8	5.7	6.0	5.4	
38 Transport equipment	6.9	8.6	12.3	12.8	
Total	100.0	100.0	100.0	100.0	

SOURCE: Table B.4 (appendix I)

Table 4.5 *% share of installed manufacturing horsepower in Greater Athens by branch, 1958-1984*

Code Branch	1958	1969	1978	1984
Non durable consumer goods	50.2	45.6	43.6	46.3
20 Foods	15.0	10.5	8.4	10.8
21 Beverages	1.4	1.9	1.5	1.3
22 Tobacco	0.7	0.9	0.7	0.7
23 Textiles	16.5	13.4	13.9	10.4
24 Clothing-Footwear	1.0	2.0	2.9	3.6
25 Wood-Cork	4.2	4.8	3.5	3.8
26 Furniture	2.4	4.2	3.9	4.5
27 Paper	3.4	3.2	4.2	5.6
28 Printing-Publishing	2.4	2.5	2.7	3.4
29 Leather-Fur	1.6	1.4	0.9	1.0
39 Miscellaneous	1.6	0.8	0.8	1.2
Intermediate goods	25.4	25.1	22.1	24.0
30 Rubber-Plastic	1.2	5.5	6.7	7.5
31 Chemicals	13.2	6.6	6.5	8.2
32 Petroleum-Coal products	0.5	0.5	0.4	0.5
33 Non metallic minerals	10.5	12.5	8.5	7.8
Capital goods and durables	24.4	29.2	34.3	29.6
34 Basic metallurgy	4.0	2.6	1.5	0.7
35 Metal products	9.9	10.7	9.7	8.7
36 Non electric machinery	3.6	4.9	3.7	4.9
37 Electric equipment	1.6	3.2	3.4	2.7
38 Transport equipment	5.3	7.8	16.0	13.1
Total	100.0	100.0	100.0	100.0

SOURCE: Table B.5 (appendix I).

Table 4.6 *Location quotients of manufacturing employment in Greater Athens, 1958-1988 (*).*

Code Branch	1958	1969	1978	1988
Non durable consumer goods	0.98	0.92	0.94	0.96
20.Foods	0.69	0.57	0.57	0.67
21.Drinks	0.50	0.84	0.87	0.78
22.Tobacco	0.97	0.68	0.67	0.47
23.Textiles	1.25	1.19	1.00	0.94
24.Clothing-Footwear	0.92	1.06	1.13	1.05
25.Wood-Cork	0.57	0.64	0.66	0.59
26.Furniture	1.21	1.09	1.13	1.13
27.Paper	1.43	1.16	1.25	1.22
28.Printing-Publishing	1.80	1.69	1.89	1.99
29.Leather-Fur	0.88	0.64	0.53	0.71
39.Miscellaneous	1.65	1.41	1.52	1.75
Intermediate goods	0.79	1.08	1.01	0.97
30.Rubber-Plastic	1.80	1.65	1.41	1.13
31.Chemicals	0.61	1.38	1.37	1.47
32.Petroleum-Coal products	1.15	0.83	0.41	0.66
33.Non-Metallic minerals	0.95	0.74	0.65	0.59
Capital goods and durables	1.26	1.16	1.13	1.12
34.Basic metallurgy	1.40	0.46	0.28	0.27
35.Metal products	1.15	1.06	1.03	1.02
36.Non-Electric machinery	1.15	1.08	0.96	0.92
37.Electric equipment	1.67	1.57	1.34	1.35
38.Transport equipment	1.28	1.24	1.31	1.29

$$(*)\ LQ = \frac{\dfrac{\text{Manufacturing employment in branch i in Greater Athens}}{\text{Manufacturing employment in all SIC branches in Greater Athens}}}{\dfrac{\text{Manufacturing employment in branch i in Greece}}{\text{Manufacturing employment in all SIC branches in Greece}}}$$

SOURCE: Own calculations from table B.4 (appendix I).

More specifically, most of the consumer branches in which Greater Athens specialized in the 1950s (textiles, furniture and paper), presented declining L.Q. values throughout the post-war period. Only clothing/footwear,

printing/publishing and miscellaneous industries presented an increasing degree of specialization in 1958-88.

It is evident, however, that the combined outcomes of negative restructuring and moderate decentralization (chap. 3), affected most of the intermediate and capital branches in which Greater Athens was specializing during the growth period. Branches as rubber/plastics, petroleum/coal products, basic metallurgy, metal products and electrical equipment, presented decreasing LQs over 1958-88. Despite these tendencies, however, Greater Athens by 1988 continued to specialize in most of those branches (rubber/plastics, chemical products, metal products, electric equipment and transport equipment). But it is evident that the past dynamism has been lost. Much of this decline is due to the internal contradictions and inconsistencies of state policies undertaken during the 1980s, as well as to a widespread anti-industrial culture within the public opinion of Athens, the major political parties and the social organizations, as we will see more analytically in subsequent chapters.

However, manufacturing played a crucial role in the post-war transformation of the Athenian urban economy. In 1969 Greater Athens concentrated 32.9% of the total manufacturing establishments and 46.6% of total manufacturing employment (table 4.7). This concentration trend was not reversed till the mid 1970's: In 1969-1978 manufacturing establishments increased by 15.6% and employment by 20.6%. But since 1978 these growth tendencies experienced a drastic downswing: In 1978-88 the growth rate of manufacturing establishments fell to 2.8%, while employment declined absolutely by -12.4%.

4.2.2. The Uneven Geography of Production (I): Greater Athens-vs-Rest of Attica

The post-war industrial growth of the Athenian region, was unevenly distributed across the two basic sub-regional units -that is, the Greater Athens agglomeration on the one hand, and the peripheral areas (rest of Attica) on the other. The latter, exhibited a much greater growth dynamism: Over the

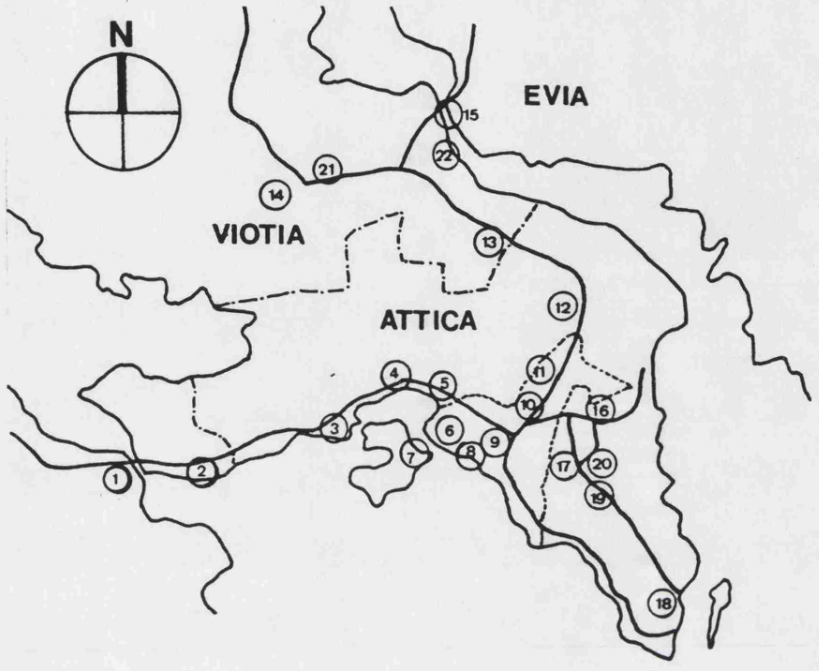
1969-1978 period the number of manufacturing establishments and employment increased by much greater rates in the rest of Attica than in Greater Athens (table 4.7). New industrial spaces developed along Attica's major transport arteris in a pattern resembling the sectoral industrial location model (fig. 4.2). Such spaces developed westwards along the Athens-Korinthos national highway (Elefsina, Megara, Ag. Theodori, Korinthos), eastwards (Mesogea valley -Pallini, Koropi, Lavrion) and northwards along the Athens-Lamia-Thessaloniki national highway (Oinofyta and Halkida). As we can remark in table 4.8, during 1963-73 manufacturing jobs increased much more to the rest of Attica than to Greater Athens in most branches and especially in rubber/ plastics, paper and printing, metal products, electrical equipment, transport equipment, furniture, non electric machinery and miscellaneous industries.

Table 4.7 *Manufacturing establishments and employment in Greater Athens and in the rest of Attica, 1969-1988.*

	1969	%	1978	%	1988	%
No of establishments						
-Greater Athens	40,956	32.9	47,332	36.7	48,656	33.6
-Rest of Attica	2,847	2.3	4,008	3.1	5,552	3.8
Employment						
-Greater Athens	233,779	46.6	281,821	42.0	246,880	35.0
-Rest of Attica	17,932	3.6	45,958	6.8	51,397	7.3
% change of the number of establishments	1969-1978			1978-1988		
-Greater Athens	15.6			2.8		
-Rest of Attica	40.8			38.5		
% change of manufacturing employment						
-Greater Athens	20.6			-12.4		
-Rest of Attica	156.3			11.8		

SOURCE: Tables B.1 and B.2 (appendix I).

Figure 4.2. *The sectoral pattern of industrial location in Attica in the 1970s.*



1. KORINTHOS
2. AGIOI THEODOROI
3. PAHI MEGARON (NEO MELI)
4. ELEFSINA
5. ASPROPYRGOS
6. SKARAMANGAS-PERAMA
7. SALAMINA
8. PIRAEUS
9. ELEONAS
10. NEA PHILADELPHIA-NEA IONIA-IRAKLEIO
11. METAMORPHOSIS
12. AG.STEFANOS-KRYONERI
13. OINOFYTA
14. THEBES
15. HALKIDA
16. PALLINI
17. PEANIA-KOROPI
18. LAVRION
19. MARKOPOULO-KALYVIA
20 SPATA
21. YPATO
22. VATHI

SOURCE: Combined information drawn from: (a) SCET (1974: 98-98.3); (b) Doxiadis & Associates (1976: II.29-II.35); TEE (1978: 15-23); Leontidou (1990: 193); unpublished maps of the Ministry of Environment.

Finally, 59,152 new manufacturing jobs were added in Greater Athens and 17,431 in the rest of Attica (table 4.9). It was the capital goods group that accounted the most for job increases at both sub-regional scales.

Table 4.8 *Manufacturing employment change (%) in Greater Athens, rest of Attica and Attica (region total) by branch, 1963-1973.*

Code Branch	1963-1973		
	Greater Athens	Rest of Attica	Attica (total)
Consumer goods	18.1	50.5	19.7
20.Foods	14.7	35.0	16.7
21.Drinks	90.6	-88.3	60.5
22.Tobacco	-41.3	0.0	-41.3
23.Textiles	10.3	67.8	14.3
24.Clothing-Footwear	16.1	-10.3	15.4
25.Wood-Cork	21.7	110.8	26.5
26.Furniture	34.7	286.5	39.1
27.Paper	31.5	862.5	35.2
28.Printing-Publishing	30.2	438.9	30.9
29.Leather-Fur	6.7	-1.4	6.5
39.Miscellaneous	51.7	334.3	55.2
Intermediate goods	33.1	112.0	42.8
30.Rubber-Plastic	66.7	2,444.8	77.8
31.Chemicals	34.2	92.9	41.0
32.Petroleum-Coal products	132.7	143.8	138.3
33.Non-Metallic minerals	8.1	81.2	19.4
Capital goods and durables	43.1	221.7	55.3
34.Basic metallurgy	71.8	62.8	65.1
35.Metal products	4.9	458.7	19.0
36.Non-Electric machinery	54.1	217.4	61.2
37.Electric equipment	92.6	238.5	96.4
38.Transport equipment	50.0	304.5	66.3
Total	26.8	117.1	32.5

SOURCE: Own calculations from table B.8 (appendix I).

Even in the first years of recession (1973-78) manufacturing employment at the aggregate was still increasing in both Greater Athens and rest of Attica (table 4.10). However, most branches in Greater Athens (tobacco, textiles, wood/cork, furniture, leather/fur, petroleum/coal products, non metallic

Table 4.9 *Absolute change of manufacturing employment in Greater Athens and in the rest of Attica by branch group, 1963-1973.*

Branch group	Greater Athens	Rest of Attica
Non durable consumer goods	24,132	3,345
Intermediate goods	9,076	4,330
Capital goods & durables	25,944	9,756
Total	59,152	17,431

SOURCE: Own calculations from table B.8 (appendix I).

Table 4.10 *Manufacturing employment change (%) in Greater Athens, rest of Attica and Attica (region total) by branch, 1973-1978*

Code Branch	1973-1978		
	Greater Athens	Rest ofAttica	Attica (total)
Consumer goods	0.7	42.8	3.2
20.Foods	3.2	17.2	4.8
21.Drinks	4.7	936.4	16.1
22.Tobacco	-14.4	0.0	-14.4
23.Textiles	-4.7	19.8	-2.2
24.Clothing-Footwear	9.1	61.8	10.3
25.Wood-Cork	-10.7	69.3	-3.6
26.Furniture	-5.6	127.0	0.9
27.Paper	23.9	190.3	29.2
28.Printing-Publishing	5.2	17.5	5.2
29.Leather-Fur	-3.4	35.7	-2.6
39.Miscellaneous	-10.5	-22.0	-10.9
Intermediate goods	4.4	53.5	13.4
30.Rubber-Plastic	11.6	149.1	20.8
31.Chemicals	15.5	70.5	24.1
32.Petroleum-Coal products	-38.2	96.1	31.1
33.Non-Metallic minerals	-9.1	6.5	-5.4
Capital goods and durables	-0.9	35.2	4.2
34.Basic metallurgy	18.8	7.1	10.1
35.Metal products	9.2	48.1	14.8
36.Non-Electric machinery	-29.4	75.0	-20.5
37.Electric equipment	-18.7	54.0	-15.4
38.Transport equipment	15.9	28.9	17.9
Total	0.7	42.2	5.0

SOURCE: Own calculations from table B.8 (appendix I).

minerals, non electric machinery, electric equipment and miscellaneous industries) presented absolute employment decline ranging between -38.2% at maximum (petroleum/coal products) and -3.4% at minimum (leather/fur). By contrast, employment in all branches at the rest of Attica (with the exception of miscellaneous industries) kept increasing, with best example of this drinks (which increased by 936.4%), paper (190.3%), rubber/plastic (149.1%) and furniture (127.0%). Deindustrialization hit foremost Greater Athens and especially its inner city areas as we will see later on in this chapter. It should be also remarked that during the growth period Attica was attracting mostly big -for the Greek standards- companies. By 1978 Athens concentrated 73.42% of employment in companies with 100+ employees, 81% of the headquarters of the 100 bigger industrial companies in the country and 69.8% of all S.A. industrial companies (Hadjisocratis 1983: 2). Limited liability and S.A. Athenian companies, which in 958 accounted for only 42% of total fixed capital in manufacture, came to control 90% of it by 1973 (Leontidou 1990: 175). As table 4.11 shows, by 1978 the average plants' size in Greater Athens exceeded the Greek average in all manufacturing branches with the exception of textiles, paper, petroleum/coal products, non metallic minerals and basic metallurgy. However, since there were shortages of available land within the urban agglomeration, the larger plants tended to locate outside Greater Athens -in the rest of Attica- as we can remark from the average plants size in the two sub-areas of Attica (table 4.12).

The economic recession of the 1970s, marked a drastic reversal of the previous trends. In 1978-1988 the number of manufacturing establishments in Greater Athens increased slightly (see previous table 4.7) but employment declined by 34,941 jobs (table 4.13). All manufacturing branches, with only a few exceptions (foods, clothing/footwear, printing/publishing, petroleum/coal products and miscellaneous industries) experienced job losses. Intermediate and capital branches were especially hit. Taken in aggregate, they accounted for 22,214 out of 34,941 total job losses in Greater Athens. Job loss hit especially the larger companies (50+ employees) as table 4.14 shows.

Table 4.11 *Average plants' size in Greater Athens by branch, 1978.*

Code Branch	Greater Athens	Greece
Non durable consumer goods	5.4	4.9
20.Foods	6.5	4.9
21.Drinks	28.5	6.7
22.Tobacco	135.9	74.1
23.Textiles	14.7	15.5
24.Clothing-Footwear	4.4	4.0
25.Wood-Cork	2.7	2.7
26.Furniture	3.0	2.9
27.Paper	18.1	24.8
28.Printing-Publishing	7.1	6.1
29.Leather-Fur	4.7	4.1
39.Miscellaneous	3.1	2.9
Intermediate goods	10.4	10.3
30.Rubber-Plastic	9.7	8.9
31.Chemicals	26.1	23.8
32.Petroleum-Coal products	15.3	38.6
33.Non-Metallic minerals	5.9	7.5
Capital goods and durables	5.9	4.7
34.Basic metallurgy	41.9	166.4
35.Metal products	5.2	3.7
36.Non-Electric machinery	5.6	5.0
37.Electric equipment	6.0	5.7
38.Transport equipment	6.2	4.7
Total	6.0	5.2

SOURCE: Own calculations from tables B.3 and B.4 (appendix I).

Table 4.12 *Average plants' size (*) in Attica's sub-areas, 1969, 1984.*

	1969	1984
Greece, total	4.00	4.73
Region of Attica	5.75	5.35
-Greater Athens	5.71	4.92
-Rest of Attica	6.21	9.53

(*) Number of employed / number of establishments.

SOURCE: Own calculations from tables B.1 and B.2 (appendix I).

Table 4.13 *Manufacturing employment change in Greater Athens by branch, 1978-1988.*

Code Branch	Number 1978-88	% 1978-88
Non durable consumer goods	-12,726	-8.0
20.Foods	2,152	9.6
21.Drinks	-971	-20.9
22.Tobacco	-577	-21.2
23.Textiles	-11,232	-34.0
24.Clothing-Footwear	1,259	3.0
25.Wood-Cork	-2,743	-30.2
26.Furniture	-2,797	-18.9
27.Paper	-672	-11.6
28.Printing-Publishing	2,009	14.6
29.Leather-Fur	-475	-13.8
39.Miscellaneous	1,321	18.4
Intermediate goods	-6,798	-17.8
30.Rubber-Plastic	-3,872	-33.7
31.Chemicals	-742	-4.9
32.Petroleum-Coal products	909	112.4
33.Non-Metallic minerals	-3,093	-28.5
Capital goods and durables	-15,416	-18.1
34.Basic metallurgy	-181	-15.4
35.Metal products	-6,647	-28.3
36.Non-Electric machinery	-1,839	-20.4
37.Electric equipment	-3,636	-21.3
38.Transport equipment	-3,113	-9.0
Total	-34,941	-12.4

SOURCE: Own calculations from table B.4 (appendix I).

Table 4.14 *Large firms' (50+ employees) decline in Greater Athens,1975-88.*

	1975	1988	% 1975-1988
Number of establishments	578	417	-27.85
Number of employed	102,112	73,566	-27.96

SOURCE: For 1975: NSSG, *Statistical Yearbook of Greece 1978.* Athens 1979: table X:4. For 1988: NSSG, *Statistical Yearbook of Greece 1990-91.* Athens 1994: table X:4. (Own calculation of the percentages).

By contrast to Greater Athens and Attica (as a whole), manufacturing employment continued to increase at the rest of Attica in most branches and particularly in consumer and intermediate ones over 1978-84 (table 4.15).

Table 4.15 *Manufacturing employment change in the rest of Attica and Attica (region total) by branch, 1978-1984.*

Code Branch	Rest of Attica		Attica (total)	
	Absolute change 1978-84	% change 1978-84	Absolute change 1978-84	% change 1978-84
Non durable consumer goods	2,194	15.4	-15,173	-8.8
20.Foods	872	27.3	871	3.4
21.Drinks	302	53.0	-371	-7.1
22.Tobacco	0	0.0	-236	-8.7
23.Textiles	-787	-16.7	-11,333	-30.0
24.Clothing-Footwear	174	12.9	-133	-0.3
25.Wood-Cork	101	6.0	-1,092	-10.1
26.Furniture	482	26.4	-1,698	-10.2
27.Paper	425	95.1	-657	-10.5
28.Printing-Publishing	438	384.2	-342	-2.5
29.Leather-Fur	31	32.6	-325	-9.2
39.Miscellaneous	156	68.7	143	1.9
Intermediate goods	777	6.2	-4,959	-9.8
30.Rubber-Plastic	388	21.1	-2,043	-15.3
31.Chemicals	420	10.2	-252	-1.3
32.Petroleum-Coal products	-109	-4.0	-168	-4.7
33.Non-Metallic minerals	78	2.0	-2,496	-17.0
Capital goods & durables	-570	-3.0	-15,137	-14.5
34.Basic metallurgy	-311	-10.4	-851	-20.5
35.Metal products	-46	-0.8	-5,106	-17.7
36.Non-Electric machinery	721	34.7	-263	2.4
37.Electric equipment	131	8.5	-3,084	-16.6
38.Transport equipment	-1,065	-15.0	-6,359	-15.3
Total	2,401	5.2	-35,269	-10.8

SOURCE: Own calculations from table B.8 (appendix I).

Most employment dynamism was exhibited by printing/publishing, paper, miscellaneous industries, drinks and foods, non electric machinery, leather/fur, furniture and rubber/plastics.

The above evidence shows that deindustrialization and job loss in Attica affected unevenly its sub-areas and its branch structure. The Greater Athens agglomeration and the intermediate and capital branch groups were the hardest hit; in just a decade (1978-88), the Greater Athens agglomeration had lost 34,941 manufacturing jobs (see previous table 4.13) while, by contrast, outer (rest of Attica) industry was not seriously affected.

4.2.3. The Uneven Geography of Production (II): Inner City-vs-Suburbs

The shift of Greek industry from growth to decline and negative restructuring, brought about major geographical change not only at the sub-regional scale (i.e. Greater Athens -vs- the rest of Attica), but at the intra-urban scale of Greater Athens as well (inner city -vs- suburban industrial spaces). In a more general perspective, the contemporary locational pattern of manufacturing in Greater Athens can be seen as the combined outcome of two contrasting tendencies: On the one hand, previous spatial divisions of labour and the inertia of historical heritage tend to maintain the past industrial "landscape" of Athens, which was characterized by the clustering of production along the traditional (inner-city) industrial axis (see fig. 4.3).[1] On the other hand, economic change and new spatial divisions generate forces tending to transform this industrial "landscape" by imposing a wave of suburbanization of production. On the same time, policy and cultural forces interrelate with the spatio-economic processes and affect the whole industrial settings in Greater Athens to a considerable extend (see chap. 6 to 8). As we will see, since the mid 1970s the relative balance between these two contrasting tendencies has started to shift in favour of suburban industrial development, accompanied by a serious employment decline of inner city manufacturing.

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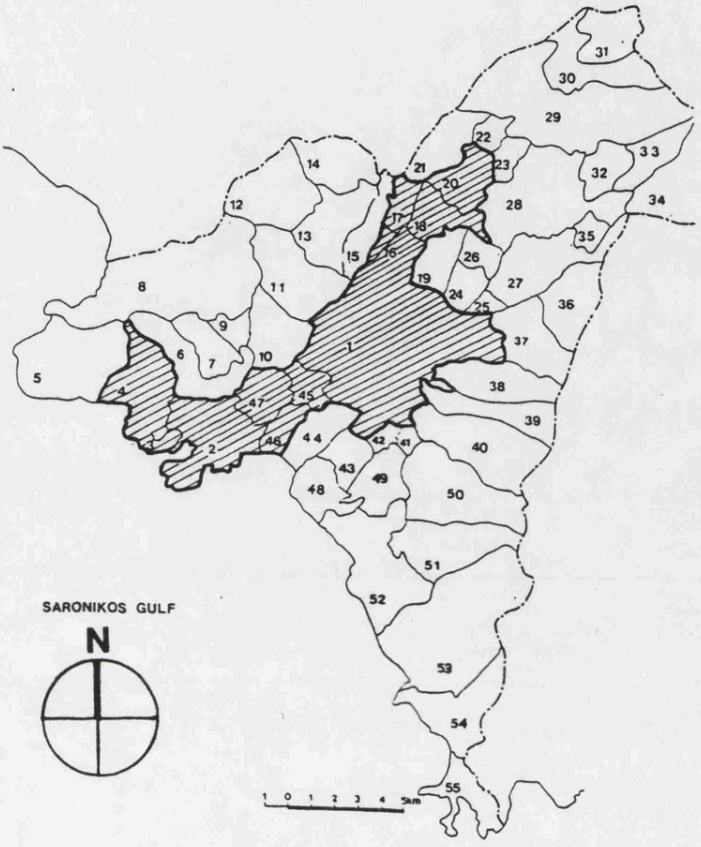
[1] This axis includes the municipalities of Athens, Piraeus, Agios Ioannis Rendis, Keratsini, Drapetsona, Tavros, Moschato, Nea Ionia, Nea Chalkidona, Nea Philadelphia and Irakleio (see Leontidou 1990: 196).

Evidence on manufacturing employment change by Greater Athens' municipalities over the 1969-88 period, is presented in table 4.16 and figures 4.4 and 4.5. As it can be remarked, the period 1969-1973 was one of remarkable manufacturing employment growth in almost all municipalities of Greater Athens with the exception of a few western ones (fig. 4.4) which manifested slight employment declines. Inner city areas along the traditional industrial axis, as well as most western, northern and southern suburbs concentrated much of that growth. By 1973, industrial axis concentrated 160,028 jobs -that is, 57.19% of the total Greater Athens manufacturing employment (table 4.17). Most of those jobs belonged mainly to the consumer branch group (which represented 60.3% of total inner city employment -calculated from table 4.17) with best example of this textiles, clothing/footwear, foods, printing/publishing and furniture, and secondly to the capital group (representing 27.9%) with best example transport equipment, metal products, electric and non electric machinery.

The oil-related world economic recession of 1973/74 marked a turning point in the process of manufacturing employment growth in Greater Athens. A total job decline of 32,943 took place over the 1973-1988 period (see table 4.16). Most of Greater Athens' municipalities were affected. The most seriously affected were those included in the traditional inner city industrial axis as we can remark in fig. 4.5. Job loss in the major municipalities of Athens and Piraeus, alone, represented more than 86% of the total Greater Athens job decrease (calculated from table 4.16). The aggregate decrease along the industrial axis reached 25,646 manufacturing jobs, and by 1988 its percentage had fallen to 54.4% of the total Greater Athens manufacturing employment (table 4.17). However, the uneven geography of production in Greater Athens was expressed by a continuing employment growth in most suburban municipalities over the 1973-1988 deindustrialization period, as we can see in table 4.16 and figure 4.5. The suburban municipalities of Perama, Korydallos, Peristeri, Petroupoli, Nea Liossia, Kamatero, Metamorphosis, Lykovrysi, Neo Psychiko, Filothei, Nea Erythrea, Melissia, Vrylissia, Agia Paraskevi, Zografos, Byron, Ymittos, Nea Smyrni, Kallithea, Paleo Phaliro, Agios Dimitrios, Ilioupolis, Argyroupolis, Alimos-Elliniko, Glyfada, Voula and Vouliagmeni, presented

Figure 4.3. *Greater Athens' municipalities included in its traditional inner city industrial axis.*



GREATER ATHENS MUNICIPALITIES

1.ATHENS
2.PIRAEUS
3.DRAPETSONA
4.KERATSINI
5.PERAMA
6.NIKEA
7.KORYDALLOS
8.HAIDARI
9.AGIA VARVARA
10.EGALEO
11.PERISTERI
12.PETROUPOLI
13.NEA LIOSIA
14.KAMATERO
15.AGIOI ANARGYROI
16.NEA HALKIDONA
17.NEA PHILADELPHIA
18.NEA IONIA
19.GALATSI
20.IRAKLEIO
21.METAMORPHOSIS
22.LYKOVRYSI
23.PEFKI
24.PSYCHIKO
25.NEO PSYCHIKO
26.FILOTHEI
27.HALANDRI
28.MAROUSI
29.KIFISSIA
30.NEA ERYTHREA
31.EKALI
32.MELISSIA
33.NEA PENTELI
34.PENTELI
35.VRILISSIA
36.AGIA PARASKEVI
37.HOLARGOS-PAPAGOS
38.ZOGRAFOS
39.KESARIANI
40.VYRON
41.YMITTOS
42.DAFNI
43.NEA SMYRNI
44.KALLITHEA
45.TAVROS
46.MOSCHATO
47.AGIOS IOANNIS RENTIS
48.PALEO FALIRO
49.AGIOS DIMITRIOS
50.ILIOUPOLIS
51.ARGYROUPOLIS
52.ALIMOS-ELLINIKO
53.GLYFADA
54.VOULA
55.VOULIAGMENI

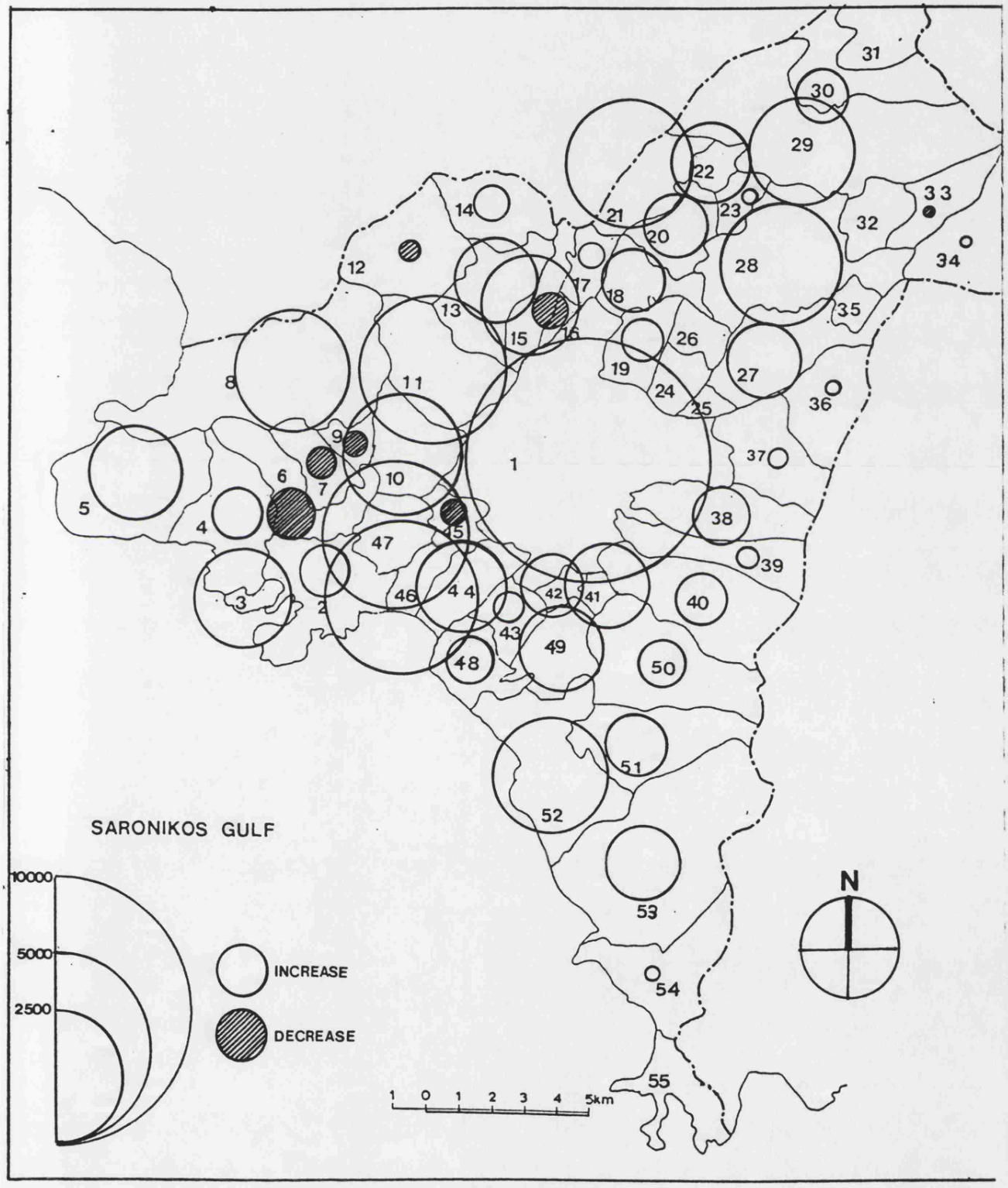
Table 4.16. *Manufacturing employment in Greater Athens' municipalities 1969-1988*

Municipalities	1969	1973	1978	1988	Change 1969-73	Change 1973-88
1. Athens	82,705	90,887	89,696	70,364	8,182	-20,523
2. Piraeus	28,676	29,113	25,841	21,291	437	-7,822
3. Drapetsona	3,780	5,288	3,199	2,565	1,508	-2,723
4. Keratsini	2,832	3,193	3,188	3,072	361	-121
5. Perama	1,337	2,604	2,569	3,119	1,267	515
6. Nikea	3,892	3,505	3,512	3,213	-387	-292
7. Korydallos	1,341	1,218	1,568	1,812	-123	594
8. Haidari	6,041	8,130	6,981	5,511	2,089	-2,619
9. Agia Varvara	1,283	1,399	1,343	969	116	-430
10.Egaleo	8,822	10,839	12,300	9,875	2,017	-964
11.Peristeri	12,226	15,363	18,738	16,980	3,137	1,617
12.Petroupoli	426	485	460	753	59	268
13.Nea Liosia	1,838	2,789	3,211	4,219	951	1,430
14.Kamatero	167	332	1,053	1,265	165	933
15.Agioi Anargyroi	898	2,343	2,776	1,967	1,445	-376
16.Nea Halkidona	1,423	1,233	1,645	1,168	-190	-65
17.Nea Philadelphia	2,090	2,179	1,965	1,667	89	-512
18.Nea Ionia	7,541	8,089	7,089	6,853	548	-1,236
19.Galatsi	609	850	1,171	2,059	241	1,209
20.Irakleio	2,775	3,323	3,455	2,895	548	-428
21.Metamorphosis	2,150	4,427	6,007	6,857	2,277	2,430
22.Lykovrysi	676	1,513	1,971	1,814	837	301
23.Pefki	639	668	466	533	29	-135
24.Psychiko	23	21	17	16	-2	-5
25.Neo Psychiko	351	408	483	465	57	57
26.Filothei	12	2	3	9	-10	7
27.Halandri	1,981	2,753	2,475	2,674	772	-79
28.Marousi	3,004	5,141	4,456	4,115	2,137	-1,026
29.Kifissia	2,102	3,823	4,196	3,783	1,721	-40
30.Nea Erythrea	184	606	860	761	422	155
31.Ekali	1	3	191	0	2	-3
32.Melissia	73	182	177	282	109	100
33.Nea Penteli	47	34	56	12	-13	-22
34.Penteli	6	15	9	12	9	-3
35.Vrylissia	89	90	124	260	1	170

Municipalities	1969	1973	1978	1988	Change 1969-73	Change 1973-88
36.Agia Paraskevi	626	654	644	898	28	244
37.Holargos-Papagos	650	697	570	460	47	-237
38.Zografos	1,192	1,690	1,654	1,850	498	160
39.Kesariani	1,073	1,143	1,014	1,068	70	-75
40.Byron	1,606	1,996	2,063	2,246	390	250
41.Ymittos	863	1,913	3,293	2,647	1,050	734
42.Dafni	1,676	2,260	2,010	1,585	584	-675
43.Nea Smyrni	879	1,007	1,192	1,381	128	374
44.Kallithea	6,336	7,525	7,850	7,910	1,189	385
45.Tavros	9,077	8,997	8,714	6,266	-80	-2,731
46.Moschato	7,952	11,252	11,825	7,701	3,300	-3,551
47.Agios Ioannis Rentis	10,174	13,271	12,336	10,543	3,097	-2,728
48.Paleo Phaliro	1,097	1,390	1,339	1,535	293	145
49.Agios Dimitrios	3,197	4,215	4,761	5,097	1,018	882
50.Ilioupolis	1,571	1,909	1,937	2,565	338	656
51.Argyroupolis	672	1,193	1,232	1,563	521	370
52.Alimos-Elliniko	2,542	4,488	4,730	6,692	1,946	2,204
53.Glyfada	484	1,285	1,307	1,479	801	194
54.Voula	65	86	90	160	21	74
55.Vouliagmeni	7	3	24	23	-4	20
Greater Athens, total	233,779	279,822	281,836	246,879	46,043	-32,943

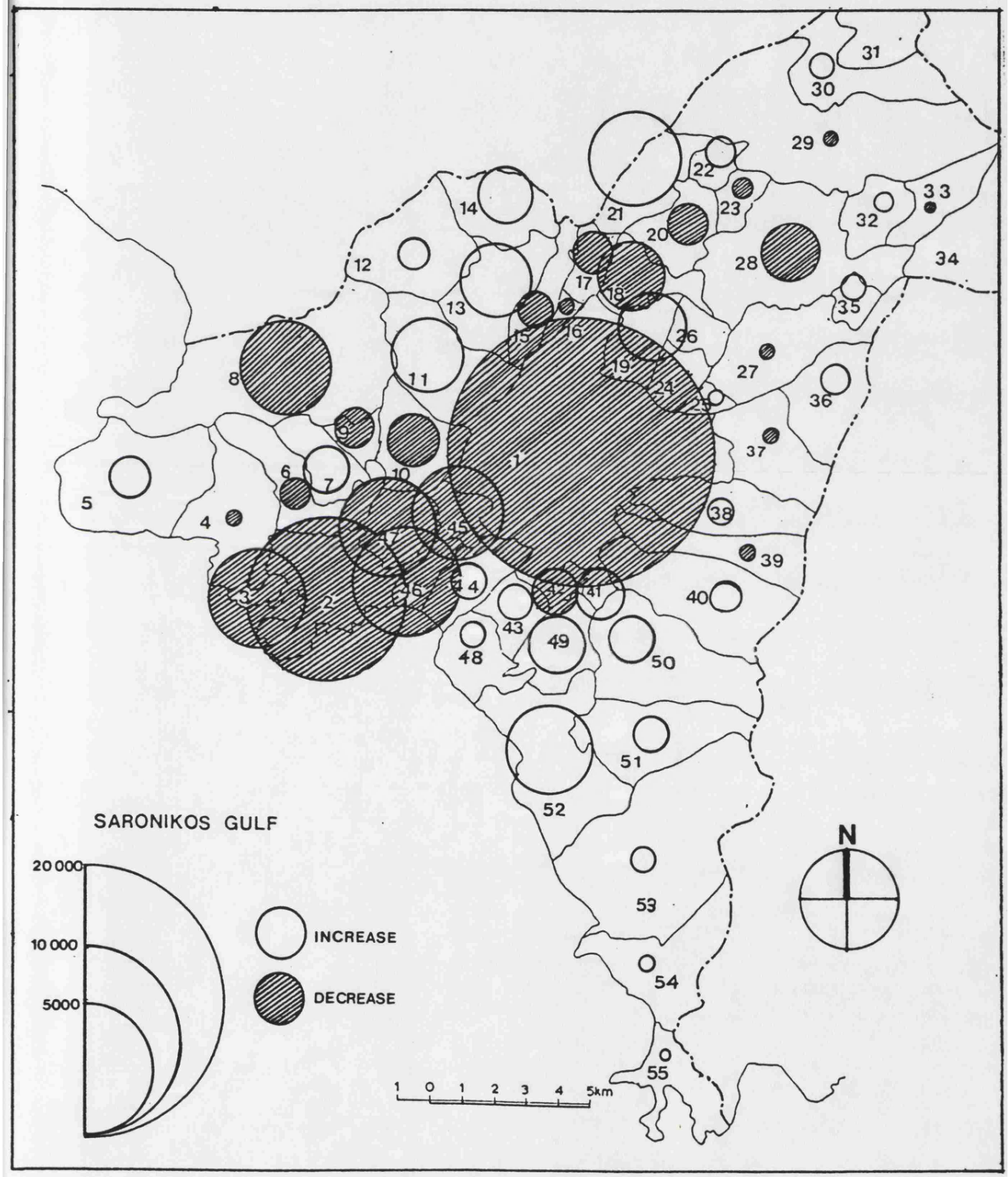
SOURCE: For 1969, published data from NSSG, *census of industrial etc. establishments*, Athens 1969. For 1973, 1978 and 1988, unpublished (computer printouts) NSSG data of the 1973, 1978 and 1988 censuses of industrial etc. establishments. (Own calculation of the changes).

Figure 4.4. *Manufacturing employment change in Greater Athens' municipalities, 1969-1973*



SOURCE: Mapped from table 4.16.

Figure 4.5. *Manufacturing employment change in Greater Athens' municipalities, 1973-1988*



SOURCE: Mapped from table 4.16.

Table 4.17 *Inner city manufacturing employment by branch, 1973-1988.*

Code Branch	1973	1988	1973-88	1973-88 (%)
Non durable consumer goods	96,471	82,004	-14,467	-15.00
20.Foods	12,572	13,428	856	6.81
21.Drinks	1,528	748	-780	-51.05
22.Tobacco	3,176	2,072	-1,104	-34.76
23.Textiles	20,539	12,311	-8,228	-40.06
24.Clothing-Footwear	26,464	23,263	-3,201	-12.10
25.Wood-Cork	3,562	2,185	-1,377	-38.66
26.Furniture	7,918	5,353	-2,565	-32.39
27.Paper	3,616	3,831	215	5.95
28.Printing-Publishing	9,145	10,709	1,564	17.10
29.Leather-Fur	2,609	2,153	-456	-17.48
39.Miscellaneous	5,342	5,951	609	11.40
Intermediate goods	18,874	17,045	-1,829	-9.69
30.Rubber-Plastic	4,196	4,373	177	4.22
31.Chemicals	8,089	8,267	178	2.20
32.Petroleum-Coal products	717	906	189	26.36
33.Non-Metallic minerals	5,872	3,499	-2,373	-40.41
Capital goods and durables	44,683	35,333	-9,350	-20.93
34.Basic metallurgy	412	770	358	86.89
35.Metal products	10,320	8,014	-2,306	-22.34
36.Non-Electric machinery	9,535	4,715	-4,820	-50.55
37.Electric equipment	9,803	7,450	-2,353	-24.00
38.Transport equipment	14,613	14,384	-229	-1.57
Inner-city total	160,028	134,382	-25,646	-16.03
Greater Athens total	279,824	246,879	-32,945	-11.77
Inner-city (%)	57.19	54.43		

SOURCE: For 1973, Leontidou 1983: table 4. For 1988, unpublished NSSG data (computer printouts) from the 1988 census of industrial etc. establishments. (Own calculation of absolute and percent changes).

absolute employment increases. Aggregately, these municipalities offered 16,478 new manufacturing jobs in the Greater Athens' economy (calculated from table 4.16). However, the job loss of central industry could not be outweighed by the suburban employment growth; a total of 32,943 jobs were lost

in the Greater Athens agglomeration over the 1973-88 deindustrialization period.

The inner city job decline was not branch-specific, since the majority of branches were affected to a lesser or greater extend (see table 4.17). The most affected was textile industry which presented a loss of 8,228 jobs; other traditional consumer branches (cloths/footwear and furniture) experienced serious job losses as well (-3,201 and -2,565 jobs respectively). These three branches, aggregately, accounted for 54.6% of the total inner city job loss during 1973-1988 (calculated from table 4.17). But it was not only the traditional consumer branches which were affected: Modern capital and intermediate ones experienced marked job losses as well, with best example non electric and electric machinery (-4,820 and -2,353 jobs respectively), metal products (-2,306 jobs) and non metallic minerals (-2,373 jobs).

Inner city employment decline, has been associated with three interrelated sets of forces:

(a) The more general deindustrialization processes which are at work since the mid 1970s, have caused closures of manufacturing companies (especially big ones) in traditional branches such as e.g. textiles, furniture, clothing/footwear, etc.

(b) Locational problems and other negative externalities at inner city areas have forced companies to seek relocation elsewhere. In a 1973 survey (referred in Leontidou 1983: 960), it was revealed that although inner city decline had not fully started yet, 75% of the surveyed firms asserted that the need for plants' expansion was the major thrust for relocation prospects.

(c) Industrial policy inconsistencies and restrictions (chap. 6), a widespread anti-industrial culture (chap. 7) and major problems of consensus between public planning bodies and social groupings in tackling with the

problems of inner city manufacturing (chap. 8), have contributed to the further intensification of the decline process.

By 1988 the uneven geography of production in Greater Athens had created a diversified pattern of areal specialization (table 4.18 and figure 4.6). More precisely:

- Specialization in food industry (Code Order 20) is remarked at most suburban municipalities and especially at the southern and eastern ones, whereas specialization in beverages (Order 21) is remarked at a few areas in which big plants are located (Coca-Cola in Nea Kifissia along the Athens-Lamia national highway, and Amstel beer in Egaleo along Kifissou avenue).

- Specialization in tobacco industry (Order 22) is still remarked at its traditional Piraeus areas.

- Specialization in textiles (Order 23) is remarked along the industrial axis and especially at the northern traditional textile-areas of N.Ionia, Nea Philadelphia, Irakleio, etc.

- Specialization in clothing-footwear (Order 24) is remarked at inner city areas (Athens municipality) with extensions towards north-west and south-west municipalities.

- Specialization in wood industry (Order 25) is remarked mainly along two discrete zones including most western and eastern-southern suburbs, whereas specialization in furniture (Order 26) follows a similar spatial pattern probably because the branch is heavily dependent on the previous one.

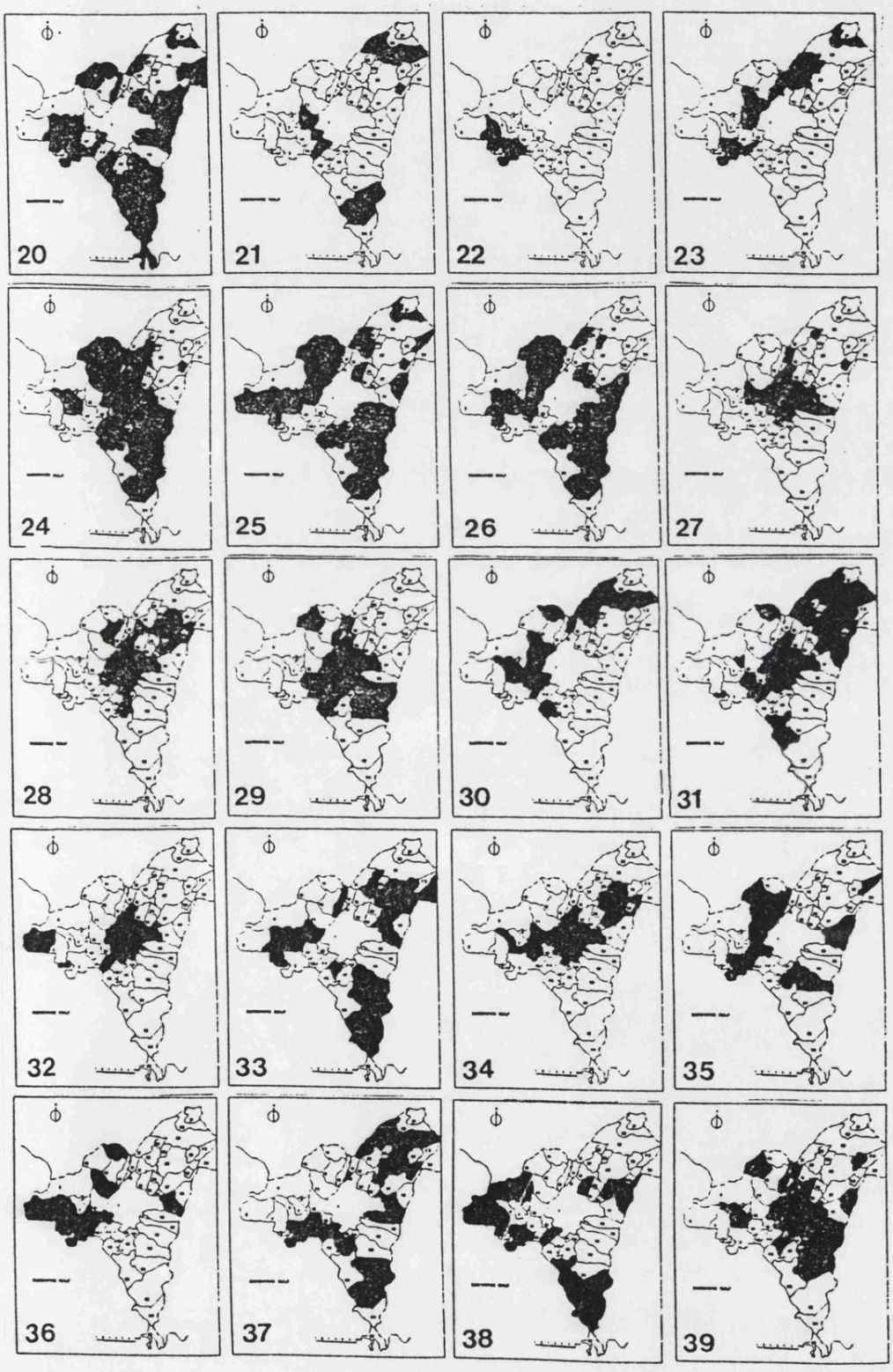
- Specialization in paper industries (Order 27) and in the linked printing-publishing activities (Order 28) follows a central-city (market oriented) pattern with some extensions to the suburbs.

TABLE 4.18
LOCATION QUOTIENTS OF MANUFACTURING EMPLOYMENT IN GREATER ATHENS' MUNICIPALITIES, 1988

MUNICIPALITIES OF GREATER ATHENS	FOODS	DRINKS	TOBACCO	TEXTILES	CLOTHING-FOOTWEAR	WOOD-CORK	FURNITURE	PAPER	PRINTING-PUBLISHING	LEATHER-FUR	RUBBER-PLASTIC	CHEMICALS	PETROLEUM-COAL PRODUCTS	NON METALLIC MINERALS	BASIC METALS	METAL PRODUCTS	NON ELECTRIC MACHINERY	ELECTRIC EQUIPMENT	TRANSPORT EQUIPMENT	OTHER
1 ATHENS	0 86	0 29	0 47	0.68	1.31	0 53	0 78	2 05	1.83	1 49	0 83	1.02	1 62	0.83	1 57	0 52	0 90	0.90	0.78	1 97
2 PIRAEUS	1 29	0 35	9 43	1 25	0 31	0 71	0.87	0 86	0 37	0 43	0 43	0 73	0 11	0 40	0 35	1 04	2.48	1 24	1 83	0 40
3 DRAPETSONA	0 38	0 10	0 00	0 02	0 15	0 62	0.21	0 00	0 11	0.10	0 25	7 70	2 80	10 10	0 00	0 26	1 27	0 17	0 38	0 03
4 KERATSINI	1 69	0 15	0 00	1 00	0 68	1.95	1.04	0 02	0 11	0 00	0 38	0 07	0 09	2 07	0 00	0 69	1 24	0 61	2 39	0 40
5 PERAMA	0 23	0 00	0.00	0 01	0.09	1 04	0.13	0 00	0 01	0 00	0 11	0 06	13.05	0 45	0 00	0 44	1 68	0 25	5 66	0 03
6 NIKEA	1 24	0 06	0 00	0 53	1 54	1.61	1 71	0 18	0 21	0 28	1 16	0 06	0 00	1 39	5 96	0 97	1 22	0 86	0 96	1.43
7 KORYDALLOS	1 74	0 22	0 00	0.57	1 66	2 80	1 36	0 19	0 14	0 60	1 14	0 11	0 00	2 88	0 00	0 84	0 23	0 45	0 48	1.44
8 HAIDARI	0 25	0 06	0 00	0 13	0 48	0 98	0 36	0 11	0 04	0 33	0 42	0 03	0 21	0 32	0 00	0 39	0 47	0 29	5 65	0 77
9 AGIA VARVARA	1 13	0 49	0 00	0 50	0 70	4 43	0 98	0 50	0 10	0 26	0 40	4 71	0 00	2 34	0 00	0 88	0 46	0 25	0 49	0 78
10 EGALEO	0 54	5 89	0 00	2 12	0 74	1 04	1 22	1 08	0 30	0 89	2 52	0 19	0 12	2 39	1 99	1 27	0 88	0 40	0 89	0 26
11 PERISTERI	0 92	0 11	0 00	1 61	1 15	1 70	1 35	0 82	0 85	0 29	1 59	0 55	0 22	0 85	0 03	1 33	1 88	0 89	0 88	0 43
12 PETROUPOLI	2 04	0 00	0 00	0 80	1 35	3 88	1 59	0 51	0 06	1 21	0 39	0 00	0 00	0 85	0 00	1 79	0 18	0 56	0 35	1 27
13 NEA LIOSIA	0 94	0 06	0 00	0 46	1.55	3 81	1 66	0 67	1 02	0 35	0 39	0 53	0 55	0 88	0 00	1 38	0 88	0 64	0 67	0 58
14 KAMATERO	2 48	0.00	0 00	0 30	1 11	2 68	1 84	0 61	0 62	0 00	1 59	1 36	0 00	0 48	0 00	0 93	1 55	0 32	0 43	0 09
15 AGIOI ANARGYROI	1.00	0 07	0 00	1 19	1 37	2 24	1 60	0 61	0 34	1 10	0 36	0 59	0 73	1.15	0 00	1 17	0 59	0 78	0 84	1.25
16 NEA HALKIDONA	0 46	0.00	0 00	5 92	0 72	0 57	0 33	0 00	0 42	0 00	0 42	0 18	0 00	0 30	0 00	0 57	0 21	1 09	0 70	0 72
17 NEA PHILADELPHIA	0 95	0 36	0 00	1 85	1 86	0 40	0 62	1 56	0 20	1 20	1 01	0 33	0 09	0 62	0 75	0 24	0 43	0 50	0 46	3 39
18 NEA IONIA	0 47	0 10	0 00	3 95	1 60	0 68	0 65	0 72	1 11	0 58	0 50	0 15	0 00	0 45	0 00	0 55	0 62	0 51	0 35	0 50
19 GALATSI	1 13	0 00	0 00	0 87	1 99	1 85	1 27	0 23	0 21	0 65	0 33	0 21	0 00	0 97	0 00	0 79	0 23	0 80	1 06	1 25
20 IRAKLEIO	0 50	0 05	0 00	2 64	1 56	1 24	0 63	0 38	0 42	0 14	2 42	1 37	0 00	1 04	0 00	0 73	0 89	0 31	0 34	0 89
21 METAMORPHOSIS	1 41	0 31	0 00	2 09	0 58	1 37	1 34	0 39	0 40	0 29	1 12	1 87	0 73	0 83	0 00	0 78	0 58	2 36	0 32	0 59
22 LYKOVRYSI	0 29	0 00	3 95	2 00	0.32	0.52	0.18	1 08	0 39	0 55	1 93	0.18	0.00	7.17	0 00	0.71	0.21	4 38	0 13	0 77
23 PEFKI	0 89	0.00	0 00	4.68	0.37	0.51	8 29	0 27	0 09	0 00	0.30	0 42	0 00	0 00	0 00	0 36	0 00	0.17	0 25	0.18
24 PSYCHIKO	9 42	0 00	0 00	0 00	0 00	0 00	1 29	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
25 NEO PSYCHIKO	4 04	0 00	0 00	0 85	0 65	0 34	0 40	0 00	0 24	0 54	0 63	0 00	2 47	2 12	0 00	0 28	0 37	2 10	0 81	0.31
26 FILOTHEI	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	18 40	0 00	0 00
27 HALANDRI	1 29	0 03	0 00	0 21	0 51	0 55	0 63	0 04	4 68	0 22	0 18	1.98	0 00	2 09	1 21	0 58	0 03	0 42	1 07	0 62
28 MAROUSI	0 66	7 64	0 17	0 68	0 24	0 54	0 48	0 18	2 17	0 04	0 32	2 74	0 63	5 58	2 78	0 23	0 61	1 29	0 50	0 32
29 KIFISSIA	0.56	21 55	0 00	0 62	0 41	0 48	0.32	0 90	0 39	0 00	1.23	3 76	0 00	0 35	0 00	0 58	0 75	1 27	0 17	0.21
30 NEA ERYTHREA	1.36	0.44	0 00	3.44	0 06	1.54	0 35	0 00	0.06	0 00	0 04	6 04	0 00	0 63	0 00	0 54	0.00	0 27	0 44	0.06
31 EKALI																				
32 MELISSIA	1.11	0 00	0 00	0 00	0.10	0.55	0 66	0 00	0 00	0 00	0 23	9 84	0 00	1 69	0 00	0 10	0 24	0 72	0 64	1.85
33 NEA PENTELI	4 19	0 00	0 00	0 00	0.00	16 23	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	2 45	0 00	0 00	0 00	0.00
34 PENTELI	3 35	0 00	0 00	0 00	0 48	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	16 58	0 00	0.00	0 00	0.00	0 00	0 00
35 VRILISSIA	1.76	1 81	0 00	0 39	2 06	1.50	0.08	2 03	0 36	0 00	0 12	0 00	0 00	3 55	0 00	0.34	0.13	1.13	0 48	0 89
36 AGIA PARASKEVI	1 74	0 00	0 00	0 11	0 52	2.56	1 22	0 00	0.79	0 00	0 90	1 60	0 00	0 82	0 00	1.34	0 48	0 72	1.78	1 00
37 HOLARGOS-PAPAGOS	2 60	0 00	0 00	0 37	0 84	0 34	1.70	0 00	0 07	0 00	0 42	0 00	0 00	2 56	0 00	1 47	3 36	1 60	0 58	0.44
38 ZOGRAFOS	1 53	0 00	0 00	0 62	1 71	1 14	1 49	3 09	0 82	0 72	0 49	0 23	0 00	0 62	0 00	0 33	0 07	1.11	0 68	1 43
39 KESARIANI	1 09	0 83	0 00	0.34	2 31	1 66	1.58	0 14	0 31	3 50	0 33	0 23	0 00	0 42	0 00	0 83	0 32	0 48	0 80	1 41
40 VYRON	0 99	0 27	0 00	0 58	2.00	1.70	1 54	0 02	0 68	4 07	0 50	0 12	0.00	0 95	0 00	0 61	0 23	0 92	0 66	1 59
41 YMITTOS	0 16	0 00	0 00	0 07	0 11	0 12	0 33	0 09	0 49	0 09	0 06	0 00	0 00	0 06	0 00	12 91	0 09	0 06	0 12	0.02
42 DAFNI	0 81	0 00	0 00	0.26	2 21	1 50	2 45	0 21	1.73	1 83	0 14	0 50	0 00	0 48	0 00	0 48	0.30	0 83	0 44	1.10
43 NEA SMYRNI	1 85	0 15	0 00	0 41	1 37	1 07	1 58	0 26	0 20	1 20	0 26	0 14	0 00	1 08	0 00	0 72	0.97	2 23	0 77	1.66
44 KALLITHEA	0 91	1 20	0 01	0 71	1.13	0 61	0 95	0 68	0 62	1 45	0 63	1.17	7 23	0 41	0 00	0 64	0.39	2.42	1.09	0.73
45 TAVROS	3 00	2 02	0 00	0 56	0 55	0 61	0 89	0 37	1 10	3 09	2 16	0 45	0 00	0 70	9.41	1 11	1 17	0 98	0 16	0 49
46 MOSCHATO	1 13	0.02	0 00	1 30	0 92	0 85	0 67	0 78	0 59	1 29	4.79	1 27	0 17	0 63	0 00	0 91	0 89	1.77	0 31	0 82
47 AGIOS IOANNIS RENTIS	0 63	0 73	0 49	0 38	0 27	0 66	1 78	0 88	0 94	2 75	2 19	1 68	0 48	0 87	1 39	3 31	1 70	1.78	0 37	0 20
48 PALEO FALIRO	2 43	0 57	0.00	0 27	1 46	1 22	1.56	0 03	0 34	2 22	1 62	0 10	0 09	0 68	0 00	0 77	0 56	0 77	0 77	0 63
49 AGIOS DIMITRIOS	0 62	0 24	0 00	0 62	1 27	2.70	3.13	0 30	1 06	0.31	0 98	0 50	0 00	0 55	0 00	1 31	0 62	1.09	0 71	0.77
50 ILIOUPOLIS	1 17	0 05	0 00	0 39	1 27	3 22	2 41	0 52	0 81	1 46	0 53	0 39	0 00	1 22	0 00	1.11	0 52	0 88	0 72	1 16
51 ARGYROUPOLIS	1 22	0 99	0 00	0 85	1 59	2 04	1 47	0 74	0 18	0 11	0 31	0 47	0 00	2 00	0 00	0.50	0 86	1 08	0 62	1 19
52 ALIMOS-ELLINIKO	1 30	0 21	0 00	0 36	0 98	0 36	0 45	0 70	0 80	0 00	0 36	1 85	0 00	0 19	0 00	0 39	0 35	0 31	2 95	0 43
53 GLYFADA	2 01	1 77	0 00	0 36	1 54	1 47	1.11	0 00	0 13	0 56	0 16	0 33	0 00	1 16	0 00	0 70	0 26	1 62	1 12	0 55
54 VOULA	4 15	0 00	0 00	0 14	0 36	0 97	0 26	0 00	0 78	0 00	1 01	0 00	0 00	2 79	0 00	0 16	0 00	0 46	2 11	0 00
55 VOULIAGMENI	10 05	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00

SOURCE: Own calculations from table B.9 (appendix I).

Figure 4.6. *Branch specialization of Greater Athens' municipalities, 1988.*



SOURCE: Mapped from table 4.18.

- Specialization in leather-fur (Order 29) follows a similar central-city pattern extending southwards to the traditional tannery-sites of Eleonas (Tavros, Agios Ioannis Rentis, Moschato, etc.) as well as to some eastern suburbs.

- Specialization in rubber-plastic (Order 30) is rather remarked at western and northern municipalities, whereas chemical industry (Order 31) includes both central-city and northern suburban areas.

- Specialization in petroleum and coal products (Order 32) can be remarked at a south-west municipality (Perama) in which large oil installations are located as well as at inner-city areas (many small gasoline stations).

- Specialization in non metallic minerals (Order 33) can be remarked mainly at northern and southern suburbs which are adjacent to Penteli and Ymittos mountains (providing raw material for marble-cutting and processing industry).

- Specialization in basic metals (Order 34) follows a linear pattern extending from the traditional areas of Eleonas towards some northern municipalities vis-a-vis central-city sites. On the other hand, the areas that specialize in the linked branch of metal products (Order 35) are adjacent to this linear zone.

- The areas specializing in non electric machinery (Order 36), include mainly the Piraeus port zone in which machine-works were concentrated since 19th century, while specialization in electrical equipment (Order 37) presents a more decentralized pattern including most southern, eastern and northern municipalities.

- The areas specializing in transport equipment (Order 38) include the Piraeus port zone extending westwards (and containing mainly heavy ship-building and repairing activities), the southern zone (containing

mainly light boat-building activities) and some northern municipalities (with car repair activities).

- Finally, specialization in miscellaneous industries (Order 39), follows a rather market-oriented central-city pattern with some extensions to the suburbs.

4.3. Conclusion

The spatial configuration of manufacturing industry in Athens inherited from the growth period was drastically reversed in the period of recession (mid 1970s onwards). Whereas outer industry (rest of Attica) kept growing -especially in capital branches- Greater Athens' industry experienced severe job losses in intermediate and capital industries, while some consumer ones kept on offering jobs. The larger companies were the hardest hit, whereas SMEs resisted more successfully to the impacts of crisis. Inner-city industry (including almost all branches) experienced the greater job decline. However, within this general negative climate, some suburban localities manifested a remarkable industrial dynamism. In the following chapter, a detailed survey of such a suburban industrial locality will be advanced, in order to highlight its production structure and the unique characteristics that contributed to such a dynamism.

CHAPTER 5

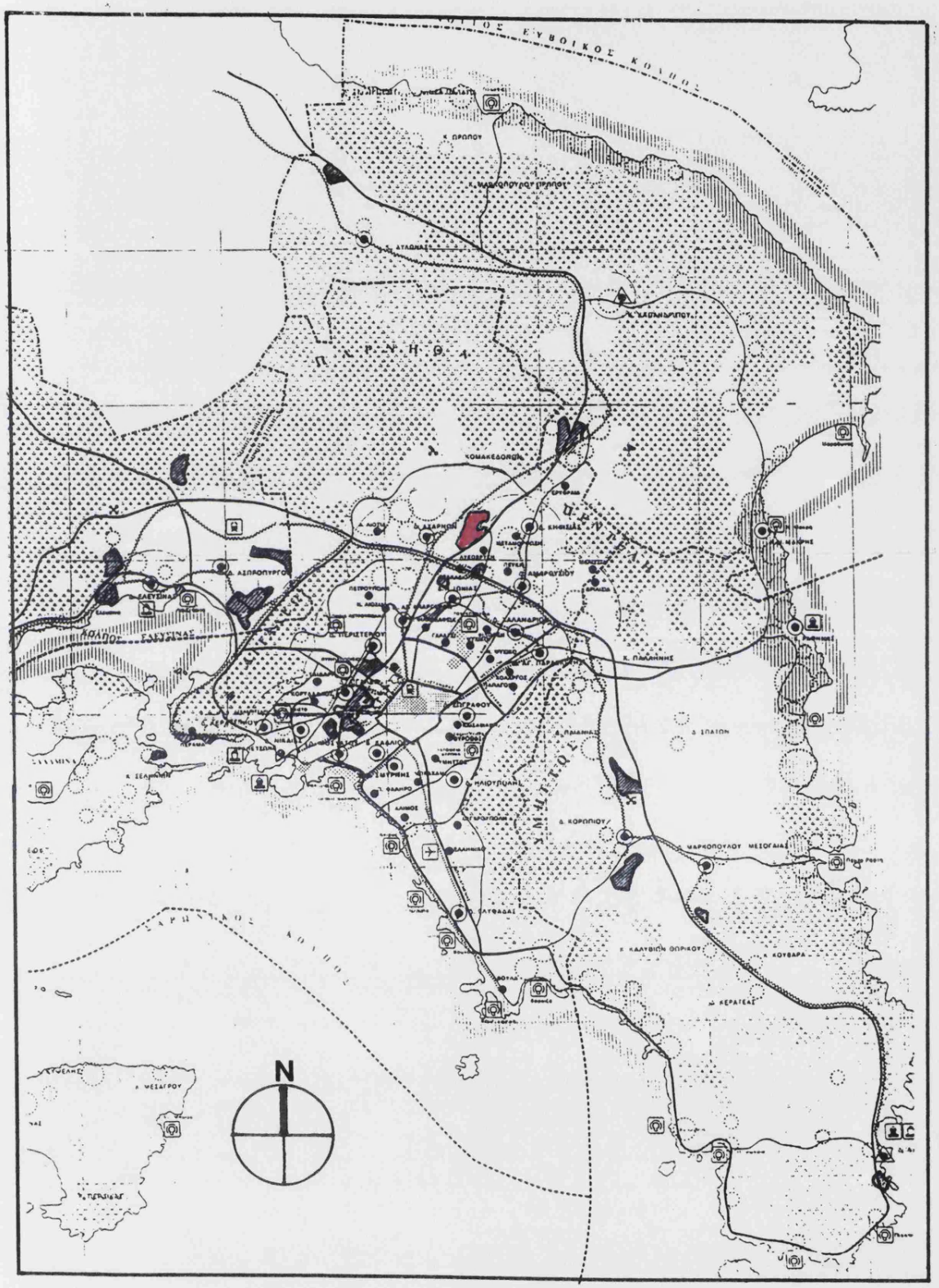
A FURTHER INQUIRY INTO THE INDUSTRIAL GEOGRAPHY OF GREATER ATHENS: A SUBURBAN INDUSTRIAL LOCALITY

5.1. General characteristics

The surveyed locality extends over an area of 478 Hectares (4,780,000 sq. m or about 1,195 Acres) and is situated at the start of the national highway (Athens-Lamia-Thessaloniki) to the northern fringe of Greater Athens (fig. 5.1) between the municipalities of Aharnes (or Menidi), Nea Kifissia, Lykovrysi and Metamorphosis. Although the area is in close proximity to Metamorphosis, it belongs in the administrative boundaries and responsibilities of the Aharnes municipality. The area is crossed -along a length of about 3.5 km- by the Athens-Lamia-Thessaloniki national highway (fig. 5.2), which creates problems of transport connection between the two separate slices of the area. The survey was based upon statistical processing and elaboration of primary data collected by means of questionnaires and complementary interviews. The questionnaires were filled in by 188 manufacturing companies (95.4% of the total) which were operating in the area during the survey period (1987). Only 9 companies (4.6%) denied to collaborate.

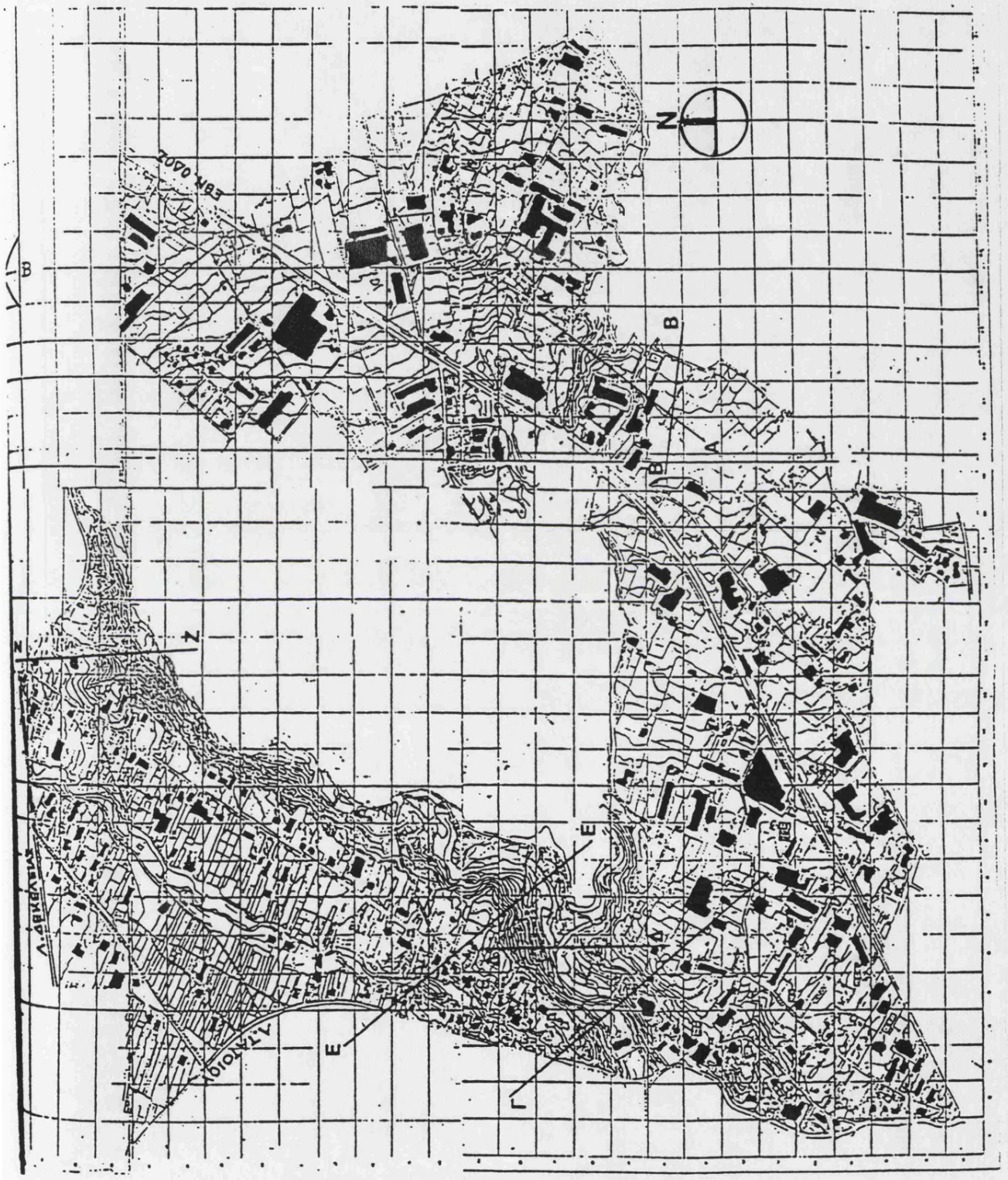
The ground of the land slice which is adjacent to the municipality of Metamorphosis is quite flat, whereas the other has some slight slopes that do not present serious problems for the construction of industrial buildings or for the normal transport flow. There are some natural torrents which accept liquid industrial waste from neighbouring plants. There are no sub-areas of special natural beauty, or of archaeological findings or other historical monuments. The landscape is a typical industrial one (fig. 5.3), with some remaining small olive groves and vegetable gardens (mainly at the northern part of the area) "waiting" to be sold as industrial plots to newcomer manufacturing companies.

Figure 5.1 *The location of the Metamorphosis industrial area in Greater Athens*



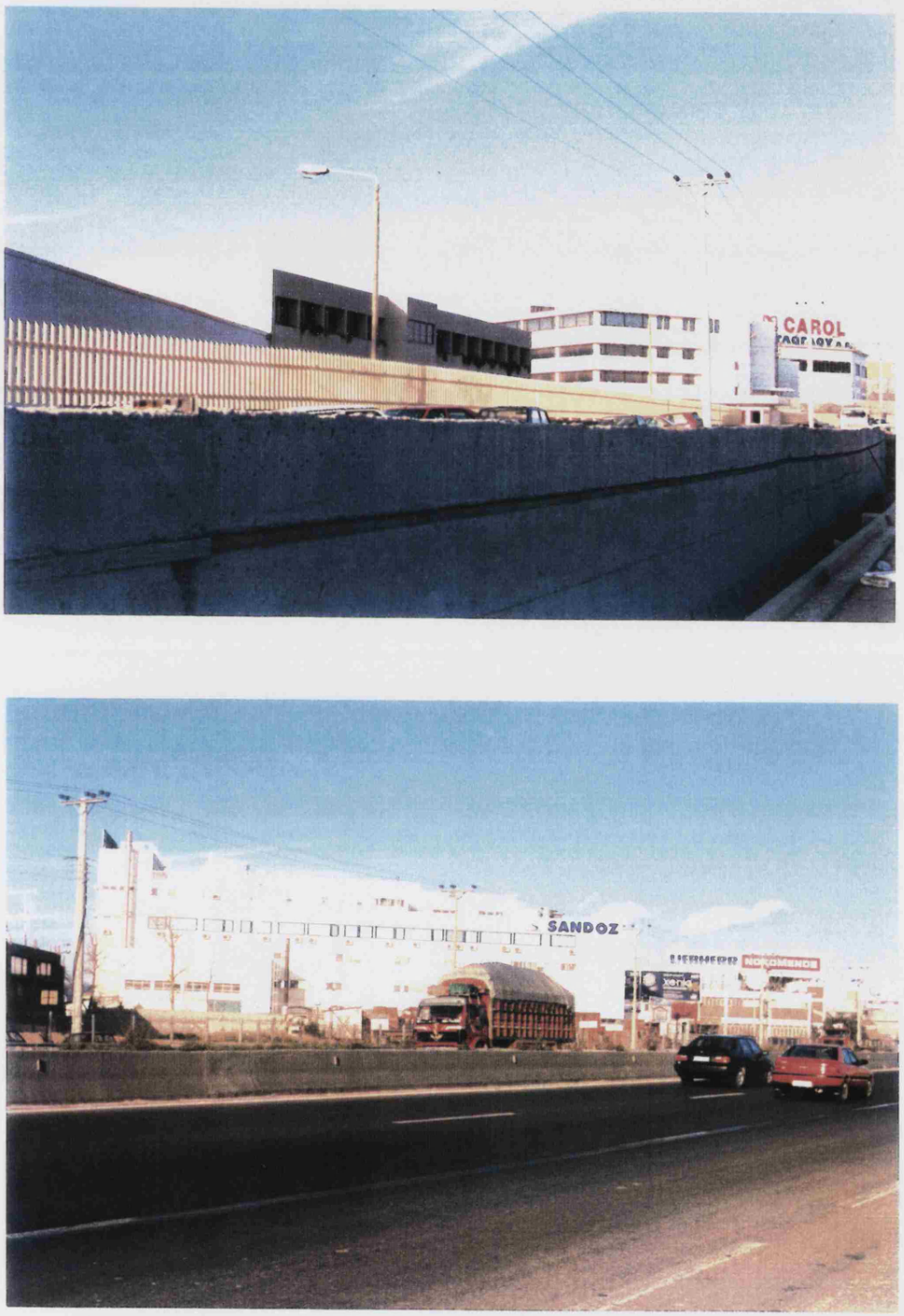
SOURCE: Mapped from the Structure Plan of Athens (*Official Gazette* 18A/ 18-2-1985).

Figure 5.2 *General layout of the Metamorphosis industrial area*



SOURCE: Sketched from map provided by the Ministry of Environment.

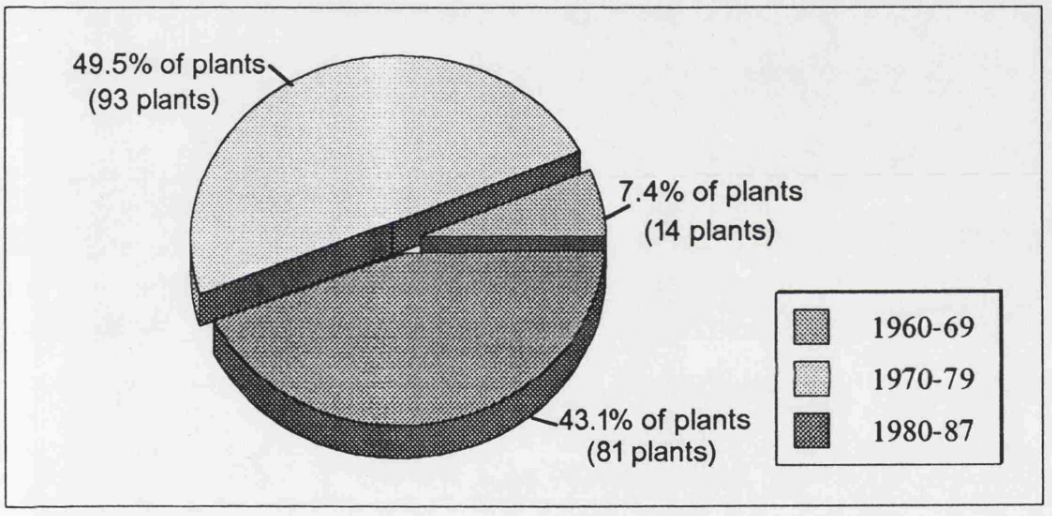
Figure 5.3 *The typical landscape of the Metamorphosis industrial area*



5.2. The Development of the Area and Location/Relocation Reasons

Till the early 1960s the area was vacant; there were only a few cottages and agricultural cultivations. From early 1960s onwards, it started to attract manufacturing plants (both first-time locations and relocations). The first plant was established on 1962 and it was the "Levadeaki" cotton-processing unit (see table C.2 -appendix I). However, in the decade of 1960s only 14 plants (7.4%) were in operation (fig. 5.4). As we saw in the previous chapter, it was the

Figure 5.4. *Temporal evolution of Metamorphosis industrial area*

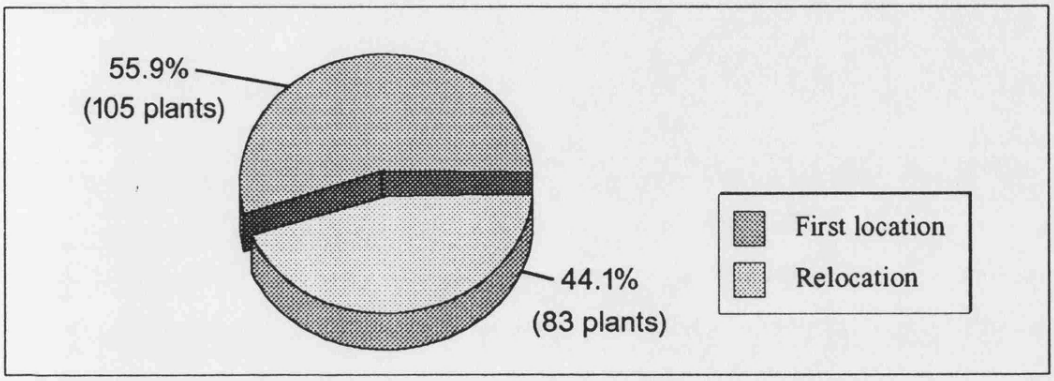


SOURCE: Own calculations from questionnaires.

inner city which attracted the best part of Greater Athens' industrial growth in the 1960s. In the period of deindustrialization and negative restructuring, however, inner city decline was combined with suburban manufacturing growth and therefore during the 1970s and 1980s the survey area developed the majority of its industrial arsenal. By the end of the survey period (1987), there were 216 firms operating in the area, among which 19 were non-industrial ones (mainly commercial -table C.1 appendix I) and 188 manufacturing ones employing 5,233 working people (table C.2 -appendix I). A considerable share of the areas' plants (44.1%) came from relocations (fig. 5.5). The wave of both first-time locations and relocations, took mainly place during the post-1970 period (fig. 5.6). The previous locations of the relocated plants were

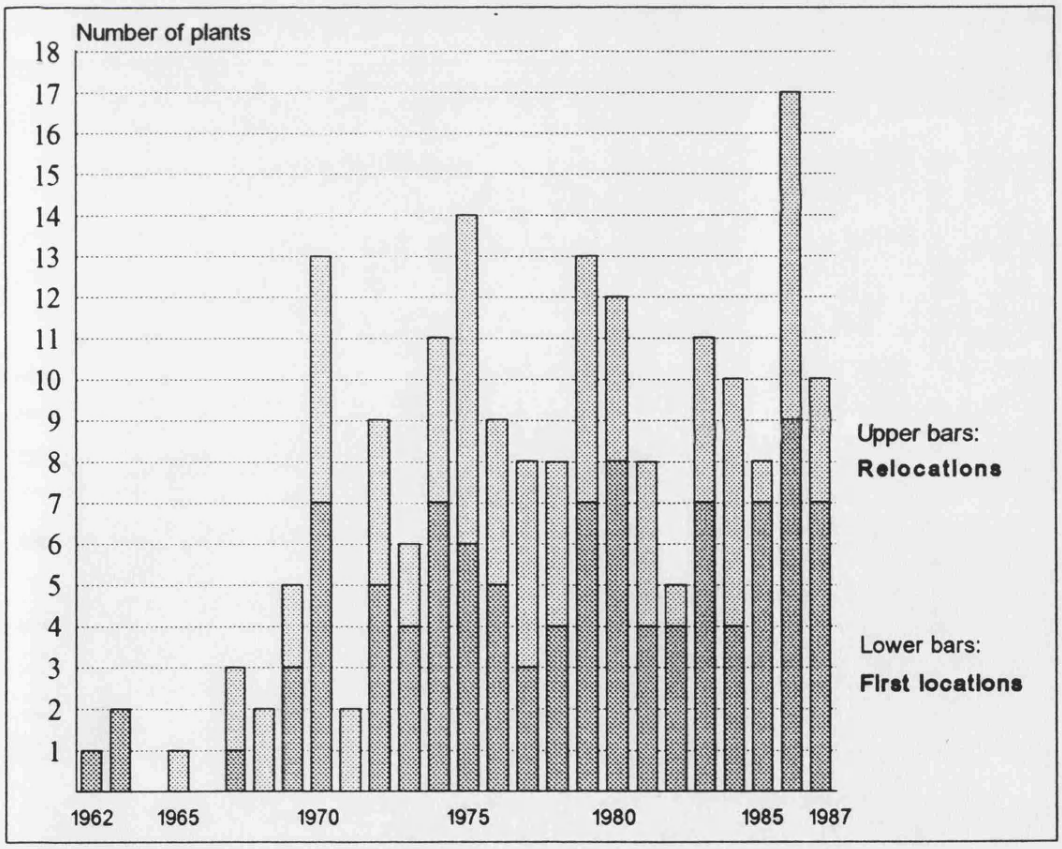
scattered across various parts of the Athenian agglomeration, and mostly across its central areas (fig. 5.7). Plants' relocation into the area was not branch-specific but included almost all branches (fig. 5.8).

Figure 5.5 *Type of plants' move to the Metamorphosis industrial area*



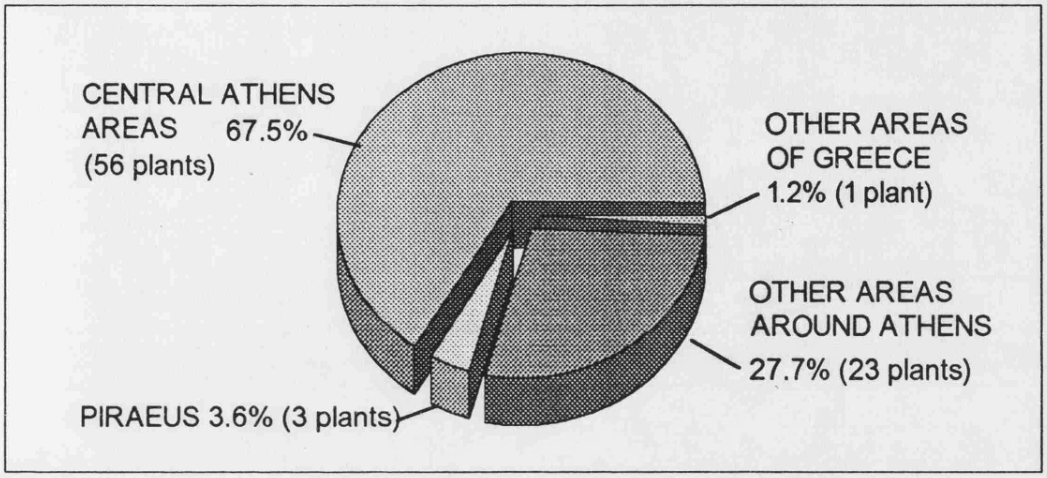
SOURCE: Own calculations from questionnaires.

Figure 5.6 *Type of plants' move, 1962-1987*



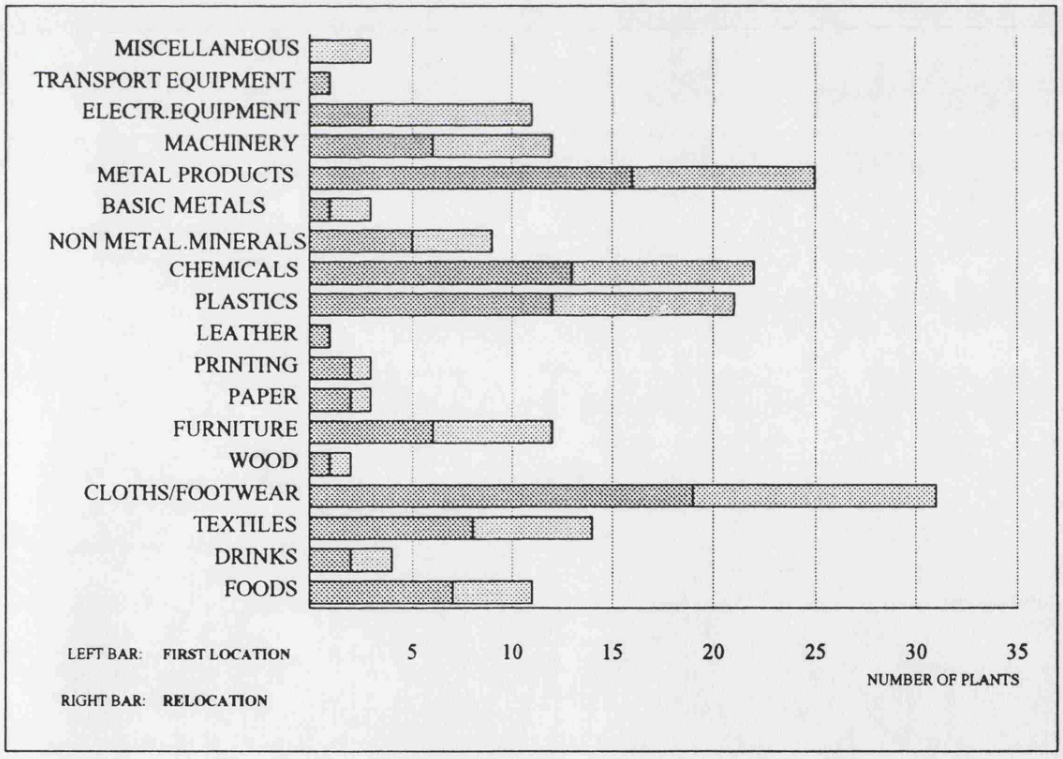
SOURCE: Own calculations from questionnaires.

Figure 5.7 *Previous locations of plants relocated into the Metamorphosis industrial area*



SOURCE: Own calculations from questionnaires.

Figure 5.8 *Type of plants' move into the Metamorphosis industrial area by manufacturing branch.*



SOURCE: Own calculations from questionnaires.

The factors which were taken into account by companies for moving into the area, differ between first-time locating companies and relocating

ones. In the first case (table 5.1), the factors can be grouped in three broad categories according to importance:

(a) land-cost related factors (low cost of land/low cost of rent/pre-existing private plot or building in the area)
(b) identification of the area as institutionalized industrial zone (legitimacy reasons)
(c) transport accessibility to the market and administrative centre of Athens

Table 5.1 *Reasons for plants' location to the Metamorphosis industrial area*

Reasons	Number of preferences
Land-cost related reasons	45
Existence of institutionalized industrial zone	42
Transport accessibility to market and administrative centre of Athens	28
Accessibility to raw materials	5
Proximity to labour market	4
Linkages with other industries in the area	3
Purely personal reasons	3
Organizational reasons (merger, change of firm's ownership, etc.).	1

SOURCE: Own calculations from questionnaires.

The first and second sets of factors are interrelated, since the characterization of the area as an industrial zone has kept the land price down (around 3,000 drs/sq.m. at the average by the time of the fieldwork).[1] This price could be regarded as extremely low if one takes into account that the area is in very close proximity to Kifissia, an upper-class suburb, at which the price of land in 1987 was ten times as high (around 30,000 drs/sq.m.) (see *Ta Nea*, 12 February 1990). The low cost of land in the survey area, has also definitely to do with that it was outside the boundaries of the statutory city-plan, and that its infrastructure was in an awkward condition -as we will see later

[1] Information provided and cross-checked in interviews with area's industrialists. The price may vary in relation with the specific plot. Plots along the national highway have usually higher prices than "interior" plots.

in this chapter. Other locational factors (accessibility to raw materials, proximity to labour, linkages with other industries in the area, etc.) do not seem to have played a much important role in attracting first-time locations to the survey area.

With regard to the relocation reasons (table 5.2), apart from the need of available space for plants' expansions, the second most important reason is associated with the prospect of industrialists that relocation into this suburban area would release them from social pressures related with environmental pollution in their former inner city sites. In other words, the relocational attractiveness of the area was partly connected with the industrialists' expectations that in the new location their plants would pollute the environment without serious resistance from the local population. Other important

Table 5.2 *Reasons for plants' relocation into the Metamorphosis area*

Reasons	Number of preferences
Need of space for plants' expansions	43
Avoidance of social pressures associated with environmental pollution in the former inner city sites	38
Transport accessibility to market and administrative centre of Athens	21
Land-cost related factors (low cost of land/and rent/pre-existence of plot or building	19
Existence of institutionalized industrial zone	16
Proximity to labour	3
Organizational reasons (merger, change of firm's ownership, etc.)	3
Accessibility to raw materials	2
Linkages with other industries in the area	1
Purely personal reasons	0

SOURCE: Own calculations from questionnaires.

relocation reasons were: accessibility to the Athenian market and CBD, land-cost related factors, and existence of institutionalised industrial zone (like first-time locations). Other reasons, like proximity to raw materials and

labour, linkages, etc., do not seem to have played a major role in attracting relocating plants to the area.

The above evidence shows that not only typical reasons of economic rationality, but also that other non-typical reasons, played an equally important role -although indirectly- to the industrial growth of the surveyed locality. These reasons are associated with wider political inconsistencies and problems: The inability of the state machine to impose planning controls on the spatial development process (chap. 2, sect. 2.3), "created" areas -just like the surveyed one- in which industries could locate or relocate spontaneously, without having to abide by environmental protection criteria or land-use zoning regulations which would have existed if the area had developed along a comprehensive plan. The growing industrial character of the area helped in keeping land demand for other -tertiary- uses of a higher economic profile (commercial centres, office buildings etc.) at relatively low levels, which, as an effect, kept the price of land down. The low cost of land, in turn, stimulated the further attraction of industries in a cumulative manner.

5.3. Production, Labour and Other Related Characteristics

The major land-use prevailing in the survey area is manufacturing industry which occupies 20% of the total area, includes 188 establishments and employs 5,233 persons, whereas commercial uses share much lower percentages (table 5.3). The best part of the area's land was by the time of the survey unbuilt. The commercial uses have been mainly developed along the national highway. There are also some dispersed dwellings and cafes.

Table 5.3 *Major land-uses in Metamorphosis industrial area*

Land use	Area (sq.m.)	%	No of establishments	%	Employed	%
Industrial	956,644	20.0	188	90.8	5,233	94.8
Commercial	68,350	1.4	19	9.2	288	5.2
Undeveloped land	3,755,006	78.6				
Total	4,780,000	100.0	207	100.0	5,521	100.0

SOURCE: Own calculations from questionnaires.

By 1988, compared with the whole Greater Athens, the area specialized in food, drinks and furniture from the consumer branch group, in rubber/plastic and chemicals from the intermediate group and in basic metals, non electric machinery and electrical equipment from the capital group (table 5.4).

Table 5.4 *Location quotients of manufacturing employment in the Metamorphosis industrial area, 1988.*

Code Branch	L.Q.
Non durable consumer goods	0.9
20. Foods	1.0
21. Drinks	14.0
23. Textiles	0,3
24. Cloths and footwear	0,9
25. Wood	0,2
26. Furniture	1.4
27. Paper	0.6
28. Typing and printing	0.2
29. Leather	0.4
39. Miscellaneous industries	0,3
Intermediate goods	2.3
30. Rubber and plastic	2.1
31. Chemicals and allied	3.5
33. Non metallic minerals	0.9
Capital goods and durables	0.6
34. Basic metallurgy	3.3
35. Metal manufactures	0.5
36. Non electric machinery	1.0
37. Electrical equipment	1.5
38. Transport equipment	0.0

SOURCE: Own calculations from table 5.5 and table B.4 (appendix I).

In terms of their share in the area's total number of plants (table 5.5), the dominant branches (ordered according to importance) are: (1) Cloths/ footwear, (2) metal products, (3) chemicals and (4) rubber/plastic, which concentrate more than 1/2 of the area's plants. The other branches share lower percentages. Taken in aggregate, the consumer branch group predominates,

Table 5.5 *Aggregate characteristics of manufacturing industry by branch in the Metamorphosis industrial area.*

Branch	No of plants	%	No of Emp-loyed	%	HP	%	Plot area (sq.m)	%	Floor-space (sq.m)	%
Consumer goods	84	44.7	2,846	54.4	20,166	52.8	542,179	56.7	223,888	59.9
20.Foods	11	5.9	503	9.6	4,938	12.9	94,800	9.9	25,180	6.7
21.Drinks	4	2.1	756	14.4	4,025	10.5	117,588	12.3	44,372	11.9
23.Textiles	14	7.4	179	3.4	1,474	3.9	45,600	4.8	23,780	6.4
24.Cloths/ footwear	31	16.5	843	16.1	6,792	17.8	136,338	14.3	80,667	21.6
25.Wood	2	1.1	24	0.5	155	0.4	6,880	0.7	1,790	0.5
26.Furniture	12	6.4	355	6.8	1,941	5.1	81,219	8.5	30,820	8.2
27.Paper	3	1.6	63	1.2	472	1.2	33,900	3.5	7,110	1.9
28.Typing/ Printing	3	1.6	50	1.0	216	0.6	14,550	1.5	4,380	1.2
29.Leather	1	0.5	23	0.4	28	0.1	2,180	0.2	1,650	0.4
39.Other	3	1.6	50	1.0	125	0.3	9,124	1.0	4,139	1.1
Intermediate goods	52	27.7	1,560	29.8	12,094	31.6	235,185	24.6	95,897	25.7
30.Rubber/ Plastic	21	11.2	347	6.6	3,343	8.7	64,572	6.7	20,750	5.6
31.Chemicals	22	11.7	1,070	20.4	4,735	12.4	121,403	12.7	68,449	18.3
33.Non metallic minerals	9	4.8	143	2.7	4,016	10.5	49,210	5.1	6,698	1.8
Capital goods	52	27.7	827	15.8	5,968	15.6	179,280	18.7	54,068	14.5
34.Basic metals	3	1.6	69	1.3	938	2.5	7,300	0.8	3,530	0.9
35.Metal products	25	13.3	183	3.5	2,065	5.4	71,800	7.5	15,650	4.2
36.Non electric machinery	12	6.4	151	2.9	1,283	3.4	42,380	4.4	9,600	2.6
37.Electrical equipment	11	5.9	419	8.0	1,585	4.1	54,300	5.7	24,888	6.7
38.Transport equipment	1	0.5	5	0.1	97	0.3	3,500	0.4	400	0.1
Total	188	100	5,233	100	38,228	100	956,644	100	373,853	100

SOURCE: Own calculations from questionnaires.

whereas the intermediate and capital groups share equal percentages.

In terms of their share in the area's manufacturing employment, the dominant branches are: (1) Chemicals, (2) clothing/footwear and (3) drinks which concentrate more than 1/2 of the area's manufacturing employment. The other branches share lower percentages. Taken aggregately, it is the consumer goods group, again, which predominates in employment terms.

The consumer industry group is also dominant in terms of total installed HP, total plot area and total industrial floorspace. Only two consumer branches, alone, (drinks and clothing/footwear) employ 30.5% of the total manufacturing workforce, cover 28.6% of the total plot area and 33.5% of the total industrial floorspace.

Three other indices were used for sketching-out the aggregate "morphology" of industry groups in the survey area -i.e. capital intensity, land intensity[2] and industrial floorspace per worker[3] (table 5.6). With reference to capital intensity, only a few branches (foods, rubber/plastic, non metallic minerals, transport equipment, basic metals and metal products) have capital intensities exceeding the national average (9 HP/worker in 1984 -own calculation from tables B.4 and B.5 appendix I). It is evident that the "morphology" of production in the survey area is mostly characterized by labour intensive processes. With reference to land intensity, the great majority of branches does not make intensive use of land for production purposes. Only basic metals (with 7.8 sq.m. of industrial plot per 1HP) and non metallic minerals (with 12.2 sq.m./1HP) make intensive use of their industrial plots. This can either indicate a trend of the area's industrialists to buy large plots of (relatively cheap) land for reasons of future expansion -although their scale of operations at the survey time did not justify such large plots- or, otherwise, they tend to use land for other anchillary reasons (e.g. car-parking

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[2] Industrial plot size per 1 HP. This index expresses the degree at which industrial land is used intensively for production purposes.

[3] This index is a rough estimation of working conditions with reference to space available to each worker. Of course, working conditions are determined by many other parametres -both quantitative and qualitative- and not only by this index.

and landscaping, open-air warehousing, free space for trucks' loading/unloading manoeuvres, etc.). On the other hand, this spare of valuable land can be seen as the result of the unplanned way the area developed. Every industrialist wishing to locate or relocate into the area, could buy a tract of land not according to a comprehensive lay-out plan with predetermined plot sizes (as it is the case in organized industrial parks), but according to his/her own estimation of how much space would be needed for the specific activity, and to his/her ability to afford the requested land price. With reference to the available industrial floorspace per worker, it varies considerably among the dif-

Table 5.6 *Various production indices in the Metamorphosis industrial area by branch.*

Branch	Capital intensity (HP/worker)	Land intensity (Plot size/ 1 HP)	Industrial floorspace per worker
Consumer goods	7.1	26.9	78.7
20.Foods	9.8	19.2	50.1
21.Drinks	5.3	29.2	58.7
23.Textiles	8.2	30.9	132.8
24.Cloths/footwear	8.1	20.1	95.7
25.Wood	6.5	44.4	74.6
26.Furniture	5.5	41.8	86.8
27.Paper	7.5	71.8	112.9
28.Typing/Printing	4.3	67.4	87.6
29.Leather	1.2	77.9	71.7
39.Other	2.5	73.0	82.8
Intermediate goods	7.8	19.4	61.5
30.Rubber/Plastic	9.6	19.3	59.8
31.Chemicals	4.4	25.6	64.0
33.Non metallic minerals	28.1	12.2	46.8
Capital goods	7.2	30.0	65.4
34.Basic metals	13.6	7.8	51.2
35.Metal products	11.3	34.8	85.5
36.Non electric machinery	8.5	33.0	63.6
37.Electrical equipment	3.8	34.3	59.4
38.Transport equipment	19.4	36.1	80.0
Total	7.3	25.0	71.4

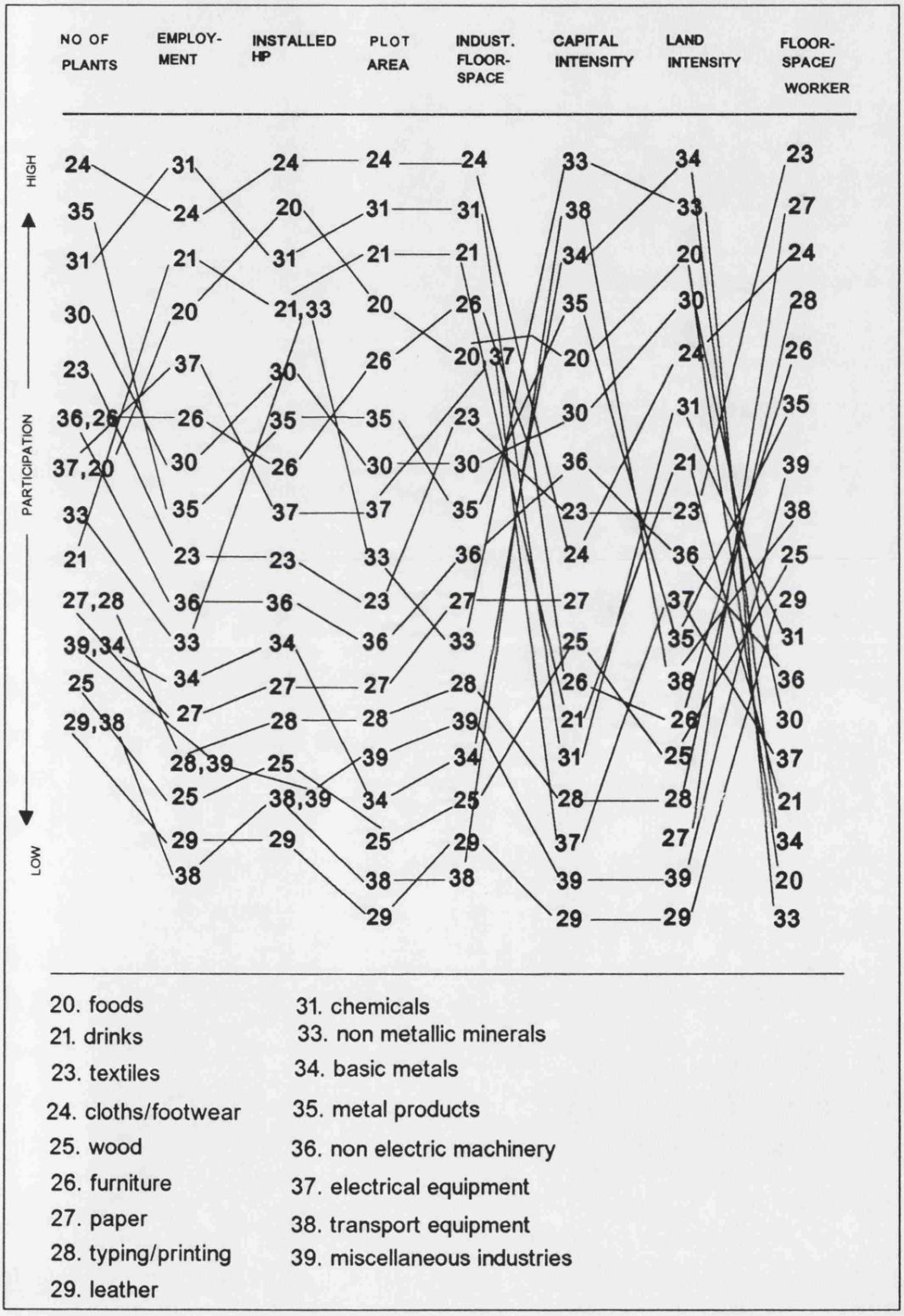
SOURCE: Own calculations from table 5.5.

ferent manufacturing branches. Lower working densities (more floorspace per worker) are manifested in the consumer branch group, and more specifically in textiles and paper industries. This, also, cannot be regarded as an indicator of "comfortable" working conditions in those industries, but rather, as the result of the unplanned way the area developed.

The previous analysis makes evident that the production "profile" of the survey area is characterized by a marked degree of heterogeneity. Figure 5.9, shows schematically the ordering of branches according to the previous criteria -e.g. their share in the total number of plants, total employment, total installed HP, total plot area, total industrial floorspace, and their ordering in terms of capital intensity, land intensity and floorspace/worker. As it can be remarked, there is a variety of combinations between those orderings: E.g. branches having high participation in number of plants, employment, HP, plot area and industrial floorspace (for instance cloths/footwear and chemicals), have average to low capital intensity and land intensity. By contrast, branches sharing low percentages in number of plants, employment, HP, plot area and industrial floorspace (e.g. transport equipment), present high capital intensity, etc., etc.

With regard to the size of manufacturing establishments, SMEs predominate in terms of number of plants, installed HP, plot size and industrial floorspace (table 5.7). It is only in terms of employment that large companies predominate (table 5.8) and this is to a certain extend natural: Among the area's firms there are some manufacturing "giants" for the Greek standards, as for instance FAGE milk products with 330 employees, METAXAS alcoholic drinks with 470, LEVENTAKIS clothing company with 220, ALMA shoes company with 220, and ELCO-VAGIONIS Electrical equipment company with 240 just to name the most important of them (see table C.4 -appendix I). There are also multinational companies, e.g. COCA-COLA, SANDOZ pharmaceutical industry and BENCKISER detergents production company just to name the most known.

Figure 5.9 *A schematic ordering of branches in the Metamorphosis industrial area according to their participation in various production magnitudes.*



SOURCE: Based on tables 5.5 and 5.6.

Table 5.7 *Various production characteristics of the Metamorphosis industrial area by plants' size.*

Size	No of plants	%	Installed HP	%	Plot size (sq.m.)	%	Indust. floor-space (sq.m.)	%
SMEs (1-49 employees)	171	91.0	19,360	50.6	604,001	63.1	220,902	59.1
Large (+50 employees)	17	9.0	18,868	49.4	352,643	36.9	152,951	40.9
Total	188	100.0	38,228	100.0	956,644	100.0	373,853	100.0

SOURCE: Own calculations from questionnaires.

Table 5.8 *Employment in the Metamorphosis industrial area by plants size*

Size	Employment	%
SMEs (1-49 employees)	2,171	41.5
Large companies (+50 employees)	3,062	58.5
Total	5,233	100.0

SOURCE: Own calculations from questionnaires.

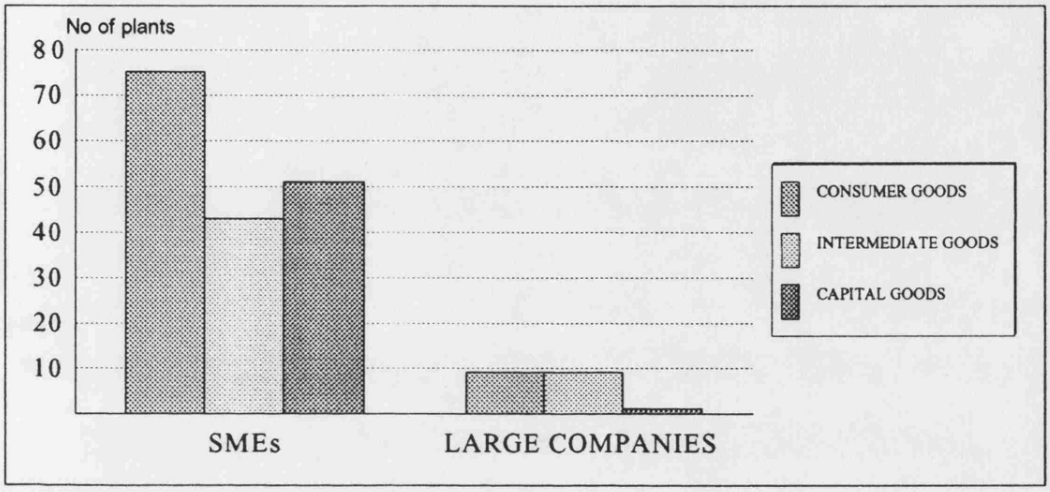
It is important to underline that there is a marked concentration of employment in the area: Only 12 out of the 188 firms (6.4%) account for 48.4% of the total manufacturing employment in the area (calculated from table C.4 -appendix I).

In terms of number of establishments, SMEs predominate in all three branch groups (fig. 5.10), with consumer group having the biggest share and large companies sharing much lower numbers. However, just like employment, installed horsepower is concentrated in a few large plants (table 5.9). Only 13 plants (6.9% of the total) concentrate the majority of the total HP in the area.

Industrial plot sizes, in general, vary from 500 sq.m. to 55,000 sq.m. (see table C.9 -appendix I). The majority of the areas plants have been built on plots of an average size (1,000 -5,000 sq.m.) (fig. 5.11). As to the size of the industrial floorspace, it varies accordingly from 60 sq.m. (in one level) to 35,000 sq.m. (in four levels) (table C.9 -appendix I). The majority of plants have

floorspaces not exceeding 1,000 sq.m. whereas only a few exceed 5,000 sq.m. (fig. 5.12).

Figure 5.10 *Plants size by branch-group in the Metamorphosis industrial area*



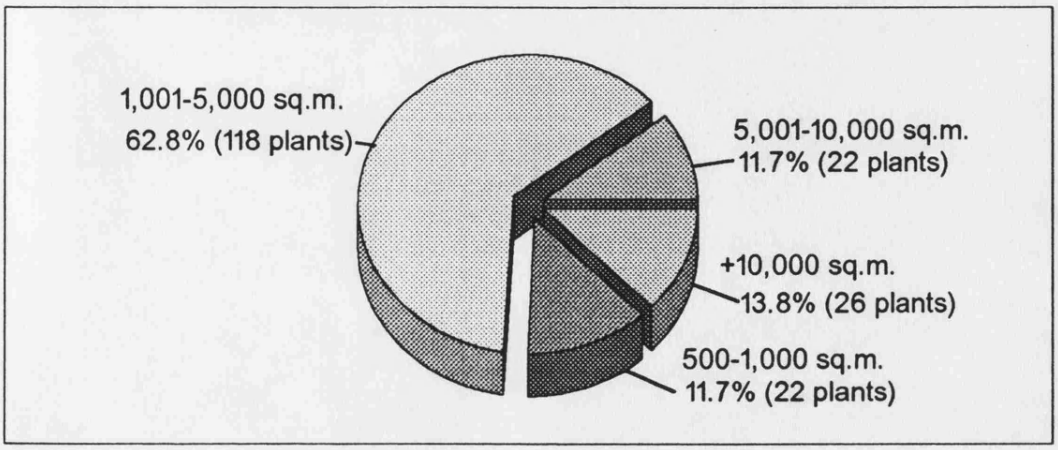
SOURCE: Own calculations from questionnaires

Table 5.9 *Plants' installed HP in the Metamorphosis industrial area*

	Number	%	HP	%
Plants with ‹500 HP	175	93.1	18,565	48.6
Plants with 500-1,000 HP	7	3.7	5,311	13.9
Plants with +1,000 HP	6	3.2	14,352	37.5
Total	188	100.0	38,228	100.0

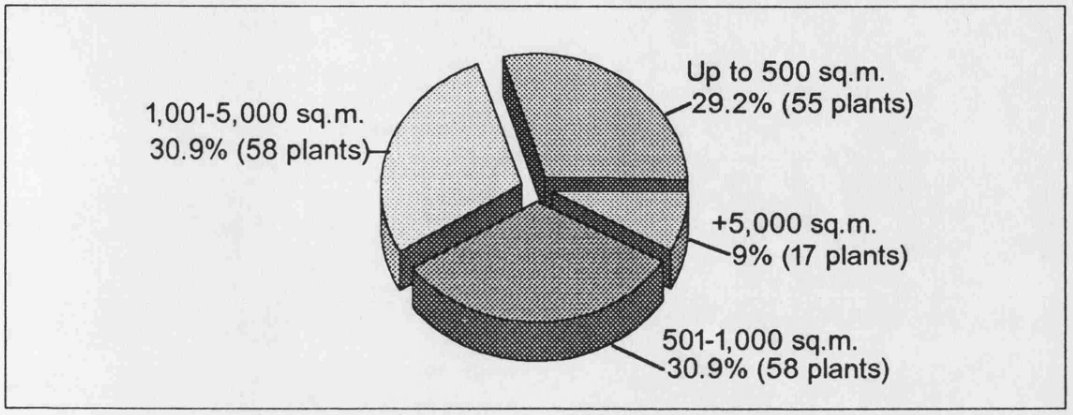
SOURCE: Own calculations from questionnaires.

Figure 5.11. *Share of plants in the Metamorphosis area by plots' size.*



SOURCE: Own calculations from questionnaires.

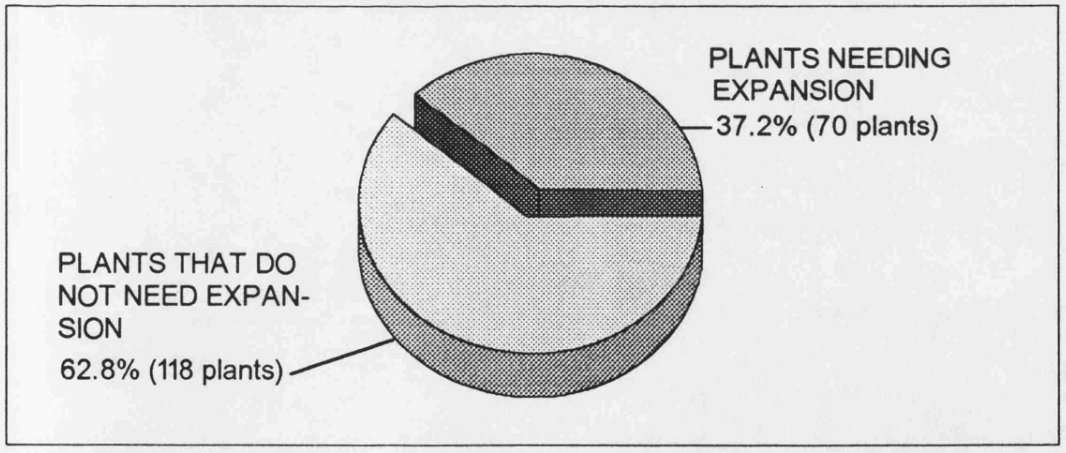
Figure 5.12 *Share of plants in the Metamorphosis industrial area by size of industrial floorspace.*



SOURCE: Own calculations from questionnaires.

The rapid and unplanned way the area developed, has led to an increasing land demand for plants' expansion purposes. Thus, a notable part of them need to expand (fig. 5.13) but are restricted in doing so due to prohibitions imposed by the existing legislation (see chap. 6).

Figure 5.13 *Plants' expansion needs in Metamorphosis industrial area*



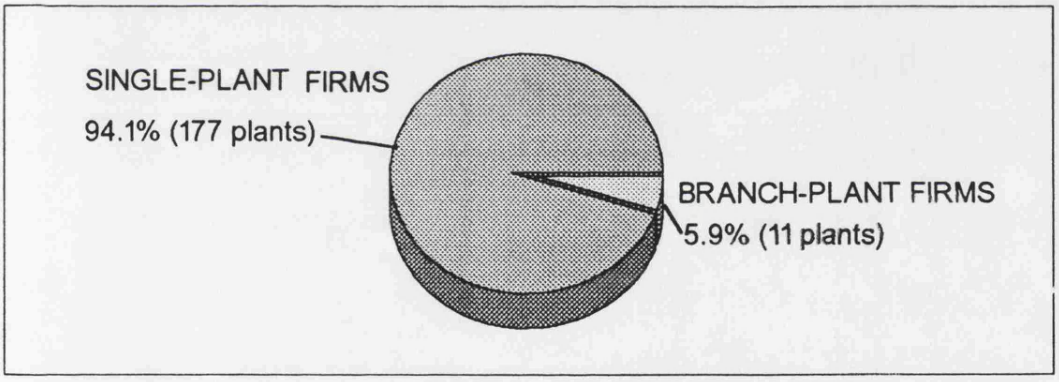
SOURCE: Own calculations from questionnaires.

As the survey revealed, the great majority of the area's production units are independent single-plant companies whereas branch-plant units share a very small percentage (fig. 5.14). The intra-firm spatial division of labour does not seem to have developed to any considerable extend; it is rather the traditional scheme (production-administration-stocking-distribution under

a single-plant's roof) that predominates. Thus, very small portions of the area's firms have their administrative headquarters, their distribution activities and their stocking facilities in other Athenian areas (fig. 5.15, 5.16 and 5.17 respectively).

The division of labour by sex in the survey area, favours the male workforce in both production and administrative jobs (table 5.10). A females' share of 32.4% in the survey area seems to be a little better than the national share which in 1987 was 28.4% of the total manufacturing (both blue and white colar) workforce (calculated from NSSG, *Statistical Yearbook of Greece 1990-91.* Athens 1994: table III.10).[4]

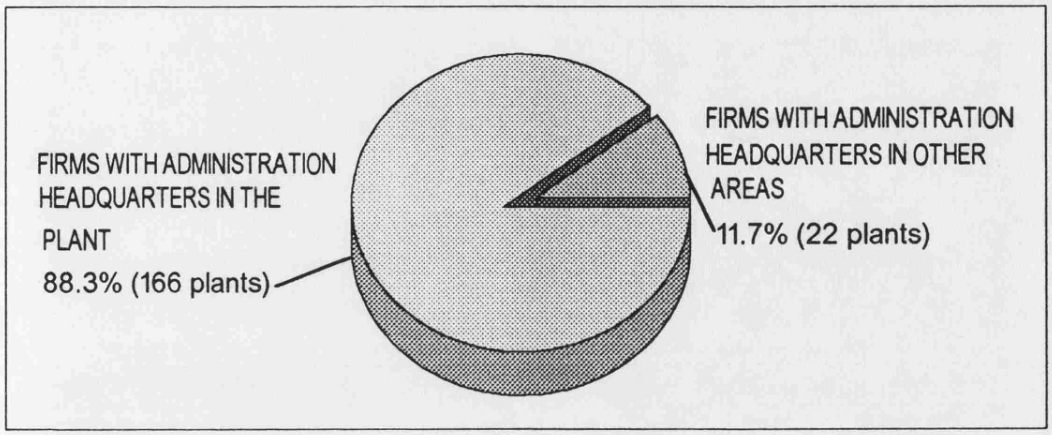
Figure 5.14 *Single-plant and branch-plant firms in the Metamorphosis industrial area*



SOURCE: Own calculations from questionnaires.

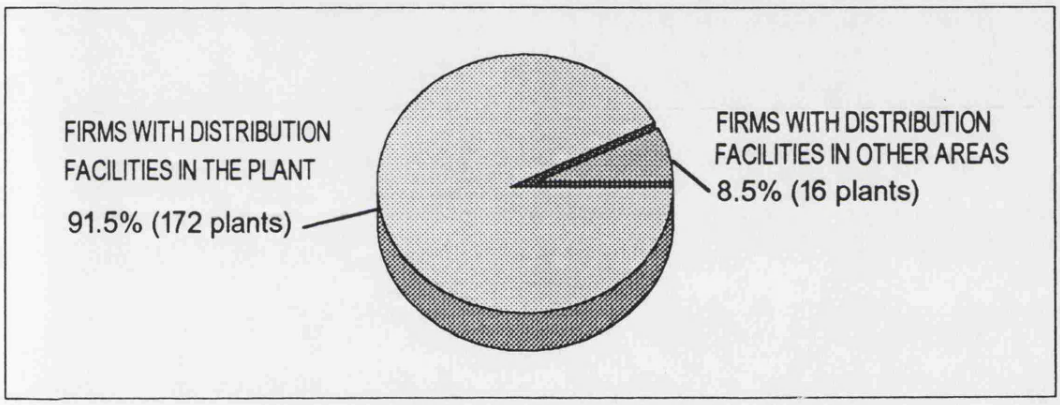
[4] This is official data responding to typical -or formal- work. Informal work practices (e.g. seasonal and part-time work, work-at-home, etc.) in which female labour is usual, are not included in this data, and therefore the actual share of female labour must be much higher than the one presented in the official statistics.

Figure 5.15 *Spatial segregation of firms' administrative activities*



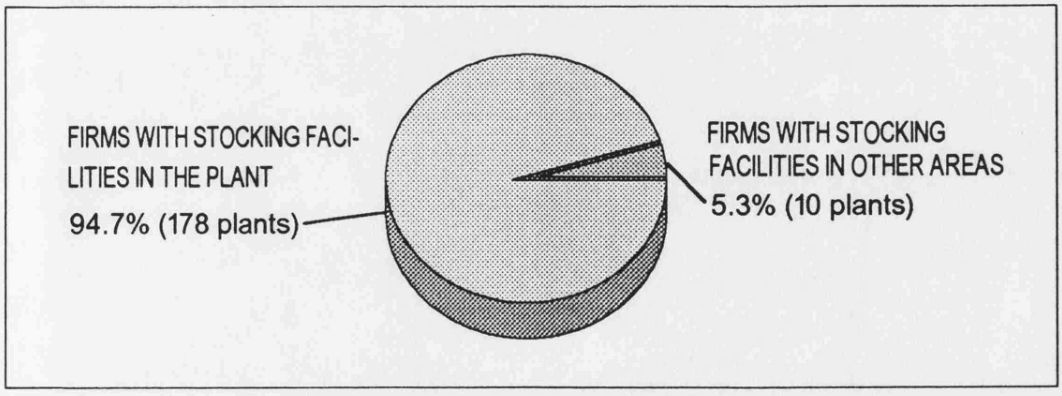
SOURCE: Own calculations from questionnaires.

Figure 5.16 *Spatial segregation of firms' product distribution facilities*



SOURCE: Own calculations from questionnaires.

Figure 5.17 *Spatial distribution of firms' stocking facilities*



SOURCE: Own calculations from questionnaires.

Table 5.10 *Division of labour by sex and position in the Metamorphosis industrial area*

Position	Male	%	Female	%	Totals
Production workers	2,595	67.5	1,248	32.5	3,843
Adninistration staff	940	67.6	450	32.4	1,390
Total	3,535	67.6	1,698	32.4	5,233

SOURCE: Own calculations from questionnaires.

Only a small percentage of the area's workforce resides to the adjacent municipalities -in a radius up to 5 Km (table 5.11). The great majority of working people live in relatively distant areas (5-20 Km) and a small percentage in very distant ones (over 20 Km).

Table 5.11 *Spatial segregation between work and residence.*

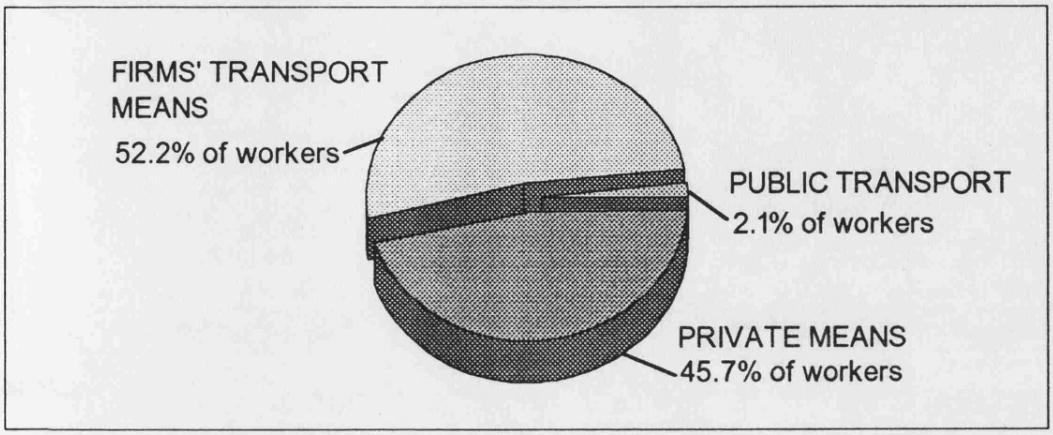
Work-residence distances	Number of workers	Percent
Distance up to 1 Km	152	2.8
Distance 1-5 Km	802	14.9
Distance 5.1-10 Km	1,995	37.0
Distance 10.1-20 Km	1,762	32.7
Distance 20.1-30 Km	643	11.9
Distance over 30 Km.	40	0.7

SOURCE: Own calculations from questionnaires.

Thus, the area's contribution to the local labour market in terms of jobs offered, does not seem to be so important. Since most plants have relocated into the area, their managers have preferred to keep on employing the previous workforce rather (even by affording the cost of transporting them to and from work), than to undertake the extra costs and risks recruitment of new staff in the new location usually implies (e.g. costs of new staff training, costs stemming from production delays during new workforce "adaptation", risks stemming from likely lower working discipline of new staff, etc.).[5] Thus, the majority of the area's working people are transported to and from work by means (usually buses) owned or hired by the companies (fig. 5.18). A considerable portion of them use private transport means and only a small percentage use public transport.

[5] Information provided in interviews with area's industrialists.

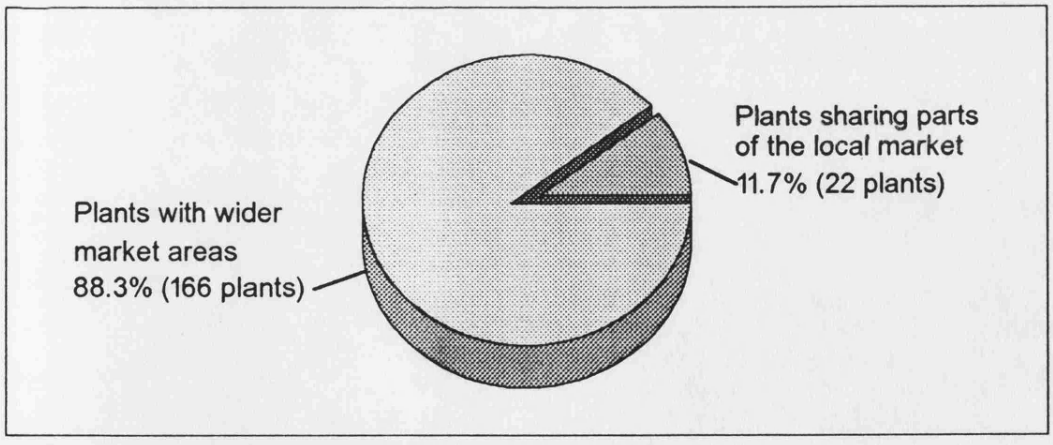
Figure 5.18 *Labourers' mean of transport to and from work.*



SOURCE: Own calculations from questionnaires.

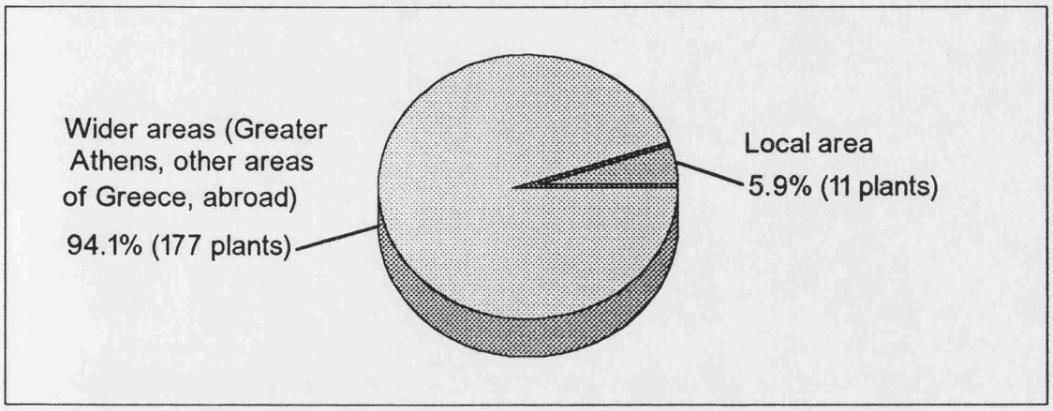
The survey area has not developed important linkages with the local economy. Apart from its low contribution to the local labour market in terms of jobs -as we saw previously- market and supplies linkages are also very loose. Thus, only a small portion of the area's plants distribute their products to the local market (fig. 5.19), while even less make use of local raw materials and supplies (fig. 5.20).

Figure 5.19 *Plants' market areas*



SOURCE: Own calculations from questionnaires.

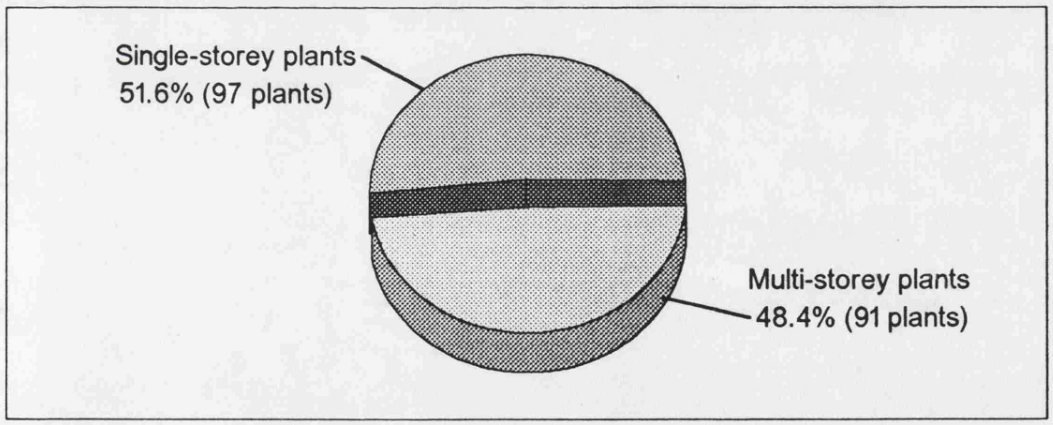
Figure 5.20 *Sources of raw materials and supplies*



SOURCE: Own calculations from questionnaires.

The majority of the area's manufacturing establishments are accommodated in single-storey plants, whereas muli-storey ones represent a considerable part (fig. 5.21). The conditions of the individual factory-buildings are -in general lines- good (fig. 5.22). However, the area's infrastructure is in bad

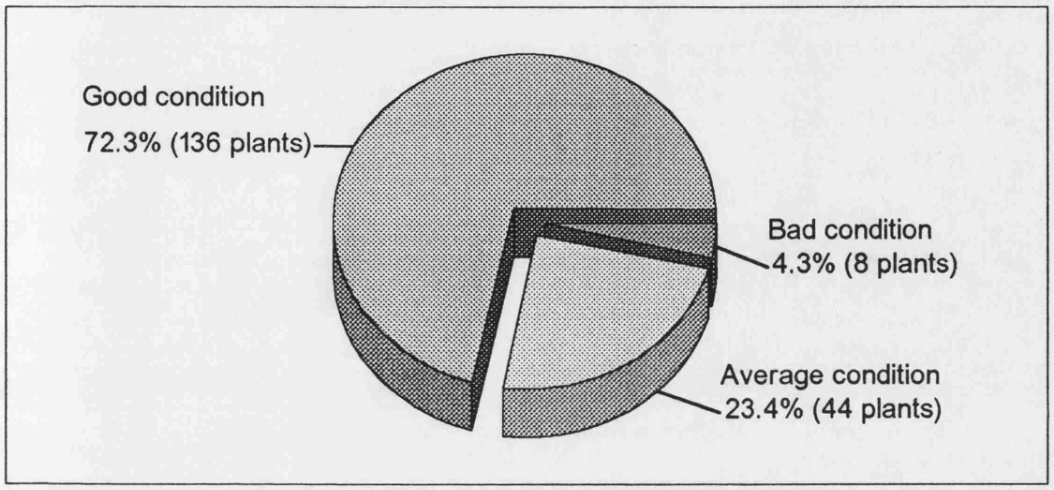
Figure 5.21 *Single and multi-storey plants in the Metamorphosis area*



SOURCE: Own calculations from questionnaires.

condition as a result of the unplanned way the area developed since the 1960s. Most of the area's plants reported serious problems with the water and sewerage system, the transport and communications network and the electrical power supply (table 5.12).

Figure 5.22 *Plant's building conditions*



SOURCE: Own calculations from questionnaires.

Table 5.12 *Infrastructure problems in the Metamorphosis industrial area*

	Number of plants	% of total
Plants facing problems with the water and sewerage system	132	70.2
Plants facing problems with the transport network	87	46.3
Plants facing problems with telecommunications	66	35.1
Plants facing problems with the electric power supply network	54	28.7

SOURCE: Own calculations from questionnaires.

5.4. Conclusion

Although generalizations cannot be drawn from only a single case, the surveyed industrial locality does provide a characteristic example of how the growth of suburban industry in Athens during the crisis period took place and which its basic features and related problems were.

The survey revealed that there are very little similarities between suburbanization of production in the advanced western cities and what actually took place in Athens during the last years. As literature reveals (see chap. 2), the suburbanization of manufacturing in the advanced cities was associated

with the historical passing of industrial capitalism from labour-intensive activities -for which city-centres presented marked comparative advantages in the past- to capital and technology-intensive ones (fordist mass-production processes) for which suburbs were much more suited. During this passing, the declining role of local linkages at inner-city sites and the internalization of external economies of scale by the growing firms, the widening of firms' market areas beyond the single-city market, the assembly-line that called for abundant industrial land in order to be accommodated, the expansion of transport, energy and telecommunications infrastructure to the suburbs, the negative externalities and planning controls at inner-city locations, etc., have been decisive forces pushing industry to migrate to the suburbs. In our case, however, it was revealed that fordist large-scale processes are rather rare. Instead, what predominate, are small-scale traditionally oriented production processes leaded by SMEs which accounted the most (with the exception of employment) to the area's production magnitutes. Traditional labour-intensive consumer branches also predominate in the production profile of the surveyed locality and the old-fashioned intra-firm organization of production predominates by any respect. The presence of a few modern large companies in the area does not change its overal production morphology. The industrial land is not used intensively for production purposes (spare of valuable suburban land), and this has led to emergence of plants' expansion needs. The great majority of the area's units are single-plant independent companies whose linkages with the local economy -in terms of jobs, market area and supplies- are quite unimportant. Male workforce predominates in both blue and white collar jobs. Most of the factory-buildings are in a good condition, but the situation of infrastructure poses serious problems to the orderly operation of plants.

By contrast to what happened to the advanced cities in which the suburbanization of industry was initiated by combined firms' "economic rationality" concerns and public planning policies, the development of the survey area took place in a spontaneous way. The lack of planning concerns (apart from the official characterization of the area as an "industrial zone") and the associated bad infrastructure conditions, have kept land prices at

comparatively low levels, presenting, therefore, favourable conditions for the attraction of manufacturing units (both first-time locations and relocations). The favourable geographical location of the area in relation with the administrative and business centre of Athens, reinforced these processes. Environmental pressures at previous inner-city sites have pushed a good number of companies to relocate into the area, hoping that this would release them from the economic and social costs of pollution.

Similar problems can be identified -even by a simple observation- at many other suburban industrial localities around the Athenian agglomeration, and it is a matter of further research to explore in detail their particular characteristics and development dynamic. What is most important, however, is that such problems of unplanned industrial growth in Athens were recognized by the governmental machinery during the 1980s, and policy proposals aiming at a planned re-organization of industry were set forth as we will see in the following chapter.

CHAPTER 6

THE LEGISLATIVE FRAMEWORK FOR THE LOCATION OF INDUSTRY IN ATHENS DURING THE 1980s, AND COMPARATIVE EUROPEAN EXPERIENCES

6.1. Introduction

Although legislation concerned with the location of industry at the national geographical scale (incentive-assisted areas and regional industrial estates) emerged much earlier (see chap. 3, sect. 3.2.3), it was only in the late 1970s-early 1980s that the location of industry within the region of Greater Athens -Attica- attracted public policy concern. This chapter's aim is to examine the basic policy guidelines and the concrete legislative measures which were issued (especially during the 1980s) for the purpose of contributing to the planned development and location of manufacturing industry in Greater Athens. The experience of some European cities which responded successfully to economic recession and deindustrialization during the 1980s will then be examined so that comparative conclusions to be drawn.

6.2. Prior Attempts

The first basic guidelines and measures were set forth in a number of Ministries' decisions and circulars issued in the 1970s. Those measures were the following:

- A 1971 decision of the Ministry of National Economy (No. 85319/Y570/17/29-12-1971) (*Official Gazette*, 1038B/29-12-1971) restricted the expansion of the installed horsepower of manufacturing plants located in Attica above the limit of 1,000 HP. Plants exceeding this limit were not allowed to expand further -except if relocated elsewhere.

- A decision of the Ministry of Industry (No. 5070/275/75) restricted the provision of expansion permits in case the expansion was judged as disproportionately large in comparison with the existing plant's mechanical equipment or productivity. Moreover, the same decision restricted the provision of permits for the establishment of new industries in Attica, with the exception of those that would be regarded as absolutely necessary for serving the locality's needs and their installed horsepower would not exceed the limit of 30 HP.

- Circular 16986/1542/17-3-1978 prohibited the expansion of highly polluting plants in Attica's residential areas.

- Circular 16762/970/16-3-1979 issued one year later, prohibited the establishment, expansion, or relocation of manufacturing plants into inner city areas.

- Circular 28800/15-5-1979 issued two months later, prohibited every new manufacturing activity in Attica, with the exception of those serving the basic needs of the population.

It has to be mentioned, however, that although all those measures were aiming at restricting industrial activity in Greater Athens, they left a lot of unclarified and ambiguous questions, as, for instance, which manufacturing branches and products could be regarded as serving the basic needs of the city population and which could not. As a result, the implementation of those measures was selectively depending on the subjective judgements of the Ministries' bureaucracies and on patron/client type practices. Moreover, the restrictions imposed by those measures were countered by other statutes (e.g. incentives Law 849/1978) which encouraged industrial investments in Attica (loans and tax concessions) under the "coverage" of technological modernization and environmental protection initiatives (Hadjisocratis 1983: 16).

By 1979 a more restrictive legislative framework started to emerge. A decision of the ESCHP (National Council of Regional Planning and

Environment) (No.HP/ GHP/2094/ 6-9-1979) prohibited the establishment of new industries in Attica. As in the previous measures, there were only a few exceptions of branches serving the basic needs of the population. Moreover, this decision imposed severe restrictions upon employment increase of the existing industries. The decision was followed up by a presidential decree (PD 707D/13-12-1979) in which, for the first time, specific zones for the location of industries and non-industrial zones were concretely mapped and defined on Attica's ground. However, those restrictions were also countered by the incentives Law 1116/1981 which, just as the previous one, continued to offer grants and tax concessions to industrial investments in Attica aiming at technological modernization, energy saving and environmental protection. Needless to say that this measure could be in the right direction if the provided grants and loans were used for the above purposes. But in most cases they were not: Instead, they were just used as a "mask" for simple plant expansions.[1]

6.3. Policy Priorities and Legislation of the 1980s

6.3.1. The Presidential Decree 791/1981 and Other Related Measures

The preceding restrictive measures were followed up and concretised by PD 791/1981 (*Official Gazette*, 207A/3-9-1981). In that PD, for first time the manufacturing branches which could be established in Attica were concretely defined and associated with specific sub-areas (drafted on maps) that could -or could not- "accept" them. Those sub-areas were classified according to the prevailing land-use as follows:

(K) Residential areas
- -(KA) Areas of unmixed residence
- -(KG) Areas of general (mixed) residence

(E) Industrial areas
- -(EM) Areas of non-polluting industrial activities

[1] As Hadjisocratis (1983: 16) mentions, environmental studies which could justify the purposes of those investments were not requested by the official bodies in order to provide permits to the applying industrialists. According to an official of the Ministry of Industry, when industrialists talk about "modernization", they simply mean increase of their plants' floorspace and horsepower (personal notes from an 8-3-1994 meeting).

-(EO) Areas of polluting industrial activities

(P) Urban centres

(I) Areas of special use

-(IA) Recreation, tourist and summer-time residential areas

-(I) Other areas of special use (not defined)

(M) Mixed-use areas

-(MX) Villages

-(MD) Other areas of mixed use (not defined)

In KA and IA type areas (unmixed residence - recreation, tourist and summertime residential areas), new manufacturing activities were not allowed to open. In other areas, especially industrial ones (EM, EO) new manufacturing plants could open, but under severe restrictions as to the maximum number of workers they could employ. The branches which were allowed to develop were restricted to those serving basic needs of the population (including 110 product-groups only) as shown in table 6.1.

Table 6.1 *New manufacturing activities allowed to develop in Attica according to PD 791/1981*

1. Slaughter and skinning of cattle.[1]	38. Saddle-making from wood	75. Other metallic frames
2. Processing and preservation of meet (except poultry)	39. Other wood products	76. Cutting and assembling of window screens
3. Preservation of poultry	40. Wooden furniture	77. Tinsmith's products
4. Preserved milk, butter and yoghurt	41. Wickerwork furniture	78. Bronze products
5. Ice-creams	42. Upholsters	79. Metallization of small objects
6. Sweets (jams, stewed fruit)	43. Plastic-wire products	80. Other metallic goods
7. Preserved vegetables	44. Paperbags	81. Repair of internal combustion engines
8. Olives	45. Cartons and cardboard products	82. Production of business machines
9. Bakeries	46. Other carton and cardboard products	83. Repair of business machines
10. Pastry-making	47. Printing and publishing of newspapers and periodicals	84. Other machine and repair works
11. Candies	48. Printing and publishing of books and leaflets	85. Illuminated signs
12. Turkish delights	49. Special printing works	86. Electric switchboards
13. Dried fruit	50. Other printing works	87. Electric scientific and technical instruments

14. Processing of honey	51. Construction of typographic plates	88. Repair of electric equipment
15. Sheet-crust of sweets	52. Bookbinding	89. Car repair
16. Burning and grinding of coffee	53. Sheaths and cases from leather or other substitutes	90. Bikes and bicycles repair
17. Ice production	54. Items for horseriding	91. Surgeons' tools and orthopaedical instruments
18. Other food industries[2]	55. Partial tyre-reconditioning	92. Precise measurement and control instruments
19. Wines-distilleries	56. Vulkanizers	93. Lens, eyeglasses and frames
20. Socks for shoes	57. Packing goods from plastic	94. Photographic and optical instruments
21. Repair of shoes	58. Plastic toys	95. Repair of eyeglasses
22. Sewing of men's cloths	59. Bottling of atmospheric air	96. Repair of photographic and optical instruments
23. Sewing of women's and children's cloths	60. Cosmetics and other related goods	97. Jewellery
24. Sewing of waterproof, plastic and leather cloths	61. Ink	98. Jewellery made from cheap materials
25. Sewing of special cloths	62. Wax	99. Clockmaking and parts
26. Sewing of underwear	63. Processing of glass objects	100. Clock repair
27. Orthopaedic belts and bandages	64. Glass mirrors	101. Musical instruments
28. Hat-making	65. Pottery	102. Toys
29. Dressing accessories	66. Porcelain decorative objects	103. Dummies for fashion- and tailor's shops
30. Mattress-making	67. Lime-pulp production	104. Artificial teeth
31. Quilt-making	68. Production of concrete	105. Buttons
32. Sewing of homework cloths	69. Marble cutting and processing	106. Artificial flowers, plants etc.
33. Cloth embroideries	70. Products made from marble-cutting wastes	107. Stamps, signs, inscriptions, etc.
34. Other cloth products	71. Plaster goods	108. Umbrellas and walking-sticks
35. Window frames	72. Odds and ends made from non-metallic minerals	109. Other odds and ends (not referred elsewhere)
36. Products made from reed (and from other similar materials).	73. Locks-keys	110. Decoration of small objects as vases, ashtrays, etc.
37. Products made from curved wood	74. Iron frames and related building equipment	

[1] Allowed only for enterprises owned by local authorities and after examination of the real needs.

[2] With some exceptions.

SOURCE: PD 791/1981 (*Official Gazette* 207A/3-8-1981).

Expansions of existing plants were prohibited with the exception of those undertaken for modernization purposes but without changing their existing activities. Such modernization initiatives could entail:

- increase of the total plant's horsepower;
- increase of the machinery items installed in the plant;
- increase of the volume of production, and
- erection of new buildings, under the precondition that the new number of employed would not exceed the maximum of plant's employment during the last five years (1/1/1976 - 31/12/1980) plus 20% of it, and that the activity would not cause additional environmental pollution.

If modernization initiatives entailed increase of plant's horsepower, this increase would not exceed the plant's legally approved HP by 20%, and the threshold of 400 HP or 300 kW.

Relocation of existing plants into the above areas could take place just like the newly establishing ones. If this option could not be adopted, existing plants could relocate under the following preconditions:

- Relocation could take place only in industrial zones (EM, EO type areas).

- The maximum number of employed in the relocated plant could not exceed the maximum employment in the former position during the last 5 years plus 20% of it.

- Relocation should not entail additional environmental pollution.

- Plants serving the basic needs of population (see previous table) and forced to relocate due to demolition of their buildings, expulsions, and other emergency reasons, could relocate within a radius of 500 metres from the initial site under certain employment restrictions.

Merger plants were allowed to locate or relocate whole or part of their installations from one plant to the other, or to keep part of installations and production in the former sites, under certain restrictions as to the total amount of workforce employed in them.

Other related measures were the following:

(a). The PD 1180 (*Official Gazette*, 293A/6-10-1981), set forth the legislative framework for environmental protection from industrial activity in the whole country (including of course its most polluted urban area, Greater Athens). It was the first time that industries should have to abide by strict environmental restrictions associated mainly with upper limits to the emission level of industrial pollutants. However, as it was asserted (Hadjisocratis 1983: 19), this legislative framework was insufficient and ineffective since these limits were arbitrarily set, and the official body which would be given responsibility to evaluate the environmental protection studies carried out by the manufacturing firms was not clearly defined.

(b). The incentives Law 1262/1982 encouraged manufacturing investments in Greater Athens undertaken by local authorities and/or by other social organizations and co-operatives. Generous grants -reaching 45% of the total investment for special activities and 35% for manufacturing ones- were provided. Local authorities and co-operatives would be able to apply for grants (up to 35% of the total investment) for creating handicraft centres and multi-storey artisanal buildings in the industrial zones of Attica.

(c). A 1982 Act (*Official Gazette*, 73A/13-6-1982) -issued across the lines of PD 1180- imposed a bundle of further restrictions upon industrial activity in Athens for the purpose of more efficient environmental protection. By means of that Act, governmental bodies (Ministries of Environment and Industry) were jointly given the powers to:

- Force industries to decrease production volumes and fuel consumption for certain time periods of increased environmental pollution.

- Impose temporal prohibition of operation upon certain polluting industries.

- Impose fines upon polluting industries (ranging between 800,000 and 10,000,000 Drs according to the degree of pollution).

- Take away the plants' operation permits in cases of serious environmental pollution and negation of the firms to abide by environmental protection criteria.

- Create special Ministry detachments (KEPPE) for checking out the quality of environment and for imposing fines upon polluting units.

(d). A Ministry Decision (No. C.12791/870/12-4-1982) issued on April 1982 prohibited the provision of building permissions for the erection of manufacturing plants in Attica's areas of heavy industrial concentration.

It is obvious that all above statutes were based upon an implicit "negative" philosophy for the development and location of manufacturing activity in Greater Athens. They remained piecemeal in character and they imposed a number of restrictions without on the other hand offering positive alternatives to the developmental and locational problems of Athenian industry on a comprehensive basis. These inadequacies would be supposedly overwhelmed by comprehensive strategic priorities and initiatives set forth by the 5-year (1983-87) Development Plan and the Structure Plan of Athens, which will be examined in the following subsections.

6.3.2. Strategic Directions of the 5-Year Development Plan, 1983-1987

The basic aim of the Socialists' administration when they came to office in 1981, was the setting of a different policy framework for the country's economic, social and territorial development. "Democratic Planning" was intended to be the cornerstone of that framework (MNE 1985: 26) and the basic

"vehicle" leading to economic, social and cultural change across the lines of national independence, social justice, popular participation in decision-making, social dialogue and broad social consensus. The basic economic policy priorities of the 5-year Plan (MNE 1985: 216) were declared to be:

- The undertaking of co-ordinated actions and economic development initiatives by the public sector.

- The creation of a network of motive production units and infrastructure works which could play an important role in sustaining new dynamic economic activities.

- The balanced co-ordination between big industrial enterprises and SMEs.

- The activation of the public sector as a major agent of socio-economic and territorial development.

- The support of new socialized (as opposed to nationalized) investment agencies as for instance municipal enterprises, co-operatives, etc.

- The continuous monitoring of the changing national and international economic environment for the purpose of marking out new investment opportunities in the context of integrated complexes of activities.

With regard to the manufacturing sector, the Plan's strategic goals were set as follows (MNE 1985: 274):

- Upgrading of the country's manufacturing base for the purpose of countering deindustrialization tendencies.

- Reinforcement of restructuring initiatives by encouraging new technology-based investments, especially in agro-industrial activities

organized on a co-operative and vertically integrated basis, in biotechnology, in micro-electronics/informatics, etc.

- Encouragement of manufacturing initiatives undertaken by the public sector and by other socialized organizations like municipal enterprises, co-operatives, etc.

- More balanced territorial arrangement of manufacturing activity.

- Encouragement of manufacturing SMEs.

These policy goals would be achieved by means of the following measures and actions:

- Creation of a special agency (OAE) for helping problematical enterprises (whose accumulated debts to the banks could not be paid back) to regain economic viability by introducing new production technologies, better management and marketing schemes, etc. This agency would not be strictly controlled by the state. In its board of directors, representatives of workers, employers, local authorities, scientific and other social organizations would participate.

- Establishment of collaborative links between the public sector and the private companies by means of the so called "planning agreements". These agreements would entail mutual engagements, and would include possibilities of programming the scale and methods of production, the volume of exports, the transfer of appropriate technologies in production, as well as preference of those firms in government purchases. Priorities would be given in pharmaceuticals and in exporting products with increased demand in the international markets.

- Creation of a special department in the Ministry of National Economy (Law 1360/83) which would be given full responsibility for restructuring and upgrading the whole system of government purchases.

- Creation of a number of special agencies assisting exporting industries in tasks like product standardization, secure against export risks, financial support of exports, provision of expert advice to the exporting firms, provision of special incentives to SMEs for the purpose of increasing their participation in the volume of exports, co-ordination between various public export organizations, etc.

- Priorities in attracting foreign investments were revised towards encouragement of partnership (Greek-foreigh) initiatives under certain criteria like (a) the improvement of the sub-sector's composition, (b) the percentage of value-added in the country (c) the contribution of investments to the improvement of the balance of payments, (d) the kind of imported technology and the way of its utilization, and (e) the employment of Greek workforce and especially skilled (technical-engineering and scientific).

- Revision of the industrial development legislation in the direction of less perplexed and contradictory regulations, decentralization of public services linked with the manufacturing sector, increased concerns about protection of natural and work environments, special care about better quality control, standardization and packing of manufactured products, etc. Moreover, measures for the training of chief executives of private companies in advanced manufacturing management techniques were provided, at both continuing and post-graduate educational levels. The profession of business consultants would be promoted and expert advice would be provided free of charge to manufacturing SMEs.

- Sectoral policies would be revised towards the following directions: (a) Reorientation of the incentive system for encouraging a broader spectrum of investment opportunities, the establishment of new relations between the public and private sectors based on the principle of democratic planning, the growth of new socialized investment agencies, the

introduction of new technologies in production and the support of non traditional branches, the support of relocation initiatives into less developed areas, etc. (b) Special support would be provided to branches which were facing viability problems but which were considered as important in the country's industrial structure -branches such as textiles, paper and pharmaceutical products. Special support would also be provided to branches having high potential for export, or for vertical integration, or important multiplier effects within the economic system, or, finally to emerging high-tech branches (especially biotechnology and micro-electronics/informatics). (c) The support of manufacturing SMEs could take the form of encouraging the birth of new ones, of providing technical and managerial assistance, of encouraging the creation of co-operative and merger SMEs, of promoting and securing their subcontracting work, etc.

However, all that rich bundle of policy goals and measures was curiously diminished as soon as the 5-year Plan document shifted analysis and proposals to the concrete geographical scale of Attica (MNE 1985: 419-23). Indicative of this is that deindustrialization and job loss in Greater Athens was not explicitly considered as a major problem. Instead, the capital's major problems were regarded to be (MNE 1985: 420):

- The environmental deterioration and the downgraded quality of life
- The inadequacy of social facilities and infrastructure
- The growing speculative pressures on urban land; and
- The multiple, contradictory and unclassified roles of the Athenian space economy within the country's economic geography.

With regard to the manufacturing sector, it was stated that Attica's comparative advantages are associated with high-tech branches such as electronics industry, telematics, bioenergy and biotechnology -that is, with

branches needing specialized R+D personnel, advanced technical infrastructure and related support services (MNE 1985: 421). According to the Plan's priorities, the development of production activities in Attica would be encouraged only if those activities were of a national or international significance, and only under the precondition that their development in Attica would not contradict regional industrial development priorities. Other manufacturing activities that could develop in Attica were those serving basic consumption needs -especially for food (agro-industrial complexes), shelter and energy (MNE 1985: 423). It was also stated that the legislation of the Structure Plan of Athens would secure the reorganization of the Athenian industrial activities by proposing the creation of industrial and handicraft parks (VIPA-VIOPA) (MNE 1985: 422).

6.3.3. The YCHOP "Special Study" and the Structure Plan of Athens (Law 1515/85)

In the context of the preparation of the Structure Plan of Athens by the Ministry of Environment, a special study of manufacturing industry in Athens was carried out in the early 1980s (Hadjisocratis 1983). According to this study, the way post-war Greek economic and industrial development took place (i.e. primacy of private choices over decentralization and regional development policies) led to the excessive concentration of manufacturing activity in Athens. Other factors reinforcing this geographical clustering in the study's view were (ibid.: 1-2):

- The internal structure of manufacturing: In spite of the relative growth of intermediate and capital branches, Greek industry continues to be oriented to the production of consumer goods (proximity to the major urban markets).

- Proximity to labour and to specialized managerial staff, proximity to urban services and markets, and accessibility to the main transport network.

- The centralization of governmental and financial services.

- The nodal geographical position of Athens.

- The lack of political will for the implementation of regional industrial development policies.

The study further asserted that the major locational trend was a gradual shift of Athenian manufacturing from its traditional inner-city areas to the metropolitan periphery, and especially to sites along the major transport arteries. The unplanned way of the post-war Athenian industrialization, led to major urban problems such as (ibid.: 10-3):

- Excessive waste of valuable urban land in areas needing it to serve other basic social priorities.

- Expansion of industrial activities into residential, recreation, tourist etc. areas in Attica. This expansion led to serious land-use conflicts which usually resulted (a) in the gradual disappearance of agricultural land (transformation into industrial plots of a higher market value), and (b) in generating problems to the development of other non-industrial activities.

- The uneven distribution of manufacturing across the Athenian agglomeration, created serious traffic and other infrastructural problems in specific areas of heavy industrial concentration.

- The unplanned spatial mix of factories regardless of branch, size, degree of pollution, needed infrastructure and services, etc., created disfunctionalities and negative externalities which hampered the development of industry itself and deprived specific areas from their comparative advantages for the development of particular branches.

- Serious environmental problems (air, water and soil pollution).

However, as the study asserted (ibid.: 23-6), during the last years a moderate decentralization trend has been at work. This trend was fed by the following processes:

- Intensification of decentralization policies and increased environmental concerns in Athens.

- Growing emergence of negative externalities in Athens (rapid upswing of land prices, lack of available land for plants' expansions, traffic congestion, etc.).

- "Post-industrial" changes in the structure of the metropolitan labour market; the gradual shift of young people's preferences to tertiary forms of employment has caused marked shortages in industrial labour supply.

- The continuous decrease of building activity in Athens has pushed linked industrial and handicraft firms to seek relocation elsewhere.

- The relocation of big polluting industrial plants away from Athens, as well as the closure of many problematical enterprises, were expected to intensify labour redundancies.

- Accession of Greece to EC was expected to reinforce industrial decentralization iitiatives.

According to the special study, the way industrial development and location in Greater Athens was taking place during the post-war period, reflected directly or indirectly the combined interests of industrialists and the state, while environmental concerns and criteria of quality of citizens' lives played quite minor roles in the related decision-making. The growing environmental sensitivities and mobilizations of the Athenian citizenry -in the study's view- necessitated a drastic shift of optic, in which industrial location

could no more be treated under criteria of technical, economic or export efficiency, only, but under qualitative ones associated with environmental protection and improvement of life in the city as well (ibid.: 27).

It was also estimated that the implementation of the 5-year Plan's strategic goals would impose a number of positive direct or indirect effects upon the Athenian industrial system (ibid.: 30-1):

- At least 1/3 of the predicted new manufacturing jobs in the whole country was expected to emerge in Attica.

- State assistance to the problematical firms (60-70% of which were located in Attica) was expected to contribute to the maintenance of existing manufacturing jobs.

- Sectoral and sub-sectoral policies were expected to contribute to the upgrading of the Athenian industrial system especially in traditional branches like textiles, foodstuff and non-metallic minerals.

- The special encouragement of agro-industrial activities (food-drinks industry) and other consumer oriented branches, was expected to increase the industrial potential of the metropolitan area.

- Emphasis on high-tech developments would benefit Greater Athens which has marked comparative advantages in comparison with other urban areas of the country.

- Special programs and measures for sustaining manufacturing SMEs would benefit Athens which concentrated a major part of them.

In the above context, the special study proposed the following strategic goals for a new model of industrial development and location in Athens (ibid.: 32):

- *Decentralization of production activities from Athens.*
  -Large vertically integrated manufacturing units should not be allowed to open in Attica, as well as new exporting industries with international significance. The location of firms with national significance should also be restricted.
  -New manufacturing activities that do not aim at serving the basic needs of the Athenian population should not be allowed to open.

- *Maintenance of manufacturing employment and countering tertiarization tendencies.*
  -Encouragement of merger initiatives, stabilization of production and productivity increases by means of technological and organizational improvements, growth of new high-tech branches, etc.
  -Establishment of industries serving the basic needs of the city's life, in selected labour-intensive activities, or in high-tech branches, or in agro-industrial ones.

- *Environmental upgrading and internal reorganization of the city.*
  -Decrease of industrial pollution by means of imposing systematic anti-pollution controls upon manufacturing units and by constructing the appropriate infrastructure in existing industrial clusters (e.g. common liquid waste treatment systems).
  -Gradual relocation of polluting manufacturing units away from Greater Athens.

The above objectives should be followed up by a bundle of measures and directions for action such as (ibid.: 33-5):

- Discouragement of industrial investments not only in Attica but in the neighbouring prefectures of Korinthia, Viotia and Evia as well (blockage of linear industrial expansion of Greater Athens). For this purpose the incentives-Law 1262/1982 should be reformed so as to include in A-type (non assisted) areas some localities with increased

industrial concentrations (e.g. Shematari, Oinofyta, Tanagra, Agios Thomas, Lavrion, and the urban centres of Halkida and Korinthos).

- Undertaking of special programs and actions for assisting and upgrading particular declining industries such as textiles, clothing/footwear, etc.

- Encouragement of private investments aiming at: (a) environmental protection, (b) replacement of traditional energy resources (e.g. petroleum) with environmentally friendly ones, and (c) vertical organization of agro-industrial activities based on new technologies.

- Intensification of the European Social Fund inputs for the purpose of funding special labour power policies (e.g. vocational programs for preparing women and young unemployed people to enter the labour market, programs aiming at re-skilling of traditional workers in new activities, etc.).

- Clear definition of the legislative framework for the development and location of manufacturing in Attica, so as the potential investors to have a precise prior understanding of the pros and cons of their endeavour on the one hand, and the urban land to be allocated to its proper uses on the other (avoidance of expansion of industrial and polluting activities into non-industrial areas).

- Encouragement of relocation of existing industries, and even creation of new ones, in Attica's areas for which population increase could be judged as desirable.

- Definition of particular industrial zones within and around the Athenian agglomeration which would be equipped with the proper infrastructure and into which scattered manufacturing units of low to medium pollution level would be allowed to relocate in an organized and controlled manner.

- Organization and clearance of existing industrial clusters for the purpose of removing polluting industries from them, constructing the appropriate infrastructure networks, upgrading their natural and built environments and allocating part of their land to public uses and green. Moreover, special technical-economic studies of polluting problematical industries should be carried out so as the possibilities of their relocation to be clearly defined in cost-benefit terms.

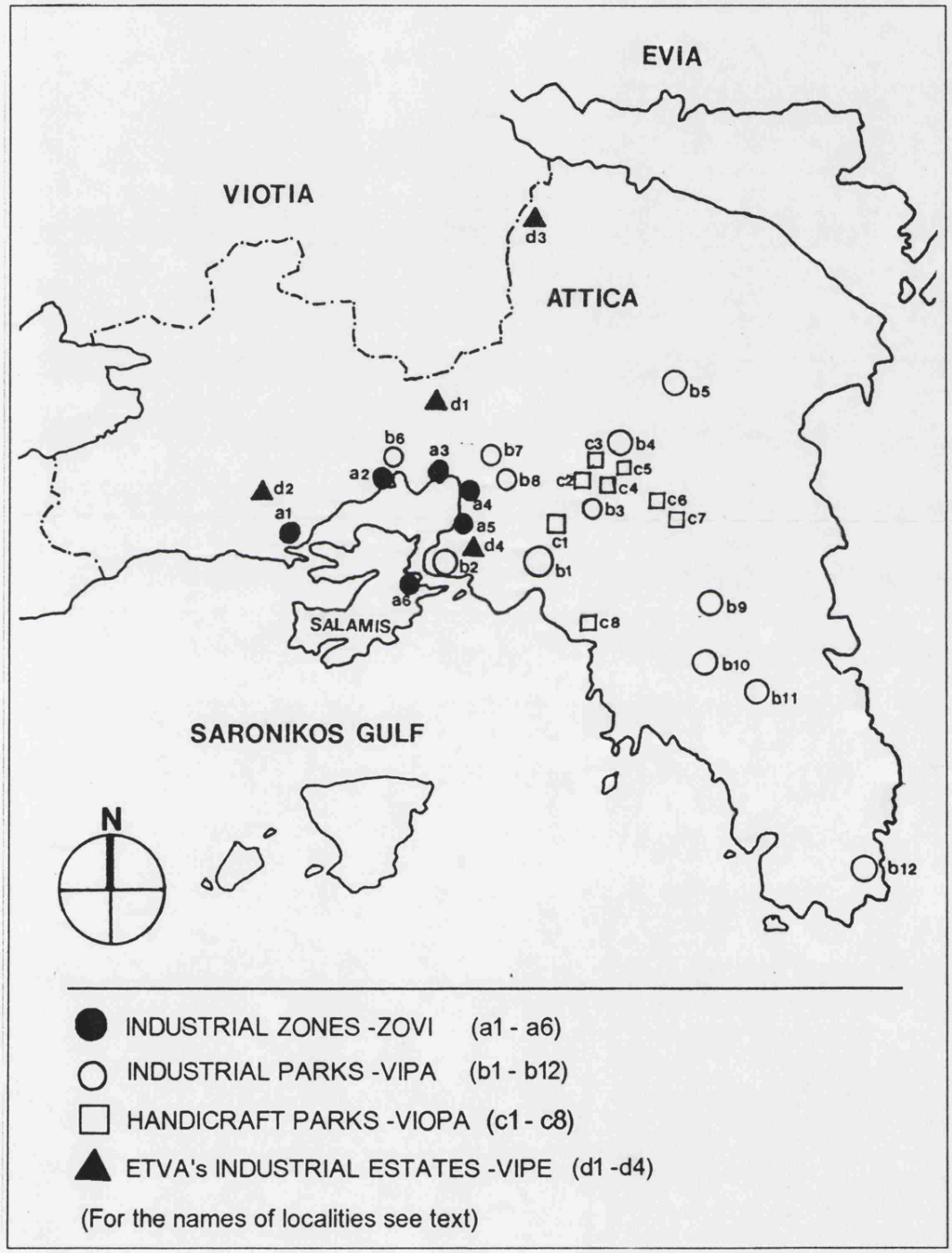
- Organization of industrial and handicraft parks (VIPA-VIOPA) as well as construction of multi-storey artisanal buildings in them.

- Establishment of an effective administrative and legislative mechanism for controlling environmental pollution caused by industrial activity.

- Reform of the existing PD 791/1981 by reference to: (a) the need to counter deindustrialization and unemployment tendencies in Athens, (b) the need for more efficient industrial pollution controls, (c) the need for better quality controls of existing industrial buildings, (d) the need for more careful location of industrial zones in Attica, and (e) the need for drafting special building regulations for handicraft manufacturing units that should remain within the urban tissue.

In the above context, the following 4 different categories of organized industrial spaces were proposed to develop in Attica (see fig. 6.1): (a) Industrial Zones (ZOVI), (b) Industrial Parks (VIPA), (c) Handicraft Parks (VIOPA) and (d) new Industrial Estates (VIPE) managed by the Hellenic Bank of Industrial Development (ETVA) just like the regional industrial estates. Such spaces were proposed to develop in the following localities:

Figure 6.1. *Organized industrial spaces in Attica as proposed by the YHOP "Special Study" (1983) in the context of the preparation of the Structure Plan of Athens*



SOURCE: Adapted from Hadjisocratis 1983: chart 2.

(a). *Industrial Zones (ZOVI)*

a.1. Pahi Megaron (Neo Meli)

a.2. West of Elefsina

a.3. East of Elefsina

a.4. South-East of Aspropyrgos -oil refinery area

a.5. Skaramangas ship-yard

a.6. Ship-building/repairing zone of Salamina

In ZOVI, heavy and polluting industrial units were already located; those plants, for various economic or technical reasons, were unable to relocate elsewhere. Within ZOVI especially strict pollution control measures should be undertaken.

(b). *Industrial Parks (VIPA)*

b.1. Eleonas

b.2. Ship-building/repairing zone of Perama

b.3. Nea Ionia

b.4. Metamorphosis-Kifissia-Aharnes

b.5. Agios Stefanos-Kryoneri

b.6. South-East of Mandra

b.7. North-East of Aspropyrgos

b.8. Tzaverdella

b.9. Peania-Koropi

b.10. Koropi-Vari

b.11. Markopoulo-Kalyvia

b.12. South of Lavrion.

In these areas low to medium pollution manufacturing plants were already located, but much of their space was still unbuilt. Thick protective green belts and collectively used parcels of land would be left in them, the land allocated for development would be subdivided into industrial plots according to a comprehensive lay-out plan, the proper infrastructure networks would be constructed, and supporting services would be provided to the locating and/or relocating firms. The organization and administration of VIPA

would be appointed to a representative body in which the Hellenic Bank of Industrial Development (ETVA)[2] the areas' local authorities and the industrialists' organizations would participate (Hadjisocratis 1983: 38).

(c). *Handicraft Parks (VIOPA)*

- c.1. Peristeri
- c.2. Nea Chalkidona
- c.3. Nea Philadelphia
- c.4. Nea Ionia
- c.5. Neo Irakleio
- c.6. Soros Maroussiou
- c.7. Patima Halandriou
- c.8. Trahones

In VIOPA small non polluting manufacturing firms would be able to locate and/or relocate from scattered sites of the urban tissue. Multi-storey artisanal buildings would be also erected for offering common accommodation, infrastructure (central heating, water, electricity, telecommunication, etc.) and supporting services to the tenant firms.

(d). *ETVA's Industrial Estates (VIPE)*

- d.1. Imeros Topos Thriassiou Pediou (for the development of agro-industrial activities as proposed by the 5-year Plan)
- d.2. North-East of Megara (for the above purpose)
- d.3. Avlona (for the above purpose).[3]
- d.4. Shistos (for receiving relocations of scattered machine-works in the ship-building/repairing zone of Piraeus-Keratsini- Skaramangas).[4]

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[2] or alternatively the Greek Organization of SMEs (EOMMECH)

[3] Later on, this place was proposed to "receive" tanneries relocating from inner city areas like Eleonas. After lot of discussion between the Ministry of Environment, the area's local authorities and industrialists, the proposal was rejected (information provided in personal contact with Mrs. Theano Yaliri, town-planner, official of the Ministry of Environment).

[4] Later on, this place was proposed to "receive" metal-melting works relocating from inner city areas. The Hellenic Bank of Industrial Development (ETVA) entrusted the Development League of Piraeus (ANDHP) with the task of carrying out a study for the organiz-

The total area of all above industrial spaces in Attica was estimated to reach 3,557 Ha (35,570,000 sq.m.) whereas the area proposed by the previous PD 791/1981 was much larger (4,255 Ha) (Hadjisocratis 1983: 46). In other words, the Special Study of the Ministry of Environment proposed a 16.4% decrease of the total Athenian industrial space. The total number of employed in those areas was estimated to reach 182,305 by 2001.

Whereas the PD 791/1981 imposed employment restrictions on newly established, expanding and relocating industries in Attica (see 6.3.1), the YCHOP special study proposed limits to the maximum amount of plants' installed horsepower. More precisely, existing plants up to 15 HP could be allowed to increase it by 100% within a 5 years period, while plants with 15+ HP could increase it by 50%. (ibid.: 36). It is therefore evident, that while PD 791/1981 discouraged labour intensive activities, the special study, contrarily, encouraged such activities for the purpose of countering job loss.

Many of the special study's proposals were embedded in the text of the Structure Plan of Athens -SPA- (L.1515/1985) (*Official Gazette*, 18A/18-2-1985). The more general objectives of SPA were declared to be (article 3):

(a) The enhancement of the Greek capital's historical physiognomy and the upgrading of its inner areas

(b) The improvement of the quality of life and the protection of environment

(c) The diminishing of social inequalities between the various intra-urban areas.

(d) The widening of the choices for residence, work and recreation.

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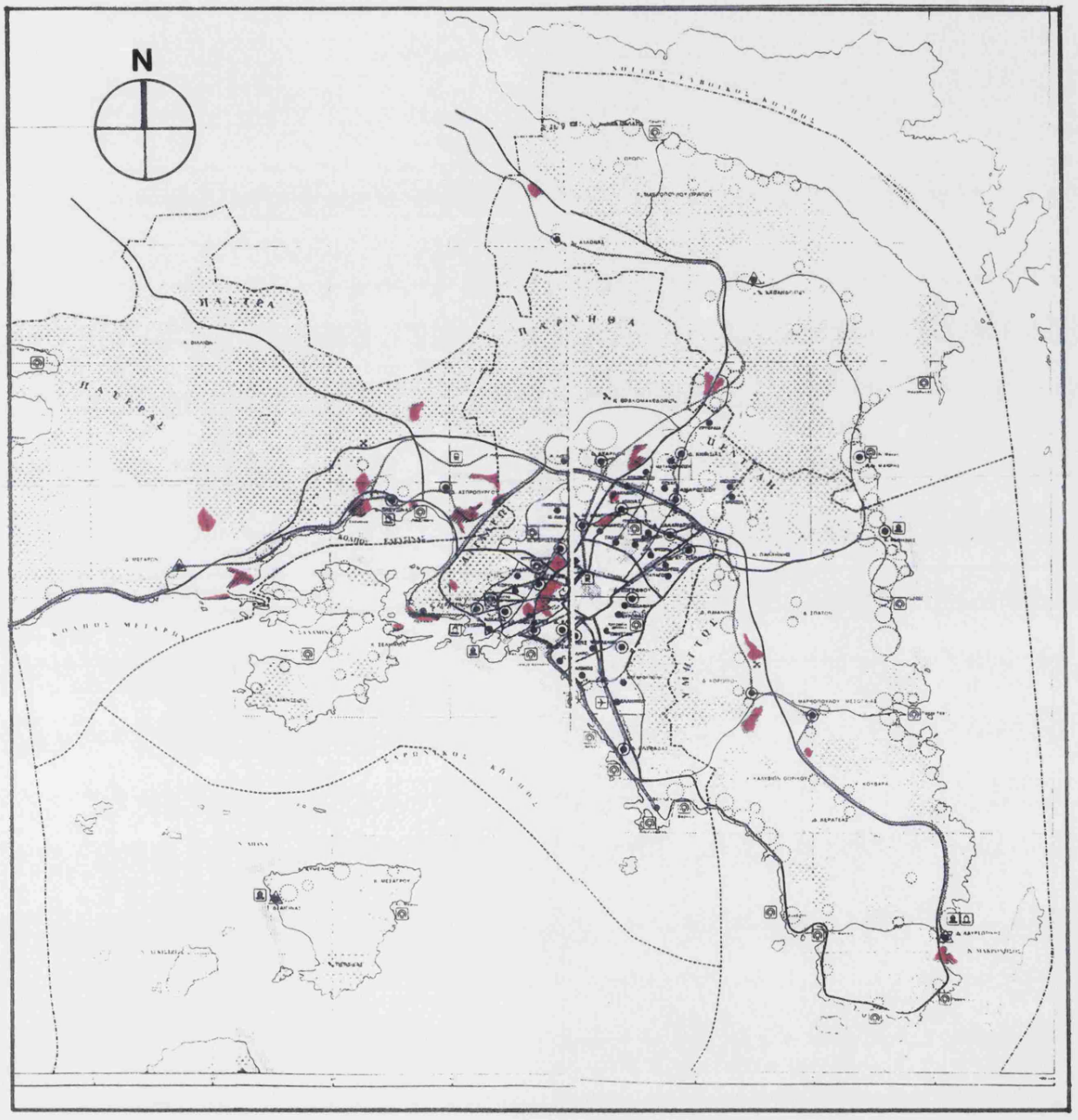
ation of the area. The study concluded that not only metal-melting works but other related industries should be relocated in that area as well. However, the project was not implemented because of local reactions (information provided in personal contact with Mrs. Theano Yaliri, town-planner, official of the Ministry of Environment).

(e) The qualitative upgrading of neighbourhoods and the protection of residential areas from polluting activities.

With regard to the location of economic activity, a basic objective for improving the environment and the quality of citizens' lives was the spatial rearrangement of urban functions and activities, as well as the control of land uses by means of measures aiming at the removal of polluting industrial installations from residential areas and their relocation in industrial and handicraft parks (VIPA-VIOPA). Measures for constructing the necessary infrastructure and forming collectively used green spaces in them were also proposed. The parks' geographical location according to the SPA, is presented in figure 6.2. As we can remark, this configuration is in general lines similar to that proposed by the Ministry's special study (see previous figure 6.1). Another basic objective of the Structure Plan aiming at the economic revitalization of Greater Athens was the modernization of manufacturing and the support of SMEs under environmental protection criteria.

In the broader context of SPA's objectives, joint Ministries' decisions would determine: (a) the limits to the emission of industrial pollutants, (b) the manufacturing branches which cause pollution, and (c) their obligations in undertaking protective measures (article 11). Such measures could include the introduction of new (environmentally friendly) technologies in production, changes in the type of fuel and raw materials used, installation of special pollution measurement equipment, etc. Environmental impacts assessment studies should be carried out and approved officially if any production work or activity that might affect the environment were about to take place in Greater Athens. Moreover, special environmental quality control detachments of the Ministry of Environment (KEPPE) would check out whether industrial firms abide by the above regulations or not, and would impose fines and other penalties on the polluting industries.

Figure 6.2 *Organized industrial spaces in Attica as proposed by the Structure Plan of Athens (Law 1515/1985).*



SOURCE: Law 1515/1985 (*Official Gazette*, 18A/18-2-1985).

The measures aiming at the spatial rearrangement of manufacturing activity in Athens were the following (article 15):

1. The creation of handicraft parks (VIOPA) and multi-storey artisanal buildings in appropriate sites across the whole urban tissue, in order to offer common accommodation and support services to locating or relocating plants of light non polluting industries, so that manufacturing jobs to be evenly distributed across urban space.

2. The existing industrial clusters should be renewed and organized into industrial parks (VIPA). These parks would provide the necessary commonly used spaces and services as well as extended green parcels of land.

3. The creation of new industrial and handicraft parks away from residential areas (at the periphery of the Athenian agglomeration) into which existing scattered polluting industries like tanneries, metal-melting and metallizing works, brick-tile making works, concrete and asphalt production works, etc., would be allowed to relocate.

4. Creation of special industrial zones for the location of light agro-industrial activities.

However, for reasons which will be analysed in the following chapters, the basic SPA objectives with regard to the spatial rearrangement of the Athenian industry were not implemented. What remained as a "practical" policy instrument was the Presidential Decree 84/84, whose basic points will be examined in the following sub-section.

6.3.4. The Presidential Decree 84/84 and Other Measures.

The basic principle underlying the PD 84/84 (*Official Gazette*, 33A/21-3-1984) -just like the previous one (PD 791/1981)- was the association of manufacturing branches allowed to get established, modernized, relocated, etc. within the

borders of Attica with specific types of space (space-branch specification). These types were:

- Areas of unmixed residence (KA type)
- Areas of general residence (KC type)
- Areas of non polluting production installations (EM type)
- Areas of polluting production installations (EO type)
- Other areas

As it can be remarked in table 6.2, the industries allowed to develop were mainly consumer ones (foodstuff, clothing-shoes, paper-printing-publishing, furniture, etc.), and very few intermediate and capital industries (especially some high-tech ones like electronic equipment, medical instruments, biotechnology and informatics products, etc.). As it was clearly stated in the PD's text, (article 2, paragraph 2), the manufacturing units which were allowed to develop in Attica were those "serving the immediate needs of the urban population", as well as those belonging to "selected high-tech branches" and employing "intensive specialized labour", or "agro-industrial units of vertical processing of Attica's primary raw materials."

Table 6.2 *New manufacturing activities allowed to get established and to locate in Attica according to the PD 84/84*

1. Bakeries	31. Printing-publishing of newspapers and periodicals	61. Illuminated signs
2. Pastry-making	32. Printing-publishing of books and leaflets	62. Electric switchboards
3. Dried fruits and seeds	33. Special printing works	63. Electric scientific and technical instruments
4. Processing of honey	34. Other printing works	64.Repair of electric equipment
5. Sheet-crust of sweets	35. Construction of typographic plates	65. Car repair
6. Burning and grinding of coffee	36. Bookbinding (normal and in gold)	66. Repair of bikes and bicycles
7. Other food industries[1]	37. Sheaths and cases from leather or other substitutes	67. Surgeons' tools and orthopaedical instruments
8. Shoe-making[2]	38.Vulkanizers	68. Precise measurement and control instruments
9. Repair of shoes	39. Cosmetics and other related stuff	69. Photographic and optical instruments

10. Sewing of men's cloths	40. Production of asphalt	70. Repair of eye-glasses
11. Sewing of women's and children's cloths	41. Processing of glass objects	71. Repair of photographic and optical instruments
12. Sewing of waterproof, plastic and leather cloths	42. Glass mirrors	72. Jewellery and related objects
13. Sewing of special cloths	43. Pottery	73. Jewellery made from cheap materials
14. Sewing of underwear	44. Porcelain decorative objects	74. Clockmaking and parts
15. Orthopaedic belts and bandages	45. Lime-pulp production	75. Clock repair
16. Hat-making	46. Production of concrete	76. Musical instruments
17. Dressing accessories	47. Marble cutting and processing	77. Toys
18. Sewing of homework cloths	48. Products made from rubbing of marble	78. Artificial teeth
19. Cloth embroideries	49. Plaster goods	79. Stamps, signs, inscriptions, etc.
20. Other cloth products	50. Odds and ends made from non-metallic minerals	80. Umbrellas
21. Window frames	51. Iron frames and related building equipment made from iron	81. Other odds and ends (not referred elsewhere)
22. Products made from reed and from other similar materials	52. Other metallic frames	82. Decoration of small objects (e.g. vases, ashtrays, etc.).
23. Products made from curved wood	53. Cutting-assembly of window screens	83. Laundries
24. Advertisement signs and other wood products	54. Popular art bronze products	84. Cleaning, coloring and ironing of cloths
25. Wooden furniture	55. Metallization of small objects	85. Movie, TV, radio and sound studios. Development and processing of movie and TV films
26. Wickerwork furniture	56. Other metallic objects (only popular art)	86. Mixing and assembly of various materials[3]
27. Upholsters	57. Repair of internal combustion engines	87. Environmental protection installations (selection and processing of solid waste, liquid waste treatment systems
28. Paperbags	58. Business machimes and electronic computers	88. Gas of Athens
29. Carton boxes and cardboard products	59. Repair of business machines	89. Production of particularly high-tech products (biotechnology, informatics, microelectronics, etc.).

30. Other carton and cardboard products[4]	60. Other machine and repair works	90. Agro-industrial units: (a) slaughtering and skinning of cattle (b) processing and preservation of meat (except poultry) (c) preservation of poultry (d) wine production and distilleries
[1] with some exceptions		
[2] except rubber and plastic shoes		
[3] flamable, explosive, toxic and other polluting materials are not included		
[4] with some exceptions		

SOURCE: PD 84/84 (*Official Gazette*, 33A/21-3-1984).

By contrast to the previous PD 791/1981 which posed limits to the maximum amount of plants' employees, the new PD posed limits to the maximum amount of plants' horsepower by area type (for the purpose of countering deindustrialization and job loss without burdening the environment with further industrial activity). Thus, in KA type areas (unmixed residence) any production activity was strictly prohibited, whereas in KC areas (general residence) the maximum amount allowed was 15 HP of motive power and 50 KW of thermal power (that is to say only small artisanal activities were allowed to develop in such areas). In EM and EO type areas (industrial) the maximum amount was 50 HP for the majority of industries, 300 HP for concrete production works, whereas there was no power limit for: (a) high-tech industries (electronic and scientific equipment, medical and optical equipment, etc.), (b) liquid waste processing installations, and (c) agro-industrial activities run by local authorities or co-operatives.

In order a newly established, modernized, or relocating plant to get connected with the public electric power supply network, its administration would have to submit at the Public Enterprise of Electricity (DEH) the plant's operation permission provided officially by the Ministry of National Economy. Otherwise, DEH would have the legal authority to interrupt the plant's electric power supply (article 3, paragraphs 3.a and 3.b). Any other infringement could also lead to supply interruption. In other words -although it was not explicitly stated but it was implicitly meant- the numerous small, illegally

built and operating polluting manufacturing units at inner-city areas like Eleonas (see chap. 8), were neither allowed to modernize, nor to relocate.

According to article 4, expansions of existing plants were strictly prohibited no matter whether such expansions could potentially be combined with introduction of new technologies that might decrease the plants' environmental pollution levels.

Modernization of existing plants (article 5, paragraph 1) could take place without change of their existing activities and under the precondition that modernization would not cause additional pollution. Modernization initiatives could entail (paragraph 2):

a. production increase

b. increase of the plant's horsepower within a 3 years period as follows:
-for plants up to 120 HP, 30 HP maximum increase
-for plants with 121-1200 HP, 25% maximum increase
-for plants with 1,200+ HP, 300 HP maximum increase

c. limitless power increase for environmental protection purposes only

d. erection of new factory buildings

According to article 6, paragraph 1, the preconditions for the relocation of existing production units were similar to those for the establishment of new ones. This simply means that the numerous existing (and polluting) plants in branches which were not included in the previous list (as for instance metal melting and metallizing works, tanneries, brick and tile making works) and which are currently scattered in central-city sites (as for instance in Eleonas -see chap. 8), were not allowed to relocate into more appropriate, distant sites on the metropolitan periphery. In other words, the PD 84/84 contributed to the maintenance of the existing inner-city locational pattern of those heavily polluting branches.

The legally operating industries included in the previous list, could relocate only if relocation did not entail additional environmental pollution and only under the following preconditions (article 6, paragraph 2):

(a) Highly polluting plants with installed horsepower not exceeding 120 HP, or manufacturing and handicraft plants of a medium pollution level, could relocate only into EO-type zones (zones of polluting production activities).

(b) Manufacturing and handicraft plants of medium to low pollution level could relocate into EM-type zones (zones of not particularly polluting production activities).

(c) Manufacturing and handicraft activities of low pollution level could relocate into areas outside the statutory city-plan in existing buildings which were erased legally for industrial use in the past (before the publication of the PD 791/1981), and in which manufacturing activities were legally operating at the time of PD's 84/84 publication.

When relocation was necessitated for emergency reasons (as for instance demolition of building, obligatory expropriation, damages caused by fire or earthquake, etc.), the plant could relocate into another site within the borders of the municipality in which it was previously located. In any case, however, an official confirmation would be needed in order the relocation permission to be provided.

Low pollution handicraft units could relocate into multi-storey artisanal buildings legally constructed at general residence (KC type) areas (article 9, paragraph 2).

According to a circular (OIK. 15683/2787/File 15/31-8-93) issued by the Ministry of Industry for the purpose of clarifying some points of PD 84/84, as legally operating units being allowed to relocate were considered only

those which: (a) At the time of PD's publication (21-3-1984) the unit had operation permission, or (b) was legally released from the obligation to have such a permission; (c) The plant's operation permission had expired before the above date and was later updated, while the plant was continuously operating, or was in a state of bankruptcy.

Mergers were allowed within the borders of Attica (article 7, paragraph 1) as well as the associated relocation of parts or wholes of their former equipment into one of the merger plants. Mergers taking place on a co- operative basis (paragraph 2), were especially encouraged: They were allowed to increase their plants' horsepower (the sum total of merger plants' HP) by 100% within a 3 years period.

According to article 9 (paragraph 1), the Minister of National Economy was given authority to allow the establishment of new manufacturing industries only for the purpose of serving needs of the local authorities. In the CBD every new establishment, expansion, modernization, relocation, etc. was strictly prohibited (paragraph 3).

Some other restrictive measures and regulations were issued by the Environmental Law 1650/1986 (*Official Gazette*, 160A/16-10-1986). The Law did nor refer to particular areas, but it was obvious that its provisions aimed mainly at protecting the environment of the country's most polluted area -the Greater Athens agglomeration. The most important measures were the following:

- According to article 3, every work and/or activity carried out by public or private agencies should be classified in one of three categories according to the degree of danger it could entail for the environment. The classification criteria were associated with (a) the type and extend of activity, (b) the type and quantity of emissions, (c) the possibilities to reduce emissions in the production process and (d) the danger of a serious accident caused by this activity or work. Activities included in the high-danger category, should abide not only by the general

environmental restrictions, but by additional measures issued by joint Ministry decisions especially for that purpose.

- According to article 4 (paragraphs 1, 2a and 2b), a basic precondition for the realisation of any investment, activity or work (including establishment of new industries, expansions, modernization, and/or relocation of existing ones) was the submission and official approval of environmental impacts assessment studies.

- According to article 8 (paragraph 2), the measures by which new or existing industrial activities would have to abide (and which should be satisfactorily justified in the environmental impacts assessment studies), were associated with: (a) appropriate security distances between the site of activity and other areas; (b) introduction of anti-pollution technologies in production; (c) utilization of particular raw materials, intermediate products and fuel; (d) limits to the emission of gases; (e) keeping of particular working-hours; (f) installation of measurement equipment for checking out the quantity and quality of emissions, etc.

6.4. Strategic Responses to Economic Recession and Deindustrialization: Comparative European Urban Experiences

Economic recession and deindustrialization of the 1970s affected the major European industrial centres and especially their inner-city areas. However, many of them reacted successfully by undertaking combined and integrated policies aimed at regenerating their economic, social, cultural and physical environments as a whole, for the purpose of attracting new investments and countering urban poverty, social exclusion and degradation. Local authorities, played a decisive role in the industrial regeneration efforts. In Britain, as Lawless mentions (quoted in Chapman and Walker 1987: 241), some partnerships between central government and local authorities were established under the "Inner Urban Areas Act", and local governments "were provided with funds for a wide range of actions related to land purchase,

environmental and building improvements, and grants and loans to small businesses".

In some cases, however, the restricted funding, the lack of appropriate co-ordination and diverging political views on the relationships between the public and private spheres in urban economic redevelopment, has restricted the effectiveness of industrial regeneration policies and programs (Chapman and Walker 1987: 241). The rise of Conservatives to office in 1979, deprived local authorities from adequate funds and responsibilities, leading, therefore, to what has been dramatically identified as "destruction of local government autonomy" (see Duncan and Goodwin 1988, especially chap. 5). The idea of "enterprise zones" -which was developed by Peter Hall- was better suited to the Conservatives' ideology in that it allowed for private investors to avoid bureaucratic and planning controls in the location of economic activity, making, thus, "their life easier" (Chapman and Walker 1987: 241-2). Nevertheless, as it was stated, enterprise zones tended to "encourage a rather static view of the urban economy than one that adapts to change" (Jones and Manson as quoted in Chapman and Walker 1987: 242).

In spite of those difficulties, however, a new "urban industrial regeneration" culture was gradually formulated within both the public and the private spheres; it was based upon combined and integrated initiatives aiming at attaining a multiplicity of objectives like:

- increasing the efficiency of the manufacturing sector;
- preserving capital investments from being wasted;
- using the urban space wisely and to the maximum benefit of as many people as possible;
- providing a variety of jobs in each area of the urban tissue (Chapman and Walker 1987: 243).

In that context, actions and interventions undertaken by city-authorities included a variety of aspects of urban life, like for instance: (a) appropriate infrastructural improvements (transport and parking facilities), (b)

beatification and renewal of old declining inner-city industrial zones, (c) provision of appropriately equipped units of space (often in renewed older multi-storey factory buildings) for accommodating new manufacturing firms, especially knowledge-based SMEs, (d) encouragement of innovative firms, (e) effective marketing schemes for attracting potential investors, (f) creation of a friendly city environment by relaxing internal conflict between local authorities and private businesses, and (g) creation of a feeling of continuity and certainty to potential manufacturing investors (Chapman and Walker 1987: 243-6).

According to the conclusions of an international conference held at Dortmund, Germany, in 17-19th of September 1985 (CE/CDUP/CD 1985), economic regeneration initiatives in deindustrializing cities and urban regions in Europe should be effectively linked with spatial arrangements and policy programs aiming at the improvement of their human, built and natural environments as a whole. More precisely, the following bundle of objectives and policy priorities was proposed:

A. *Objectives and priorities associated with economic regeneration and improvement of the natural and built urban environment*

-It was realized that there exists a very strong relationship between urban-economic regeneration and environmental improvement.

-It was also realized that such improvement programs affect equally the social and cultural facilities of cities, especially when they encourage citizens' participation and co-operation which create a strong "community feeling" that increases mutual understanding and reliability and helps in attracting private investments.

-In cases of extended ecological damages, special emphasis should be placed upon the protection of the cities' natural environment.

B. *Objectives and priorities aiming at reinforcing the links between conservation and development*

-Special attention should be paid on the improvement of the existing building stock, since it increases citizens' confidence for their cities' future.

-Special priorities should be directed to the conservation of cities' historical sites and other cultural assets, since they help in keeping the feeling of "historical continuity" and increase the cities' attractiveness to potential investors. Also, the maintenance and provision of free and recreation spaces reinforces economic attractiveness.

-The implementation of all above priorities presupposes labour- intensive working activities which contribute to the decrease of urban unemployment.

C. *Objectives and priorities associated with the role and responsibilities of local authorities in economic regeneration attempts*

-It was realized that local authorities have gained increased responsibilities in every aspect of city-life (from economy and employment to culture and recreation), since their role in economic and industrial regeneration programs should be enhanced.

-In managing the urban area and in proposing urban industrial policy guidelines, local authorities should pay more attention on re-using derelict or existing industrial land than wasting new one.

-Local authorities should be given adequate funding so as to be able to handle land transactions and development projects and more generally to keep enhanced control upon the urban land-use development dynamic.

D. *Objectives and priorities for encouraging collaboration and participation in industrial cities*

-Local authorities should encourage local partnerships and mobilization of the cities' resources in the direction of economic regeneration, widening, therefore, the basis and extend of the decision-making mechanisms and promoting citizens' participation and democracy at the local level.

-It is very important for local authorities to encourage innovative investors not only in industrial development projects, but also in social, cultural or recreation activities, since such activities increase the cities' attractiveness.

-More tight partnership links between public and private agencies should be built, especially in creating new projects' financing and implementation mechanisms.

-In the process of urban-industrial regeneration the collaboration between industry and Universities should be given special attention.

-Wider educational and training programs increase the urban populations' environmental consciousness and affect positively the urban-economic regeneration efforts.

-Public funding is used more effectively when directed in specific regeneration projects than in general purpose grants and loans.

-Public funding should be more intensively directed at economic, social and ecological pilot-projects in the cities undertaking industrial regeneration attempts. The economic risks such pilot-projects entail, should be accepted by the financial agencies.

-In making crucial decisions that may affect the future of industrial cities, central governments and local authorities should build more tight collaborative links.

Most of the above objectives and directions for action, were implemented in several European cities which managed to respond successfully to the economic decline and deindustrialization of the 1970s-80s and to adapt effectively to the new challenges, by developing innovative institutional arrangements and economic strategies. As stated in a report prepared for the European Commission (European Institute of Urban Affairs 1992: chap. 5) new institutional frameworks and development programs varied according to the specific economic and social problems each city had to tackle with, but the underlying logic was common: The cities' public and private economic spheres were strengthened, public-private partnerships were encouraged, their human resources were improved, internal conflict was considerably relaxed, their environmental and locational advantages were enhanced, their cultural assets were improved and their leaders' ability to influence central policy makers was given special attention. The cases of Hamburg and Dortmund in Germany, and Rotterdam in Holland, as outlined in the aforementioned report, are characteristic examples of such successful strategic responses to economic crisis and deindustrialization.

(I). Hamburg, a major port, oil refining, and ship building urban centre of Northern Germany, experienced the impacts of deindustrialization and job loss during the post-1973 period of international recession. By 1985, the rate of unemployment had climbed to 13%. In order to tackle with the problem, the city Major persuaded various social groupings (businessmen, labour, governmental agencies, knowledge-based businesses, etc.) to collaborate in the formation of a new economic and industrial strategy giving priorities to the development of modern economic activities. Comprehensive physical urban renewal was undertaken to improve the city's cultural and tourist assets, housing stock, retail facilities, recreation amenities and so on. In 1985, the Hamburg Business Development Corporation (HWF) was established for the above purpose. The corporation was a public-private partnership scheme initiated

collaboratively by the city's authority, the Chamber of Commerce and ten largest banks, and its aims included the development of modern, high value-added industries in sectors like electronics/informatics, medical and environmental technologies, aviation, biotechnology, media, and port-services. The creation of a new Technical University in the area and of other technological research institutions, reinforced industrial modernization of the city's production base, attracted new investments (reaching a total of 3.7 billion DM) and initiated marked multiplier effects in the whole urban economy.

(II). Dortmund, a traditional urban-industrial centre of the Ruhr basin, whose economy was built upon coal, steel and brewing industries, experienced the effects of international economic recession and deindustrialization of the 1970s and 1980s that raised the rate of unemployment to 18% by 1988. Job loss in the traditional sectors was not compensated by new innovative initiatives which were directed to the rapidly developing southern German areas. The Dortmund local authority and the powerful labour unions were reluctant to accept new technology-based initiatives and they pressed government to keep on subsidizing the declining traditional sectors. However, these attitudes soon changed: Physical renewal projects altered the image of the city and a new service and high-tech economy replaced the old traditional one. The creation of a technology centre and a technology park, in collaboration with the local University, the Polytechnic School and the local Chamber of Commerce, attracted transport technology, automation and robotics activities in the area, whereas the local banks and the city's authorities advanced programs for attracting new investors. Job creation programs were also launched and the informal sector of the urban economy was given employment opportunities. EC funding was directed in providing free management consultancy services, financial support and accommodation to small businesses in renovated formerly derelict industrial buildings. The architectural, aesthetic, social, cultural and environmental image of the city was also immensely improved through the creation of pedestrian streets, urban boulevards and attractive public places, programs of social housing provision, etc.

(III). Rotterdam, the world's largest port, had based its economy upon port-related activities (ship-building and petro-chemical complexes). During the 1970s and 1980s, the decline of those activities rose urban unemployment to over 20%. However, by investing in port reorganization and development of new transport logistics, the municipal port authority managed to regenerate the city economy, whereas corporate investments in the petro-chemicals sector increased. Commercial investments, expansion of office spaces and new services (business services, hotels, catering services and entertainment ones) grew as side effects of the city's economic revival. The reasons for this success could be found in the improved relations established between local authorities and private investment agencies. The ROTOR -a public/private partnership development board initiated by the city's local authority and the Chamber of Commerce, acted as a "think tank" in the city's economic and industrial regeneration. Small businesses were supported to locate in renovated areas and private investments were directed in the port infrastructure. Real estate development programs -especially at the city centre- were undertaken by the local authority in collaboration with private development agencies, and the city's housing stock was broadened with private and high income property. Much of ROTOR's concern has been centred not only around economic and industrial growth objectives, but around social and welfare ones as well, like construction of family housing, improvement of health facilities, training of unemployed, improvement of public spaces, etc.

6.5. Conclusion

As we saw in the previous section, during the 1980s-early 1990s, in many European industrial cities and localities facing problems of deindustrialization and job loss, there were implemented integrated programs and policies which were aimed at making those areas more attractive to new investments, at stimulating job creation and at countering urban decay and environmental degradation. In the case of Athens, as we saw earlier, there were several important policy proposals and directions for action aiming at a more rational economic/spatial reorganization of manufacturing industry and at countering production decay, environmental degradation, spatial inequality in the location

of production, etc. The most important of those policy guidelines was the industrial and handicraft parks initiative in the context of the objectives posed by the "special study" of the Ministry of Environment and by the Structure Plan of Athens along the strategic directions of the 5-year Economic and Social Development Plan 1983-87. It is a common sense, however, that policy guidelines alone are not enough if they are not followed up by concrete practical means and actions for their implementation on the ground. In the areas defined and mapped by the SPA as industrial and handicraft parks, investments for the creation of the appropriate infrastructure networks did not take place. The official body which would supposedly undertake the task of organizing and managing those parks was not created. The Hellenic Bank of Industrial Development (ETVA) which -as we saw in a previous chapter- had a long experience in organizing and managing such planned industrial spaces in peripheral regions, was left outside -although the "special study" of the Ministry of Environment proposed the participation of ETVA in the industrial parks' administration scheme (Hadjisocratis 1983: 38). It is very likely that some high-ranked government officials regarded that the organization and management of planned industrial spaces within urban areas was outside ETVA's organizational capabilities or interests.[5] Thus, apart from the environmental measures and restrictions outlined previously, what remained as a "practical" policy tool for "guiding" industrial development and location in Greater Athens was PD 84/84. However, as the previous analysis revealed, its basic priorities were mostly of a "negative" orientation: They simply hindered the further expansion of Athenian industry without offering -on the same time- positive alternatives to its existing developmental and spatial problems. As we will see in the following chapter, this was one basic reason for the increasing socio-political reactions against PD 84/84 -reactions which widened the "polarity" between reality and proposals -or otherwise, between "what is" and "what ought to be" on the arena of industrial location in Athens. The simplistic negative orientation underlying PD 84/84, not only was proved inefficient in tackling with the accumulated problems of the Athenian industrial space, but, moreover, contributed to the creation of new ones, as for instance,

[5] There seems to exist a kind of "hidden" hostility and mistrust between Ministry of Environment officials and Ministry of Industry (in which ETVA belongs) ones. (Personal impressions from some joint meetings in the context of NTUA research projects -e.g. ERG 1992a and 1992b).

the posing of serious obstacles to dynamic industries and companies wishing to expand and develop their production capacity (and indirectly to add new manufacturing jobs in a stagnating Athenian labour market). Moreover, the PD's lack of planning concerns, maintained the existing problems associated with the unplanned location of industry; i.e. lack of appropriate infrastructure and supporting services in areas of existing industrial concentration or in areas having high potential for the development of new industries. The PD's encouragement of light industry consumer branches, left outside a considerable portion of the Athenian production system consisting of intermediate and capital ones (chap. 4), contributing therefore to the enhancement of the negative restructuring tendencies. The PD did not take into account that production technologies change over time, and that manufacturing activities which might have caused environmental pollution in the past, may remain in urban areas (offering jobs and local economic linkages) and still be environmentally friendly if they introduce new advanced technologies and production methods. Finally, and probably most importantly, the PD 84/84 contributed to the creation of a negative psychological climate to the potential investors.

Apart from the above inadequacies, the very "logic" of the PD 84/84 is characterized by internal contradictions and lack of coherence: Whereas the PD's declared objective was to stimulate modernization and rational industrial location/relocation initiatives, in practice, these attempts were strictly prohibited. Intermediate and capital branches having high potential for modernization and development, were not included in the PD's list of allowed production activities (with only a few exceptions). The branches and plants which are mostly responsible for the serious environmental degradation of inner city areas like Eleonas (chap. 8) and need urgent relocation into peripheral sites (e.g. metal melting and metallizing works, brick and tile making works, tanneries, etc.) were not included in the PD's scope, and hence they could neither modernize nor relocate, even if they wished to do so. In other words, these branches and plants were indirectly "forced" by the PD 84/84 to continue their operation amidst central-city residential areas, contributing, thus, to the maintenance of existing problems (environmental pollution, urban

degradation, land-use conflict, etc.). This is why the way the relocation problem was treated by PD 84/84, resulted in a failure to encourage relocations to any considerable extend, contributing, therefore, to the maintenance of the scattered intra-urban pattern of those polluting industries.

What is most important, is that the PD's provisions were of a piecemeal character: There was not even the slightest connection of them with other urban policies and programs in an integrated manner (e.g. programs and policies for the renovation of degraded inner-city industrial zones, environmental and urban landscape improvement, infrastructure re-organization and improvement, transport and energy saving planning, social housing provision, programs for workforce skills improvement, and other social infrastructure programs) as in the case of the European cities experiencing similar problems. That is, with integrated programs and policies which improve the whole functioning and efficiency of the city and increase its attractiveness to potential investors in an era of high areal competition for the attraction of economic activity. In the case of Athens, however, such integrated policy actions were ultimately absent. Thus, in spite of the official expectations, the PD 84/84 not only failed in solving the accumulated developmental and locational problems of manufacturing industry in Athens, but it also contributed to their further worsening.

CHAPTER 7

THE FORMATION OF AN ANTI-INDUSTRIAL CULTURE IN MODERN ATHENS

7.1. Anti-Industrialism in Context

As we saw in the previous chapter, what was left from a whole decade of Socialist rhetoric on the issues of democratic planning and rational development and location of Athenian manufacturing industry, was the PD 84/84, which hindered the development of new industries and/or the expansion of existing ones in Greater Athens -with the exception of a very "thin" layer of manufacturing branches. On the same time -as we will see in this chapter- an associated anti-industrial culture within the political parties, the social organizations and the public opinion was gradually formulated. The contributing factors have been related with real events of serious industrial pollution of Athens on the one hand, and ideological biases against Athenian industry on the other. These biases were based on the widespread belief that for all the serious environmental problems of Athens (and especially the everyday presence of smog) it is industry, alone, that should be blamed (*Express*, 22 February 1989) -something which is not absolutely true as special environmental studies have revealed.[1] It is not therefore accidental that in an era of deindustrialization and negative restructuring, the Athenian manufacturing industry is forced to operate in the midst of a hostile legislative and social surrounding, which, in the name of environmental protection restricts industrial modernization and development initiatives.

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[1] According to a 1989 study carried out by a group of 23 environmental engineers of PERPA (an environment research organization of the Ministry of Environment), the participation of cars in the formation of four out of six major air polutants of the Athenian environment was found to be much more greater than the participation of industry (see *Kyriakatikos Rizospastis*, 24 September 1989).

It should be stressed out from the outset that such a hostility is not a unique Athenian phenomenon, but it is increasingly expanding in many other areas of the country. Its causes are much deeper and have to do with the weak position of industrial capital in the structure of socio-economic interests across geographical space and with the social attitudes, political behaviours and cultural values this structure generates and reproduces. As we will see later on, political and ideological reasons have also played a decisive role in the formation and maintenance of anti-industrial mentalities and attitudes. Wassenhoven *et al.* (1991: 37-8) provide some examples of such attitudes:

- The project for the establishment of a non-polluting gold producing manufacturing plant in a tourist area of Halkidiki was cancelled because of local reactions.

- The project for the establishment of a "petro-chemical complex" in Galatas -Etoloakarnania prefecture- was also cancelled because of various local politics, party antagonisms and wider political calculations. According to specialists' views, this project was economically feasible, friendly to the environment, import-substituting, attracted the interest of private investors to finance it, and had the support of all scientific organizations.

- A leather production plant was established in Konitsa (reaching a total investment of 1 billion Drs). According to the investment project, this plant would utilize local raw materials, would create high percentage of value-added and would generate new jobs in an area suffering high unemployment rates. The plant's site had been indicated by the area's local authorities and all necessary building permissions had been provided. However, when the plant's construction was completed, the prefectural authority denied to provide operation permit because, in its opinion, the local population was against the plant's operation. The "explanation" which was given, was that in spite of the plant's high-tech sewage installations, the cost of their operation "would be" so high that the plant's owners "would" find ways to get around the controls and

canalize the plant's liquid waste out without any prior treatment. Thus, a hypothetical scenario formed arbitrarily in the local collective imagination, aquired a quite real political backing which, finally, cancelled the implementation of a very important local economic development initiative.

- A modern plant intending to produce keys and locks was about to be erected in an industrial zone of north-western Attica. All official permissions had been provided and the firm was about to relocate from a congested central area of Athens into the new decentralized location. Due to local reactions, the new plant was not finally built and the firm was forced to expand its old installations in the congested inner-city area.

All above cases converge to the same point as it is stressed out by Valtis-Spanopoulos:

> The political and social treatment of industry is a fundamental factor determining its role and the protection of environment. It can be remarked that during the last 10-15 years the way industry is socially and politically treated has been particularly negative. There has been a strong tendency of political speculation on this issue and of misleading public opinion from the real dimensions of the problem (Valtis- Spanopoulos, quoted in Wassenhoven *et al.* 1991: 38).

Such anti-industrial attitudes are magnified if we shift analysis to the geographical scale of Greater Athens. As it will be shown, during the 1980s-early 1990s, the major Greek political parties, powerfull social and professional organizations and a major part of the press, were holding either a clearly hostile stance against Athenian industry, or, at the best, an ambiguous one. Both stances were having negative impacts upon the capital's productive base, either because they discouraged potential investors, or because they tended to confuse them as to the real intentions of the governmental bodies and of the other collective organizations affecting the socio-political climate in the Greek capital. And all of this was taking place in a period during which

the process of deindustrialization in Athens had already started to manifest itself in plain statistical numbers as we saw in previous chapters.

7.2. The "Inertia" of the Decentralization Policy Tradition

The choices of the two major political parties (Conservatives and Socialists), were in accord with an already existing policy tradition which -since the early 1970s- favoured the decentralization of Athenian manufacturing and the development of regional industrial spaces (chap. 3, sect. 3.2.3). This policy tradition, was followed by both parties during their post 1974 successive services to office. However, such a policy orientation in the 1970s could be justified to some extend, since Greater Athens was yet operating as a major pole of industrial concentration, which, in the process of unequal development, was leading most of the country's peripheral regions to economic backwardness and depopulation. But during the 1980s the previous spatial inequalities started to get transformed into new ones: Not only a moderate -but still noticeable- decentralization of manufacturing took place, but, also, Athenian industry entered a long lasting declining process. One should expect, therefore, that industrial policy of the 1980s would express some special concerns about the future of Athenian manufacturing, especially in front of the new economic challenges after Greece's accession to EC on 1981. Such concerns, however, were utterly absent: The urban-industrial policy of the 1980s continued to pursue the strategic objective of productive decentralization and to discourage new manufacturing investments in Athens with the exception of a very thin layer of branches regarded as quite necessary for the city's population needs (chap. 6).

The lack of real political sensitivity for the problems of the Athenian industrial space becomes evident even by a simple reading of the parliamentary discussions in the context of the Structure Plan of Athens legislation (see Parliament Proceedings 1985). As we saw in the previous chapter, the SPA introduced for first time the concept of "industrial park" in urban-industrial policy. It was therefore the first time the major parties were given the opportunity to discuss in a substantial and detailed way this new policy tool which

supposedly would affect the developmental and locational prospects of the Athenian industrial base. However, as we can see in the Parliament Proceedings, all discussions (with the exception of the criticisms of a Communist MP) revolved around the SPA's more general objectives, with only some sporadic references to the problems of the Athenian industrial space lacking specificity, comprehensiveness and strategic vision. It was as if all discussions avoided carefully to touch this "hot" issue. Thus, in the presentation of the SPA's strategic directions by the governmental proposer (Parliament Proceedings 1985: 3469-71) not even a reference was made about Athenian industry, while the criticisms of the opposition conservative party (ND) were confined to the point that the Socialists identified the existing industrial clusters of Athens as "industrial parks" without having prepared on the same time an appropriate legislative framework for that purpose (ibid.: 3473). The Communist (KKE) proposer, blamed government that the Structure Plan allowed for more industries to be located in Athens under the mask of "modernization" (ibid.: 3477). According to her opinion, the goal of establishing industrial parks as a means to "gather together" the existing scattered manufacturing units was not going to be attained, because those units (mostly SMEs) could not afford the relocation costs. Therefore, only big companies would be able to establish new plants or relocate existing ones in industrial parks, and this would inevitably entail additional environmental pollution and urban degradation problems. The Minister of Environment, by contrast, stated that industrial parks would set on the ground the "rules of the game" for the location of Athenian industry (ibid.: 3481), but the long-term strategic goal still remained to be the decentralization of production (ibid.: 3479). However, it was never explicitly explained which "the rules of the game" were, or by what means they would be attained. Finally, both the governmental majority (Socialists) and the opposition (Conservatives) voted in favour of the SPA which was ratified by Law (L.1515/1985) and published in the Official Gazette on 18th of February 1985.

7.3. Socio-Political Attitudes and Reactions

With the exception of industrialists, various social and professional organizations, as well as some big press companies, contributed to the formation of the anti-industrial milieu, which naturally was posing severe obstacles to any serious manufacturer from investing in Athens, even though economic rationality criteria (favourable external economies of agglomeration) were encouraging such prospects.

Already in the mid 1980's part of the Athenian newspapers was holding an ambiguous -if not directly hostile- stance against initiatives aimed at the rational organization and planning of manufacturing activity in Athens. When, for instance, the Ministry of Environment in the mid 1980s charged the National Technical University of Athens with the task to carry out a pilot-project on planning two major industrial parks in Attica (RG 1988), *Eleutheros Typos* -a mass circulation daily opposing the then Socialists' government- published an aggressive article which blamed government (and especially the then Minister of industry Mrs. Vaso Papandreou), for deciding to "industrialize" some areas of Attica (by "baptizing" them as industrial parks) without asking anyone (Kollias 1986). The article referred in particular to the areas of Metamorphosis, Koropi and Eleonas and stated that this "arbitrary" governmental action brought about confusion to the inhabitants of the neighbouring municipalities which were anxiously trying to get informed about the future of their areas. The article's effort to foster a local negative climate against the establishment of industrial parks in Attica was evident. The article "forgot" to mention that the defined areas were already burdened with manufacturing activities which were located there spontaneously without the necessary infrastructure networks or support services (for both the cases of Metamorphosis and Eleonas industrial localities see chapters 5 and 8 respectively). The article also concealed that it was exactly the lack of organization and planning which was causing major environmental and urban degradation problems to the localities at issue, and tried contrarily to present the planning endeavour as a potential source of future problems. An earlier article (*Ta Nea*, 10 November 1984) presented the identification of the

Metamorphosis industrial locality as an industrial park, as a governmental effort to establish a "park of pollution" to the area.

The industrial parks policy was also met with lot of scepticism by left-wing writings. Spatial policies in general, were preceived by such writings as

> measures aiming at capitalist deconcentration and modernization, in order to facilitate the overcoming of crisis and the country's adaptation to the new divisions of capitalist integration. They are drastically expressed at the level of a new organization of space in favour of capital (KOA 1990: 10).

The industrial parks policy, in particular, was perceived as a means helping Athenian industries to get around the legislative restrictions imposed by PD 84/84, and therefore, to legitimize "on the ground" the already existing areas of heavy industrial concentration, urban degradation and pollution, by "presenting" them under the covering of a modern industrial location planning tool (KOA 1990: 24).

Other left writings (see e.g. *Provlimata Topikis Autodioikisis*, No 17/18 1987: 39-43) were less rigidly oriented towards the industrial parks policy and considered it as a means potentially able to bring about positive solutions to the problems of industrial development and location in Athens, across the following directions:

- The avoidance of uncontrolled dispersal of manufacturing into the urban and suburban space,
- the protection of environment and other urban uses from industrial activity,
- the production improvement of the already located firms in the areas defined and mapped as industrial parks,
- the increase of labour's productivity by means of providing better environmental and working conditions in those areas,
- the activation of local authorities in tackling with the complex issues of production in their sphere of responsibility, and

- the reorientation of industrial policy to encompass criteria of production modernization.

The crucial question, however, referred to the extend to which the Socialist's administration was actually looking forward to implement the industrial parks project. As the article stated,

> The fact that three whole years after the official announcement of the industrial parks creation in Attica the government has not yet proceeded to the elaboration of a corresponding legislative framework, is disappointing. Moreover, one cannot neglect the fact that the industrial parks initiative was not included either to the 5 year plan of economic and social development (1983-87) or to other governmental declarations on industrial policy issues ... Also, one cannot forget that a crucial factor for any urban land use policy -i.e. the arrangement of land ownership problems through the drawing up of the national real estate registry- is still in pendency (ibid.: 42).

Another article (Antahopoulos 1988), asserted that industrial parks should be used for combined relocation-modernization of existing Athenian industries or even for establishment of new ones only after the approval of a special committee which would be given powers to decide whether or not these industries were quite necessary for the wider Athens area. However, the article expressed reservations as to the practical prospects of the industrial parks instrument, due, mainly to the piecemeal nature of the governmental spatial policies and to its close relationships with the organized interests of industrial capital. For other writers (Meladinis and Diamantopoulos 1990: 47-56) the lack of clearly defined objectives and priorities for the development of industrial parks, could easily turn this policy into a tool in the hands of industrialists helping them to get around the legislative restrictions imposed by PD 84/84.

The prospect of central plants' relocation into remote industrial parks for environmental protection reasons, was met with lot of scepticism as a likely means of weakening the industrial base of Athens and feeding tertiarization trends. As the president of the Technical Chamber of Greece has pointed out in a scientific meeting (6-7-1988)

> We meet with lot of scepticism proposals for an undifferentiated relocation of manufacturing away from Athens. Such a prospect engenders dangers for the balanced productive development of Athens and of the whole country. It objectively facilitates the prospect of an Athens -centre of services and commerce- in a Greece of waiters and tourists. TEE proposes the formation of (special scientific) committees which will study the structure and function of each of the polluting manufacturing plants and will propose ... the appropriate environmental protection measures which should be undertaken; they will also supervise the implementation of those measures in case that the relocation of those plants will not be decided. In these committees should participate -apart from TEE- representatives of the workers, of the Ministries of Environment and Industry, of the Association of Greek Industries, and of the local authorities (*Enimerotiko Deltio TEE*, No 1/90: 9).

Such scepticisms and reservations about the real intensions of the Socialist's industrial parks policy were to a great extend justified since they were based on real political evidence. For instance, the government's unwillingness to set forth a concrete legislative framework for the development and operation of Attica's industrial parks, apart from creating dilemmas as to the real official intentions, left a number of unclarified questions such as:

- Which industries would be included in the industrial parks?
- Which branches would be given priority for locating or relocating into them and why?
- By what means the unproblematical coexistence of industrial parks and other neighbouring urban land uses would be secured?
- How the parks' administration would be conducted and which organizations would be called to participate in the administrative bodies?
- Which would be the "links" between parks' administration and other public and private organizations or local authorities?
- By what means the environmental quality of park areas would be secured and how environmental polluting activities would be prevented from developing into them?
- Which strategy would be adopted in order the government to convince working people that the relocation of centrally located plants into industrial parks in the metropolitan periphery would not entail the loss

of their jobs? As the president of the Technical Chamber of Greece has asserted in a scientific meeting (3-12-1990),

> we all know that the relocation of industries which are technically unable to adopt environmetally friendly technologies or to reduce the pollution they cause by any means, is a much difficult issue. Another factor which has emerged in the last years -and we have to talk about it- is the attitude of industrial workers. These workers, under the threat of becoming redundant, are not willing to accept a concrete timetable for the relocation of their plants away from Athens. Many times, moreover, this reasonable fear, this logical uneasiness of the workers, is used as a lever of pressure by all those having reasons to hamper relocations (*Enimerotiko Deltio TEE*, No 1647: 9).

Apart from the industrial parks issue, it was also the need for legislative reforms in the direction of allowing industrial modernization and development in Athens that drew numerous attacks by various newpaper articles and other political writings and public speeches. Common point of all those views was that it is mainly industry which is responsible for all the acute environmental problems of the Greek capital. In that context, the dilemma: "industrial development- vs- environmental protection" gained in importance within the Athenian public opinion and formed a rigid ideological platform used against industrial modernization and rational location attempts. Any official prospect to reform PD 84/84, has been characterized as either indicating a governmental affiliation with organized industrialists' interests, or/and as indicating a governmental lack of environmental sensitivity.

In April 24, 1987, the then Under-secretary of the Ministry of Industry Mr. Petsos, signed a draft PD which replaced some articles of the existing PD 84/84 and allowed for the establishment of new industries in Attica. This decision was based on the need to attract new investments for the purposes of countering unemployment and deindustrialization. However, the initiative was presented as "a governmental retreat in front of the industrialists' pressures" (Papastefanatou and Diamantopoulos 1987: 11-13). The need for environmental protection was treated as a barrier to new manufacturing investments in Athens. Similar views were held by another article (Antahopoulos 1988: 40-2)

which stated that the reform initiative was actually aiming at allowing Athenian industries to get around the legislation and expand their plants under the covering of production modernization.

With regard to the previous views, it should be pointed out that, indeed, the process of technological modernization of a manufacturing plant -e.g. installation of new technology machinery, reorganization of management schemes, introduction of computing (CAD/CAM/CAE) technologies, etc.- may take place without any expansion of the existing industrial building or of the plant's horsepower. However, this type of technological modernization is not generalizable but depending on the technical characteristics of the new machinery and equipment including the auxiliary installations. Some types of machinery may require larger floorspace to be installed, may have more horsepower than the old machinery and -what is more important- may be much more friendly to the environment than the old fashioned machinery; computing equipment and relating activities may need more office space, etc.

In another endeavour to reform the PD 84/84 undertaken by the Conservatives on 1991, the environment was again used as a "fortress" against this reform: As it was written in a mass circulation daily,

> in spite of the acute environmental problems and the danger of smog, the government does not seem to reject the possibility of allowing the establishment of new industries in Attica, even in the form of plants' expansion (increase of their horsepower, etc.) (*Ta Nea*, 13 September 1991).

However, the decline of the Athenian manufacturing industry and the loss of thousands of jobs in just a few years (chap. 4), does not seem to have touched the newspapers' sensitivities. Characteristic of such an attitude, is a couple of articles published by the same newspaper (*Ta Nea*, 3 and 4 January 1992) when the Ministry of Environment started to prepare a draft PD which allowed for the expansion of existing industries and the establishment of new ones in Athens. In the issue of January 3rd 1992, the daily took advantage of the existence of some antitheses between governmental bodies in order to dispute the need for the PD's 84/84 revision. More particularly, the article

asserted that while the Ministry of Environment regarded the draft PD as "a significantly positive initiative for the Athenian environment", the Ministry of Industry announced that it was not informed about the existence of such a draft, and that any likely reform of the existing legislation should take place in collaboration with the local authorities of Greater Athens. It is worth noting that the newspaper's negative attitude against the draft PD took place without an even elementary presentation of, and comment on, its articles as to let the public opinion form its own independent understanding of the draft's proposals.

The Socialists' Prefectural Organization of Western Attica reacted by announcing that

> the New Democracy government seems to be continuously trying to reaffirm that "the murderer always returns to the murder place". Thus, those whose concrete politico-economic choices in the past have generated the contemporary tragic situation of Attica, are coming back to deliver the final shot by allowing the establishment of new industries and the expansion of existing ones (*Ta Nea*, 3 January 1992).

Apart from the above rather harsh and opposition-led reactions, there is a fact which has generated reasonable questions as to the true governmental objectives; namely that a crucial for the future of Athenian industry initiative was drafted by one Ministry, in absolute secrecy and by ignoring not only the citizens of Athens and their collective organizations, but other interested bodies of the state apparatus like the Ministry of Industry. When the Under-secretary of that Ministry was asked by journalists on the above issue, he frankly answered that this initiative was undertaken by the Ministry of Environment, alone, and therefore his Ministry knew nothing about that (*Ta Nea*, 4 January 1992). The same reasonable questions were expressed by the President of the Technical Chamber of Greece (TEE):

> I have to admitt that the aim of this decision is not yet clear to me. I've read the articles of this decision and my uneasiness has been increased. We, as Technical Chamber of Greece, are not going to blame (the government) for not asking us. We have been bored of that story.

> I cannot accept the fact that regulations concerned with the establishment of industrial and handicraft firms in Attica take place, sites for the location of those industries are defined, and no connection of these issues with the environmental problem was made...
>
> Perhaps the intensification of unemployment and deindustrialization has created conditions which some people regard as favourable for setting forward a "decisive move" of release of industry from environmental protection concerns. The secrecy under which the draft PD was prepared allows us to make such an estimation (*Ta Nea*, 3 January 1992).

According to the newspaper, many mayors of the Athenian agglomeration expressed their antithesis to the draft PD by declaring that the expansion of existing industries and/or the establishment of new ones could by no way be accepted by them, and that they would react dynamically to any official attempts of implementing the proposed PD. It was also revealed that the then mayor of Athens Anthony Tritsis sent an official letter to the Minister of Environment asking him to withdraw the draft PD and accusing government for showing an "unacceptable negligence in front of the organized interests" (connoting probably the industrialists of Athens). Hard were also the reactions of the Greek Chamber of Handicraft Industry (VEE) and of the Union of Greek Technological Engineers (EETM). The president of VEE stated that the draft PD did not propose land use - by manufacturing branch - zoning regulations to the areas proposed for industrial location/relocation, did not propose environmental protection measures, and has created confusion with regard to the necessary infrastructure of those areas as well as with regard to the authority which should be charged with the implementation of the new PD's proposals. Consequently, the draft PD -according to his view- should not be regarded as an initiative aiming at the modernization and development of Athenian industry, but rather, as a reminiscent "of the mode of industrial location prevailing during the 1950s"(*Ta Nea*, 4 January 1992). In a similar tone, the Union of the Greek Technological Engineers (EETM) blamed government for lack of co-operation with the involved collective organizations (e.g. local authorities, professional and scientific chambers, etc.), and for setting forth regulations which might have hazardous effects upon the environmental balances and the public health in Athens.

After all these reactions, the Ministry of Environment was forced to withdraw the draft PD.

It seems, nevertheless, that the Conservative government had already committed itself to the industrialists' claim to reform the existing PD 84/84 -as representatives of the Technical Chamber of Greece had revealed (*Ta Nea*, 4 January 1992). Thus, one year later (early 1993), the Ministry of Environment came back with another draft PD (*Ta Nea*, 3 January 1993; *Kathimerini*, 24 January 1993). The same "story" was repeated once more. The only difference the "new" draft had from the 1992 one was that the areas proposed for location of new industries and/or expansions of existing ones were named "Zones of Controlled Development" (ZEA) which "replaced" the older zones of industrial parks proposed by the Structure Plan of Athens. Just like the previous case, the Ministry of Industry was not called to participate in the preparation of the draft PD (*Ta Nea*, 2 January 1993) -something that raised a number of questions as to the seriousness with which Presidential Decrees were officially prepared and crucial decisions for the future of the Athenian production space were made.

As it was pointed out in an article (Tsagaratos 1993), the new draft PD included some provisions which were considered as turning on the "green light" for the establishment of new industries or the expansion of existing ones in Athens. Some of those provisions, were the following:

- Vertical expansion of existing industrial buildings would be allowed only when it would be necessary for the purposes of installing high machinery items, or for the purpose of building vertical type warehouses (silos).

- On the same time horizontal expansions would be allowed for the purpose of accommodating environmental protection installations. The expansions could take place by deviation from the building regulations as to the maximum height of building, the ratio of the covered by the

whole plot area, the total floorspace, the distances of the building from the boundaries of the plot, etc.

- Within the "Zones of Controlled Development" vertical expansion of existing industrial buildings would be allowed by deviation from the building regulations as to the maximum building height, for the purpose of modernization of industrial plants, and under the condition that the newly erected constructions would abide by the other building regulations. The modernization-led deviations from the building regulations should be approved by the Ministry of Environment, after the agreement of the Ministry of Industry and of the "Athens Organization" (responsible for implementing the SPA).

In concluding, the paper's article asserted that Athens could not stand more industrial growth, more pollution, even if this growth were taking place in such organized zones, no matter whether they were baptized "industrial parks", "zones of controlled development", or whatever. In other words, in the newspaper's view, new industry is by definition identical to additional environmental pollution. To put it in another way, the article followed the traditional anti-industrialism by ignoring (or concealing) that new technology-led industrial modernization could reduce additional environmental pollution caused, as a matter of fact, by old-fashioned industrial plants. Thus, apart from avoiding to stimulate sensitivities about deindustrialization and job loss in Athens, the article defended the maintenance of the existing situation in the name of environmental protection.

According to another relevant article (Galati 1993) published in *Kathimerini* (24 January 1993), this new draft PD was aiming at:

- The removal of restrictions imposed by the existing legislation.
- The transfer of industrial plants' operation controls from state's responsibility to private organizations
- The change of criteria in such a way as to allow Athenian industries to expand under the mask of modernization.

- The deprivation of local authorities from the possibilities to exert some controls to the conditions of location and operation of the manufacturing plants within the radius of their administrative responsibility.

The article tried to defend the restrictions of the PD 84/84 using -as usually- the environmental pollution problem. However, (a) it concealed the fact that according to special environmental studies (see *Kyriakatikos Rizospastis*, 24 September 1989 for a brief presentation) the contribution of industry to the formation of smog in Greater Athens, in most of the pollutants constituting it, is much lower than the contribution of other pollution sources (e.g. cars and traffic congestion, central heat, dust from open air waste disposal areas, etc.); (b) it mistakenly identified the urgent need of implementing environmental controls in Athens as a need to "exile" industry from Athens; and (c) it did not show any kind of sensitivity and concern about the growing problem of deindustrialization and job loss in the Greek capital.

Some scepticisms on the new draft PD, were also expressed by the Technical Chamber of Greece (TEE) in a letter sent to the Ministries of Environment and Industry (*Enimerotiko Deltio TEE*, No 1753: 29). In this letter the Chamber's president requested that the draft should be re-examined by the government in collaboration with Chamber's expert engineers. The central point of disagreement was that it aimed at removing the existing restrictions for the opening of new industries and/or the expansion of existing ones in Athens without securing either the modernization of production, or the effective protection of environment from manufacturing activity. More specifically, the central points of TEE's objections were the following:

- In the Chamber's view the Athenian environment is already polluted by existing industrial activities and that any possible addition of new ones would engender serious danger for the public health. However, the possibility of new industries' opening within the "Zones of Controlled Development" (as the draft PD proposed) should not be excluded under certain criteria associated not only with the volume of investment or with the estimated number of new jobs, but, mainly,

with the degree of environmental pollution these new activities would be expected to cause.

- With regard to the expansion of existing industrial plants for modernization purposes, the Technical Chamber of Greece has the opinion that the provisions of the proposed PD are ambiguous and contradictory. For example, it allows for any type of industrial building construction "by deviation" from the building regulations, and on the same time it asks the firms to abide by them during the expansion of their installations. In TEE's opinion only vertical expansions should be allowed for the purpose of installing new mechanical equipment, and only when supported by special studies which:

(a) should justify the necessity of such modernization-led expansions in each particular case,
(b) should estimate the implementation possibilities of the expansion projects and the expected returns on the expansion investments,
(c) should assess the environmental impacts of the proposed expansion projects.

- The Technical Chamber requests the provisions related with the expansions for environmental protection purposes to be expressed with special clarity. More particularly it requests:

(a) The Ministry of Industry should issue a set of detailed standards and criteria by which each expansion project would have to abide, and only when it is thoroughly justified that the buildings and equipment needed for environmental protection cannot be accommodated in the existing spaces of the applying firm.
(b) The Ministry of Industry should undertake concrete engagements for the implementation of the expansion projects according to the submitted expansion plans.

As it was expected, the above reasonable propositions of TEE were not accepted by the Conservative administration. However, it seems that these objections along with the existing negative climate within the public opinion and the other collective organizations, averted the government from proceeding to the final approval of the draft PD, probably because this would entail a serious political cost for the governing party.

Apart, however, from the substantial dimensions of the whole issue -that is, the question of whether or not the industrial space of Athens should develop and expand- the way this issue was dealt by the governmental bodies (and especially by the Ministry of Environment), revealed a serious lack of internal cohesion and collaboration between the initiators of the proposed PDs and other involved decision bodies (like the Ministry of Industry), as well as incredibility -if not direct hostility- against scientific organizations like the Technical Chamber of Greece, the various professional organizations or the local authorities. Moreover, the proposed legislative reform was of a piecemeal character lacking explicit or implicit correlations with a broader urban-industrial strategy. Such a reform could only be realised in the context of wider policies for the rational development and modernization of industry, the re-organization of urban space and the protection of environment (*Enimerotiko Deltio TEE*, No 1651: 11), which, simply, did not exist. As a result, these spasmodic official attempts strengthened the already existing anti-industrial mentality of the Athenian public opinion, and, as a matter of fact, made any possibilities of finding a consensual solution to fade away.

However, there were possibilities of establishing some degrees of consent between the government policy-makers and the social organizations in order to sketch out alternative paths for the development, modernization and spatial organization of industry in Athens. In an interview given by the president of the Technical Chamber of Greece to the Athenian radio station "Sky" on 9th of January 1992, he admitted that the existing PD 84/84 needed reform:

> What I want to say, is that the notorious PD 84/84 which defines the preconditions for the establishment, expansion, location, relocation and modernization of manufacturing in Attica, should be reformed. This is

> so because science and technology develop, hence an activity, a productive process which was causing pollution in 1984, by introducing new anti-pollution technologies may well be quite acceptable today. This is also why social responsibility and dialogue (between the government and the scientific world) has to be established. This is why Presidential Decrees should not be drafted out in Ministry offices, alone, but to be also discussed with organizations having opinion on these issues, and -why not- to be subject to public check and balance controls... Therefore, there do exist possibilities for the establishment of new manufacturing activities in Attica. We do not wish the weakening of Attica's production base. On the contrary. But there is also the development of technology that provides all those possibilities, if we take into account that the adoption of new technologies in production is a promising investment and not a concession to the need of environmental protection (*Enimerotiko Deltio TEE*, No 1697: 19).

Faced with an increasingly hostile economic and social surrounding, the Athenian industrialists reacted by exercising pressures and by handing in successive reports to the Ministries of Environment and Industry requesting persistently an overall reform of the existing legislation (*Ta Nea*, 13 September 1991). In their view, the most crucial problem fostering anti-industrial attitudes and blocking necessary legislative reforms, is the "political speculation" of the environmental issue. This speculation has been based upon an effort to magnify artificially the participation of industry in the formation of the environmental problem, in order to conceal the state's inability or unwillingness to tackle with it effectively (*Express*, 22 February 1989). The industrialists asserted that they have to face numerous day-to-day problems with ministry officials threatening to withdraw their plants operation permits, or problems with local authorities declaring publicly that they would motivate local people to invade and take over the plants in order to prevent them from polluting the environment (ibid.).

Such problems, were met with a lot of scepticism by the president of SVAP, Mr. Fyrogenis, in an interview (*Kyriakatikos Rizospastis*, 19 January 1992). He stated that the problem of environmental degradation in Athens is not caused by the big organized manufacturing companies, but rather by the numerous small units in branches such as metal smelting, dye-works, tinsmith-works and tanneries.[2] He further asserted that Athenian industries are

[2] As it will be shown in the analysis of the Eleonas central city industrial space (chap. 8, sect. 8.2), such units are dispersed in the urban tissue, are sheltered in miserable improvised

currently "trapped" in a legislative framework which by preventing modernization and expansion tends to generate successive waves of labour redundancies threatening to transform Greater Athens into a huge Lavrion.[3]

The official prohibition of plants' expansions in Athens was met with the classical practical manner by those companies whose dynamism led them to increase their scale of operations: Closing down of the Athens plants, firing the workers and building-up new ones in peripheral areas, contributing, therefore, to the deindustrialization of Athens and to growing unemployment rates. It seems, however, that the political world and the public opinion, for reasons that will be addressed in the last section of this chapter, have been trapped in the false dilemma: "industry -vs- environment", without being able to propose a comprehensive alternative for industrial development, productive modernization and environmental protection of Athens.

7.4. Towards an Explanation of Anti-Industrialism

The origins of the practice and culture of anti-industrialism in Athens, can be found in the combined and interacting effects of economic and political-ideological reasons:

First and foremost, there is a set of economic causes which maintain and reproduce anti-industrial attitudes: As it was shown in a previous chapter, the post-war model of Greek industrialization was mostly based on the "comparative advantage" of cheap labour and state's protectionism, without striving to establish a strong technological background, a well grounded nexus of modernization mechanisms and institutions and associated productive working attitudes and cultures. Thus, as soon as this industrialization model passed in crisis during the 1970s without exhibiting convincing abilities to restructure and follow the high-tech developments of the more advanced economies, its

buildings and operate illegally without any official control.

[3] Lavrion is a traditional industrial town (textiles and mining) situated 50 km south-east of Athens, near Sounio, which was recently struck by deindustrialization and mass unemployment (see Kourliouros and Laskaris 1992).

internal weaknesses were immensely magnified and its past "prestige" was widely disputed. The weak position of industrial capital in the Greek economic system and its inability to modernize and initiate a new developmental dynamism, as well as the multiplicity of other (non-industrial) economic interests and their increased ability to influence the state machinery (chap. 2), the lack of a homogenous industrial bourgeoisie, etc., are some basic factors that have questioned the past "profile" of manufacturing industry as a leading power in modern Greek economy and society. Environmental concerns, combined with the "post-industrial" prospects of a fast growing service economy in Athens, seem to have gained in importance at the expense of production concerns. At the geographical scale, the way the post-war Greek industrialization model "treated" the Athenian space, was, as a matter of fact, catastrophic. The case of Eleonas, which will be examined in the next chapter, provides a characteristic example of how industrial capital "treated" urban space and quality of life in the Greek capital during many years of "a wild and primitive urbanization" (ERG 1992b: 1). The unplanned growth of industry, the lack of elementary hierarchies in the internal organization of the Athenian agglomeration and the associated land-use conflicts and negative externalities, are the major factors feeding antitheses between the various (non-industrial) service-oriented urban interests on the one hand, and industrial capital on the other.

Second, the sources of anti-industrialism are associated with an ideological current which expanded rapidly during the 1970s within wider masses in the Greek society and which became the mainstream ideology as soon as the Socialists came to office in 1981 (for an overall critique of PASOK's ideological foundations see Elefantis 1991). The key-points of that ideological current rested in the "dependency school" theorems which were "transplanted" from Latin American countries to the case of Greece by the Socialists' leader Professor Andreas Papandreou (see Papandreou 1975; 1981) as well as by other advocates of the "dependency school" (see e.g. Vergopoulos 1975; Fotopoulos 1985; Lambos 1988). Within the broader context of that current, the structure of the post-war Greek economy and society was conceived as being determined by the dependent position of the country in the "periphery" of world

capitalist system -a system whose conditions of operation in terms of production, distribution and exchange were set and manipulated by the capitalist "metropolises" and especially by the USA. Within this system of dependent relationships, any industrial accumulation process taking place in a "peripheral" country like Greece, did not necessarily trigger off economic development, but, instead, it tended to maintain underdevelopment since the created material wealth did not get reinvested in the national economy as to sustain an endogenous developmental dynamism, but was exported to the "metropolis" (geographical transfer of value) or consumed by the domestic bourgeoisie in luxury goods and in a provocatively wealthy way of life. This fundamental economic relation was conceived as determining, in its own terms, the role and the attitudes of social classes and strata of the Greek social formation. Industrial bourgeoisie was conceived as tightly affiliated with that dependency nexus, hence unable by nature to initiate an independent national strategy of economic and social development. By contrast to the Marxian approach that viewed industrial bourgeoisie as a historically progressive class destined to contribute to the development of capitalism's productive forces and thus to the setting of the material base of socialism, the dependency approaches viewed "peripheral" industrial bourgeoisie as the basic barrier to economic development, modernization and social progress. Hence, the state apparatus was perceived as the only organized mechanism which -if controlled by a progressive government- would be capable of undertaking such economic development initiatives and social transformations from dependency to national emancipation and further to socialism.

* * *

A whole decade of strict statist restrictions imposed upon the Athenian manufacturing within a widespread anti-industrial social, ideological and cultural surrounding, contributed to the further degradation and decline of the Greek capital's production base. On the other hand, however, it created reverse political trends as soon as the Concervatives of ND came back to office in 1990. Trends based on the belief that Socialists' statism of the 1980s was unable to offer viable solutions to the developmental and locational problems of the

Athenian industrial space, and that what was needed was a decisive shift towards an unfreeze of the market forces. In that context, one of the first spatial regulations of the ND government was ratified by Presidential Decree 74D/1991 for the regeneration and development of Eleonas -a huge inner city declining industrial area. The basic production characteristics of this area, the details and the underlying logic of that governmental large-scale initiative, as well as the socio-political controversies it brought about in the Athenian society, will be critically examined in the next chapter.

CHAPTER 8

SOCIO-POLITICAL DEBATES AND PRACTICES OVER INDUSTRIAL SPACE IN CONTEMPORARY ATHENS: THE CASE OF ELEONAS

8.1. The General Framework of Economic Policy In the Early 1990s

A basic programmatic commitment of ND Conservatives when they came to office in 1990, was the abolition of the public sector and the unfreeze of market forces as the only viable policy alternative for the regeneration and development of the decaying Greek economy and industry. The theoretical foundations of such policy priorities were posed in a couple of articles written by A. Andrianopoulos (1987; 1992) -a then key party officer and ideology producer in the Conservatives' apparatus.[1] These priorities were broad "reflections" of New Right policy guidelines developed elsewhere (especially in the USA and UK) but moulded especially for the Greek case (see Fotopoulos 1993: chap. 3 for a criticism). This model of economic policy, had already started to show its demerits in both the USA (Albert 1993: 44-66; Wolff 1994) and the UK (Mouzelis 1990a), as its adoption was creating extended social zones of economic inequality and new urban poverty, and as its inability to solve the major problems of deindustrialization and job loss was becoming increasingly evident during the 1980s. In Greece, however, the collapse of Socialists' statism in late 1980s along with a more general popular mistrust (due to political scandals and trials) favoured the growth of neo-conservatism, which, in the 1990 general elections grew to dominance (although with a marginal majority of 151 votes out of 300 in the Parliament). Amongst the new government's basic priorities the most central one was the implementation of a wave of privatization of big companies formerly controlled or directly owned by the

[1] In November 1994 he left the Conservative Party for political and personal reasons.

state, for the purpose of increasing their productivity and for bringing money into the state budget. In that context, the biggest cement production company of the country, AGET- Hercules, (and probably one of the biggest in Europe) which was formerly owned by the state, was sold to an Italian firm. The public enterprise of Urban Transport in Athens (EAS) employing over 8,000 persons, was also privatized and all staff was made redundant. Many other smaller public companies were privatized as well. There were also projects for the privatization of the Public Telecom Company (OTE) which, however, were not materialized due to considerable objections even within the Concervative party itself.[2]

Despite the general shift of economic priorities in early 1990s, the sphere of spatial policies did not experience any dramatic change. The basic legislative framework for urban planning (Law 1337/1983) remained the same. The Structure Plan of Athens (Law 1515/1985) did not change at all. The PD 84/84 for the development and location of Athenian manufacturing industry remained, since all reform efforts failed as we saw in the previous chapter. The only area chosen as a "pilot-case" for implementing a kind of neo-conservative planning model for the Athenian industrial space was Eleonas -the most important industrial locality of Greater Athens which was hit by deindustrialization and job loss.

The major production characteristics and problems of that area will be addressed in the next section (8.2), while in the following ones we will shift to an examination of the Conservatives' proposal for Eleonas which was ratified by a presidential decree (PD 74D/1991), and on this basis to an analysis of the socio-political reactions, debates and alternatives which were arisen as soon as the PD at issue came into publicity. Throughout this analysis it is hoped to show that the basic problems facing the contemporary Athenian industrial space (whose major part is Eleonas) are not merely or strictly spatio-economic problems, but foremost socio-political problems; that is, problems stemming from the inability of establishing even a minimum "amount" of consensus

[2] A party group, leaded by M.Evert and opposing C.Mitsotakis' leadership, was in favour of a policy shift towards more socially sensitive objectives. After the coming of Socialists to office, in the October 1993 general elections, M.Evert became the party leader.

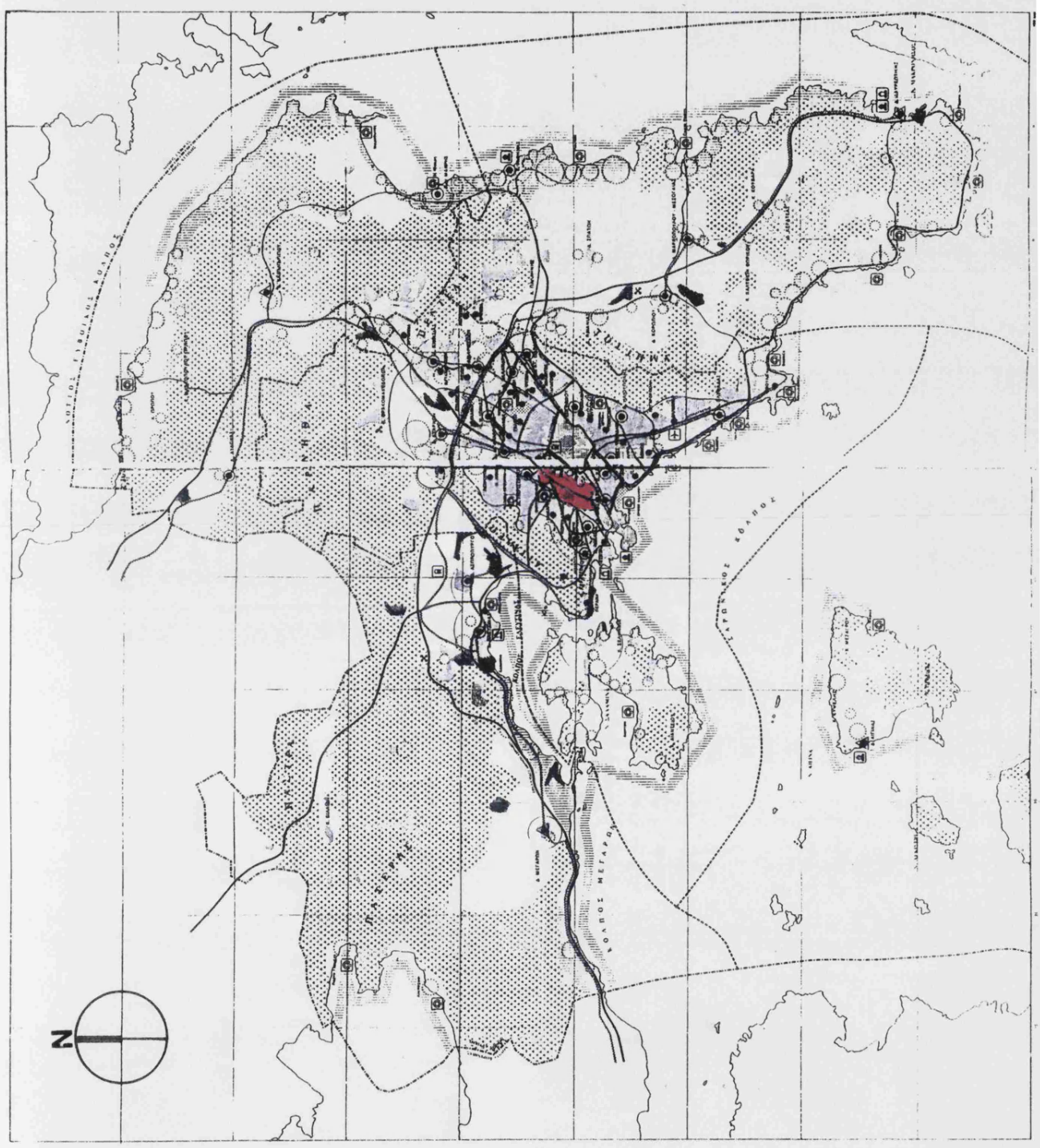
between the governmental planning bodies on the one hand, and the various social groupings and organizations on the other -a consensus necessary for the implementation of planning policies.

8.2. A Summary Survey of the Eleonas Industrial Area

This declining industrial locality is located in the middle of Greater Athens agglomeration near to both its administrative/business centre (CBD) and the installations of the Piraeus port (fig. 8.1), and it is extended over a vast area of about 8,700 stremmas (8,700,000 sq.m. or about 2,175 acres). Although the territory of Eleonas -in geographical, historical and economic terms- forms an entity, in administrative terms it is fragmented along the five surrounding municipalities (city of Athens, Tavros, Agios Ioannis Rentis, Egaleo and Peristeri).

Eleonas was traditionally a place providing Athenian population with agricultural products (mainly olive oil). Its olive trees, known from ancient times, gave the area its name which literary means "olive grove" -although there is little today to remind this name. The area started to obtain a vague industrial character during the late 19th century, as Piraeus' industrial zone was expanding northwards along the main road and rail transport arteries linking the port with the Athenian centre (chap. 4, sect. 4.1). These trends kept on during the interwar period, but the character of the area remained mostly agricultural. Until 1991, the area was outside the statutory city-plan although it was surrounded by densely built municipalities, and this was the main reason for keeping land prices in it at relatively low levels. During the first post-war decades, however, major changes took place: The existence of abundant and cheap land in that area and its favourable geographical location, attracted a great portion of Athenian industrialization as well as many other associated activities (truck transport agencies, warehouses, commercial activities, etc.), seeking a cheap oulet in the middle of the metropolitan space-economy. Working-class residential clusters and other linked urban activities were gradually created within and around the area. Relatively big plants developed

Figure 8.1 *The location of Eleonas industrial area in Greater Athens*



SOURCE: Adapted from L.1515/1985.

along the major transport arteries crossing the area (Kifissou, Petrou Ralli, Athinon and Iera Odos avenues) while small manufacturing units scattered across the whole tissue.

By 1984, the dominant land-use in terms of occupied space, was manufacturing industry (table 8.1). Manufacturing was also dominant in terms of number of establishments and employment: It shared the majority of total area's establishments and employment, whereas the shares of service activities were much lower (table 8.2). However, as we saw in a previous chapter, deindustrialization and job loss affected especially the inner-city industry of Greater Athens. In just a few years (1978-1984), Eleonas experienced a moderate decline in its number of manufacturing establishments (-6.8%) and a sharp employment downswing (-23.1%) (ERG 1992a, Vol. 1: 30).

Table 8.1 *The major land-uses in Eleonas, 1984*

Land-use	Area (000 sq.m.)	%
Manufacturing industry	3,477	39.96
Undeveloped land, agricultural fields, athletic fields	1,153	13.25
Open yards (with materials), transport agencies and stations	783	9.0
Road network	713	8.19
Warehouses	588	6.76
Military installations	219	2.52
Central Athens vegetable market	233	2.68
Public organizations	523	6.01
Residence	342	3.93
Education	225	2.59
Commercial activities	446	5.13
Total	8,702	100.00

SOURCE: ERG 1992a, Vol.2: table 3.

In 1984, small enterprises (employing up to 10 workers) shared the vast majority (75.9%) of the total number of the area's manufacturing establishments, but only a small proportion (17.7%) of total manufacturing employment which was concentrated in a few large companies (ERG 1992a, Vol. 1: 35).

Table 8.2 *Number of establishments and employment in Eleonas 1984 (manufacturing industry and tertiary activities)*

Sector	No of establi-shments	%	Employment	%
Manufacturing industry	2,316	65.1	38,042	88.1
Tertiary (service) sector	1,241	34.9	5,132	11.9
Total	3,557	100.0	43,174	100.0

SOURCE: Adapted from ERG 1992a, Vol.3: 2.10.

The branch structure of the area by 1984 (table 8.3), shows that in terms of number of manufacturing establishments the capital branch group predominated whereas the consumer and intermediate ones shared lower percentages. However, in employment terms, it was the consumer branches that predominated. More specifically, the ordering of branches according to their share in total area's manufacturing establishments and employment was as follows (based on table 8.3):

In terms of number of establishments
(35) Metal products (15.59%)
(38) transport equipment (14.64%)
(36) non electric machinery (7.99%)
(30) pubber/plastic (7.86%)
(26) furniture (7.64%)
(37) electric equipment (6.69%)
(20) foods (5.31%)
(23) textiles (4.92%)
(33) non metallic minerals (4.84%)
(24) cloths/footwear (4.66%)
(31) chemicals (4.15%)
(29) leather/fur (3.58%)
(25) wood/cork (3.54%)
(28) printing/publishing (2.98%)
(27) paper (1.90%)
(39) miscellaneous (1.77%)
(34) basic metals (0.73%)
(21) drinks (0.60%)
(22) tobacco (0.09%)

In employment terms
(23) textiles (11.79%)
(35) metal products (11.41%)
(31) chemicals (10.14%)
(20) foods (9.38%)
(30) rubber/plastic (8.4%)
(38) transport equipment (7.21%)
(27) paper (6.92%)
(37) electric equipment (6.47%)
(24) cloths/footwear (6.01%)
(26) furniture (4.51%)
(36) non electric machinery (4.22%)
(21) drinks (3.42%)
(28) printing/publishing (2.51%)
(33) non metallic minerals (2.06%)
(29) leather/fur (1.68%)
(25) wood/cork (1.33%)
(39) miscellaneous (0.83%)
(32) petroleum/coal products (0.82%)
(34) basic metals (0.49%)

Table 8.3 *Manufacturing establishments and employment in Eleonas by branch, 1984*

Code	Branch	No of establishments	%	Employment	%
Non durable consumer goods		857	37.00	18,560	48.79
20.	Foods	123	5.31	3,570	9.38
21.	Drinks	14	0.6	1,300	3.42
22.	Tobacco	2	0.09	149	0.39
23.	Textiles	114	4.92	4,487	11.79
24.	Clothing/Footwear	108	4.66	2,288	6.01
25.	Wood/Cork	82	3.54	507	1.33
26.	Furniture	177	7.64	1,717	4.51
27.	Paper	44	1.9	2,634	6.92
28.	Printing/Publishing	69	2.98	955	2.51
29.	Leather/Fur	83	3.58	638	1.68
39.	Miscellaneous	41	1.77	315	0.83
Intermediate goods		402	17.36	8,147	21.42
30.	Rubber/Plastic	182	7.86	3,194	8.4
31.	Chemicals	96	4.15	3,858	10.14
32.	Petroleum and coal products	12	0.52	313	0.82
33.	Non metallic minerals	112	4.84	782	2.06
Capital goods and durables		1,057	45.64	11,335	29.8
34.	Basic metals	17	0.73	185	0.49
35.	Metal products	361	15.59	4,342	11.41
36.	Non electric machinery	185	7.99	1,606	4.22
37.	Electric equipment	155	6.69	2,461	6.47
38.	Transport equipment	339	14.64	2,741	7.21
Total		2,316	100	38,042	100

SOURCE: ERG 1992a, Vol.3: 2.10.

Although more recent data for the area does not exist, according to relevant information stemming from interviews and discussions with the area's industrialists, local authorities, labour unions, etc., manufacturing employment is constantly decreasing in Eleonas, and this is not mainly due to plants' relocation tendencies, but rather to endogenous problems associated with the wider Greater Athens' deindustrialization dynamic. In a more detailed survey of 37 large companies employing about 25% of the total manufacturing employment in Eleonas (ERG 1992a, Vol.1: chap. 5) it was revealed that 43% of them had proceeded in labour redundancies during the last years

due to (a) decrease of the level of demand for their products and (b) technological modernization initiatives (ibid.: 231-2). According to the survey, the major problems Eleonas' industries face are associated with:

- market shrinkages (decreases in the level of demand)
- strong price competition from imported manufacturing products
- high cost of money
- production modernization and expansion related difficulties
- problems stemming from the ambiguous legislation for the urban regeneration and development of the area (see more analytically in the following sections)
- bad road network and traffic congestion (ERG 1992a, Vol.I: 245).

Closures of manufacturing plants and transformation of their buildings into warehouse or commercial ones is a common situation which is gradually transforming the character of the area from industrial into a services one. There do exist some trends of production relocation to the suburbs and even to peripheral regions, but Eleonas' industries wishing to relocate have to cope with a number of problems such as:

- established links with the Athenian market
- high relocation costs
- lack of skilled labour away from Athens (ERG 1992a, Vol. I: 245).

Some companies reported that the major factors preventing them from relocating outwards are:

- the existence of private land in Eleonas and
- easy transport accessibility to the Piraeus port installations (ibid.).

Some other companies reported that they would undertake relocation initiatives under the following presuppositions:

- if there were the appropriate "receiving spaces" in terms of infrastructure provision and reasonable distance from major urban services, and

- if they were subsidized especially for that purpose (relocation grants and loans, tax concessions, etc.) (ibid.).

In the case of Eleonas' polluting manufacturing branches (metal-melting/metallizing works, tanneries, tile/brick-making works and concrete production works), the relocation option has been accepted by industrialists, but has not yet been materialized due to problems and delays associated with the official definition "on the ground" of the appropriate receiving spaces on the metropolitan periphery. It is worth noting that special technical/economic relocation studies have been long before carried out and the responsible governmental bodies (Ministries of Industry and Environment) have agreed to the relocation of those polluting branches outside the urbanized areas of Greater Athens (ERG 1992a; ERG 1992b).

Another important point stemming from the aforementioned survey, is that a dense local network of linkages between industries and other activities prevails in the area (ERG 1992a, Vol.I: 233-4). The various linkages can be classified as follows:

- Linkages between industries and the Athenian consumption market. These are especially important for consumer oriented industries such as foods/drinks, paper, paints, detergents or for other industries covering basic needs of the population such as clothing/footwear, plastic stuffs for home-use, electrical goods, bricks and concrete.

- Linkages with other industries especially in products like leather, threads, cartons, synthetic resins and greasy acids, or in branches which undertake subcontracting work.

- Linkages with suppliers of raw materials and products (especially those imported in the Piraeus port).

- Linkages with the local labour market.

- Linkages with specialized urban services, technical equipment and know-how provided at central Athens areas.

- Linkages with the local truck transport agencies. These are particularly important for industries distributing their products into wider Greek areas. Since the surveyed companies were large ones and most of them

owned private transport means, the linkages between industries and transport agencies must be much more dense and strong in the case of smaller manufacturing units.

The landownership structure in Eleonas is extremely perplexed, the production units are in their great majority sheltered in rented buildings, and public organizations own large tracts of land (DEH, OTE, EAS, OSK, Banks, Ministries, Army, etc.) (ERG 1992a). Apart from the compactly built zones along the major transport arteries, the area as a whole has not been densely built. Many activities (e.g. building materials yards, tile and brick-making works, warehouses, etc.) are land-consuming, do not offer considerable amounts of jobs in the local labour market and burden excessively the area with heavy traffic volumes, while many plots and buildings are derelict and used as waste disposal places. With the exception of some big industrial units which pollute severely the environment (e.g. the ETMA artificial silk production plant) and the dispersed metal-melting works, metallizing works and tanneries, air quality measurements revealed that considerable air pollution is caused by traffic (ERG 1992a). Pollution is further intensified on the one hand by the area's topographical characteristics (lower level of the Athenian basin and building up of the natural north-south air corridors), and on the other by the chaotic urban structure, the contingent spatial configuration and poor condition of the existing road network.

The unplanned conditions under which the area industrialized, drove to the creation of a contradictory landscape of "cheap growth" whose main characteristic is a chaotic mixture of activities lacking even an elementary hierarchy in terms of land-use zoning, transport arrangement or basic infrastructure provision. Highly polluting units like tanneries, metal-melting and metallizing works, have been built next to residential buildings, schools and kindergardens, army camps next to open waste disposal yards and derelict buildings, narrow roads leading to plants and warehouses through agricultural fields and vacant plots, public buildings and installations next to truck transport agencies, and so forth. If we add the high traffic volume from the continuous movement of large trucks along the narrow interior roads (e.g. Agias Annis str) and the associated air and noise pollution, one can easily imagine the existing situation in Eleonas.

Severe pollution and environmental degradation problems are caused by the numerous small manufacturing units in branches like tanneries, metal-melting works, metallizing works, etc. These units are dispersed within the whole area, are accommodated in improvised buildings lacking even elementary hygiene standards, most of them operate illegally during nights (ERG 1992a), employ mostly low-wage immigrants from Third World countries,[3] and form niches of "manufacturing misery" in Eleonas (fig. 8.2). By contrast, most large companies are accommodated in modern factory-buildings forming a typical industrial landscape (fig. 8.3). This contradictory landscape of production seems that has led to an underlying "conflict" between large-firm and small-firm industrial capitalists in the area: In the previously mentioned survey the majority of large firms reported that a basic presupposition for any production and environmental improvement initiative in the area, is the urgent relocation of all those polluting SMEs away from Eleonas (ERG 1992a, Vol. 1: 246).

8.3. Past Attempts and Alternative Proposals for Regulating the Eleonas Industrial Space

Problems and issues relating to Eleonas are by no way new; they had been discussed in public and/or even given planning attempts by the state long before. Public concerns and alternative proposals flourished especially after the publication of the Law 1515 in 1985 by which the Structure Plan of Athens was ratified; however some planning attempts had been undertaken much earlier, but without bringing in practical result as we will see in that section.

The early post-war Master Plans of Greater Athens provided some indicative guidelines for the land uses which were supposedly allowed to develop in Eleonas (Giannikopoulou 1992). The 1954 Master Plan identified the area as a residential low density one and only some small land zones were drafted up for industrial use. The almost marginal presence of such uses in that Plan can be attributed to the fact that by the 1950s industrial growth in Athens was still kept at a low pace, hence the demand for space was still low. But in the 1965 Master Plan, much more zones for industrial use were drafted

[3] Information from personal visists to such "plants".

Figure 8.2 *Clusters of "manufacturing misery" in Eleonas*

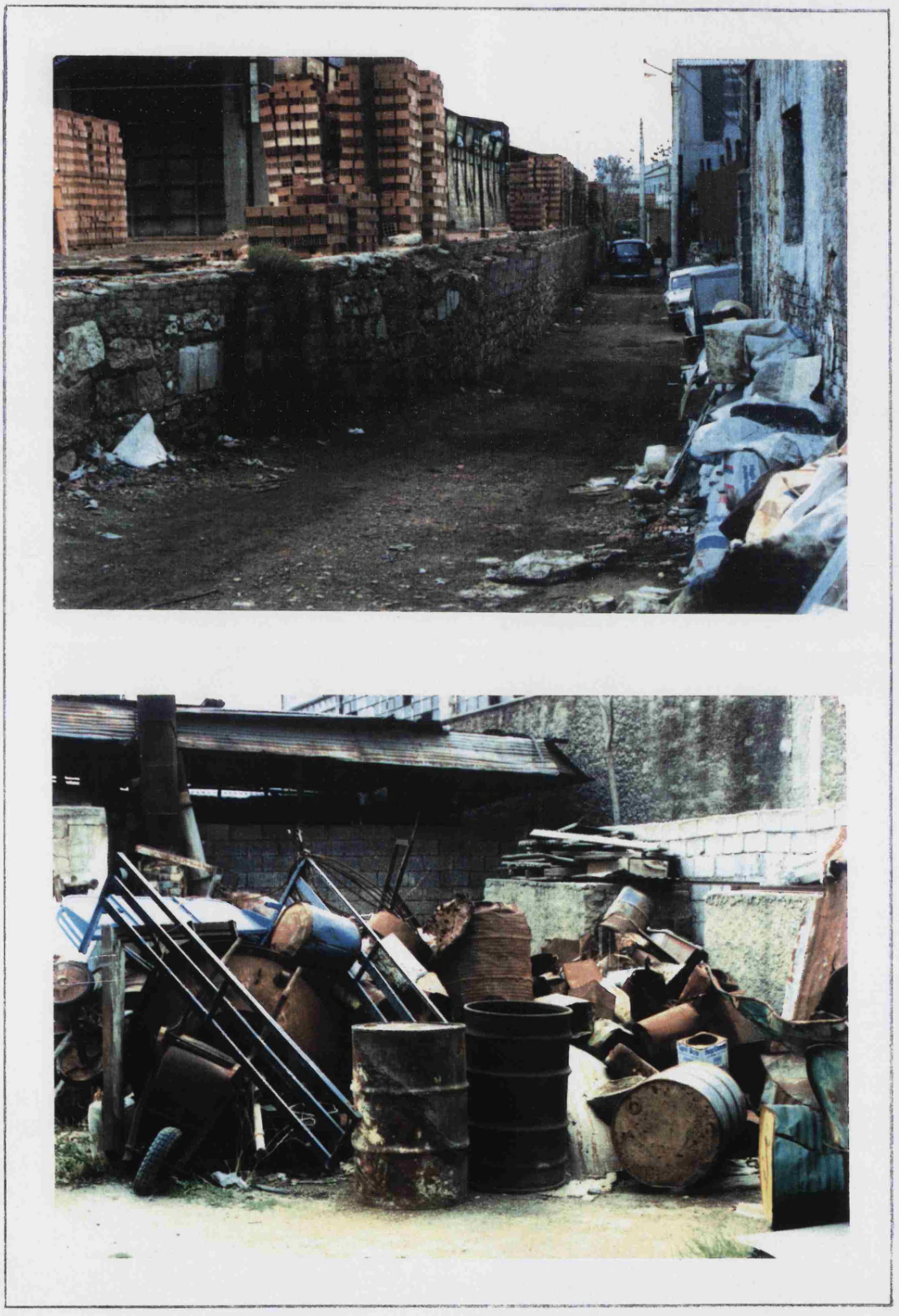
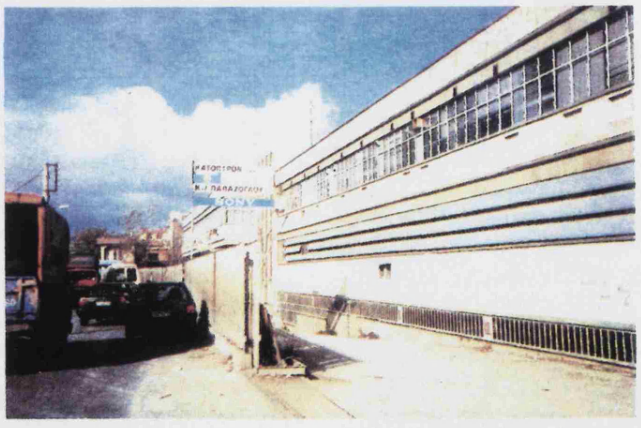


Figure 8.3 *Typical industrial landscape in present-day Eleonas*



-especially along Eleonas' major transport arteries. These zones, however, were never legislated-by-law as exclusively industrial zones with certain regulations for their development, for the erection of industrial buildings in them and for the construction of the necessary infrastructure networks. Eleonas remained outside the statutory city-plan and legal construction of any industrial building in it had to take place on relatively large plots of land.[4] As a consequence, only big and growing manufacturing firms were able to afford the cost of purchasing such plots in order to built their plants legally and with some care for the organization of built and free spaces. Smaller firms tended to shelter their production activities in illegally built improvised constructions on small plots of land -constructions which had no the slightest similarity to the sort of a modern industrial structure, and which were increasingly creating "clusters of manufacturing misery" as we saw previously.

The lack of historical sensitivity for the situation in which Eleonas was driven all those decades of spontaneous growth, was stressed out in an article published in the 4 January 1987 issue of the economic review *Economikos Tachydromos* (Stereopoulos 1987). The article pointed out that the growing expansion of heterogeneous activities at the expense of free spaces is threatening the historical and cultural identity of that area. The basic point of the article was that the Athenian citizens themselves (by undertaking increasing production activity in the area), and mostly the Greek state (by its apathy for the area's future) were systematically deteriorating a rare natural monument of Greek history, a meeting-place of the ancient Greek "walking philosophers", a place in which more than 150,000 olive trees were growing during the classical era and in which only some of them (of an age over 2,000 years) still remain among the factories' chimneys.

> There is not even an archaeologist, student, historian, etc., to record those living monuments, those unique witnesses of our world and of our life, evidently because they do not entail the glamour of discovery ... since we have been taught to consider them as modest and meaningless (Stereopoulos 1987).

[4] According to PD 717/86, the minimum plot area that could be given building permission for the legal erection of an industrial building was 20,000 sq.m.

However, it is not only the lack of historical sensitivity that has driven this inner-city production area to a situation of degradation and decline, but also the way Greek capitalism developed.

> This *wasteland of uses* had been -and continues to be nowadays- the recipient of all those functions the Greek development model, Greek capitalism, did not dare to locate anywhere else. Situated in the middle of the western part of Greater Athens, this area was never included in the statutory city plan although it is firmly surrounded by it. When in extraordinary cases we are obliged to drive along the big transport arteries crossing it, we tend to accelerate or to "close" our eyes ... denying carefully to admit that *especially here* we can touch the field in which misery has been established and in which everything has been abandoned to its fate (Kloutsinioti 1988: 29).

The 1979 Master Plan "Capital 2000" (*Official Gazette* 341B/1980) proposed some measures for the reorganization of Eleonas by drafting zones for the exclusive location of medium pollution industries, as well as some environmental protection measures. More precisely, the Plan's basic objectives were: (a) the balanced growth of Athens in relation to the other areas of the country, and (b) the improvement of living conditions and work productivity in the Greek capital. In one of the Plan's 18 key points, there was specific reference to the need of undertaking co-ordinated action for the purpose of organizing and upgrading the industrial clusters in Athens and of protecting the environment from further degradation. There was also a note that residential areas should coexist with non-polluting manufacturing activity for the purpose of transport volume minimization and energy saving, whereas medium pollution industries should be clustered and organized in industrial zones the majority of which was situated within the geographical boundaries of Eleonas.

However, these measures, just like the previous ones, were never implemented in practice, and Eleonas was once more left outside the statutory city-plan, with all the negative consequences this implied upon it (continuation of illegal buildings construction, lack of appropriate energy, transport, communications and sewerage infrastructure, traffic congestion, air and noise pollution, etc.).

On August 1981, the PD 791/1981 -addressed to the conditions and measures for the development and location of manufacturing industry in Attica- was published in the *Official Gazette* (Issue No. 207A/1981) (chap. 6). According to this PD, the areas allowed to "receive" new and/or relocated manufacturing plants in Athens were drastically restricted. Most of them, reaching a total of 4,000 stremmas (400 Ha), were situated in Eleonas and in the neighbouring municipalities, where there already existed manufacturing clusters from the past. The PD 84/84, which replaced PD 791/1981, restricted further the vital space of industry in Athens (chap. 6). The industrial zones in Eleonas were reduced from 4,000 to about 3,500 stremmas (350 Ha).

Some more focused planning attempts and relevant discussions on the Eleonas issue, started to flourish after the legislation of the Structure Plan of Athens by the Socialists' administration in the mid 1980s (Law 1515/1985). The SPA's orientations were aiming at:

- the ecological upgrading of Athens
- the protection of its urban landscape
- the protection of its historical and cultural heritage, and
- the improvement of its downgraded areas

Moreover, article 3 proposed "the improvement of the environment and quality of life throughout redistributions of urban functions and activities, relocation of polluting installations" etc., whereas article 15 proposed the "redistribution of manufacturing employment in the whole Greater Athens area throughout reorganization and renewal of the traditional industrial concentrations into industrial parks with the necessary free spaces for public use and green".

In the Structure Plan's land use map, Eleonas was drafted as a unified complex of industrial parks (VIPA) and handicraft parks (VIOPA) surrounded by zones of green.

The general urban plans (GPSs) of the adjacent municipalities which were drafted according to L.1313/1983 after the directions of the Structure Plan of Athens, proposed the following land-use scheme for Eleonas:

- Industrial and handicraft parks reaching a total area of about 5,500 stremmas (550 Ha) -that is, around 68% of the total GPS area in Eleonas.
- Residential uses of about 1,400 stremmas (17%)
- Administration activities along Iera Odos, of about 200 stremmas (2.5%)
- Education activities of about 430 stremmas (5.0%)
- Social activities (of a supra-urban range) of about 300 stremmas (4.0%)
- Transport park of about 150 stremmas (2.0%)
- Special activities (military buildings and camps) of about 120 stremmas (1.5%).

As it can be remarked, the dominant land-use proposed was manufacturing. The actions which were allowed to take place within the boundaries of VIPA-VIOPA, were the following:

- Expansions of low to medium pollution manufacturing plants.
- Relocation of low to medium pollution plants previously located in residential areas of the neighbouring municipalities.
- Removal of big plants which pollute the environment and which for various technical reasons cannot adopt anti-pollution technologies as to fall in the category of medium pollution activities (These units should be defined in specific technical-economic and environmental studies).
- Removal of small heavily polluting plants (metal-melting and metallizing works, tanneries, brickworks-tileworks and asphalt materials).

In the above directions, the Ministry of Environment started to fund special planning studies for the VIPA-VIOPA of Attica in 1985. One of those studies was carried out by the National Technical University of Athens (RG 1988) in order to be used as a "pilot project" for the other VIPA-VIOPA studies which were appointed to private planning offices. For reasons

associated with the structure of socio-economic interests in urban space and the inability of the state machine to impose rational planning measures (chap. 2), none of those studies was finally legislated and/or implemented "on the ground". Furthermore, the funding of some of them was cut before their full completion.

The Eleonas case was addressed in two special planning studies carried out during the 1980s (Papagiannis and Associates 1987 and 1988; Katsoufis planning office 1987). Both studies followed the basic guidelines of the Athens Structure Plan by proposing manufacturing as the major land use in Eleonas which was defined as a complex of industrial and handicraft parks. In that park-complex, the location of low and medium pollution plants and the re-location of dispersed ones from residential areas in the neighbouring municipalities would take place in an organized manner, and the necessary infrastructure, free spaces and spaces for public use and green would also be provided.

However, the planning efforts for the reorganization of Eleonas along the SPA's guidelines, were regarded by the press as "ambitious and probably expensive illusions" (see e.g. *To Vima,* 6 June 1991). Moreover, they brought about contrasting reactions and debates by various social groupings, as we will see in the following lines.

On 3rd of July 1988 the editorial board of *Anti* (a radical left review) organized a public meeting in Eleonas. In that event, delegates of the Socialist government, the major political parties, the area's local authorities and lots of interested citizens were gathered in order to express opinion and to suggest alternative solutions to the accumulated problems of the area (see *Anti,* No 378; see also the 4 July 1988 dailies: *Avriani, Ta Nea, Eleutheros Typos, Ethnos, Proti*). By contrast to the government's proposal for transforming Eleonas into an industrial and handicraft park-complex according to the SPA's guidelines, the periodical (*Anti,* No 377) set forth a quite different alternative: Policy priorities should be given to the relocation of the best part of Eleonas' production activities, so that the occupied space to be regained and

transformed into a big green park of metropolitan significance. In other words, the periodical pushed forward a "green" anti-industrial scenario for Eleonas without taking into consideration the already existing dense local network of economic activity which was offering employment to more than 40,000 working people. The stock of land which would be necessary for the implementation of the green scenario, should be gathered -in the periodical's view- from two main sources: (a) from the obligatory land contribution of the area's landowners as Law 1313/83 imposes, and mainly (b) from mass private land expropriations.

As soon as this scenario was publicly suggested, the then Minister of Environment E. Kouloubis, reacted (*Ta Nea*, 4 July 1988) by pointing out that the periodical's proposal for land expropriations on a mass scale, was far from any sense of economic realism and its likely adoption would only benefit the area's landowners which would claim high compensations for their expropriated properties (about 60 billion Drs. according to Minister's estimation). He also rightly stressed out that the implementation of such a proposal and the displacement of industry would deteriorate the existing local economic nexus -something that would cause immense unemployment problems to the Athenian labour market as a whole. He asserted that his Ministry's guidelines given to the planning offices which were carrying out the Eleonas' planning studies, were by contrast aiming at the upgrading of the area by means of a bundle of measures such as:

- The creation of a system of industrial and handicraft parks for the location of new manufacturing activity and/or the relocation of existing low to medium pollution plants from adjacent residential areas.
- The removal of highly polluting activities away from the area.
- The provision of adequate social facilities and infrastructure.
- The provision of extended green spaces for the environmental upgrading of the area.

Other ideas and proposals delivered during the event, were roughly shared between the above two contrasting alternatives (*Anti*, No 378: 30-2).

More particularly, the ND delegate, in agreement with the PASOK Minister, asserted that it is impossible a capital of 3.5 million people to be deprived from production activities as the green scenario implied. The other opposition parties, contrarily, placed more emphasis upon the social and environmental aspect of the problem instead of defending the Eleonas production space. Thus, the EAR delegate pointed out that (a) the local planning effort should have formed integral part of a wider metropolitan planning strategy; (b) the planning effort should be based on a shift of responsibilities from central government to the Eleonas' local authorities, and (c) any planning scheme for the area should have as its major priority the provision of the necessary stock of land for the creation of a large green park equipped with social facilities. The KKE delegate suggested a compromise scheme between the need for production maintenance and modernization on the one hand, and the need for social and environmental upgrading of the area on the other. The delegate suggested the creation of a decentralized inter-municipal body for the renewal and administration of Eleonas, with sufficient financial resources and substantial intervention powers. It was further suggested that state financial support should be provided to the polluting Eleonas' industries in order to help them modernize and adopt effective anti-pollution technologies. It was finally asserted that the solution of the area's problems presupposed a departure from the two major parties' (Socialists and Conservatives) conformist urban policy and the adoption of a radical one decided to confront effectively the big private capital interests across urban space. Some months later, the KKE newspaper *Rizospastis* (6 March 1988) criticised the governmental priorities for creating a system of industrial and handicraft parks in Eleonas on the grounds that the preliminary studies had paid little attention on the provision of green space and social facilities, while they tended to overemphasise production -a fact which, in the paper's view, was going to contibute to the further degradation of the area. The paper extended the criticism on the basis that (a) the land zones owned by various public organizations were not allocated to social uses; (b) measures for environmental protection from the operation of the Eleonas' VIPA-VIOPA system were not suggested; (c) uses serving the population of the wider area were not proposed; and (d) the

government had not yet shown convincing signs of willingness to create a decentralized body for the administration of the whole operation.

Some representatives of scientific organizations (e.g. the rector of the Agricultural University of Athens which is located in Eleonas, and the delegate of the Technical Chamber of Greece), argued more or less in favour of the green scenario. The TEE delegate, in particular, made the point that the creation of VIPA-VIOPA in Eleonas, as the Ministry of Environment had suggested, was leading to a logic according which "niches of green" would be created amongst the factories, whereas in TEE's view the remaining factories in Eleonas should by contrast form "niches" of production in the green (*Anti*, No 378: 31).

The views expressed by the area's local authorities were also divided along the two contrasting options (*Anti*, No 378: 32). The mayor of Agios Ioannis Rentis asserted that the green scenario was "idealistic" in that its advocates did not take into account that manufacturing industry was already existing in Eleonas and had urgent need for infrastructure and organizational support only an industrial park system could potentially provide. He also asserted that some free spaces could be immediately transformed into green by undertaking action for planting trees into them. The delegate of Egaleo municipality, argued by contrast that the first priority for Eleonas should be the provision of land for the implementation of the green alternative. The delegate of Tavros municipality declared that the city council had accepted the logic of Eleonas' VIPA-VIOPA system as a mechanism of the area's productive upgrading but under the basic presupposition that its organization and planning would provide extended land zones for green and social facilities. Some months later, the Egaleo local authority reformed its previous support of the green scenario (*Eleutherotypia*, 17 October 1988). After finding out that many manufacturing plants located in its administrative boundaries were creating serious environmental and urban degradation problems, the local authority suggested the relocation of those plants into industrial parks which should be created in Eleonas.

In the period that followed the completion of Eleonas' VIPA-VIOPA planning studies and the event which was organized by the periodical *Anti,* sporadic contrasting discussions and articles kept on taking place. Thus, in February 1989, the Athens department of the "Goethe Institute" and the local authority of Athens co-organized a scientific meeting under the general title: "Re-use of derelict industrial sites: The case of Eleonas in Athens". In that meeting two German professors specializing in urban planning and environmental protection legislation were invited to express expert opinion on the Eleonas issue (*To Vima,* 12 February 1989). The already existing contrasting views and propositions were repeated once more, while the two specialists stressed out the need of implementing urgent legislative measures against air and noise pollution in the area.

In 1989, the left-wing opposition team in the Athens City Council ("Co-operation for the Change of Athens"), circulated a document in which the problems of Eleonas were identified, the policies and measures undertaken till then were criticised as ineffective and unpopular, and the basic lines of an alternative proposal were sketched out (CCA 1989). According to that document, the Eleonas' problems could not be tackled in a piecemeal fashion but only in the context of a comprehensive planning and renewal programme which could be supported by the area's working population, the local authorities and the labour movement, and which should be given powers to come in contrast with the well-established nexus of private socio-economic interests in the area. Planning priorities should aim at (a) renewing the area under environmental protection criteria on the one hand, and (b) upgrading and protecting its production base on the other. These planning priorities and responsibilities should be carried out by a decentralized administrative body in which public, social, local and private organizations would participate and collaborate.

One year after the first *Anti* event, the same periodical organized a second one at Eleonas, in Agias Annis street, on 27th of August 1989 (see *Eleutherotypia,* 26 August 1989; *Proti,* 29 August 1989). As its editor announced, the aim of this event was the information of the Athenian citizens and the strengthening of sensitivities on the Eleonas' problems which for

decades had remained in the shadow of public concern. In general lines the previous debates and proposals were repeated once more, but this time under much more "ecological" anti-industrial mentality.

> The problems included in that big area are of a supra-local importance and their proper solution is going to change the whole Athenian landscape. They also are explosive and complex problems presupposing collective processes and the establishment of a wider social consensus in order long-term rational decisions to be made.
>
> The idea of public health protection must predominate in any effort towards the solution of the Eleonas' problems.
>
> The protection of public health and the quality of urban functions which would secure a comfortable human life in the city, *cannot be replaced by any fictitious and false consumerist pattern* (introductory speech of the "Anti" editor as quoted in *Eleutherotypia*, 26 August 1989; emphasis added).

The "fictitious and false consumerist pattern", was evidently assigned to the views defending Eleonas' production space and blaming the green scenario as disastrous not only for Eleonas but for the Athenian economy and industry as a whole. However, by contrast to the enhanced "ecological sensitivities" prevailing during this event, the delegate of the Technical Chamber of Greece proposed a much more realistic scheme (Gimisis 1989) whose key points were the following:

- The area of Eleonas is of an immense importance in two senses: First, it is important to the metropolitan economy of Athens as well as to the national economy as a whole, and second, it is important in the sense that the conditions prevailing in it affect the living conditions of 3.5 million people residing in Greater Athens.

- Eleonas must be re-organized in such a way as to provide large tracts of free and green spaces so that manufacturing plants would operate as "industrial niches" in the "forest", and not as a "manufacturing forest" including "niches of green" as proposed by the VIPA-VIOPA planning studies along the Ministry's guidelines.

- The highly polluting production activities of Eleonas (e.g. tanneries, metal-smelting and metallizing works, etc.) should be relocated immediately outside Greater Athens. The relocation of those activities should be programmed in detail.

- The low and medium pollution activities should remain in Eleonas under the precondition that they will have to adopt anti-pollution technologies and to get connected with the urban gas network.

- The appropriate infrastructure should be constructed (sewerage system, gas network, transport and car parking spaces, etc.).

- The activities which would remain in Eleonas or the ones which would relocate into it, should be strictly controlled.

- All tracts of land in Eleonas owned by organizations of the wider public sector and do not serve collective needs of the area's population, should be recorded and engaged in order to be allocated to social uses and green. The same should take place for private land which is vacant or contains cheap buildings or highly polluting activities that should be relocated outside Eleonas.

- All the above actions and measures should be undertaken and implemented by a "Special Body for the Development of Eleonas" whose administrative structure should have a decentralized and representative character (e.g. Ministry of Environment, Eleonas' local authorities, Local Union of Municipalities and Communities of Attica -TEDKNA- Hellenic Bank of Industrial Development -ETVA- Technical Chamber of Greece, etc.).

Some other views expressed in that meeting were in accord with TEE's proposal. However, the Ministry of Environment kept on expressing its objections with particular reference to (a) the high cost of land expropriations for the creation of large green zones, (b) the problem of unemployment which

would result from the displacement of industry and the dismantling of the area's nexus of economic linkages, and (c) the lack of available spaces in Attica which could "receive" the relocated activities. Moreover, it was pointed out that many of the area's existing manufacturing units belong to branches serving the basic needs of the capital's population, hence it was quite unreasonable to be pushed to relocete elsewhere. Other views by contrast -as for instance the ones expressed by a MP and a local cultural centre- had a pure ecological orientation and adopted the green scenario.

This perspective, was met by a part of press, as rather extreme. As an economic daily wrote:

> There are moments one comes to believe that some people regard that Athens has remained in an epoch around the 1900s. This might have been pleasant for everyone. But, anyway, contemporary Athens supports the best part of the country's industrial potential.
>
> The effort, therefore, of some people wishing to transform Eleonas into a real olive grove, can be regarded as rather extreme. This by no way means we should forget that Eleonas is a living place. The solution should be searched somewhere in the middle (*Express*, 8 April 1990).

As it was expected, this public meeting -just like the previous one- had no practical results, apart from stimulating public concern for the future of Eleonas.

Amongst the lengthy discussions and debates on the Eleonas' issue, some practical -but piecemeal- interventions "on the ground" were undertaken by activist organizations. One of them was jointly organized by *Anti*, a local organization for the protection of environment (Agios Savas) and a voluntary organization ("Paremvasi") helping young drug-addicted people re-enter society by undertaking social action. This event took place on June 1990 and received a good deal of publicity (*Proti*, 2 June 1990; *Avgi*, 7 and 8 June 1990; *Rizospastis*, 7 June 1990; *Ethnos*, 18 June 1990; *Eleutherotypia*, 9 and 16 July 1990; and *Anti*, 15 June 1990). The voluntary interventions were focused: (a) on the creation of a children's play-yard and a square in a residential sub-area of Eleonas (Markoni), (b) on planting trees along an avenue, (c) on the creation

of an "open school" and (d) on running a photography exhibition for citizen's information on the area's problems.

* * *

All those public discussions, planning attempts and voluntary activities, remained, as we already mentioned, without practical results on a comprehensive planning basis. The Eleonas inner-city decaying area was neither included in the statutory city-plan, nor the proposed organized industrial and handicraft parks were created in it. The inability -or unwillingness- of the state machine to cope effectively with the established perplexed and contradictory nexus of local and wider economic interests, can be regarded as the major reason for the maintenance of the existing problematical situation (CCA 1989). All these decades of state planning failures, the problems of productive, urban and environmental degradation of Eleonas not only remained unresolved, but they were further magnified.

As soon as the ND Conservatives came to office in 1990, the Minister of Environment S. Manos (one of the key-supporters of strictly market-oriented priorities) regarded that the conditions for solving -once and for all- the Eleonas problem had matured. In the Ministry's opinion the statist orientation of urban-industrial policy prevailing during the Socialists governance in the 1980s had overally failed, hence the only viable solution could stem from the introduction of a "new" principle in the planning machine. This principle would have to depart from the belief that the public sector could offer effective solutions to urban, production and environmental degradation problems, like those of Eleonas, and would shift emphasis from state interventionism to market-led spatial redistribution processes, as we will see more analytically in the following section.

8.4. The Market-Oriented Planning Approach (PD 74D/1991): A Critical Analysis

8.4.1. Some Background Legislative Preparations

Several months before the publication of the Presidential Decree 74D/1991 for the incorporation of Eleonas into the statutory city-plan and for its allocation to a new set of land-uses, the Ministry of Environment regarded that it should prepare the ground carefully, so as the forthcoming PD would not contradict the existing legislative framework and hence would not be legally questioned. Thus, it decided to reform two basic PDs published in the 1980s during Socialists' administration. The first one (PD 166D/1987) defined the categories and content of land uses appearing in the General Urban Plans (GPS). The second (more precisely group of PDs) ratified the General Urban Plans of the municipalities whose parts were included in Eleonas -that is, Athens (PD 80D/1988), Agios Ioannis Rentis (PD 1038D/1990), Egaleo (PD 205D/1988), Peristeri (PD 332D/1989) and Tavros (PD 834D/1987).

The first PD was replaced by another one (PD 706/1990) which:

(a) added to the official GPSs land-use list one more use, namely "industrial and handicraft park under cleansing", in order the Ministry of Environment to be able to identify Eleonas, in the forthcoming project, under this land-use definition;

(b) allowed manufacturing to be mixed up with residential uses in the "VIPA-VIOPA under cleansing" category.

With regard to point (a): The former PD (166D/1987) under the category "general land uses" (article 1, section A) included the following ones:

1. Unmixed residence
2. General residence

3. Urban centres - central functions of the city - local neighbourhood centres
4. Non polluting manufacturing and handicraft industries, industrial park (low to medium pollution industries)
5. Polluting manufacturing and handicraft industry
6. Wholesale
7. Tourism - recreation
8. Free spaces - urban green areas
9. Social facilities

The latter PD (706D/1990), after land-use category 4 added the "VIPA -VIOPA under cleansing" one.

With regard to point (b): Article 5 of the former PD provided that the following uses could be allowed within industrial parks:

1. Low and medium pollution industrial installations
2. Low and medium pollution handicraft installations
3. Low and medium pollution professional laboratories
4. Warehouse buildings and plots
5. Car parking buildings and plots
6. Gasoline stations
7. Residence of industrial parks' security personnel
8. Offices
9. Restaurants
10. Cafes and bars
11. Spaces for public gathering
12. Buildings accommodating social facilities
13. Athletic facilities
14. Installations for commercial exhibitions
15. Mass transport installations

The latter PD (706D/1990), added to the previous article that in areas characterized by the GPSs as "VIPA-VIOPA under cleansing", residential uses

were allowed, by exception, to coexist with industrial ones (ranging from low to high pollution).

The next move of the Ministry of Environment before proceeding to the publication of the Eleonas' PD, was the publication of another one (PD 729/ 1990), which reformed the GPSs of the Eleonas' municipalities so as to include in them the "VIPA-VIOPA under cleansing" land-use category which was legislated a few days earlier by PD 706D/1990. In this new PD, it was clearly stated that the parts of municipalities included in Eleonas, were defined as VIPA-VIOPA under cleansing, and that in those areas "C type land zones" were allowed to develop (that is, zones which apart from industrial activities included various ancillary installations as well as residence).

In this way, the existing legislative framework -which in the Ministry's view could cause juridical problems to the forthcoming initiative for Eleonas- was reformed, so as to abide a-priori by the forthcoming project's very logic. The ground was therefore "cleared" for the publication of PD 74D/1991, which was the most crucial one for the future of Eleonas.

8.4.2. The PD 74D/1991: Objectives and Relevant Regulations

Just a few days after the publication of the PD 74D/1991, the Minister of Environment S. Manos announced the following:

> The incorporation of the unplanned compactly built industrial area known as 'Eleonas' into the statutory city-plan, integrates the various relevant studies which, since 1979, were moving to and fro between the planning offices and the local authorities, and sets forth the beginning of the cleansing of a particularly downgraded area which is situated in just 1 km distance from Acropolis. This means:
>
> - Provision and planting of green spaces
> - Provision of collectively used spaces for the functioning of the city.
> - Provision of infrastructure (transport, sewerage, etc.)
> - Motives for the shift of the area from industrial to a mixed one.

> In the context of this endeavour, the state, the local authorities and the area's landowners are requested to help in order to attain the best and fastest results (YPECHODE 1991).

However, the first newspapers' reactions differed considerably from the Minister's enthusiastic vision. In an article published by a mass circulation Sunday paper and entitled "Mr. Manos' prosaic illusions", it was asserted that the proposed governmental initiative

> (does not provide) any central planning regulations apart from the private engagements of the new users, (does not provide) any public or green spaces. (It does not) provide any regulations for the future of the polluting activities in the area...
>
> To the fundamental question "which is the Eleonas' renewal model Mr. Manos envisages", the answer is "it is the prosaic model of a typical municipality of western Attica, based on private urban development initiatives, and without even the inadequate infrastructure which has been constructed in those municipalities over the last years".... Mr. Manos' plan is obvious: *"Build whatever you want under profitable building regulations, and by doing so renew the area as much as possible."* It is much better to transform the area into a typical western municipality than to maintain the today's stable.
>
> This confirms once more the strict governmental orientation to assign everything -including the renewal of downgraded urban areas- to private initiatives and market forces, by pursuing on the same time the collection of "new revenues" from property transaction taxes and from the expected upswing of building activity (*To Vima*, 2 June 1991).

Another critical assessment of the government's project (*To Vima*, 13 October 1991) focused upon the proposed measure of creating a private development agency (in the form of S.A.) for the management and development of Eleonas. The fact that this agency was going to operate under strict private criteria, was the best proof -in the paper's opinion- that the governmental project was going to transform Eleonas into a pack of cement blocks.

The above contrasting viewpoints make necessary a more detailed analysis of the governmental project and a comparison of its main objectives and directions for action with the official -Ministry's- declarations. Analysis is based on material stemming from: (a) the official document (PD) text; (b) the Eleonas' proposed land use scheme assigned to the text and (c) the written

views of high-ranking government officials which were delivered at a scientific meeting organized by the Technical Chamber of Greece on June 1991 for that purpose (*Technika Chronika (*Technical Annals -Scientific Bulletin of the Technical Chamber of Greece), No. 3/1992).

The PD 74D/1991 proposed that seven general land-use categories could develop in Eleonas (fig. 8.4). More precisely, in zone category A (general residence) the specific uses allowed to develop were: Residence, offices, banks, shops, professional laboratories, etc. In zone B, the allowed uses were: Industry, handicraft activities, offices, banks, shops, wholesale, warehouses and commercial exhibitions. In that zone category the establishment of new industrial and handicraft activities was not allowed; instead, expansions of existing ones and/or relocations from the adjacent municipality were allowed. In zone category C, all previous B category uses were allowed plus residential ones. In zone D, the allowed uses were: Residence, administration, commerce, offices, banks, as well as cultural activities. The PD provided three more land-use categories: Public green spaces, athletic installations and specific uses (e.g. public organizations, military installations, etc.). In general lines the share of land uses proposed is shown in table 8.4.

Legally operating manufacturing industries which are highly polluting, would have to adopt anti-pollution technologies. They would be allowed to repair or modernize their mechanical installations but not to expand their plants. After a period of 20 years they would have to relocate elsewhere.

The first critical point that could be made, is that according to the governmental PD, the area of Eleonas -which in its present situation is not densely built and has still kept enough undeveloped spaces (see sect 8.2)- would be going to get burdened with a lot of typical CBD activities of a high commercial demand, like e.g. office buildings, shopping centres, banks, commercial exhibitions, etc. This would be going to stimulate an increasing demand for land and floorspace which would extend over an area exceeding 55% of the total Eleonas territory as we can remark in table 8.4. If we add to this percentage the land reserved for transport and for accommodating the

Figure 8.4 *The proposed (PD 74D) Land-Use Plan of Eleonas, 1990.*

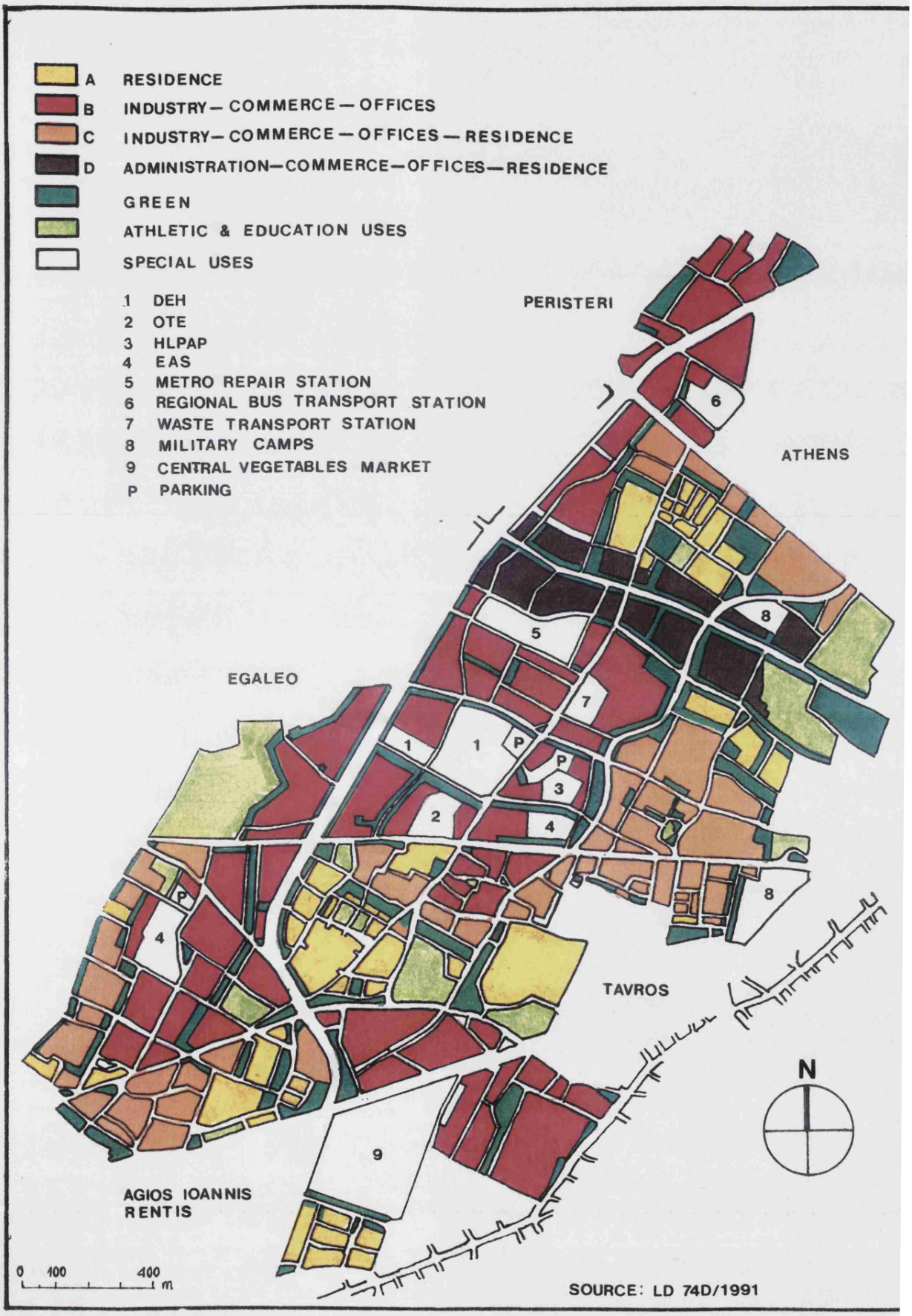


Table 8.4 *General use of land in Eleonas as proposed by PD 74D/1991*

General use of land	Area (stremmas)[1]	percent
-Green and free spaces	1,200	12.8
-Transport network	1,100	11.7
-Land for building development	5,200	55.3
-Land belonging to public enterprises	1,900	20.2
Total	9,400	100.0

[1] 1 stremma=1,000 sq.metres (0.1 Ha)

SOURCE: *Technika Chronika* (Technical Annals) -scientific bulletin of the Technical Chamber of Greece- No 3/1992: 29.

various public organizations, only a small portion of 12.8% would be left for social use and green. The proposed commercialization of the area is also verified by the building regulations the PD proposed for the various land zones, and especially by the high floorspace/plot ratios.[5] Thus, the ratios assigned to residential uses are escalated from 0.8 to 1.6 according to the plot size, whereas those assigned to non residential uses are a little bit lower. More particularly, the proposed ratios assigned to plots exceeding 2,000 square metres, are shown in table 8.5.

Table 8.5 *Floorspace/plot ratios by type of land-use as proposed by the PD 74D/1991 for Eleonas*

Type of land use (for plots of 2,000+ sq.metres)	Ratios
-Residence	1.60
-Manufacturing and handicraft industry, wholesale, warehouses	0.80
-Offices, administration	1.20
-Commercial establishments, shops, banks, commercial exhibitions, car parking buildings	1.20

SOURCE: PD 74D/1991 and YPECHODE 1991.

It should be stressed at this point that the proposed floorspace/plot ratios for Eleonas contradict directly Law 1337/1983 which is the general

[5] According to the Greek building regulations, the floorspace/plot ratio (or otherwise "land appropriation ratio") is a specific number appointed to each plot of land, which denotes the ratio of the floorspace allowed to be built on that plot to the total plot's size. For instance, on a plot of land of say 2,000 sq.metres, with a plot ratio=1.60, 3,200 (2,000X1.60) sq.metres of built space can be erected (of course in a multi-storey building). As a general rule, the higher the plot ratio, the higher amount of floorspace can be erected on it, hence the higher the plot's market price.

legislative framework for urban planning in Greece, and which does not allow those ratios to exceed 0.8 in any case (*Technika Chronika*, No 3/1992: 28). It is obvious that these high floorspace/plot ratios in an area which has till nowadays been kept at a low building rate, would be going to stimulate upswinging land demand for high profitability CBD activities. Increasing land demand for such activities would push land prices at immense heights. This price upswing, in turn, would impose two major sets of negative effects upon the area's spatial and production structure:

(a) The gradual disappearance of free or vacant spaces (which otherwise could be allocated to social uses and organized green) by their transformation into profitable building plots.

(b) The gradual displacement of manufacturing from the area due to intense land price competition from more profitable tertiary uses, leading, therefore, to intensification of the deindustrialization problem in Athens. In discussing with industrialists during the Eleonas' survey, we were told that many companies have closed down their plants, have relocated to peripheral lower cost areas, and have transformed their former plants into office buildings, warehouses, etc., of a higher commercial value in rent or sale prices. This information is corroborated by an earlier empirical study (Tsekouras *et al.* 1985: 271) in which it was shown that almost all the surveyed manufacturing firms that decided to close down their production unit in Athens and to relocate outwards, tended to keep a kind of commercial or administrative activity in the initial site such as warehouses, commercial exhibitions or offices.

As we can also remark in the proposed land-use scheme, the "provision and planting of green spaces" -according to Minister's declaration- is nothing more than narrow strips of land along the transport arteries -i.e. land which has been incrementally added up from the obligatory land contributions of the area's landowners as an "exchange" for their properties' inclusion in the statutory city plan according to Law 1337/1983. It is at least paradox to declare (as the Minister of Environment did) that in such a downgraded place, these

strips which at the aggregate do not exceed 12.8% of the total Eleonas' area, are going to contribute to its environmental improvement. Moreover, those strips of "green" are dispersed within the whole area in such a way as to be impossible to form bigger land entities that could be allocated to public use and real parks of green and recreation. As it can be remarked, the proposed land-use scheme did not define concrete land zones for public use apart from (a) two football fields (which by the way belong to private athletic companies), (b) the Agricultural University and its gardens (Votanikos kipos) and (c) a tract of land belonging to a public school building organization (OSK). The only public uses verbally "provided" by the PD text but not appearing on the land-use map so as to be concretely drafted and legalized on the ground, were the "cultural buildings" which would be supposedly allowed to get constructed in land category D (including, moreover, residence, banking, office uses etc.). Of course, it is at least paradox to believe that "cultural buildings" (that is, social spaces having no exchange value in the market) would be going to develop "naturally" in an area of a high commercial value for tertiary economic activities. The only convincing solution would be specific tracts of land and/or building complexes to be engaged and legislated as "zones of social activities" -something that as mentioned above was neither declared in the PD's text, nor drafted in the accompanying land-use map. It is therefore obvious, that the Minister's declarations for providing social, cultural etc. facilities in Eleonas, aimed rather at political impressions and relating ideological gains, than at creating real presuppositions for the renewal and upgrading of this area along socially sensitive objectives.

The governmental proposal seems to have based itself upon a completely misleading assumption: The assumption that the area's upgrading would come as a "natural" result of the intensification of building activity through the free operation of market forces over land and built space -that is, through the intensification of urban land rent production and distribution mechanisms. Put in other words, what the governmental PD seemed to pursue, was the encouragement of private property developers and other related economic interests to invest in Eleonas without the state budget being obliged to contribute to the renewal and upgrading operation costs (i.e. what the

president of the "Athens' Organization" (OA) Mr. Charisis called "self-renewal and cleansing" of Eleonas) (Charisis 1992: 57). Basic belief seemed to be that throughout such a layer of private investments, it would be quite possible the today's miserable situation of Eleonas to be soon reversed, and this "waste-land" of industrial activity to be transformed into a typical urban services area.

According to the then OA president, which was in charge for carrying out and implementing the renewal project, only two alternatives were left open: The first one was the transformation of Eleonas into a huge metropolitan green park and the second was the creation of the necessary preconditions for the development of central-city activities in it (ibid.: 57-9). The first alternative, according to this simplistic logic, would entail immense state expenditures in order to get implemented (in the president's estimation the cost of land expropriations and infrastructure construction would exceed 600 billion Drs) which, simply, was not possible to be afforded even if this alternative was the desirable one. Thus, the only "realistic option" left for Eleonas was the adoption of the second alternative. As he pointed out:

> I think that the view favouring a low intensity building growth (in Eleonas) -much like what's happening now there- should be excluded from discussion, because it is obvious that it is not capable of attracting private interests which could reverse the existing situation (ibid.: 59).

The previous analysis makes obvious that the early 1990s marked a turning point in the way urban structure and organization was officially conceived. Whereas during the 1980s the public sector was regarded as the prime agent in stimulating spatial change, the Eleonas proposal tried to turn this "model" upside-down in favour of the private sphere. Put in other words, it tried to do in a state-led manner what was taking place in Athens spontaneously for decades -that is, the production of exchange values in the form of built environment through the intensification of land appropriation and urban land rent production and distribution mechanisms.

> Without doubt the motive force underlying the decision for the incorporation of this area into the statutory city plan and for its

> development, is the adoration of the market, the neo-liberal mania which in the case of Eleonas leads to decisions that are going to transform this historically important area in a field of auctions ... and land appropriation Stock Exchange. It is a decision which is made in the context of today's social and environmental conditions of Athens, and which creates a land appropriation scheme that would embarrass even V. Pareto. Unless those persons making political decisions nowadays believe that in the case of Eleonas the private sector is going to pursue its interests pursuing on the same time social welfare in that area (*Technika Chronika* No 3/1992: 99).

The very logic underlying the Eleonas' project was based on the ideological doctrine that when the public sector proves to be ineffective in managing urban change due to internal contradictions and lack of a "critical mass" of social consent, the "weight" should inevitably shift towards market mechanisms. However, this "public planning -versus- market" dichotomy is a naive mode of viewing urban processes. It is based upon a bipolar logic which is unable to see that the crucial question is not how much state planning and how much market should be mixed-up in spatial organization endeavours, but what kind of planning and what kind of market, and which should be their mutual relations; relations in which neither the state would hamper private initiatives, nor private initiatives would impose their short-term profit seeking optic upon the collective interests of society across space. It is well-known to all those involved in spatial development and planning, that the organization of urban space is an extremely complex social phenomenon. It has nothing to do with simplistic viewpoints tending to assign superficial powers to the market forces, nor with paternalist logics imposed rigidly by the state's planning bureaucracies upon the individual urban interests. The market forces are not (and cannot) be "free" in the absolute sense of the word; they cannot function efficiently without legislative frameworks and policy guidelines which help market surpass internally generated irrationalities and problems, and which unfreeze dynamic initiatives within the market sphere itself.

> As it is generally accepted in the history of world economic development, there is not even an example of country whose development was not supported seriously by the state, by means of various combinations of policy tools that have no the slightest relation to the phenomenal *laissez faire* of the free market ideology (Giannitsis, ed. 1993: 9-10).

With regard to the role of "free market" in urban space, it is also known that the rules stemming from its own very logic lead to the maximization of individual capitalist profits from the production and appropriation of the built environment -space treated as an "exchange value"- and to the minimization of social benefit from urban space as a "use value" (see Harvey 1973 for a detailed analysis). The implication of that profit maximization logic is long before experienced in the case of Athens; it has led to the existing major problems every Athenian citizen is confronted with: That is, lack of free spaces for public use, densely built overcrowded neighbourhoods lacking appropriate infrastructure, inadequate natural lighting and airing, inadequate spaces for traffic and car parking facilities, destruction of Athens' cultural heritage throughout the demolition of historical buildings and the erection of profitable multi-storey apartment and office blocks in their place, etc. On the other side, the overestimation of the state's planning capabilities during the Socialists governance in the 1980s, led to serious setbacks in the way planning was perceived by broad urban strata. Even with the best of intentions, real citizen's participation, democratization and decentralization of planning procedures (as the governmental rhetoric was then declaring) (see MNE 1985) were not achieved to any considerable extend as we saw in previous chapters. Urban planning continued to be strictly centralized (statist) and citizen's "participation" was confined -as before- to the right of submitting written objections against predetermined spatial regulations (Christofilopoulos 1990). Citizens' "participation" took therefore a typical form at the "end" of the planning process, without being able to affect substantially the process itself during its evolution. It therefore functioned as an ideological legitimation mechanism rather, than as an actual force of spatial change across consensual planning objectives. Within this wider context, the citizens continued to meet with suspicion any planning endeavour -suspicion that usually was transformed to serious resistance and pressure blocking any planning attempt and leading to the maintenance of existing problems.

What, therefore, should be pursued by the ND government, was not a shift to the free market experiences, but, instead, an effort to establish new relationships and partnership links between public bodies and private urban

interests, based on processes of social dialogue, real participation and consent. But this, was obviously contradicting the very ideological basis of the Conservative government. Thus, what was adopted as a viable solution for Eleonas was a planning model seeking to maximize the flow of private investments in the area, without taking into account the past experiences associated with the increased social concerns for green space provision and environmental improvement. It should be therefore expected that the governmental proposal would be met with serious social scepticism, objections and growing resistance. Such attitudes were expressed by a wide variety of social groupings and collective organizations in an effort to question the juridical authority of the PD 74D/1991 and to postpone its implementation "on the ground". The actions which were undertaken, the various arguments against the governmental PD, as well as the proposed alternatives, will be examined in the following section of this chapter.

8.5. Socio-Political Reactions Against the PD 74D/1991 and Contrasting Views on the Future of Eleonas' Industrial Space

8.5.1. Judicial Review Applications

The first practical reactions after the PD's publication, were initiated (a) by the Coalition of the Left (SYN) and (b) by the Athens local authority legally represented by the then mayor Anthony Tritsis. In 10th of April 1991, six SYN MPs, a SYN member of the European Parliament and six Athenian citizens, submitted a written application at the Council of State requesting the judicial review of the PD at issue (*Technika Chronika* No 3/1992: 21-3). The key points of that application were the following:

- A set of Ministry's decisions and Presidential Decrees -related to reforms of the General Urban Plans (GPSs) of Eleonas' municipalities- drove to the identification of a land zone (zone C) in which mixed (industrial and residential) land uses were allowed to develop. This, in turn, drove to PD 74D/1991 for the regeneration and development of Eleonas as a whole, which, took

place in a way coming in conflict with the Athenian citizens' legal rights. More precisely:

- The Ministry's project was sent to the local authorities of the Eleonas area in August 1990, while the General Urban Plans of those municipalities and the PD 166D/1987 which proposed different land uses from those proposed by the project, were still in power. Thus, both local authorities and interested citizens were misled, since they exercised their legal right to express and submit written objections to the proposed regulations on the basis of the existing frameworks and not on the basis of the new ones as set out by the Ministry's project.

- The term "industrial park under cleansing" which was introduced by the Ministry's project, is contradictory and incompatible with what is meant -in scientific terms- by the industrial park concept. Industrial parks, by definition, are supposed to be planned areas for the location of industry, appropriately organized and equipped with the necessary infrastructure for the orderly functioning of plants, as well for the protection of environment from production activity. Such areas, therefore, have by definition no need of any "cleansing operation". Moreover, one basic characteristic of such areas is the existence of extended green zones around the industrial plots, and the included plants have to abide by environmental protection measures (e.g. adoption of anti-pollution technologies). The PD 74D/1991, as well as the reforms of the General Plans that preceded and underpinned it, come in direct conflict with both the orientations and objectives of the Structure Plan of Athens (Law 1515/1985) and with the scientifically acceptable concept of "industrial park" as highlighted previously. More specifically:

-The total green area in Eleonas as proposed in the Ministry's PD reach about 15% of its whole territory. This percentage is considered as extremely low for the identification of the area as an "industrial park", and contradicts article 15, paragraphs 2 and 3 of Law 1515/85, which states that the organization of traditional industrial areas into industrial parks should secure the necessary green spaces for collective use.

Thus, it is estimated that in a capital city whose total green spaces reach hardly 15% of its whole territory, an equal percentage provided for Eleonas is going not only to legitimize the existing situation in an area that has not the slightest similarity with industrial parks, but, moreover, will probably contribute to the maintenance and further intensification of a major environmental pollution source in the heart of Athens, by contrast to article 3, paragraph 1B of Law 1515/1985 which aims at improving the quality of life for all Athenian citizens.

-The building regulations proposed by the governmental PD, will definitely contribute to a considerable increase of the built space in an area which, in spite of its legal and/or illegal building growth over the decades, has still kept a low built/free space ratio, and hence it is one of the few remaining land reserves that can potentially contribute to the environmental upgrading of the Greek capital by increasing considerably its green spaces. The increase of the built space in Eleonas will bring about major increases of polluting activities and traffic volume, contradicting therefore articles 1, 2 and 3 of Law 1515/85 that provide directions for the protection of environment, for the improvement of quality of life, and for the restriction of further growth of Athenian activities.

- The PD's proposal of allowing the development of mixed industrial and residential uses in adjacent blocks and even in the same block, is not only scientifically and socially unacceptable, but, also, antithetical to the directions and objectives of Law 1515/1985 (article 15, paragraphs 2 and 3c) which clearly state that the industrial parks must be located in reasonable distances from residential areas.

- Law 1515/1985 provided that special care should be taken for the relocation of polluting manufacturing plants which are dispersed across the urban tissue. However, such a special care is absent in the PD at issue: There are no concrete engagements, nor a specific timetable for the relocation of heavily polluting plants which are currently located

within the boundaries of Eleonas a few meters away from residences and schools.

- The PD at issue contradicts a joint decision of 9 Ministries (No. 69269/5387 -published in *Official Gazette* 678/V.9/25-10-1990) which was made on the basis of the country's abiding by the EC directives 84/360 (28 June 1984) and 85/337 (27 June 1985), and which impose that any initiative aimed at regulating and/or constructing industrial zones and other urban works, must be adequately justified by specific environmental impacts assessment studies. The Ministry's study that led to the PD 74D/1991 for Eleonas, not only lacked such a justifying documentation, but, moreover, the study itself did not include even the slightest prediction of the impacts the proposed regulations might have upon the local and the wider Athenian environment. This, also, contradicts article 24 of the Greek Constitution which asserts that the protection of the country's natural and cultural environments is one of the state's major responsibilities, and that special protective and repressive measures should be undertaken for that purpose. Moreover, the same article asserts that the basic criterion which should underlie every spatial planning initiative, is, among other things, the securing of good living conditions for the whole of the area's population. There is no evidence nor a specific study which could ensure that the PD for the regeneration and development of Eleonas, abides by such a fundamental criterion. For that reason, as well as for the reasons previously described, the Council of State is requested to repeal the PD's 74D/1991 juridical validity and prevent it from being implemented on the ground.

The then mayor of Athens Anthony Tritsis, submitted, also, a written application at the Council of State against PD 74D/1991. After the submission he made the following announcement:

> In defence of the rights of the Athenian city and of its citizens for a better life and with respect for nature and history, we were obliged to apply to the Council of State requesting the judicial review of the Ministry's PD.

> The area of Eleonas -which has come in such a situation today under the state's responsibility- is the only hope left for Athens to obtain an extended green zone, to preserve some natural elements like Profet's Daniel torrent which is the last remnant of Athens' historical rivers buried under the asphalt, as well as to revive the memories of the ancient Olive Grove site, of the Holly Road and of the other archaeological sites which the offended PD tries to turn into building blocks.
>
> Since the PD at issue violates on the same time basic EC directives related to the protection of environment, we are also addressing our objections to the respective European bodies.
>
> Our action should not be given political or party hue. We have sworn to serve with determination the interests of the city of Athens, and that's what we are doing now (*Technika Chronika*, No 3/1992: 24).

The key-points of the mayor's written application against PD 74D/1991 (ibid.: 25-8) were identical to those of the previous application, hence they will not be repeated here. The results, however, were that first the judicial review applications postponed the implementation of the PD, and second they prepared the ground for the rise of a wave of social reaction and debate against the governmental project as we will see in the following subsection.

8.5.2. Other Contrasting Views and Propositions (Political Parties, Local Authorities, Scientific and Professional Organizations)

Reactions and alternative views were raised by various social groupings (political parties and movements, local authorities, scientific and professional organizations etc.) as soon as the PD was published and the judicial review applications were submitted to the Council of State. It should be mentioned from the outset, that all those views -with the exception of those expressed by the mayor of Agios Ioannis Rentis which were in tune with the PD's market oriented priorities- converged to a common point: That the likely implementation of the governmental initiative was going to be disastrous not only for Eleonas, but for Athens as a whole, since it was going to deprive the capital from the only land reservoir of a reasonable size which could potentially contribute to its urban and environmental upgrading under different planning orientations with more social and environmental sensitivities. But

this seems to be the only converging point; the various views and prospects for the future of Eleonas diverged from each other in varying extends, as we will see in the following analysis. The political parties tended to view the problem through their different political and ideological "prisms". Other social organizations, and especially the local authorities, tended to view the problem and the prospects of its solution through the narrow "window" of their own local needs, socio-economic pressures and political prospects. Others, especially various scientific organizations, tended to express a rather utopian perspective pursuing the removal of any production activity and the transformation of Eleonas into a huge metropolitan green park (the "green scenario" again). Other more realistic viewpoints took into consideration the importance of the area's production nexus and seeked to underline the "balance points" between economic regeneration and environmental protection of the area. Let us analyze in some more detail the above diverging considerations as expressed in TEE's (*Technika Chronika*, No 3/1992) scientific meeting.

The views held by the delegate of the governing Conservative party had a rather apologetic character. They gave the impression that while the government was aware of the need for green and public spaces provision, it was quite impossible to proceed to a radical dealing with the problem chiefly because of its geographical extend and of the perplexed nature of the established local socio-economic interests. It was therefore implicitly admitted that the government was reluctant to undertake the political cost a radical treatment of the problem would entail in the context of a comprehensive renewal strategy for Eleonas. Thus, the logic of the governmental project -as the ND delegate admitted- was the implementation of some urgent measures which would prevent Eleonas from further degradation (continuation of illegal building-up of the area). He also stated that since the weak state budget was unable to afford the cost of extended land expropriations for the creation of large tracts of green and public spaces, the proposal confined itself (a) to the green linear zones that could stem from the obligatory land contribution of area's landowners, and (b) to the green of private plots' unbuilt parts. The delegate finally stated that the expected building boom after the implementation of the governmental PD, will operate as a strong incentive for the area's

inhabitants to remain in place and as a disincentive for the area's industries pushing them to migrate to the metropolitan periphery.

Such an "excuse", however, could be questioned on four particular grounds: First, the proposed linear green zones along the transport arteries are dispersed in the whole area, hence they would operate rather as "decorative" elements than as real public green spaces. Second, the "unbuilt parts" of plots, as everyone who has walked along Eleonas knows, are mostly used by industries for open-air warehousing, trucks loading-unloading manoeuvres and parking, etc., hence they cannot count as "green space" for Eleonas. Third, the notion of "high cost" (for land expropriations on a mass scale) is relative; it depends on the extend of social benefit that might result. Fourth, the "expected building boom" after the implementation of the governmental project is not going to keep the area's inhabitants in place, since the upswinging land demand for office space and the associated land price increase is going to replace any other activity of a lower profitability potential (be it residential or industrial).

The opposition Socialist delegate presented an alternative proposal whose main points were the following:

- Engagement of all land owned by public organizations (with the exception of that owned by the Public Enterprise of Electricity) for the purpose of allocating it to social uses.
- Increase of green in extended compact land zones.
- Removal of all highly polluting industrial units according to the existing relocation-by-branch studies.
- Renewal of the Eleonas' residential clusters and their separation from low to medium pollution activities by means of thick green belts.
- Reorganization of Eleonas' production activities into industrial and handicraft parks (VIPA-VIOPA).
- Decrease of the floorspace/plot ratios to the level (0.8) as proposed by the Planning Law 1337/1983.

- Creation of a decentralized administrative body for the development of Eleonas in which all interested parts (public, social and local authorities) would jointly participate.

No one would be able to question the sincerity of the above directions, if the proposer had on the same time explained why these objectives (which were also set when Socialists were to office) were never implemented during the crucial period of the 1980s. Such a self-critical stance was completely absent, hence, the proposed alternative -in spite of its concern for the maintenance of industrial employment in the area- was rather aiming at political opposition reasons and ideological gains, than at concrete engagements of what Socialists would actually do after coming back to office.

The Coalition of the Left (SYN) held the view that any planning intervention should not restrict itself within the geographical boundaries of Eleonas, only, but had to be associated with the wider needs of Athens for residential, cultural and social facilities. Eleonas was the last chance for a large-scale urban and environmental upgrading of the whole Athenian agglomeration. Such an intervention, according to the Coalition delegate, should not be guided by narrow economic criteria, but by ecological ones. In such a perspective, the dominant land use in Eleonas should be the green. The delegate did not make any point about how the green scenario would be financed, or about its impacts upon the urban economy, or by whom the whole project would be carried out.

By contrast to the Coalition, the proposal of EAR (a left-wing political party participating in the Coalition) showed remarkable sensitivities for the problem of production and employment maintenance in the area. First, the proposer made the point that the problems of Eleonas had not "technical" origins but social and political ones, and then stated that this area could potentially form a challenging field of a modern intervention policy based upon two directions: First, the allocation of a major portion of land to extended green, social and cultural uses which would contribute to the environmental upgrading of central Athens and to the strengthening of its historical identity,

and second, the creation of organized industrial parks which would contribute to industrial revitalization and development of the area. The EAR proposer finally commented on the need of establishing a participatory administrative body for Eleonas in which the area's local authorities and their inter-municipal associations would have a determinate role.

The proposal of the "Ecologists-Alternatives" political movement, developed along the following directions:

- Eleonas should be included in the Structure Plan of Athens as an area of predominantly green and agricultural land uses.
- Any new urban activity should not be allowed to locate in the area.
- The polluting industries should be removed, and handicraft manufacturing should be re-organized into handicraft parks (VIOPA).
- The land should be allocated to public uses.
- Provision of special incentives to industries wishing to decentralize and disincentives to those wishing to remain in place.
- Creation of an inter-municipal administrative body for the implementation of the operation.

The DIANA delegate pointed out that the governmental PD should be postponed and that a constructive dialogue between the state's planning machinery and the interested social groupings and organizations should start afresh. However, the delegate made no concrete propositions on which directions the area should develop.

The party of KKE es., in criticising the governmental proposal, linked its underlying planning principles with other facets of conservative policy. As the party delegate stated,

> The Manos' PD for Eleonas, which provocatively ignores the social role this huge area could play, is not an individual -probably thoughtless or rash- governmental decision. It was not the easy solution. Unfortunately it is a solution forming organic part of a much wider political plan which is currently implemented at a lot of levels. Just like economy, education, public health and institutions, New Democracy is aiming at

> introducing and materializing its neo-concervative viewpoint in the field of urban planning, environment and quality of life. But -especially in the field of urban planning and environment- there is an ... extremely negative practice ... and a wider culture (which) deteriorated the environment and produced our unliveable cities (*Technika Chronika*, No 3/1992: 47).

The alternative proposed by KKE es. was centred upon the prospect of transforming Eleonas into a metropolitan park of green at the long-run, whereas at the short-run small niches of industrial production should be preserved, and the existing residential clusters should be upgraded. The costs of financing such a long-term project could be incrementally afforded over a 100 years period of time.

The views and proposals of the Athens' city local authority were presented by the assistant mayor in five key-points:

(i) Eleonas is an area whose size, location, historical and specific natural characteristics make it a unique case. These characteristics request that Eleonas should be among the first priorities in every endeavour aimed at strengthening the historical-cultural identity of Athens, at restoring and protecting its landscape and at improving living conditions in it.

(ii) The incorporation of Eleonas in the statutory city-plan, should seek to accomplish the organization, restoration and renewal of the area on a comprehensive basis. Co-ordinated measures and actions, by taking into consideration the structure of economic activities and employment, should tend to maximize the possibilities provided in the area for the creation of collectively used green spaces, along with the possibilities for organizing a modern, environmentally friendly, production area. The unique nature of Eleonas imposes a planning treatment differing from any other area outside the statutory city-plan. The existing production activities should be examined in every detail in order to decide which should remain in Eleonas and which should relocate elsewhere.

(iii) The proposed alternative should have as its first priority the upgrading of the area's environment, the protection of the neighbouring residential clusters and the wider urban tissue. The industrial and handicraft activities should be clustered in clearly specified zones away from residential ones and should be surrounded by thick green belts. The highly polluting industries should immediately relocate as the Structure Plan of Athens imposes. The manufacturing activities which are necessary to remain in Eleonas or to relocate into it from neighbouring residential areas, should be clearly specified with relation to their size, their branch structure, their environmental impacts and their building regulations. The dispersed small manufacturing and handicraft units should be gathered and accommodated in appropriately equipped buildings in order to help them modernize, to introduce anti-pollution technologies and on the same time to release the occupied land. With regard to the large polluting industries, some of them would remain in Eleonas if they decided to introduce environmentally friendly technologies, while others should estimate the cost of introducing anti-pollution technologies in relation to their relocation costs. The area's transport network should be spatially reorganized and planned under environmental criteria, while most of the public organizations that occupy large tracts of land have no relevant reasons to remain in Eleonas and should relocate as to release precious space for social use.

(iv) Dominant land use in Eleonas can -and must- become the green. Extended free spaces should be gradually engaged, planned and added-up flexibly in order to create anti-pollution green zones separating residential from production uses and heavy traffic flows. Such a possibility stems from the existing low built/free space ratio in the area -a ratio that will be gradually becoming lower as long as previously occupied spaces will be released after the relocation of public organizations and polluting manufacturing activities such as tanneries, metal-melting and metallizing works.

(v) The role of Eleonas for the future of Athens cannot be only a central government's concern, but requests increased responsibility on the part of the area's local authorities. The Eleonas issue cannot be confined to the drafting and approval of a land-use plan, only. It leads to the necessity of creating an autonomous and flexible administrative body, capable of supervising and managing the implementation of planning measures and actions, of utilising every possible financial resource, of solving problems that may eventually arise during the whole procedure, and of surpassing possible objections and internal conflict. In such a body central government should collaborate with local authorites, which, moreover, should be given increased responsibilities in relating decision-making.

The mayor of Agios Ioannis Rentis was the only representative of the area's local authorities supporting the governmental PD's market oriented priorities in that meeting. As he asserted, the problems experienced in his municipality (major portion of which is situated in Eleonas) were so pressing, that they could no longer stand any further delay, endless discussions, unfinished plans etc., but, on the contrary, necessitated immediate practical regulations. According to his views, 65% of his municipality's territory was outside the statutory city-plan so that the local authority was unable to control the wave of illegal factory-building constructions which were causing serious environmental pollution and which were increasingly occupying every square metre of free space.

> Nowadays, there is not even the minimum infrastructure in the area... Sewerage systems, roads, free spaces, planning, do not simply exist and this makes the situation become worse day by day. The need of including the area in the statutory city-plan was urgent, and much more urgent was the implementation of a land-use plan. The long-lasting inefficient studies led nowhere; they just maintained the existing situation and consequently very soon it would be impossible for us to find even one square metre of free land (*Technika Chronika*, No 3/1992: 78).

The incorporation of the area in the statutory city-plan according to the governmental PD and the construction of new transport infrastructure, was supposedly going to decrease the traffic congestion in the municipality

and to provide better possibilities of controlling air pollution. In the mayor's view, the mixed land-use scheme (residence-tertiary activities) proposed by the governmental PD would contribute to the economic revitalization of his municipality, whereas the industrial activities would inevitably be forced to relocate gradually since the favourable conditions for their operation would be lost.

The mayor of Egaleo, by contrast, disagreed with the governmental project and supported the green scenario on a long-term basis. On the short-term, however, he stated that the industrial installations which have been legally built in Eleonas should remain into organized industrial parks for a period of ten years, with the prospect to relocate by the end of that period. Generous incentives should be provided for that purpose. The industrial activities which have been sheltered in illegal buildings or which have not operation permits, should be removed immediately from the area. The remaining industries for the 10 years period, should have to abide by strict environmental anti-pollution controls and should not be allowed to expand. Working people in these industries should have to know from the outset that their jobs would not be permanent. In the mayor's view, it would be preferable these jobs to be "sacrificed" if the purpose of improving the living conditions of 3.5 million Athenian people were to be attained. Establishment of new industries should not be allowed in the area. The floorspace/plot ratios should fall to 0.8 for residential uses and to 0.4 for industrial ones. This would force land prices fall considerably, so that the expropriations cost for the creation of extended green spaces would fall as well. This cost could be afforded partly by green taxes for a period of five to ten years, and partly by combined state budget and EC funding.

The alternative proposal of Tavros local authority, was based on the following points:

- Eleonas is one of the most downgraded areas of the Athenian agglomeration, since it has operated for years as a receiving place for all those activities which were "undesirable" at other typical urban areas.

- Eleonas, however, has become a production place of great importance to the Greek economy as a whole and to the Athenian labour market.
- Eleonas is a major source of air and water pollution affecting the whole metropolitan area.
- Despite the unplanned -and to a good extend illegal- building growth of the area, there still exist possibilities of revitalizing its production base and the other linked economic activities, and on the same time of protecting and upgrading its wider environment.

In the above context, the alternative objectives for the renewal and development of Eleonas should be the following:

- Removal of polluting activities from residential areas. Clear geographical definition of those areas and provision of appropriate social facilities and infrastructure networks.
- Provision of the maximum available space (up to 50% of the whole area) for public use and green.
- Undertaking of anti-pollution measures for the existing industrial installations and carrying out of comparative cost studies for the relocation of highly polluting ones.
- Removal of tanneries, metal-melting and metallizing works from the area within a predefined time-schedule, according to the directions of the Structure Plan of Athens.
- Prohibition of new manufacturing and handicraft activities in Eleonas.
- Creation of industrial parks for the relocation of production units which are currently dispersed within the municipalities' residential tissue.
- Creation of transport and other infrastructure networks in the area.

These objectives should be materialized gradually, by starting from some piecemeal "soft" measures (such as for instance expropriation of vacant land, relocation of public organizations, widening of the existing roads, etc.) and ending up to the implementation of the whole "hard" package of objectives. Such a comprehensive operation necessitates the creation of an inter-

municipal development agency, in which state organizations, local authorities, scientific institutions and professional chambers will participate, and which will be given increased legal and financial powers to tackle with crucial issues such as:

- supervision of the process of land and money contributions according to the provisions of Planning Law (1337/1983)
- anti-pollution controls and implementation of measures
- recording of needs and implementation of relocation programmes
- expropriations and/or purchases of land and buildings
- creation of money deposits from landowners' financial contributions (L.1313/1983) and from any other external source of funding
- responsibilities for creating and upkeeping green zones

By contrast to Tavros local authority's structured and comprehensive proposal, the local authority of Peristeri presented a brief set of rather scattered thoughts in which the green scenario was adopted and the removal of every production activity was proposed. No comments were made about the loss of thousands of manufacturing jobs, the dismantling of the local economic linkages, the financial resources for the implementation of the green scenario, or the composition of the administrative body for carrying out the whole project.

The president of the league of Eleonas (Syndesmos Eleona) in which the area's local authorities were represented, proposed a balanced scheme, in which the need to protect the environment co-existed with the need to protect the industrial space and labour of Eleonas. He first connected the governmental PD with the class character of the area by stating that since the wealthier social strata have moved to the suburbs, Eleonas is now populated by working-class communities which cannot afford the increased costs of suburban living. This social segregation of space can probaly explain the government's inability to face the real problem and to realise that the implementation of the PD at issue is going to contribute to the further degradation of the area. He then repeated the league's position, which had been submitted

to the Ministry of Environment on 25th of January 1989, namely: (a) That Eleonas is one of the most downgraded areas in Greater Athens and one of the most severe sources of air and water pollution; (b) That the economic activities which have been developed in the area play a much important role in the Athenian labour market (especially in industrial, transportation, wholesale and warehousing employment) and in the national economy as a whole. (c) That despite the unplanned growth of the area there still exist possibilities for both its productive regeneration and environmental improvement. In that context, the governmental PD should be postponed and Eleonas should develop along the following directions:

- Removal of highly polluting activities from residential areas.
- Construction of infrastructure networks and provision of social facilities in those areas.
- Creation of large green spaces.
- Implementation of anti-pollution measures and comparative cost studies for relocation of highly polluting industrial plants.
- Improvement of the road system and of the other infrastructure networks.
- Creation of modern industrial parks for gathering the dispersed manufacturing units.

Some other relating directions were set forth as well: (a) coping with the area's problems should be given priority of immense importance for the social, economic and environmental structure of Athens; (b) a new definition of the Eleonas' geographical boundaries should take place, in order to include neighbouring areas that function as a totality; (c) securing of the necessary financial sources; (d) carrying out of new planning studies based on more detailed information about the area's characteristics; (e) definition of criteria under which production activities could locate or relocate into Eleonas, etc. Finally, the development of the area should be managed in all its stages by a representative inter-municipal body.

A balanced scheme between green and production was also proposed by TEDKNA (Local Union of Municipalities and Communities in Attica). The objections of the Union against the governmental PD were the following:

- The rise of floorspace/plot ratios as proposed by the governmental PD, would stimulate an upswing of the property prices so that the acquisition of land for public use (above the amount that could be gathered by the obligatory contributions imposed by Law 1337/1983), would become practically impossible.
- The PD legitimizes the co-existence of residence with incompatible industrial activities.
- The PD does not propose the removal of activities (such as tanneries, metal-melting and metallizing works, etc.), which are incompatible even with other manufacturing activities located in industrial parks.
- The PD is going to maximize the building volume at the expense of green spaces.
- The PD does not propose the participation of the area's local authorities in the whole operation.

According to the Union's proposal the following actions and measures were of immense importance:

- Land owned by public organizations should be listed and engaged for the purpose of being allocated to social uses.
- The historical and natural monuments of the area should be preserved.
- The percentage of green should be drastically increased in unified extended spaces.
- The transport network should be planned as to provide freeways decreasing traffic congestion.
- The highly polluting units should be removed from the area under a concrete time-schedule
- Low to medium polluting activities should be separated from residential ones.
- The residential areas of Eleonas should be renewed

- The floorspace/plot ratios should fall to 0.8 (at maximum) for residential uses and to 0.4 for industrial ones regardless of plots' sizes.
- A participatory administrative body for Eleonas should be created.

The Development League of Western Attica (ASDA), presented an elaborate proposal, according which planning actions would focus upon three key issues: (a) green (b) industry and (c) transport. More precisely:

(a) With regard to green provision, land owned by public organizations should be engaged and transferred to the responsibilities of the area's local authorities. On the same time, all Eleonas' activities having no relevant reason to be in close proximity to the Athenian centre should be pushed to relocate, and the land they presently occupy should be expropriated. The expropriations cost should be calculated on the basis of the previous land prices (those prevailing before the price upswing caused by PD 74D), and should be afforded partly by the state budget, partly by the remaining manufacturing industries, and partly by a special tax afforded by all Athenian citizens. The land deposit collected and allocated to green, should reach at least 50% of the whole area.

(b) With regard to industry, major concern should be given to production modernization initiatives and to job maintenance. Production modernization should develop in tyne with environmental protection criteria. For every industry in Eleonas special feasibility and environmental impacts assessment studies should be carried out. The highly polluting industries would have either to relocate, or to introduce environmentally friendly technologies if they wished to remain in place. All manufacturing activities should be arranged in industrial and handicraft parks which should provide considerable amounts of land for green and social uses. These parks should also receive manufacturing plants relocated from adjacent residential areas.

(c) With regard to transport, the area's road network should be spatially reorganized as to separate supra-local from local flows, which are today mixed-up and cause serious traffic congestion problems.

A decentralized body for managing the whole operation should be created. The decisive role should be given to the area's local authorities; private investment agencies and scientific-technical organizations should also participate in that body.

The Association of Athens and Piraeus Industries (SVAP), accepted the basic logic of the governmental PD, but under the precondition that definite steps towards its improvement -with regard to industry- should be followed. The delegate of SVAP stressed out emphatically (a) that an efficient approach to the Eleonas' problems necessitates every involved part to exhibit a sense of good will and collaboration; (b) that the maintenance of the existing situation and the unbridged schism between the various contrasting views could not be acceptable any more; (c) that the problems of Eleonas necessitate immediate interventions, since the long-lasting lack of concern and the state's planning failures perplex further the existing setbacks, create new problematic situations and raise the costs of intervention at immense heights.

> In other words, what was yesterday feasible has now become unfeasible without even asking us, and what is today possible ... will tomorrow become impossible, leaving us to blame each other about which one loves this place more than the others, which one strives to impose his views upon the others (*Technika Chronika,* No 3/1992: 120).

In that context, the Association called every involved part to contribute to a relaxation of internal conflict and to a convergence of the various contrasting views and propositions.

With regard to the specific problems, the industrialists' representative stated that the Association (a) accepts the prohibitions iposed by PD 84/84 upon the establishment of new industries not only in Eleonas but in the wider area of Athens, and that (b) certain industries is necessary to relocate from Eleonas, under specific criteria such as:

- Relocation should encompass whole branches and not separate companies.
- Plants' relocation should be subsidized (since it differs from households' moves).
- The receiving spaces should be properly organized and equipped with the appropriate infrastructure.
- All parameters constituting the relocation problem (costs, firms' technical and economic possibilities, employment change, timing, existence of properly skilled labour in the new location, etc.) should be carefully estimated in detailed relocation studies.

With regard to the future of Eleonas, the SVAP delegate made the following points:

- Eleonas is by definition a downgraded polluting area. Putting emphasis on its historical past is therefore meaningless, since every corner of the Greek land has such a historical past.
- The area is not a "new land", hence we cannot plan it "in vacuum". The supporters of the green alternative, should realise the huge amount of capital invested in it over the decades, as well as the thousands of people which work in it and which would be reluctant to follow the relocated industries in the new unknown places.
- The propositions requesting the withdrawal of the Eleonas' PD, are going to add 10 more years in a period of planning failures, and hence to perplex further the existing problems.

In SVAP's opinion, the PD 74D/91 should be implemented, under the following necessary immediate improvements:

- Reform of the existing PD 84/84 as to allow technological modernization of existing manufacturing in Greater Athens.
- Immediate construction of the necessary infrastructure in Eleonas and creation of an administrative body in which those contributing in land

and money (i.e. industrialists and other private interests) should participate.

- The option of relocating the old residential clusters away from Eleonas' industries should be examined (wherever necessary). Measures for the peaceful coexistence of industrial and residential activities should be undertaken.
- Exclusion of industries from the regulations imposed by Law 1337/1983; otherwise, the upswing of land prices due to the inclusion of the area in the statutory city-plan is going to make the money contribution of industries unbearable.

The Technical Chamber of Greece (TEE) held the view that despite the area's ongoing degradation there still were possibilities for a comprehensive renewal policy which could generate the conditions for an ecological upgrading of Athens through the creation of a large metropolitan park combined with niches of work and residence. Emphasis, however, was put on environmental protection initiatives:

> The area's planning should aim at decreasing environmental pollution of Greater Athens, which means first the decrease of pollutants produced in Eleonas, and second the undertaking of regulations and measures that could make the area function as an anti-pollution filter of Athens. Its dominant use could not be other but green (*Technika Chronika*, No 3/1992: 52).

A special administrative body -in which central and local governments should participate- could be created for implementing the proposal. During the first decade of its implementation the following goals should be pursued:

- Release of public land from its present uses and its allocation to green.
- Expropriation of large tracts of privately owned land and their allocation to green as well. Preference should be given to vacant land, or to land sheltering cheap constructions or highly polluting activities which should be obliged to relocate outside Greater Athens.
- Control of pollution produced by big industrial units in Eleonas through the obligatory adoption of anti-pollution technologies.

- Construction of production niches (industrial parks) in which only branches serving the basic needs of the neighbouring population will be allowed to locate and/or relocate.

In TEE's proposal, the land-use composition by the end of the first decade would be as shown in table 8.6.

Table 8.6 *Land-use configuration of Eleonas as suggested by the Technical Chamber of Greece.*

Land use	Area (in stremmas)	Percent
A. Private activities	2,775	30.83
-Big industrial units	1,100	12.22
-Industrial parks	1,000	11.11
-Recidential areas	675	7.50
B. Public organizations (Agricultural University, athletic installations, Vegetables Market, METRO repair station, and DEH	750	8.33
C. Collectively used spaces	5,475	60.84
-Road network	700	7.78
-Green park	4,775	53.06
Total	9,000	100.0

SOURCE: Adapted from *Technika Chronika*, No.3/92: 52-3.

During the second decade, certain measures for the further increase of green space could be undertaken -as for instance relocation of existing manufacturing plants, or of certain public organizations.

All those measures, in TEE's estimation, would result in a total of 20,000 labour redundancies in the area. Paradoxically, in an era of ongoing deindustrialization of Athens, the TEE's delegate stated that "the problem is not so terrible and can be faced." (*Technika Chronika*, No 3/1992: 53). However, there was no a particular suggestion about how this could be accomplished.

The cost of the TEE's renewal proposal was roughly estimated as follows:

-Cost of private land expropriation: 125 billion drs.
-Cost of industrial buildings expropriation: 145 billion drs.
-Cost of construction of industrial parks: 30 billion drs.
-Cost of construction of green park: 25 billion drs.

The total cost of about 325 billion drs. could be covered by the following sources:

- EC funding (Integrated Mediterranean Programmes)
- Incomes from selling and/or renting floorspace in the industrial parks
- Incomes from a special indirect tax added up in the price of gasoline (5 drs/litre).
- Incomes from a special direct tax paid annually by all Athenian inhabitants according to their residence' size (25 drs/sq.metre of residential floorspace).
- Money contribution of all Athenian industries according to size, profits and degree of pollution.
- Funding from the state budget.

The delegate of the Faculty of Architecture suggested that the governmental proposal not only was unable to solve the complex problems of the area, but also was about to aggravate them in both economic and environmental terms. The inclusion of the area in the statutory city-plan under conditions of land appropriation maximization, would benefit only the area's landowners, whereas, contrarily, the whole Athenian population would be called to undertake the social and environmental costs of that profit maximization logic. Moreover, the upswing of land prices and rents would worsen the position of industry, and the negative externalities caused by excessive agglomeration of people and activities to the area would make impossible the improvement of working and living conditions in it. In this context,

> the only acceptable proposal under the existing environmental conditions is the one suggesting the gradual transformation of the area into a recreation zone as part of a wider metropolitan system of green

spaces which would be able to develop under a long-term plan with concrete stages of growth, organization and implementation (*Technika Chronika*, No 3/1992: 99).

According to the suggestion, the area's industrial activity could be gradually relocated into industrial parks on the metropolitan periphery, which could be able to provide favourable infrastructural and organizational support to the relocated industries, contributing on the same time to the protection of environment by imposing strict criteria of operation and control upon the relocated plants. In the above direction, some urgent measures should be also undertaken:

- Withdrawal of the governmental PD and postponing of the building permissions in Eleonas.
- Creation of a special administrative body and a property registration system for the area.
- Identification of the area as "zone in transition" and public sectors' priorities in land purchases.
- Beginning of planning studies for the system of Attica's industrial parks as a whole and implementation of the existing ones for individual industrial areas.
- Creation of a system of incentives for encouraging relocation of the Eleonas' industries into the peripheral industrial parks.
- Beginning of technical-economic studies for the creation of a system of metropolitan green, integral part of which would be the area of Eleonas.

Of parallel environmental priorities was the proposal suggested by the Association of Greek Civil Engineers (SPME). In its view, Eleonas should be transformed into a wide green belt connecting the archaeological inner-city sites with the rest of the Athenian urban tissue. As the previous proposal, this one suggested the relocation of production to peripheral sites in parallel with construction of high-speed transport networks connecting them with Athens. Some immediate restrictive measures were also suggested:

- Prohibition of any new building activity in Eleonas and monitoring of the area on a permanent basis.
- Imposition of heavy penalties to those building illegally in the area.
- Prohibition of landed property transactions (which inflate land prices in the area).
- Prohibition of operation permits for new industries.
- Controlled renewal of old operation permits.

The cost of SPME's proposal was estimated to be around 400 billion drs and could be covered by combined sources such as EC funding, state budget and special taxes paid by the Athenian citizenry.

The proposal of the Association of Greek Architects (SADAS) favoured the same green option, but its underlying logic was based upon the unique topographical and ecological characteristics of the area in relation to those prevailing in the wider Athenian space. According to this view, the area included in Eleonas is the lowest level of the Athens basin and any further building volume in it would lead the whole ecosystem in certain deterioration.

> Manos' project says nothing about the impacts of such a (building) growth, about the dramatic increase of densities, of traffic, of smog, about the destruction of the only possibility left for the compactly built areas around Eleonas to breath; (it makes) no comment on some planning principles or on some kind of Master Plan (*Technika Chronika*, No 3/1992: 127).

In that context, the only acceptable alternative in SADAS' view, is the transformation of Eleonas into a metropolitan park of green. No suggestion was made about how this goal would be accomplished and what this would entail for the local and wider metropolitan economy.

In a brief presentation, the delegate of the Association of Survey Engineers (SATM) suggested: (a) the withdrawal of governmental PD; (b) the postponing of building permits in Eleonas; (c) the prohibition of new operation permits for manufacturing plants; and (d) the beginning of a substantial dialogue between the interested parts for reaching a consensual solution. The

basic suggestion was the transformation of Eleonas into green, combined with some restricted zones of work and residence.

In a text submitted jointly by four collective organizations (TEDKNA, TEE, EKA, SYNDESMOS ELEONA), the governmental PD was criticised on the grounds that the proposed regulations lacked vision and did not take into account the role Eleonas could potentially play in both economic development and environmental upgrading of Athens. The disagreement of the joint text with the PD was centred on the following points:

- The extremely low and dispersed into strips green proposed by the PD.
- The extremely big floorspace/plot ratios.
- The mixture of polluting and non polluting activities.
- The long period of time (20 years) provided to the polluting industries in order to relocate.
- The maintenance of land owned by public organizations in its present use, without any prediction for the future.
- The adding up of new public organizations that have no the slightest relation with the character of the area, nor any profound reason to be located near the city centre.
- The lack of special environmental studies which are necessary in such large-scale urban projects.

On the basis of those objections, the four organizations suggested the withdrawal of the PD, the creation of a decentralized body for the administration and renewal of the area, and the identification of Eleonas as an area of strategic significance for Athens. The goals of a new approach should be:

(a). The provision of large green spaces combined with: (a.1) athletic, cultural and recreation activities and (a.2) measures that would strengthen the historical and archaeological significance of particular areas as for instance Holly Road (Iera Odos).

(b). Modernization of the existing production base and job maintenance. This goal should be combined with: (b.1) 5-years timetables for the relocation of highly polluting industries; (b.2) construction of industrial parks in properly selected sites of Eleonas for the organized clustering of the dispersed manufacturing units. (Non polluting units which are necessary for the basic needs of the population and which have a significant scale of production and modern infrastructure, would be able to remain in place). (b.3) carrying out of special environmental and feasibility studies for each manufacturing unit which would remain in the area.

(c). Selective allowance of other non-industrial uses to develop (residence, commerce, warehouses, offices etc.). Special studies should be carried out in order to decide which uses should be regarded as necessary for the area and which should not.

(d). Special transport regulations aimed at: (d.1) preventing supra-local traffic flows from being mixed up with local; (d.2) facilitating transport connections of the area with the wider urban network; and (d.3) helping pedestrians to access easily the green and public spaces.

The financing of such a project could come from combined sources such as (i) the programme of public investments, (ii) money contributions of the area's landowners as imposed by Law 1337/1983, (iii) likely special taxes and (iv) likely incomes that would be collected by the Eleonas' administration agency.

8.6. Conclusion: Which Policy for Eleonas?

If we try to codify in very rough lines the basic propositions for Eleonas, we can sketch table 8.7 in which the degrees of convergence/divergence between the various social actors involved in Eleonas are shown. Convergence/divergence is related with the following priorities:

- Priorities in green and free spaces provision
- Priorities in maintaining industrial employment
- Priorities in employment shift from production to tertiary activities
- Priorities in strictly marked-led initiatives for the area's renewal and development
- Priorities in participatory processes for the area's renewal and development.

All above priorities have been graded according to the degree of interest expressed by the involved social groupings and organizations for each one of them. Although the information included in this table abstracts from the complexity and multiplicity of ideas and proposals expressed, we found no other way to make our point clear. I.e., that there is no still a "common ground" on which a long-term consent on the future of a major portion of the Athenian industrial space could be established.

Table 8.7 *Codification of Various Social Actors' Prospects and Priorities for the Development of Eleonas*

SOCIAL ACTORS INVOLVED IN ELEONAS	PRIORITIES IN GREEN & FREE-SPACES PROVISION	PRIORITIES IN MAINTAINING INDUSTRIAL EMPLOYMENT	PRIORITIES IN EMPLOYMENT SHIFT TO TERTIARY ACTIVITIES	PRIORITIES IN MARKET-LED INITIATIVES FOR RENEWAL & DEVELOPMENT	PRIORITIES IN PARTICIPATORY PROCESSES FOR RENEWAL & DEVELOPMENT
POLITICAL PARTIES & ORGANIZATIONS					
A.GOVERNMENTAL					
MINISTRY OF ENVIRONMENT (PD 74D)	+	+	+ + +	+ + +	--
ND	+	+	+ + +	+ + +	--
B.NON-GOVERNMENTAL					
PASOK	+ +	+ + +	--	--	+ + +
SYN	+ + +	+	--	--	--
EAR	+ + +	+ + +	--	--	+ + +
ECOLOGISTS-ALTERNATIVES	+ + +	+	--	--	+ + +
DIANA	--	--	--	--	--
KKE es.	+ + +	+	--	--	--
LOCAL AUTHORITIES					

SOCIAL ACTORS INVOLVED IN ELEONAS	PRIORITIES IN GREEN & FREE-SPACES PROVISION	PRIORITIES IN MAINTAINING INDUSTRIAL EMPLOYMENT	PRIORITIES IN EMPLOYMENT SHIFT TO TERTIARY ACTIVITIES	PRIORITIES IN MARKET-LED INITIATIVES FOR RENEWAL & DEVELOPMENT	PRIORITIES IN PARTICIPATORY PROCESSES FOR RENEWAL & DEVELOPMENT
ATHENS	+ + +	+ +	—	—	+ + +
AGIOS IOANNIS RENTIS	+	+	+ + +	+ + +	—
EGALEO	+ + +	+	—	—	—
TAVROS	+ + +	+ +	—	—	+ + +
PERISTERI	+ + +	+	—	—	—
LEAGUE OF ELEONAS	+ + +	+ + +	—	—	+ + +
TEDKNA	+ + +	+ + +	—	—	+ + +
ASDA	+ + +	+ + +	—	—	+ + +
INDUSTRIALISTS ORGANIZATION (SVAP)	+	+ + +	—	+ + +	+
SCIENTIFIC & PROFESSIONAL ORGANIZATIONS					
TEE	+ + +	+	—	—	+ + +
FACULTY OF ARCHITECTURE (NTUA)	+ + +	+	—	—	—
SADAS	+ + +	+	—	—	—
SPME	+ + +	+	—	—	—
SATM	+ + +	+	—	—	—
JOINT PROPOSAL (TEDKNA, TEE, EKA & LEAGUE OF ELEONAS)	+ + +	+ + +	—	—	+ + +

+ + + High degree of interest

+ + Medium degree of interest

+ Low degree of interest

— Lack of any consideration

Apart from the market oriented approach which was previously presented and criticized, the alternative views and proposals can fall into two major groups:

A first group considers that the most crucial problem of the Athenian agglomeration as a whole, is the environmental problem. That is, the

tremendous lack of free green spaces -spaces which Eleonas would potentially provide if it were transformed into a large green park of metropolitan significance.

Although this alternative does have a real basis (the problem of environmental pollution in Athens) there is a major problem associated with its practicability. The dismantling of a huge production space offering employment to more than 40,000 people and its transformation into a metropolitan park, would inevitably result in serious political costs for the government at office in an era of ongoing de-industrialization, job loss and general social unrest. Even if the financial cost of such a greening operation could be practically afforded (by means of a combined state and EC funding, and/or by green taxes paid by all Athenian citizens for a certain period of time as various views have proposed), it would be much difficult for the decision-makers to convince that 40,000 lost working positions would be normally absorbed at the short-run in other, tertiary, activities of the wider metropolitan space-economy, provided that there was no a strategic development plan -or even an elaborated vision- for the tertiarization of the specific area of Eleonas.

Probably the supporters of the green option have regarded that its likely implementation would not affect the economic base of Greater Athens as a whole, since it could evolve in parallel with policy measures aimed at initiating plants' relocations into industrial parks at the fringe of the Athenian agglomeration (*Technika Chronika,* No 3/1992: 100). Such a perspective, however, underestimates two crucial points:

First, it is the European experience pointing to the opposite direction, i.e. to the need of maintaining a variety of employment opportunities, economic interactions and ways of life at city-centres. Past economic processes

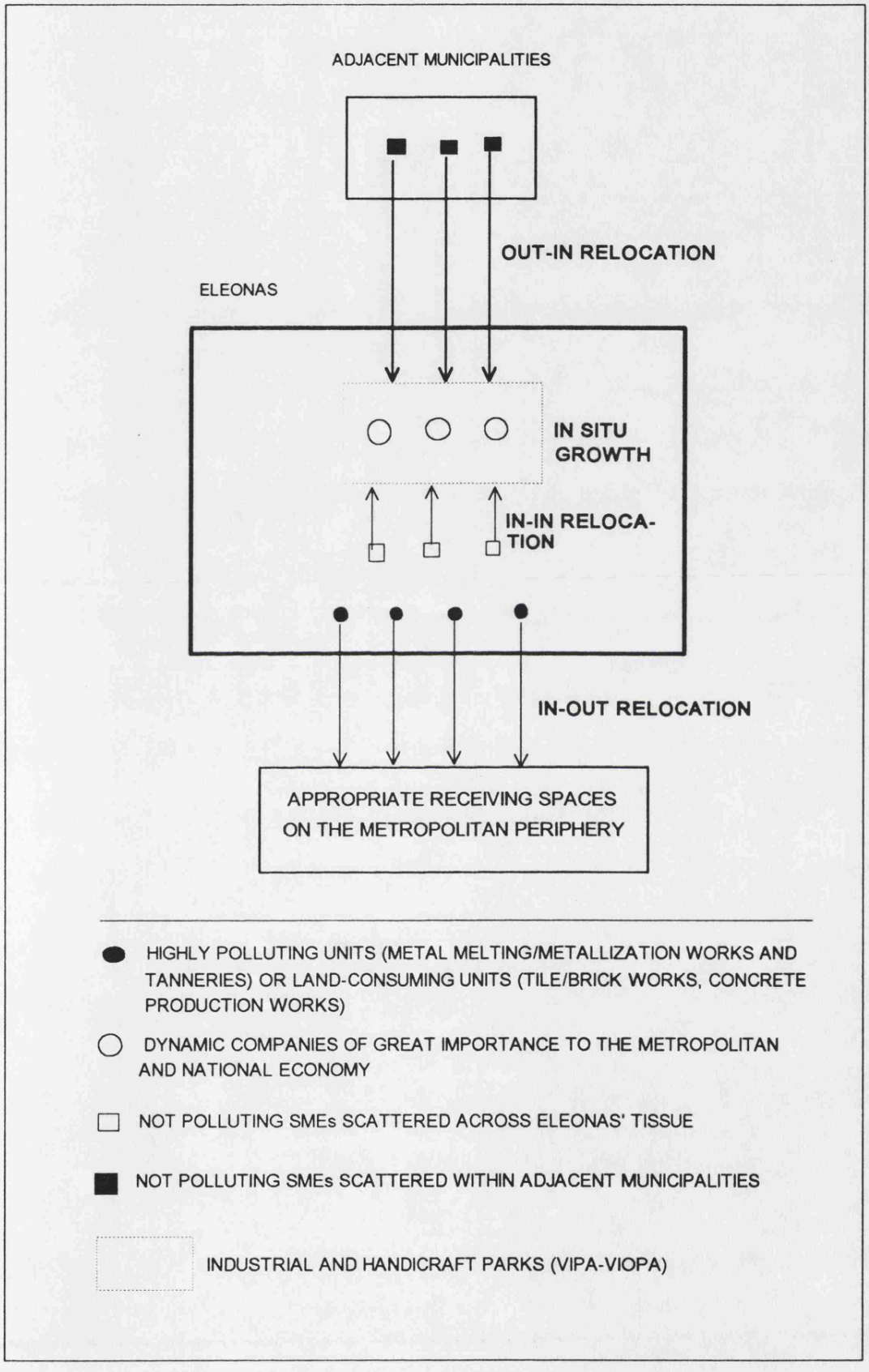
have favoured the migration of manufacturing from inner city sites outwards (chap. 1), while the deindustrialization processes of the 1970s and 1980s have reinforced the abandonment of inner-city sites. The city-centres, therefore, lost their past warmth and variety which was based on interactive communication between different social groupings, mentalities, working cultures and ways of life, and criminal behaviour has largely increased in such derelict areas. The deterioration of their industrial base, the ageing of their infrastructure and the degradation of their environment have put public alarms on: Integrated programmes and measures were undertaken during the 1980s in major European urban centres (chap. 6, sect. 6.4) aiming at economic regeneration and environmental improvement of their declining inner-city areas. Special care was given to initiatives aimed at making inner cities more human and productive, at improving living and working conditions in them, at stimulating social and cultural interaction and at diminishing problems of social alienation and exclusion. Special concern was particularly given in finding ways to attract light non-polluting manufacturing activities at inner city sites (see Chapman and Walker 1987: 240-7; CE/CDUP/CD 1985).

Second, it is the problem of relocation *per se* (see Kourliouros 1995 for a detailed reference). This problem, as expressed in the concrete case of Eleonas, has various "facets" and options as it can be schematically shown in fig. 8.5 More precisely:

In-Out Relocation

There are manufacturing branches (e.g. metal-melting works, metallization works and tanneries) which, due to the "nature" of their production process, cannot remain in place and should relocate into isolated sites on the metropolitan periphery. Manufacturing units linked-up with the building industry -e.g. brick and tileworks, or concrete production works- are land consuming ones, offer little employment opportunities, and their relocation to peripheral sites would provide ample space for public use and green in Eleonas. Moreover, these

Figure 8.5 *Facets of the relocation problem in Eleonas*



industries have no profound reasons to remain in place: The central areas of Athens have been built-up, so that those industries' past comparative advantage of "proximity to market" makes no sense any more. Many Eleonas' units belonging to the above branches have realised that there is no future for them in this area, and they could relocate into the metropolitan periphery if the Ministry of Environment had defined and organized the appropriate "receiving" spaces -something which has not still been accomplished. So, these units have no other option than to remain in Eleonas.[6] There are also manufacturing industries which decide to migrate outwards for a number of reasons the most pressing of which are: their inability to expand *in situ* because of shortages and high cost of available land, or because of restrictions imposed by the existing legislative framework (PD 84/84), various negative externalities that increase the individual plants' costs (e.g. transport delays due to traffic congestion, obligatory closure of plants in days when air pollutants reach very high levels), reactions of citizens and/or local authorities, etc.

In Situ Growth (expansions and new plants births)

There are modern dynamic companies in Eleonas which not only should not relocate (since this would probably entail firing of the existing workforce and recruitment of new one in the receiving area), but to be further supported by securing appropriately organized space in Eleonas (industrial parks) for their expansion *in situ*, and by reforming the existing legislative framework. This is so because such enterprises not only contribute to the maintenance of local employment and economic linkages, but also because their scale of production, the technologies they adopt and their more general economic profile are such that can be regarded as important not only for the area but for the national economy as a whole. And what is more important, due to their modern technological equipment they do not cause serious environmental pollution as special measurements have shown (ERG 1992a). To the

6 Information provided in interviews.

degree some of them cause pollution, they do have the economic capability to modernize their anti-pollution installations if legally obliged to do so. The possibilities of establishing new ones in modern branches should be also pursued.

In-In Relocation

Their is a great number of SMEs in Eleonas which employ a good portion of the local workforce and which may not cause environmental pollution, but their "random" location within the area -and especially along narrow roads- causes serious traffic congestion problems, feeds industry-vs-residence tensions and anti-industrial attitudes, and contributes to the maintenance of urban "chaos". As it is known, the survival of such small firms is heavily dependent on the network of external economies they can only get in central city locations (Chapman and Walker 1987: 232-34; Bale 1988: 158-64; Wassenhoven *et al* 1989: 74-86). Any proposal of relocating them outside their initial setting, equals to proposal of closing down them, not only because relocation implies the loss of their "vital" economic space in the city centre (suppliers, markets, etc.), but also because their small family-type size and weak economic abilities make them usually unable to afford the costs of relocation even if they are subsidized by the state. Moreover, their relocation option implies wider negative side-effects on the urban economy in that the complex nexus of their interlinked activities (buyers, suppliers, products, etc.) will be dissolved. As Wassenhoven *et al* have put it:

> Wherever we intervene, especially at inner-city areas of manufacturing activity, we must never forget that we have to do with a sensitive economic "ecosystem" whose chains of internal relations could not be dissolved without a considerable social cost.
>
> It is about a *permanent effort of establishing an equilibrium between environmental protection and urban regulation on the one hand, and maintenance -as much as possible- of the complex life of the production system on the other.* (Wassenhoven *et al* 1991: 41).

Such SMEs could undertake relocation within Eleonas, in properly organized multi-storey buildings offering common accomodation, infrastructure and support to the relocating SMEs in order to help them minimize the initial risks and develop.

Out-In Relocation

Eleonas' industrial parks and multi-storey artisanal buildings could also offer accomodation to non-polluting SMEs located within residential areas of the adjacent municipalities and feeding "industry-vs-residence" tensions.

For all above reasons, it is not so simple to propose a wave of mass relocations from Eleonas in order to obtain space for implementing the green alternative, without taking into account all those perplexed particularities of the relocation problem. It would be much wiser, instead, to propose first the undertaking of special feasibility studies for the area's SMEs in order to find out:

- which branches could be modernized *in situ*,
- which could relocate into industrial and handicraft parks (VIPA-VIOPA) created within Eleonas,
- which could relocate into VIPA-VIOPA outside Greater Athens, or to ETVA's regional estates,
- which are not viable and have to modernize or, otherwise, to close down and
- which could relocate from adjacent municipalities in Eleonas' VIPA-VIOPA.

It is evident that relocation proposals delivered -even with the best of intensions- without a lot of scepticism and careful calculation of the pros and cons, contribute to the reinforcement of the anti-industrial climate and feed deindustrialization and job loss tendencies in Athens.

Another group of views and proposals accepts that priorities should be directed to green and environment improvement, but on the other hand it keeps some degrees of concern about the need to maintain economic activity and productive employment in the area. This group of views comes mainly from the area's local authorities and inter-municipal leagues, many citizens of which work in Eleonas and can quite clearly envisage which the impacts of the green option upon the local labour market would be if this option were implemented "on the ground". However, the degree of concern for productive jobs maintenance varies from low to average (with some exceptions), whereas green concerns still remain dominant.

It should be stressed out, that this thesis' persistent antithesis to anti-industrialism does not imply the justification of the past industrial location practices which drove this inner-city production space to its present problematical situation. Instead, it underlines the need of establishing a "platform" on which initiatives aimed at stimulating economic and industrial regeneration of the area and initiatives aimed at environmental improvement and social interaction could coexist and interrelate -provided, of course, that both the state planning machinery and the social groupings and organizations involved, would be willing and able to re-examine their roles and mutual relations on the basis of long-term strategic choices and not on the basis of short-term calculations. In the final analysis, the crucial point has not to do with the debate on how much green and how much production activity should develop in this area. These are "technical" issues which would be easily tackled if there were a critical mass of consensus between the state on the one hand, and all those social groupings on the other. What therefore makes us pessimistic about the future of that area (and in extension of Athens as a whole), is the fact that one of the most important parts of the Athenian production space has entered in an "auction" of contrasting claims within which rational thinking and strategic vision do not seem to predominate, but, instead, short-term pursuits leaded either by the "blind" market forces, or by occasional and fluid balances between local contrasting interests lacking internal coherence and developmental perspective on a long-term basis.

CHAPTER 9

SYNTHESIS AND CONCLUSIONS

This thesis aimed at analyzing some fundamental facets of the development and location of manufacturing industry in contemporary Athens and at examining the role of social, political and cultural forces -in parallel, and in internal connection with the role of economy- in those processes. The study, therefore, tried to establish a holistic approach to its subject, by departing from a conventional tradition confining itself to strictly economic concepts and interpretations. The notion of "economic rationality" which underlies the deep logical structures of conventional approaches to urban industrial geography -irrespective of whether "rationality" refers to individual firms' locational decisions (location factors approaches), or to the "rationale" of capital's accumulation and reproduction across space as a whole (structural or "capital restructuring" approaches) (chap. 1)- could not match the particularities and experiences of the Greek semi-peripheral capitalism, in which the spheres of politics, social interaction, ideology and culture seem to play as much important role in spatial-industrial processes as the economic sphere does. Thus, the study tried to sketch the lines of an alternative approach addressed to the complex relationships between the modern Greek society, the organization of urban space and the role of the political sphere in spatial development and planning (chap. 2). The "building blocks" of that approach were provided by the intersection of three major intellectual currents: (a) the structural school of thought in approaching industrial location in the capitalist mode of production, (b) the basics of the Marxian approach to capitalist social dynamics, and (c) the criticism to economism and the substantiation of the specificity of the political and cultural spheres of capitalist formations. The first current provided us with the initiative to search behind the surface aspects and transformations of the Athenian industrial space for more general transformative processes in the structure of the post-war Greek economy and society as a whole. The Marxian intellectual current provided us with a concern for the structure of socio-economic interests and conflicts upon the contemporary

Athenian urban-industrial space. The third current, finally, led us to analyse the unique nature of the Greek political sphere and of its mutual relations to society in order to address the effects of planning policies and the role of cultural attitudes upon the industrial spatiality of contemporary Athens.

The partial research findings are dispersed in the preceding chapters of the study. In this one we will try to synthesize and address the basic points by putting more emphasis on those which could be considered as the most important.

* * *

The analysis of post-war Greek economic and industrial change as the production system shifted from a phase of incomplete industrialization to a phase of deindustrialization and negative restructuring, revealed that these changes had neither destructive effects nor they imposed dramatic shifts on the country's geography of production -and especially on the role of Athens wider area as a nodal point in that geography. However, at the intra-metropolitan scale of Greater Athens, the shifts were much more dramatic. From the mid 1970s till the late 1980s (the last industrial census took place on 1988), the Greater Athens area as a whole experienced a drastic process of deindustrialization and job loss. This process affected unevenly the various sub-areas and industry groups of the Athenian agglomeration. Crisis and negative restructuring triggered off the emergence of an unequal industrial configuration characterized by new suburban manufacturing growth and inner city decline.

The study set forth a further inquiry of the Athenian industrial geography by surveying in detail a developing suburban industrial locality situated at the northern fringe of the Athenian agglomeration. It was revealed that the surveyed locality developed its production capacity during the crisis period of 1970s and 1980s -a development which was initiated not only by plants' relocation from congested Athenian areas but by plant births as well. Economic crisis and deindustrialization did not pose severe obstacles to new

suburban manufacturing investments, or, otherwise, the obstacles were overwhelmed by very favourable locational/relocational conditions. This "paradox" can be explained by the small size of manufacturing establishments characterising both the Greek industrial system as a whole and the Athenian industry as a major part of it. Because SMEs have no great demands in inputs (capital equipment, energy, raw materials, or labour), they are able to resist more efficiently in periods of economic instability and crisis, where the cost of inputs is rapidly increasing. Moreover, since such firms share relatively small proportions of the market, variations in the level of demand during crisis periods do not affect them to the same extend as the larger companies. In other words, small firms have more flexibility to adjust their "mix" of inputs and outputs in order to survive during such periods. The firms, therefore, which grew in the surveyed locality, are in their great majority small and medium ones (with 1-49 employees), while the larger ones (with 50+ employees) represent only a small percent of the total number. Single-plant independent SMEs predominate by any respect in the production magnitudes of the surveyed locality with the exception of employment which was highly concentrated in a few large firms. In the production profile of the area traditional labour-intensive consumer industries predominate while the presence of a few modern large companies does not change its overall production morphology. The industrial land is not used intensively for production purposes and this has led to the emergence of expansion pressures. The old-fashioned intra-firm organization of production (administration-production-stocking-distribution activities under the same factory "roof") is also dominant, and the linkages with the local economy -in terms of jobs, market area and supplies- are quite unimportant. Male workforce predominates in both blue and white collar jobs. The factory building stock of the survey area is generally in a good condition, but the awkward condition of the infrastructure networks poses serious problems to the smooth running of the production processes.

By contrast to what happened in the advanced cities in which the suburbanization of industry was led by combined firms' "economic rationality" and land-use planning policy initiatives, the development of the survey area took place in a spontaneous way. The lack of planned development (apart

One of the thesis' major contributions is associated with the way the uneven geography of industrial production in Greater Athens makes itself evident as a complex phenomenon consisted of interlinked processes which produce on the one hand extended inner-city zones of manufacturing decline and on the other poles of spontaneous suburban industrial growth. It was revealed in this thesis that the inadequacies of the state machinery in coping effectively with the perplexed nexus of local interests, the internal contradictions of the institutional framework for the location of industry in Athens and the relevant lack of any realistic planning concerns are the common elements that bound together those two facets of the uneven geography of production in Athens as the two sides of one and the same coin.

from the official characterization of the area as an "industrial zone") and the associated bad infrastructure conditions, have kept land prices at comparatively low levels, presenting, therefore, favourable conditions for the attraction of manufacturing units (both first-time locations and relocations). The favourable geographical siting of the area with respect to the administrative and business centre of Athens reinforced these processes. Environmental pressures at previous inner-city locations have pushed a good number of plants to relocate into the area -hoping that this would help them avoid the economic and social costs of pollution.

The thesis tried to show that the fundamental forces which reproduce the developmental problems of Athenian industrial space and of its unplanned geographical configuration, are associated with prevailing political choices, social behaviours and relating cultural attitudes. The analysis of the legislative framework for the development and location of Athenian industry during the crucial period of 1980s, as well as the analysis of the attitudes of various social and political organizations and the press, were of immense importance to our study. Analysis of those forces revealed that the 1980s marked a turning point in the process of industrial development in Athens, a turning point in which the post 1973/74 deindustrialization trends were further strengthened and acquired an ideological and cultural covering of an explicit or implicit anti-industrial character. Policy priorities followed during this decade, in spite of their positive intentions, did not manage in practice to contribute effectively to the protection of Athenian manufacturing as a whole from the impacts of crisis and negative restructuring. Instead, the adopted legislative framework imposed a number of strict restrictions upon the Athenian industry; restrictions which contributed to the further decline of the capital's productive base. The Athens' industrial parks initiative -which would supposedly stimulate the spatial reorganization of existing manufacturing activities and would provide ample spaces and infrastructure for the establishment of new ones- was not completed nor implemented in practice. The major political parties, in discussing the directions of the 1985 Structure Plan of Athens, paid no special attention to the developmental and locational problems of Athenian manufacturing. If, therefore, public policies should be judged and

criticised on the basis of their practical effects and not on the basis of their intentions or rhetoric, then, the urban-industrial policy of the 1980s could be defined "as a state's support of the already existing anti-industrial mentality within the Athenian civil society".

The study revealed that the culture of anti-industrialism stems from two major interlinked causes -economic and politico-ideological: The first, is related with the weak position of industrial capital within the Greek economic system, the lack of industrial modernization initiatives on a large scale, the multiplicity of petty economic (non-industrial) interests across urban space and their ability to influence the state machine. The second, can be attributed to the effects of the early Socialists' (mid 1970s-mid 1980s) political ideology upon the great majority of urban working strata. This ideological platform, which soon became dominant, adopted Third World dependency theorems to identify the basic features of contemporary Greek society and to trace ways of social and economic change. The role of industrial capital in the country's economic development was perceived with much suspicion and hostility as dependent upon foreign centres, and therefore as unproductive and comprador.

The negative official attitude against Athenian industry was explicitly expressed in the serious restrictions posed by the Presidential Decree 84/84. The already weakened industrial base of the Athenian agglomeration received a further downswing: Dynamic high-tech and environmentally friendly industries which should be encouraged to open and/or expand were left outside the PDs provisions; instead, it was the traditional consumer branches which were encouraged. The polluting branches (metal-melting and metallization works, tanneries, etc.) which were scattered in central city areas causing severe urban and environmental degradation problems and needing relocation to the metropolitan periphery, were not included in the PDs scope. Furthermore, the PD was inspired by a simplistic "negative" logic which hampered the development of industry in Athens without offering on the same time positive alternatives to its existing developmental and locational problems. Alternatives which if combined with effective urban policies and measures on a comprehensive basis would provide opportunities for the reorganization,

modernization and development of Athenian manufacturing in space. As it stood, without being part of a wider long-term developmental strategy, did nothing else than reinforcing the deterioration of the Athenian production space. On the other hand, the reactions of the Conservatives when they came to office on 1990, were rather spasmodic. They tried to reform the prohibitive statutes of the 1980s by setting forth successive draft PDs, without however taking into consideration either the need of co-ordination between the involved governmental bodies, or the need of establishing a "critical mass" of consent between the state machine on the one hand, and the various social groupings involved in the process of economic, industrial and spatial development of Athens on the other. This lack of social sensitivity and concern, created -as it was expected- tensions and reactions preventing the establishment of a "starting point" for discussions and for setting forth consensual policy objectives. The climate of polarization between extreme views and proposals was therefore widened. The press, for its own marketability reasons, took advantage of that situation by overemphasising the plasmatic dilemma "industrial development -vs- environmental protection" in Athens and by disputing any prospects of legislative reform aiming at modernization and development of the Athenian industry. In most cases the press magnified artificially the real problems, promoted selectively some dimensions by concealing others, and generally set forth what the popular masses wanted to read and not what realism imposed. In general lines, the role of press contributed to the reproduction of the anti-industrial climate against any prospects of industrial development of Athens.

The views and proposals expressed by the various social groupings and organizations involved in the city's industrial development, were mostly "oscillating" within this climate without being able to set forth realistic alternatives. The industrialists' organizations tried to defend their interests by stressing the problem of deindustrialization and job loss, but their efforts were unable to persuade that they were interested -apart from their strictly economic concerns- in a real productive reorganization of the Athenian industrial space evolving in pace with concerns for the protection of the city's natural and historical environments. Other social and scientific organizations

tried to set forth more realistic approaches. However, in most cases their views were affected by the widespread anti-industrial mentality and lacked specificity, practicability and clarity. The same can be said about the local authorities. Their views were in most cases unable to surpass the level of a simple complaint against the governmental choices. In the case of setting forth concrete proposals -as in the case of Eleonas- the ways local authorities viewed the problem and sketched out priorities for the spatial reorganization and development of industry, were so diverse and contradictory to each other as to make impossible the promotion of a uniform, coherent and practical solution.

In this context, the problem of the Athenian industrial space remained "encircled" in a political and cultural "environment" averting from the search of viable solutions. Under conditions of unplanned location of economic activity, the operation of the unequal geography of production created zones of spontaneous suburban industrial growth without the necessary infrastructure on the one hand, and a declining huge inner city industrial area (Eleonas) on the other. Efforts of planning industrial location in Athens undertaken during the 1980s, as well as efforts of reforming PD 84/84 in the early 1990s, were met by the press and the involved social groupings with a growing hostility and resistance for reasons of environmental protection. However, the legislative prohibition of new plants' births and expansions of existing ones in Greater Athens imposed by the existing statutes, was increasingly overwhelmed by illegal industrial location practices and plants' constructions that led to severe urban and environment degradation problems in the historical area of Eleonas. Inner-city industrial decline since the mid 1970s, by leaving behind derelict buildings and industrial wastes, enhanced the "scenery of misery" in that area. During many years of lost chances for a planned reorganization of that important industrial space of Athens, new illegal industrial installations were built-up, and lots of air pollution and traffic congestion problems were incrementally packed up. The inability of the economically healthy enterprises in Eleonas to develop due to the strict legislative restrictions imposed by the PD 84/84, created a feeling of suffocation to them. Because of those restrictions -and of other negative externalities in the area-

many manufacturing industries were forced to close-down their plants in Eleonas and to relocate elsewhere, feeding therefore the problem of inner-city job loss and production decay. The free spaces were increasingly occupied by other non manufacturing activities seeking a "cheap" outlet within the metropolitan space economy. A zone of "cheap growth" was therefore created in the middle of the Athenian agglomeration just a couple of kilometres away from Parthenon. The situation so formed was in fact the "mirror image" of an urban society pursuing a surface economic prosperity and a consumerist pattern prevailing in advanced societies, without on the same time being willing or able to afford the costs of such a "development" by undertaking the appropriate planning measures and land use controls. The area of Eleonas was treated as a waste disposal yard in which all those activities that could not be accepted in the typical urban tissue but which were necessary for the functioning of the urban economy as a whole, could be "thrown" without any further concern.

The state planning machinery, on the other hand, by ignoring or underestimating the problem, contributed to its further enlargement. It was only in the 1980s under the Socialists' administration that the state showed some intentions to tackle with it. However, during this decade, lot of discussion and hot public debate on the Eleonas issue took place, detailed planning studies were carried out, but concrete practical measures for plans' implementation on the ground were not undertaken. This important portion of the Athenian industrial space, was left to operate under the prevailing spontaneous processes. The complex and contradictory nature of socio-economic interests across urban space, and the political costs a decisive planning intervention would entail, prevented the undertaking of concrete policy measures for the reorganization and development of this inner-city industrial space on a comprehensive basis. The alternative proposals delivered during the late 1980s by various social organizations and groupings, had either an extreme anti-industrial "green" orientation, or were piecemeal activist interventions lacking comprehensiveness and strategic vision.

As soon as the Conservatives came to office in early 1990s, tried to break the links with the past "statist" orientation of urban-industrial policies, by setting forth a Presidential Decree which would supposedly solve, once and for all, the problems of Eleonas. The fundamental principle underlying this PD was that Eleonas could be renewed and developed only by means of a decisive unfreeze of market mechanisms upon land and built environment. That is, by creating favourable conditions for private investments in building constructions and land allocation to profitable tertiary uses (service offices, commercial centres etc.). The distinctive element this planning perspective introduced, was part of a wider conservative political ideology according which statist practices prevailing during the 1980s had fully failed in managing economic processes, and that only strictly private capitalism could be able to propose viable solutions to the pressing economic, social and spatial problems. In other words, this "new" political optic tried to replace the prevailing inflexible statist logic of the 1980s with an equally inflexible adoration of the free market mechanisms, ignoring, evidently, that the crucial question facing modern societies nowadays is not related with dilemmas of a "state -versus- market" kind, but with "what kind of state" and "what kind of market" and which should be their mutual relations in the process of economic, social and spatial development. The governmental initiative for the reorganization of Eleonas, therefore, underestimated the complex nexus of economic, social and spatial relations which were operating for long in that area, as well as its historical, productive and environmental significance, and tried to level them under the free-market mechanisms leading to maximization of property development profits. By appointing the regeneration and renewal of Eleonas exclusively to market-led initiatives, the Conservative's PD seeked to minimize the necessary state expenditures in infrastructural works and public spaces construction in the area, without however taking into account the maximization of social and environmental costs this would entail. It thoroughly underestimated the fact that Eleonas was one of the few areas in Athens which could potentially provide opportunities for both an environmental upgrading of the historical centre and of its wider area on the one hand, and for the productive reorganization and development of a major part of the capital's industrial base, on the other. Moreover, the Conservative's PD

underestimated one more crucial factor: The operation of the free market would increase land demand and price competition for profitable tertiary uses, which, in turn, by swinging land prices upwards, would inevitably result in a gradual removal of manufacturing from the area and its transformation from a productive to a typical services one, feeding therefore further deindustrialization and job loss trends. All above complex interrelationships were underestimated by the Conservative's belief that private capitalism and free market property development initiatives would "re-arrange" spatial relations in desirable directions without any problem In other words, the proposed initiative for the reorganization and development of Eleonas was as if someone was trying to repair a personal computer with the aid of a hammer (ERG 1992b: 3).

The publication of the Conservative's PD raised -as it was expected- considerable tensions within Athenian society and various reactions by a multiplicity of social, political and scientific organizations. Two judicial review applications which were submitted to the Council of State, postponed the implementation of the project. This action was followed-up by a public meeting organized by the Technical Chamber of Greece. However, the prevailing tensed "atmosphere" made impossible the creation of a starting point for cool-headed discussions aiming at establishing consensual alternatives. Each grouping and organization involved in those discussions tended to view the problem through its own narrow "window" and to address alternatives matching its own economic, political, or ideological priorities and prospects. The various views and alternatives oscillated along all the spectrum between "utopian" and "idealistic" green options on the one hand, and "realistic" defences of the market-oriented governmental proposal on the other. The various views and proposals were so diverging from each other, that a political party delegate wished the discussions to accomplish at least "a clear understanding of what each of us means when talking about Eleonas" (*Technika Chronika,* Vol. 3/1992: 41). The final result was that the establishment of a "minimum" planning platform -accepted by both government and involved social groupings- was once more driven to failure. As Wassenhoven *et al.* wrote:

> The implementation of a rational, effective and mainly socially just policy is in this field -as well as in others- a matter not only of practical measures but also a matter of securing a consent that requires understanding and acceptance by both governors and governed of a conceptual framework ... What we ask from future Athens? In what city we want to live? What we want it to provide us? (Wassenhoven *et al* 1991: 38).

It becomes therefore evident, that a minimum presupposition for reaching a consensual planning framework for regulating the problems of the Athenian industrial space could be accomplished if the state's planning machinery on the one hand and all collective organizations, social groupings and movements involved in the city's economic and social development on the other (political parties, local authorities, industrialists' and labour's organizations, professional and scientific societies, ecological organizations, citizens' movements, etc.), were decided to answer sincerely the fundamental question of "What we ask from future Athens? In what city we want to live? What we want it to provide us?", and then to undertake concrete practical actions matching the answers they would give.

As Wassenhoven *et al* (1991: 38 ff.) have asserted, a modern city should satisfy four fundamental sets of objectives:

(a) the improvement of living conditions, the preservation of the city's physiognomy and the protection of its environment
(b) the reinforcement of social justice in the city, the securing of equal access to the city's resources for all its citizens as well as the provision of equal opportunities for action.
(c) the reinforcement of the city's economic efficiency and of its contribution to the country's economic development process, and
(d) the maintenance of the variety of forms and conditions of urban life and of employment opportunities

The above sets of objectives could form a "starting point" for social dialogue between the state planning agencies and the collective organizations

in order the following particular questions to be sincerely addressed and answered:

1. Is it necessary or not to maintain, protect and modernize the production base of Athens in order to increase its economic efficiency, to preserve the various forms of productive employment and life in it and to reinforce the contribution of its economy to the national economy as a whole? How much desirable is the prospect of a modern European metropolis oriented exclusively to services provision without a supportive production background? Could ever such a prospect be accepted by the majority of the Athenian population, and if yes which would be its economic and social costs? How socially just would be the transformation of Athens into a services city and which would be the social classes and strata that would be benefited/harmed by such a shift? How the problem of mass unemployment such a prospect entails could be faced in economic, social and political terms? Which would be the direct and indirect costs of that prospect for the national economy as a whole and its position in the international division of labour?

2. If the answers given to the above questions converge in favour of the need to maintain, protect, and develop further the capital's production space, then is it necessary or not to promote the modernization of Athenian manufacturing activities and their organized location/relocation in properly planned and equipped industrial parks as to help companies benefit from external economies of agglomeration and on the same time to contribute to the protection of environment? Is it necessary or not to encourage the birth of new manufacturing activities in modern branches with increased importance to the national economy as a whole and to direct their location in properly organized industrial spaces within the Athenian agglomeration? Is it necessary or not to provide properly organized "receiving" spaces on the metropolitan periphery for the relocation of manufacturing plants which are currently scattered at inner-city residential areas and which create problems of environmental pollution, traffic congestion, etc.? But on the other hand,

is it desirable or not small non-polluting manufacturing and handicraft activities serving the basic needs of the urban population to remain in properly planned inner-city clusters, since these activities not only contribute to the maintenance of the variety of urban mentalities, work cultures and ways of life but, moreover, feed the nexus of local economy with important backward and forward linkages? In what sense we have to preserve a legislative framework that prohibits the establishment of new manufacturing activities in Athens, even if these activities increase employment opportunities in modern competitive branches, contribute to the decrease of environmental pollution due to the adoption of new technologies and help to the upgrading of the capital's manufacturing sector as a whole?

3. Is it clear or not that the planned re-organization and development of the Athenian industrial space can play a decisive direct or indirect role in various aspects of the city's life, as for instance (a) in the improvement of working conditions, (b) in the urban and environmental upgrading of the whole metropolitan complex, (c) in the creation of multiple employment opportunities, (d) in improving the city's material and social infrastructure networks and (e) in increasing the city's material wealth and in enhancing its economic role within the national economy and the single European market? If the answers to the above questions are positive, then which immediate actions and measures should be undertaken at the short-run in order to protect the land that has still left from speculative tertiarisation pressures, illegal building and environmentally uncontrollable urban and production activities? Which strategy should be adopted at the long-run in order the metropolitan production base to be upgraded and the environment effectively protected? Which partnership schemes should be created for the purpose of implementing such a long-term strategy and which legislative framework should be used to underpin the relating processes?

The contradictory and inconsistent character of the various views and prospects about the future of the Athenian industrial space, makes clear that

not only the objectives for the development of a modern metropolis have not yet been addressed by the political decision-makers, not only the questions posed previously have not been systematically discussed, but, moreover, every social grouping and organization involved, tends to view the problem through its own narrow "window", by showing a complete indifference towards the perspectives of the others, undermining, therefore, the social basis of establishing even a minimum planning consensus.

* * *

Analysis carried out in this thesis should have revealed that the problem of reorganization, planned location and development of the Athenian industrial space, is neither a "technical" nor an economic -in the strict sense of the word- problem. The economic dimensions are definitely of special importance and have to do with the role of private investors and of the public sector in undertaking co-ordinated spatial development initiatives under a more general strategy of economic and industrial development of the country's territory and of its major urban centres. The crucial dimension, however, is that the reorganization and development of the Athenian industrial space is basically a socio-political and cultural problem. This is the major "arena" on which the developmental efforts, the modernization initiatives and the consensual planning endeavours should meet each other -if, of course, we accept the optimistic assumption that there are still political and social forces pursuing the use of the Athenian production space as a means of economic development and social welfare and not as a "lever" for the maintenance and reproduction of "free rider" attitudes.

APPENDIX I

STATISTICAL TABLES

SERIES A: ECONOMY/INDUSTRY

Million drs at constant 1970 prices

YEAR	AGRI-CULTURE	INDUSTRY TOTAL	MINING -QUARRYING	ENERGY -WATER	MANUFA-CTURING	CONSTRU-CTIONS	SERVICES TOTAL	TRANSPORT & COMMUN.	TRADE	BANKING INSUR.etc	OWNERSHIP OF DWELLINGS	PUBLIC ADMIN/ON & DEFENCE	HEALTH & EDUCATION	OTHER SERVICES	GDP TOTAL
1951	23,475	14,782	592	470	9,281	4,439	42,254	5,496	6,438	1,518	8,266	9,036	4,423	5,077	80,511
1952	22,159	15,121	717	496	9,170	4,738	43,466	5,741	6,198	1,569	8,747	9,193	4,582	5,436	80,746
1953	27,898	17,619	884	591	10,574	5,770	45,574	5,831	9,186	1,601	9,150	9,296	4,837	5,673	91,291
1954	27,179	19,124	955	636	11,787	5,766	47,820	6,209	10,214	1,536	9,509	9,684	5,052	5,616	94,123
1955	29,078	21,101	1,089	755	12,891	6,366	50,354	6,527	10,495	1,766	9,890	10,227	5,474	5,975	100,533
1956	29,851	23,860	1,237	871	14,260	7,492	55,566	8,817	11,389	2,001	10,326	12,455	6,108	6,470	109,277
1957	33,738	25,011	1,339	967	15,221	7,484	57,109	7,179	12,351	2,279	10,763	11,462	6,339	6,736	115,858
1958	31,413	27,953	1,423	1,033	16,554	8,943	61,115	7,590	13,352	2,505	11,200	12,568	6,719	7,181	120,481
1959	32,947	29,515	1,430	1,220	16,778	10,087	62,846	7,925	13,383	2,526	11,671	12,783	7,008	7,550	125,308
1960	29,863	33,406	1,571	1,358	18,430	12,047	65,932	8,531	13,879	2,750	12,158	13,422	7,413	7,779	129,201
1961	37,836	35,858	1,668	1,628	19,886	12,676	70,078	9,467	15,215	3,031	12,750	13,778	7,719	8,118	143,772
1962	32,888	37,504	1,699	1,753	20,934	13,118	74,220	10,131	15,867	3,244	13,316	14,694	8,261	8,707	144,612
1963	39,594	40,378	1,877	2,082	22,661	13,758	79,199	10,767	17,357	3,679	13,929	15,322	8,772	9,373	159,171
1964	39,446	46,147	2,029	2,373	25,537	16,208	85,584	11,427	19,189	4,023	14,619	16,280	9,135	10,911	171,177
1965	43,377	51,047	2,278	2,680	28,146	17,943	92,585	12,518	21,580	4,368	15,483	17,395	9,649	11,592	187,009
1966	43,687	53,871	2,413	3,222	30,672	17,564	99,453	13,833	23,163	4,527	16,456	18,635	10,174	12,665	197,011
1967	44,311	56,834	2,414	3,567	33,346	17,507	105,031	14,505	24,157	4,827	17,391	19,495	10,607	14,049	206,176
1968	40,484	65,439	2,932	3,754	37,208	21,545	111,972	16,494	25,803	5,337	18,330	20,409	10,874	14,725	217,895
1969	43,085	74,939	3,327	4,498	42,637	24,477	120,177	18,296	28,131	5,799	19,654	21,393	11,252	15,652	238,201
1970	47,058	80,976	3,541	5,152	49,266	23,017	129,966	19,761	31,050	6,088	21,099	22,559	11,930	17,479	258,000
1971	48,662	90,802	4,031	5,911	54,586	26,274	139,087	21,864	32,634	6,810	22,510	23,722	12,651	18,896	278,551
1972	51,543	101,955	4,495	7,389	58,892	31,179	150,475	24,447	36,080	7,372	24,303	24,659	13,155	20,459	303,973
1973	51,204	113,827	5,082	8,133	68,668	31,924	163,698	27,191	41,452	7,619	26,347	25,834	13,883	21,372	328,729
1974	57,789	101,823	4,774	7,701	67,266	22,082	167,643	27,460	41,017	8,401	27,908	28,432	14,558	19,867	327,255
1975	56,733	107,572	4,885	8,596	70,944	23,147	175,528	28,616	42,823	8,861	29,031	29,342	15,136	21,719	339,833
1976	55,971	117,600	5,242	9,753	78,029	24,576	186,823	31,270	45,198	9,714	30,403	30,877	15,663	23,698	360,394
1977	51,830	123,224	5,797	10,726	79,143	27,558	195,968	32,936	46,878	10,130	32,017	32,546	16,414	25,047	371,022
1978	57,214	130,971	5,723	12,156	84,341	28,751	206,618	35,151	49,507	10,384	33,889	33,850	17,015	26,822	394,803
1979	53,616	138,842	6,302	12,996	88,998	30,546	216,617	37,892	51,144	10,605	36,043	35,500	17,363	28,070	409,075
1980	60,499	135,486	6,245	13,724	89,125	26,392	221,525	39,898	50,833	11,037	38,097	36,708	17,503	27,649	417,510
1981	59,516	132,141	5,727	14,149	86,064	24,201	224,858	41,277	49,924	10,462	39,697	36,090	17,814	27,594	416,515
1982	60,940	130,388	6,537	14,616	86,946	22,289	229,313	41,510	51,388	10,406	41,086	39,110	18,289	27,524	420,641
1983	56,518	130,615	6,982	15,172	85,436	23,025	236,218	42,971	53,238	11,758	42,400	40,068	18,729	27,054	422,351
1984	59,394	132,244	7,827	16,052	86,475	21,890	243,068	45,936	53,238	12,074	43,630	41,060	19,315	27,835	434,726
1985	60,523	137,054	7,968	17,032	89,529	22,525	251,842	48,733	55,595	12,608	44,590	42,912	18,978	28,426	449,419
1986	62,036	138,463	8,000	17,475	89,449	23,593	256,715	49,414	57,096	13,381	45,705	41,796	20,999	28,324	457,214
1987	58,761	136,292	8,064	18,419	87,306	22,503	258,865	49,138	57,153	13,395	46,985	41,774	21,699	28,721	453,918
1988	62,581	144,251	9,064	19,543	91,206	24,438	267,323	51,054	60,125	13,960	48,348	42,290	22,222	29,324	474,155
1989	63,180	148,530	9,372	20,442	93,203	25,513	279,776	53,486	62,410	14,853	49,750	44,667	24,040	30,380	491,486
1990	56,666	149,926	9,185	22,936	90,761	27,044	284,149	53,953	62,765	16,517	51,243	44,179	24,332	31,140	489,741
1991	61,267	148,515	8,818	24,542	89,571	25,584	288,642	54,223	...	...	52,729	...	...	30,424	496,424
Average annual change (%)															
1951-60	3.2	9.6	11.7	12.6	8.0	12.0	5.1	5.0	5.8	7.0	4.4	4.8	5.9	4.9	5.5
1960-73	4.7	9.9	9.6	14.9	10.7	8.1	7.3	9.4	8.8	8.2	6.1	5.2	5.0	8.1	7.5
1973-81	2.2	2.1	1.7	7.3	3.2	-2.4	4.1	5.4	2.4	4.1	5.3	5.0	3.2	3.4	3.0
1981-91	0.5	1.2	4.6	5.7	0.2	0.7	2.5	2.8	2.6	5.3	2.9	1.7	3.6	1.0	1.8

1990: Provisional data
1991: Estimates

SOURCE -For 1951-57: "National Accounts of Greece 1958-1975" (No.23) Athens 1976:196-7.
-For 1958-74: ibid:140-3.
-For 1975-77: "National Accounts of Greece 1970 and 1974-81" Athens, without year:41.
-For 1978-81: Bank of Greece, "Monthly Statistical Bulletin", Athens, Dec.1985:table 48a.
-For 1982-84: Bank of Greece, "Monthly Statistical Bulletin", Athens, Jan.1986:table 48a.
-For 1985-91: Bank of Greece, "Monthly Statistical Bulletin", Athens, June-July 1992:table 49a.

(Own calculation of percentages)
(Own calculations of the totals of industry and services sectors from 1950-77).

TABLE A.2
AVERAGE ANNUAL GROWTH RATE OF VARIOUS PRODUCTION MAGNITUDES IN GREECE AND IN OTHER SELECTED OECD COUNTRIES, 1960-1988 (%)

	INDUSTRIAL GROWTH		INDUSTRIAL DECLINE	
	1960-68	1968-73	1973-79	1979-88
A. REAL GDP				
-Greece	7.3	8.2	3.7	1.5
-United States	4.5	3.2	2.4	2.8
-Japan	10.2	8.7	3.6	4.1
-Germany	4.1	4.9	2.3	1.7
-France	5.4	5.5	2.8	1.9
-United Kingdom	3.0	3.4	1.5	2.2
-Italy	5.7	4.5	3.7	2.4
-Canada	5.5	5.4	4.2	3.2
-Total of European OECD countries	4.7	4.9	2.6	2.2
-Total of OECD countries	5.1	4.6	2.7	2.7
B. REAL GDP PER CAPITA				
-Greece	6.7	7.8	2.6	0.9
-United States	3.1	2.0	1.4	1.8
-Japan	9.1	7.1	2.5	3.4
-Germany	3.1	4.0	2.5	1.7
-France	4.2	4.6	2.3	1.4
-United Kingdom	2.3	3.0	1.5	2.0
-Italy	5.0	3.9	3.2	2.2
-Canada	3.6	4.1	2.9	2.2
-Total of European OECD countries	3.7	4.0	2.0	1.6
-Total of OECD countries	3.9	3.5	1.9	2.0
C. REAL VALUE-ADDED IN INDUSTRY				
-Greece	8.8	11.8	3.3	0.3
-United States	4.4	2.4	1.4	...
-Japan	13.7	11.3	3.1	5.3
-Germany	4.3	5.1	1.4	0.4
-France	6.9	7.0	2.4	0.5
-United Kingdom	2.7	1.9	-0.2	...
-Italy	7.1	5.2	3.5	1.9
-Canada	5.9	5.4	1.6	2.7
-Total of European OECD countries	5.3	5.4	1.8	1.4
-Total of OECD countries	5.5	4.8	1.8	2.4
D. REAL VALUE-ADDED IN MANUFACTURE				
-Greece	9.2	13.2	4.3	0.3
-United States	5.5	3.7	1.9	...
-Japan	15.6	11.7	3.6	6.8
-Germany	5.0	5.5	1.7	0.6
-France	7.4	8.1	2.7	0.0
-United Kingdom	3.1	2.9	-0.7	...
-Italy	8.0	6.8	5.5	2.5
-Canada	7.0	5.5	2.5	2.4
-Total of European OECD countries	5.7	6.3	2.1	1.4
-Total of OECD countries	6.4	5.8	2.2	2.8
E. PRODUCTIVITY IN INDUSTRY				
-Greece	6.0	7.4	1.2	0.3
-United States	2.5	1.4	-0.1	...
-Japan	9.3	8.5	3.5	4.5
-Germany	4.5	4.2	3.2	...
-France	5.7	5.3	3.5	2.6
-United Kingdom	3.0	3.0	1.1	...
-Italy	6.2	4.8	3.2	3.2
-Canada	3.3	3.2	-0.3	2.2
-Total of European OECD countries	4.7	4.7	2.6	2.5
-Total of OECD countries	4.0	3.7	1.8	2.7
F. PRODUCTIVITY IN MANUFACTURE				
-Greece	7.1	7.8	2.7	-0.8
-United States	3.2	3.5	0.9	...
-Japan	11.1	9.5	5.0	5.8
-Germany	4.7	4.5	3.1	...
-France	6.8	5.8	3.7	2.2
-United Kingdom	3.4	3.9	0.6	...
-Italy	7.2	6.4	5.3	4.0
-Canada	4.1	4.6	1.3	2.3
-Total of European OECD countries	5.2	5.6	3.0	2.6
-Total of OECD countries	4.7	5.0	2.6	3.3

(*) Real value-added per worker.

SOURCE: Adapted from OECD "Historical Statistics 1960-1988", Paris 1990: 48-52

TABLE A.3
ACTIVE POPULATION BY SECTOR, 1951-1991

SECTORS OF THE ECONOMY	(,000 persons) 1951	1961	1971	1981	1991	(%) CHANGE 1951-61	(%) CHANGE 1961-71	(%) CHANGE 1971-81	(%) CHANGE 1981-91	(%) CHANGE 1951-91
PRIMARY (AGRICULTURE, etc)	1,886.4	1,960.4	1,312.6	972.1	806.5	3.9	-33.0	-25.9	-17.0	-57.2
SECONDARY (INDUSTRY)	550.2	697.2	856.7	1,039.1	1,000.6	26.7	22.9	21.3	-3.7	81.9
-MINING AND QUARRYING	13.6	21.5	21.1	23.0	19.3	58.1	-1.9	9.0	-16.1	41.9
-MANUFACTURING	450.4	488.6	554.4	664.3	699.0	8.5	13.5	19.8	5.2	55.2
-ENERGY AND WATER	11.2	19.8	24.8	25.4	36.6	76.8	25.3	2.4	44.1	226.8
-CONSTRUCTIONS	75.0	167.3	256.4	326.4	245.7	123.1	53.3	27.3	-24.7	227.6
TERTIARY (SERVICES)	745.6	859.4	1,001.3	1,443.6	1,825.3	15.3	16.5	44.2	26.4	144.8
ACTIVE POPULATION	3,182.2	3,517.0	3,170.6	3,454.8	3,632.4	10.5	-9.8	9.0	5.1	14.1
NOT CLEARLY DECLARED ACTIVITIES	176.4	121.5	64.4	89.0	...	-31.1	-47.0	38.2	...	...
GRAND TOTAL	3,358.6	3,638.5	3,235.0	3,543.8	3,933.6	8.3	-11.1	9.5	11.0	17.1

SOURCE:

-For 1951 and 1961: Adapted from Antonopoulou (1987:368).
-For 1971: NSSG, "Statistical Yearbook of Greece 1978". Athens 1979:table III:4
-For 1981: NSSG, "Statistical Yearbook of Greece 1986". Athens 1987:table III:7
-For 1991: NSSG, "Greece in Figures 1994." Athens, 1994: table II.

(Own calculation of the percentages).

TABLE A.4

GROSS PRODUCT OF MANUFACTURING INDUSTRY BY BRANCH, 1951-1991

(Million drs, at constant 1970 prices).

BRANCH	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
A. NON-DURABLE CONSUMER GOODS	7,191	7,081	7,769	8,649	9,360	10,294	10,884	11,599	11,426	11,996	12,583	13,043	14,410	16,161	17,527	18,816	20,512	22,676	24,711	27,504
-FOOD,BEVERAGES & TOBACCO	2,484	2,602	2,825	3,325	3,463	3,927	3,911	4,065	4,310	4,119	4,310	4,346	5,052	5,610	6,030	6,756	6,763	7,569	8,085	9,317
-TEXTILES	1,785	1,712	1,890	2,003	2,366	2,397	2,580	2,771	2,512	2,933	2,975	3,250	3,353	3,759	4,427	4,424	4,886	5,675	6,262	6,937
-CLOTHING & FOOTWEAR	1,783	1,601	1,768	1,974	1,972	2,160	2,392	2,518	2,211	2,357	2,481	2,429	2,629	3,084	3,103	3,275	3,916	3,770	4,007	4,627
-WOOD & FURNITURE	489	461	494	543	660	760	901	976	1,011	1,124	1,207	1,267	1,380	1,596	1,731	1,834	2,244	2,404	2,832	3,051
-PAPER & PRINTING	373	410	479	472	558	668	681	786	833	907	988	1,067	1,250	1,357	1,461	1,700	1,805	2,107	2,388	2,268
-MISCELLANEOUS	277	295	313	332	341	382	419	483	549	556	622	684	746	755	775	827	898	1,151	1,137	1,304
B. INTERMEDIATE GOODS	838	848	1,047	1,114	1,406	1,692	1,782	1,935	2,188	2,679	2,734	2,901	3,369	3,772	4,699	4,933	5,504	6,271	7,813	9,231
-CHEMICALS & ALLIED	366	377	436	507	595	680	787	902	1,150	1,495	1,454	1,467	1,771	1,905	2,462	2,645	3,168	3,600	4,806	5,495
-NON-METALLIC MINERALS	472	471	611	607	811	1,012	995	1,033	1,038	1,184	1,280	1,434	1,598	1,867	2,237	2,288	2,336	2,671	3,007	3,736
C. CAPITAL GOODS & DURABLES	1,252	1,241	1,758	1,994	2,125	2,274	2,555	3,020	3,164	3,755	4,569	4,990	4,882	5,604	5,920	6,923	7,330	8,261	10,113	12,531
-BASIC METALLURGY	45	46	55	84	96	118	146	175	197	288	306	336	383	407	406	944	1,243	1,702	2,590	3,638
-METAL MANUFACTURES, MACHINERY AND ELECTRICAL EQUIPMENT	995	1,006	1,304	1,446	1,517	1,618	1,844	2,177	2,219	2,596	3,061	3,288	2,996	3,621	3,914	4,411	4,726	5,096	5,792	6,298
-TRANSPORT EQUIPMENT	212	189	399	464	512	538	565	668	748	871	1,202	1,366	1,503	1,576	1,600	1,568	1,361	1,463	1,731	2,595
MANUFACTURE TOTAL	9,281	9,170	10,574	11,767	12,891	14,260	15,221	16,554	16,778	18,430	19,886	20,934	22,661	25,537	28,146	30,672	33,346	37,208	42,637	49,266

continued

BRANCH	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
A. NON-DURABLE CONSUMER GOODS	30,551	33,418	38,058	37,037	40,515	44,769	45,371	48,059	50,846	49,964	49,075	48,530	47,112	48,175	50,772	50,600	49,697	50,413	51,424	49,529	49,095
-FOOD,BEVERAGES & TOBACCO	10,312	11,008	12,370	11,995	12,420	13,895	14,490	15,911	16,743	16,977	16,841	17,740	17,833	18,773	20,041	18,986	18,055	19,559	21,086	20,002	20,555
-TEXTILES	8,133	9,096	10,791	10,675	12,598	14,460	14,098	14,861	16,115	15,728	15,885	14,665	14,366	14,340	14,866	15,934	16,057	15,563	15,245	15,016	13,390
-CLOTHING & FOOTWEAR	5,045	5,545	6,129	6,409	6,770	7,355	7,598	7,660	8,090	7,969	7,563	6,869	6,303	6,203	6,420	6,370	5,872	6,115	5,725	5,589	5,740
-WOOD & FURNITURE	3,321	3,668	4,142	3,389	3,980	3,981	4,013	4,044	4,095	3,583	3,246	3,730	2,863	2,540	2,551	2,538	2,351	2,484	2,638	2,637	2,521
-PAPER & PRINTING	2,272	2,527	2,865	2,728	2,667	2,757	2,821	3,279	3,611	3,568	3,589	3,475	3,652	4,008	4,444	4,666	5,111	4,821	4,833	4,419	4,557
-MISCELLANEOUS	1,468	1,574	1,761	1,841	2,080	2,321	2,351	2,304	2,192	2,139	1,951	2,051	2,095	2,311	2,450	2,106	2,251	1,871	1,897	1,866	2,332
B. INTERMEDIATE GOODS	10,151	10,469	13,043	13,426	14,478	15,745	16,786	18,257	19,159	19,207	19,180	18,815	19,149	19,699	20,151	19,933	20,137	22,197	22,971	23,026	21,139
-CHEMICALS & ALLIED	6,114	6,446	8,648	8,385	9,260	9,789	10,118	11,169	11,593	11,384	11,623	11,505	12,090	12,579	13,225	12,737	12,803	14,543	15,634	15,359	14,384
-NON-METALLIC MINERALS	4,037	4,023	4,395	5,041	5,218	5,956	6,668	7,088	7,566	7,823	7,557	7,310	7,059	7,120	6,926	7,196	7,334	7,654	7,337	7,667	6,755
C. CAPITAL GOODS & DURABLES	13,884	15,005	17,587	16,803	15,951	17,515	16,986	18,025	18,993	19,954	19,809	19,601	19,175	18,601	18,606	18,916	17,472	18,506	18,808	18,206	19,337
-BASIC METALLURGY	3,247	3,222	4,612	4,656	4,554	4,870	4,043	5,093	5,306	5,396	4,597	4,477	4,880	4,987	5,067	4,864	4,718	5,284	5,273	5,170	5,427
-METAL MANUFACTURES, MACHINERY AND ELECTRICAL EQUIPMENT	7,412	8,605	9,573	8,712	8,062	9,395	9,571	9,646	9,937	10,493	10,944	10,822	10,320	9,725	9,958	10,177	8,687	8,952	9,207	8,420	8,901
-TRANSPORT EQUIPMENT	3,225	3,178	3,402	3,435	3,335	3,250	3,372	3,286	3,750	4,065	4,268	4,302	3,975	3,889	3,581	3,875	4,067	4,270	4,328	4,616	5,009
MANUFACTURE TOTAL	54,586	58,892	68,688	67,266	70,944	78,029	79,143	84,341	88,998	89,125	88,064	86,946	85,436	86,475	89,529	89,449	87,306	91,116	93,203	90,761	89,571

1990: Provisional data
1991: Estimates

SOURCE:
-For 1951-57: "National Accounts of Greece 1958-1975" (No.23), Athens 1976:196-7.
-For 1958-74: Ibid:140-3.
-For 1975-77: "National Accounts of Greece 1970 and 1974-81", Athens (n.d:41).
-For 1978-81: Bank of Greece, "Monthly Statistical Bulletin", Athens Dec.1985:table 48a.
-For 1982-84: Bank of Greece, "Monthly Statistical Bulletin", Athens Jan.1988:table 48a.
-For 1985-91: Bank of Greece, "Monthly Statistical Bulletin", Athens June-July 1992:table 49a.

TABLE A.5
NUMBER AND % SHARE OF MANUFACTURING ESTABLISHMENTS BY SIZE AND BRANCH, 1978.

Code	BRANCH	TOTAL	%	ESTABLISHMENTS WITH AVERAGE EMPLOYMENT								TOTAL OF SMEs (0-49)	%
				0-4	%	5-9	%	10-49	%	50+	%		
A.	NON DURABLE CONSUMER GOODS	82.434	100	69.789	84.7	7,202	8.7	4,498	5.5	935	1.1	81,489	98.9
20	FOODS	19.311	100	16.289	84.4	1,837	9.5	957	5.0	228	1.2	19,083	98.8
21	BEVERAGES	1.903	100	1.533	80.6	189	9.9	145	7.6	36	1.9	1,867	98.1
22	TOBACCO	131	100	38	29.0	13	9.9	38	29.0	42	32.1	89	67.9
23	TEXTILES	5,049	100	3.272	64.8	787	15.6	709	14.0	281	5.6	4,768	94.4
24	CLOTHING-FOOTWEAR	21.926	100	18.915	86.3	1,548	7.1	1,258	5.7	205	0.9	21,721	99.1
25	WOOD-CORK	12,365	100	11.352	91.8	707	5.7	282	2.3	24	0.2	12,341	99.8
26	FURNITURE	10.788	100	9.598	89.0	770	7.1	383	3.6	27	0.3	10,751	99.7
27	PAPER	444	100	238	53.6	84	18.9	93	20.9	29	6.5	415	93.5
28	PRINTING-PUBLISHING	2.848	100	2.136	75.0	425	14.9	246	8.6	41	1.4	2,807	98.6
29	LEATHER-FUR	3,770	100	2.947	78.2	556	14.7	255	6.8	12	0.3	3,758	99.7
39	MISCELLANEOUS	3.899	100	3.471	89.0	286	7.3	132	3.4	10	0.3	3,889	99.7
B.	INTERMEDIATE GOODS	8.682	100	6.090	70.1	1,261	14.5	1,084	12.5	247	2.8	8,435	97.2
30	RUBBER-PLASTIC	2,184	100	1.558	71.3	287	13.1	272	12.5	67	3.1	2,117	96.9
31	CHEMICALS	1,095	100	538	49.1	227	20.7	239	21.8	91	8.3	1,004	91.7
32	PETROLEUM & COAL PRODUCTS	123	100	46	37.4	35	28.5	31	25.2	11	8.9	112	91.1
33	NON METALLIC MINERALS	5.280	100	3.948	74.8	712	13.5	542	10.3	78	1.5	5,202	98.5
C.	CAPITAL GOODS & DURABLES	37.882	100	33.412	88.2	2,567	6.8	1,557	4.1	346	0.9	37,536	99.1
34	BASIC METALLURGY	59	100	15	25.4	3	5.1	15	25.4	26	44.1	33	55.9
35	METAL PRODUCTS	14.685	100	13.219	90.0	842	5.7	522	3.6	102	0.7	14,583	99.3
36	NON ELECTRIC MACHINERY	4.465	100	3.482	78.0	561	12.6	372	8.3	50	1.1	4,415	98.9
37	ELECTRIC EQUIPMENT	5.308	100	4.554	85.8	380	7.2	283	5.3	91	1.7	5,217	98.3
38	TRANSPORT EQUIPMENT	13,365	100	12.142	90.8	781	5.8	365	2.7	77	0.6	13,288	99.4
GREECE, TOTAL		128.998	100	109.291	84.7	11,030	8.6	7,139	5.5	1,528	1.2	127,460	98.8

SOURCE: Adapted from NSSG "Results of the Census of Manufacturing Industry, Handicraft, Commerce and Other Services, on 30 Sept.1978", Athens 1981.

(Own calculation of the subtotals, totals and percentages)

TABLE A.6
NUMBER AND % SHARE OF MANUFACTURING ESTABLISHMENTS BY SIZE AND BRANCH, 1984.

Code	BRANCH	TOTAL	%	ESTABLISHMENTS WITH AVERAGE EMPLOYMENT								TOTAL OF SMEs (0-49)	%
				0-4	%	5-9	%	10-49	%	50+	%		
A.	NON DURABLE CONSUMER GOODS	86,405	100	73.305	84.8	7,546	8.7	4,647	5.4	907	1.0	85,498	99.0
20	FOODS	19,674	100	16.566	84.2	1,858	9.4	1,028	5.2	222	1.1	19,452	98.9
21	BEVERAGES	2.266	100	1,870	82.5	200	8.8	150	6.6	46	2.0	2,220	98.0
22	TOBACCO	142	100	37	26.1	14	9.9	46	32.4	45	31.7	97	68.3
23	TEXTILES	4,652	100	3.155	67.8	677	14.6	594	12.8	226	4.9	4,426	95.1
24	CLOTHING-FOOTWEAR	21,781	100	18,277	83.9	1,897	8.7	1,367	6.3	240	1.1	21,541	98.9
25	WOOD-CORK	13,805	100	12.916	93.6	621	4.5	244	1.8	24	0.2	13,781	99.8
26	FURNITURE	11,209	100	9.856	87.9	881	7.9	458	4.1	14	0.1	11,195	99.9
27	PAPER	575	100	297	51.7	125	21.7	125	21.7	28	4.9	547	95.1
28	PRINTING-PUBLISHING	3,053	100	2,407	78.8	387	12.7	214	7.0	45	1.5	3,008	98.5
29	LEATHER-FUR	4,701	100	3,830	81.5	581	12.4	282	6.0	8	0.2	4,693	99.8
39	MISCELLANEOUS	4,547	100	4.094	90.0	305	6.7	139	3.1	9	0.2	4,538	99.8
B.	INTERMEDIATE GOODS	10,547	100	7.644	72.5	1,481	14.0	1,179	11.2	243	2.3	10,304	97.7
30	RUBBER-PLASTIC	3,023	100	2,305	76.2	362	12.0	296	9.8	60	2.0	2,963	98.0
31	CHEMICALS	1,293	100	707	54.7	235	18.2	247	19.1	104	8.0	1,189	92.0
32	PETROLEUM & COAL PRODUCTS	210	100	81	38.6	58	27.6	54	25.7	17	8.1	193	91.9
33	NON METALLIC MINERALS	6,021	100	4,551	75.6	826	13.7	582	9.7	62	1.0	5,959	99.0
C.	CAPITAL GOODS & DURABLES	47,511	100	43,013	90.5	2,677	5.6	1,552	3.3	269	0.6	47,242	99.4
34	BASIC METALLURGY	112	100	35	31.3	18	16.1	29	25.9	30	26.8	82	73.2
35	METAL PRODUCTS	15,609	100	14,231	91.2	835	5.3	458	2.9	85	0.5	15,524	99.5
36	NON ELECTRIC MACHINERY	5,218	100	4,195	80.4	599	11.5	390	7.5	34	0.7	5,184	99.3
37	ELECTRIC EQUIPMENT	6,922	100	6,178	89.3	380	5.5	297	4.3	67	1.0	6,855	99.0
38	TRANSPORT EQUIPMENT	19,650	100	18,374	93.5	845	4.3	378	1.9	53	0.3	19,597	99.7
GREECE, TOTAL		144,463	100	123,962	85.8	11,704	8.1	7,378	5.1	1,419	1.0	143,044	99.0

SOURCE: Adapted from NSSG "Results of the Census of Manufacturing Industry, Handicraft and Commerce, on 28 Sept.1984", Athens 1988.

(Own calculation of the subtotals, totals and percentages).

TABLE A.7
MANUFACTURING EMPLOYMENT AND % SHARE BY PLANTS' SIZE AND BRANCH, 1978

Code	BRANCH	TOTAL	%	PLANTS' SIZE 0-4 employees	%	5-9 employees	%	10-49 employees	%	50+ employees	%	TOTAL OF SMEs (0-49 employees)	%
A.NON DURABLE CONSUMER GOODS		401.883	100	123.808	30.8	46.324	11.5	87.427	21.8	144.324	35.9	257.559	64.1
20	FOODS	94.323	100	33.842	35.9	11.684	12.4	18.715	19.8	30.082	31.9	64.241	68.1
21	BEVERAGES	12.723	100	1.818	14.3	1.211	9.5	3.000	23.6	6.694	52.6	6.029	47.4
22	TOBACCO	9.770	100	69	0.7	88	0.9	1.098	11.2	8.515	87.2	1.255	12.8
23	TEXTILES	78.378	100	6.958	8.9	5.253	6.7	14.595	18.6	51.572	65.8	26.806	34.2
24	CLOTHING-FOOTWEAR	87.284	100	28.737	32.9	10.135	11.6	24.743	28.3	23.669	27.1	63.615	72.9
25	WOOD-CORK	33.008	100	18.669	56.6	4.397	13.3	5.231	15.8	4.711	14.3	28.297	85.7
26	FURNITURE	31.262	100	16.737	53.5	4.848	15.5	6.561	21.0	3.116	10.0	28.146	90.0
27	PAPER	11.023	100	585	5.3	567	5.1	1.945	17.6	7.926	71.9	3.097	28.1
28	PRINTING-PUBLISHING	17.283	100	4.355	25.2	2.734	15.8	4.662	27.0	5.532	32.0	11.751	68.0
29	LEATHER-FUR	15.549	100	6.487	41.7	3.578	23.0	4.309	27.7	1.175	7.6	14.374	92.4
39	MISCELLANEOUS	11.280	100	5.551	49.2	1.829	16.2	2.568	22.8	1.332	11.8	9.948	88.2
B.INTERMEDIATE GOODS		89.753	100	12.454	13.9	8.396	9.4	21.690	24.2	47.213	52.6	42.540	47.4
30	RUBBER-PLASTIC	19.481	100	2.913	15.0	1.913	9.8	5.630	28.9	9.025	46.3	10.456	53.7
31	CHEMICALS	26.009	100	1.182	4.5	1.494	5.7	5.095	19.6	18.238	70.1	7.771	29.9
32	PETROLEUM AND COAL PRODUCTS	4.746	100	119	2.5	239	5.0	552	11.6	3.836	80.8	910	19.2
33	NON METALLIC MINERALS	39.517	100	8.240	20.9	4.750	12.0	10.413	26.4	16.114	40.8	23.403	59.2
C.CAPITAL GOODS & DURABLES		179.858	100	56.636	31.5	16.524	9.2	30.053	16.7	76.645	42.6	103.213	57.4
34	BASIC METALLURGY	9.815	100	37	0.4	20	0.2	381	3.9	9.377	95.5	438	4.5
35	METAL PRODUCTS	54.316	100	21.471	39.5	5.454	10.0	9.857	18.1	17.534	32.3	36.782	67.7
36	NON ELECTRIC MACHINERY	22.323	100	6.556	29.4	3.675	16.5	7.073	31.7	5.019	22.5	17.304	77.5
37	ELECTRIC EQUIPMENT	30.400	100	6.981	23.0	2.466	8.1	5.634	18.5	15.319	50.4	15.081	49.6
38	TRANSPORT EQUIPMENT	63.004	100	21.591	34.3	4.909	7.8	7.108	11.3	29.396	46.7	33.608	53.3
GREECE, TOTAL		671.494	100	192.898	28.7	71.244	10.6	139.170	20.7	268.182	39.9	403.312	60.1

SOURCE: Adapted from NSSG "Results of the Census of Manufacturing Industry, Handicraft, Commerce and other Services on 30 Sept.1978", Athens 1981.

(Own calculation of the subtotals, totals and percentages).

TABLE A.8
MANUFACTURING EMPLOYMENT AND % SHARE BY PLANTS' SIZE AND BRANCH, 1984

Code	BRANCH	TOTAL	%	PLANTS' SIZE 0-4 employees	%	5-9 employees	%	10-49 employees	%	50+ employees	%	TOTAL OF SMEs (0-49 employees)	%
A.NON DURABLE CONSUMER GOODS		409.093	100	132.473	32.4	48.655	11.9	89.885	22.0	138.080	33.8	271.013	66.2
20	FOODS	99.413	100	35.610	35.8	11.773	11.8	20.276	20.4	31.754	31.9	67.659	68.1
21	BEVERAGES	14.058	100	2.072	14.7	1.304	9.3	3.147	22.4	7.535	53.6	6.523	46.4
22	TOBACCO	10.223	100	77	0.8	102	1.0	1.098	10.7	8.946	87.5	1.277	12.5
23	TEXTILES	65.548	100	6.738	10.3	4.473	6.8	12.723	19.4	41.614	63.5	23.934	36.5
24	CLOTHING-FOOTWEAR	96.906	100	30.110	31.1	12.320	12.7	27.259	28.1	27.217	28.1	69.689	71.9
25	WOOD-CORK	33.532	100	21.004	62.6	3.959	11.8	4.222	12.6	4.347	13.0	29.185	87.0
26	FURNITURE	31.679	100	16.808	53.1	5.693	18.0	7.744	24.4	1.434	4.5	30.245	95.5
27	PAPER	10.852	100	717	6.6	810	7.5	2.497	23.0	6.828	62.9	4.024	37.1
28	PRINTING-PUBLISHING	17.514	100	4.914	28.1	2.551	14.6	3.877	22.1	6.172	35.2	11.342	64.8
29	LEATHER-FUR	17.117	100	7.797	45.6	3.736	21.8	4.483	26.2	1.101	6.4	16.016	93.6
39	MISCELLANEOUS	12.251	100	6.626	54.1	1.934	15.8	2.559	20.9	1.132	9.2	11.119	90.8
B.INTERMEDIATE GOODS		93.610	100	15.322	16.4	9.743	10.4	22.374	23.9	46.171	49.3	47.439	50.7
30	RUBBER-PLASTIC	20.712	100	4.186	20.2	2.359	11.4	5.484	26.5	8.683	41.9	12.029	58.1
31	CHEMICALS	27.541	100	1.652	6.0	1.541	5.6	5.278	19.2	19.070	69.2	8.471	30.8
32	PETROLEUM & COAL PRODUCTS	5.836	100	208	3.6	404	6.9	1.067	18.3	4.157	71.2	1.679	28.8
33	NON METALLIC MINERALS	39.521	100	9.276	23.5	5.439	13.8	10.545	26.7	14.261	36.1	25.260	63.9
C.CAPITAL GOODS & DURABLES		181.440	100	70.479	38.8	17.198	9.5	28.797	15.9	64.968	35.8	116.474	64.2
34	BASIC METALLURGY	10.749	100	76	0.7	129	1.2	663	6.2	9.881	91.9	868	8.1
35	METAL PRODUCTS	51.372	100	22.190	43.2	5.450	10.6	8.111	15.8	15.621	30.4	35.751	69.6
36	NON ELECTRIC MACHINERY	24.233	100	7.674	31.7	3.911	16.1	7.195	29.7	5.453	22.5	18.780	77.5
37	ELECTRIC EQUIPMENT	28.701	100	9.139	31.8	2.436	8.5	5.698	19.9	11.430	39.8	17.273	60.2
38	TRANSPORT EQUIPMENT	66.385	100	31.400	47.3	5.272	7.9	7.130	10.7	22.583	34.0	43.802	66.0
GREECE, TOTAL		684.143	100	218.274	31.9	75.596	11.0	141.056	20.6	249.219	36.4	434.926	63.6

SOURCE: Adapted from NSSG "Results of the Census of Manufacturing Industry, Handicraft and Commerce on 28 Sept.1984", Athens 1988.

(Own calculation of the subtotals, totals and percentages).

TABLE A.9
INSTALLED MANUFACTURING HORSEPOWER AND % SHARE BY PLANTS' SIZE AND BRANCH, 1978

Code	BRANCH	TOTAL	%	HP 0-4 employees	%	5-9 employees	%	10-49 employees	%	50+ employees	%	TOTAL OF SMEs 0-49 employees	%
A.NON DURABLE CONSUMER GOODS		1,969,842	100	519,514	26.4	140,845	7.2	320,014	16.2	989,448	50.2	980,373	49.8
20	FOODS	662,627	100	256,089	38.6	55,304	8.3	109,571	16.5	241,663	36.5	420,964	63.5
21	BEVERAGES	80,808	100	11,797	14.6	4,459	5.5	34,200	42.3	30,352	37.6	50,456	62.4
22	TOBACCO	22,304	100	94	0.4	249	1.1	2,983	13.4	18,978	85.1	3,326	14.9
23	TEXTILES	497,133	100	21,606	4.3	18,065	3.6	69,821	14.0	387,641	78.0	109,492	22.0
24	CLOTHING-FOOTWEAR	67,164	100	23,088	34.4	8,172	12.2	17,685	26.3	18,219	27.1	48,945	72.9
25	WOOD-CORK	214,509	100	111,672	52.1	21,935	10.2	31,092	14.5	49,810	23.2	164,699	76.8
26	FURNITURE	120,896	100	70,411	58.2	15,520	12.8	23,924	19.8	11,041	9.1	109,855	90.9
27	PAPER	223,794	100	1,353	0.6	1,770	0.8	9,597	4.3	211,074	94.3	12,720	5.7
28	PRINTING-PUBLISHING	32,282	100	8,874	27.5	4,892	15.2	7,631	23.6	10,855	33.6	21,397	66.3
29	LEATHER-FUR	32,296	100	9,556	29.6	7,851	24.3	7,600	23.5	7,298	22.6	25,007	77.4
39	MISCELLANEOUS	16,029	100	4,974	31.0	2,628	16.4	5,910	36.9	2,517	15.7	13,512	84.3
B.INTERMEDIATE GOODS		1,231,628	100	80,193	6.5	79,359	6.4	185,069	15.0	887,007	72.0	344,621	28.0
30	RUBBER-PLASTIC	146,931	100	16,281	11.1	13,304	9.1	37,120	25.3	80,226	54.6	66,705	45.4
31	CHEMICALS	321,702	100	3,866	1.2	6,738	2.1	22,584	7.0	288,514	89.7	33,188	10.3
32	PETROLEUM & COAL PRODUCTS	96,885	100	1,486	1.5	2,154	2.2	3,596	3.7	89,649	92.5	7,236	7.5
33	NON METALLIC MINERALS	666,110	100	58,560	8.8	57,163	8.6	121,769	18.3	428,618	64.3	237,492	35.7
C.CAPITAL GOODS & DURABLES		1,318,452	100	161,864	12.3	58,098	4.4	118,065	9.0	980,425	74.4	338,027	25.6
34	BASIC METALLURGY	547,777	100	77	0.0	48	0.0	1,873	0.3	545,779	99.6	1,998	0.4
35	METAL PRODUCTS	296,458	100	80,513	27.2	23,880	8.1	50,244	16.9	141,821	47.8	154,637	52.2
36	NON ELECTRIC MACHINERY	109,252	100	39,601	36.2	17,988	16.5	32,662	29.9	19,001	17.4	90,251	82.6
37	ELECTRIC EQUIPMENT	125,402	100	7,574	6.0	4,994	4.0	12,943	10.3	99,891	79.7	25,511	20.3
38	TRANSPORT EQUIPMENT	239,563	100	34,099	14.2	11,188	4.7	20,343	8.5	173,933	72.6	65,630	27.4
GREECE, TOTAL		4,519,922	100	761,571	16.8	278,302	6.2	623,148	13.8	2,856,880	63.2	1,663,021	36.8

SOURCE: Adapted from NSSG "Results of the Census of Manufacturing Industry, Handicraft, Commerce and other Services on 30 Sept.1978", Athens 1981.

(Own calculation of the subtotals, totals and percentages).

TABLE A.10
INSTALLED MANUFACTURING HORSEPOWER AND % SHARE BY PLANTS' SIZE AND BRANCH, 1984

Code	BRANCH	TOTAL	%	HP 0-4 employees	%	5-9 employees	%	10-49 employees	%	50+ employees	%	TOTAL OF SMEs (0-49 employees)	%
A.NON DURABLE CONSUMER GOODS		2,607,388	100	694,868	26.6	189,208	7.3	462,052	17.7	1,261,260	48.4	1,346,128	51.6
20	FOODS	927,872	100	338,106	36.4	67,440	7.3	161,424	17.4	360,902	38.9	566,970	61.1
21	BEVERAGES	97,556	100	13,416	13.8	7,073	7.3	18,363	18.8	58,704	60.2	38,852	39.8
22	TOBACCO	36,084	100	222	0.6	139	0.4	6,816	18.9	28,907	80.1	7,177	19.9
23	TEXTILES	567,820	100	26,475	4.7	21,782	3.8	110,263	19.4	409,300	72.1	158,520	27.9
24	CLOTHING-FOOTWEAR	91,280	100	27,553	30.2	11,708	12.8	23,714	26.0	28,305	31.0	62,975	69.0
25	WOOD-CORK	321,469	100	158,863	49.4	31,257	9.7	40,997	12.8	90,352	28.1	231,117	71.9
26	FURNITURE	166,963	100	89,324	53.5	27,698	16.6	42,010	25.2	7,931	4.8	159,032	95.2
27	PAPER	278,788	100	2,686	1.0	2,223	0.8	23,485	8.4	250,394	89.8	28,394	10.2
28	PRINTING-PUBLISHING	50,770	100	15,826	31.2	6,856	13.5	14,849	29.2	13,239	26.1	37,531	73.9
29	LEATHER-FUR	41,717	100	13,029	31.2	8,802	21.1	11,750	28.2	8,136	19.5	33,581	80.5
39	MISCELLANEOUS	27,069	100	9,368	34.6	4,230	15.6	8,381	31.0	5,090	18.8	21,979	81.2
B.INTERMEDIATE GOODS		1,927,628	100	139,435	7.2	145,252	7.5	298,439	15.5	1,344,502	69.7	583,126	30.3
30	RUBBER-PLASTIC	229,087	100	32,888	14.4	27,266	11.9	52,572	22.9	116,361	50.8	112,726	49.2
31	CHEMICALS	399,918	100	9,934	2.5	8,539	2.1	36,461	9.1	344,984	86.3	54,934	13.7
32	PETROLEUM & COAL PRODUCTS	192,666	100	6,653	3.5	7,987	4.1	10,421	5.4	167,605	87.0	25,061	13.0
33	NON METALLIC MINERALS	1,105,957	100	89,960	8.1	101,460	9.2	198,985	18.0	715,552	64.7	390,405	35.3
C.CAPITAL GOODS & DURABLES		1,608,952	100	251,879	15.7	93,319	5.8	188,585	11.7	1,075,169	66.8	533,783	33.2
34	BASIC METALLURGY	607,926	100	432	0.1	1,994	0.3	16,391	2.7	589,109	96.9	18,817	3.1
35	METAL PRODUCTS	408,916	100	104,775	25.6	36,590	8.9	69,762	17.1	197,789	48.4	211,127	51.6
36	NON ELECTRIC MACHINERY	160,676	100	58,717	36.5	27,390	17.0	46,527	29.0	28,042	17.5	132,634	82.5
37	ELECTRIC EQUIPMENT	137,680	100	10,820	7.9	6,067	4.4	21,096	15.3	99,697	72.4	37,983	27.6
38	TRANSPORT EQUIPMENT	293,754	100	77,135	26.3	21,278	7.2	34,809	11.8	160,532	54.6	133,222	45.4
GREECE, TOTAL		6,143,968	100	1,086,182	17.7	427,779	7.0	949,076	15.4	3,680,931	59.9	2,463,037	40.1

SOURCE: Adapted from NSSG "Results of the Census of Manufacturing Industry, Handicraft and Commerce on 28 Sept.1984", Athens 1988.

(Own calculation of the percentages).

TABLE A.11
GROSS FIXED CAPITAL FORMATION BY SECTORS OF ECONOMIC ACTIVITY 1950-1991
(Million drs. at constant 1970 prices)

YEAR	AGRICULTURE etc.	MINING-QUARRYING	MANUFACTURING	ENERGY	TRANSPORT & COMMUNICATION	DWELLINGS	PUBLIC ADMINISTRATION	OTHER SERVICE INDUSTRIES	TOTAL GFCF
1950	1.818	184	3.696	559	2.786	4.830	1.024	1.365	16.262
1951	1.864	722	3.222	2.148	1.393	4.333	114	1.299	15.095
1952	1.279	455	3.197	1.410	1.139	4.491	694	1.315	13.980
1953	1.150	224	2.039	1.563	882	6.091	702	1.601	14.252
1954	1.262	184	1.781	1.577	1.186	6.096	403	1.900	14.389
1955	1.270	137	1.941	1.632	1.477	7.045	378	2.064	15.944
1956	1.700	279	2.372	2.531	1.963	7.818	371	2.361	19.395
1957	2.577	367	2.819	1.409	2.604	6.911	389	2.044	19.120
1958	3.378	398	3.473	1.901	3.828	8.352	145	2.694	24.169
1959	3.844	151	3.081	2.613	3.774	7.857	304	3.640	25.264
1960	5.070	160	2.873	2.323	5.477	8.506	417	4.295	29.121
1961	5.368	213	3.634	2.260	6.146	9.132	340	4.383	31.476
1962	4.710	270	4.280	2.902	6.269	10.391	317	4.989	34.128
1963	5.131	430	4.390	2.727	6.188	11.287	343	5.500	35.996
1964	5.688	451	5.628	3.888	7.977	13.712	296	5.805	43.445
1965	6.035	606	7.006	4.759	8.384	15.482	181	6.550	49.003
1966	5.591	584	6.660	3.957	10.440	15.642	433	7.260	50.567
1967	6.209	719	6.053	5.341	10.167	13.956	469	6.856	49.770
1968	7.079	803	7.245	5.500	11.547	19.445	367	8.411	60.397
1969	7.443	1.219	8.426	6.827	14.181	23.212	628	9.717	71.653
1970	7.523	1.471	10.044	5.091	14.677	19.740	828	11.289	70.663
1971	8.052	1.827	11.198	7.480	17.348	23.641	803	10.209	80.558
1972	8.949	1.478	13.238	7.987	18.529	29.964	781	12.051	92.977
1973	9.685	1.985	14.457	8.736	20.570	30.576	675	13.409	100.093
1974	7.174	1.462	14.855	8.166	15.268	15.869	458	11.188	74.440
1975	7.843	1.760	13.143	6.123	14.178	20.476	579	10.538	74.640
1976	7.740	1.859	13.288	6.021	15.853	21.909	642	12.438	79.750
1977	8.302	1.457	12.599	5.711	16.732	26.428	582	14.139	85.950
1978	7.209	2.077	12.244	6.097	19.098	30.074	669	13.632	91.100
1979	7.623	2.064	13.824	7.319	20.676	31.572	555	14.637	98.270
1980	6.169	5.468	14.899	6.710	19.424	27.290	482	12.263	92.705
1981	5.658	6.613	13.973	5.379	19.192	21.452	549	12.934	85.750
1982	5.548	3.479	13.120	7.040	22.415	20.398	594	11.506	84.100
1983	5.902	3.476	12.208	9.081	18.570	21.124	733	11.906	83.000
1984	7.416	3.408	12.101	8.864	16.186	17.083	1.022	12.220	78.300
1985	7.571	3.693	11.052	10.614	18.128	17.097	1.022	13.183	82.360
1986	4.870	1.827	13.033	7.393	14.873	19.399	874	14.965	77.234
1987	4.064	2.154	13.480	5.479	12.534	20.044	684	14.876	73.315
1988	4.441	2.056	15.138	4.666	12.580	20.691	700	18.083	78.355
1989	4.663	1.970	15.694	7.051	15.463	21.741	935	20.322	87.839
1990	4.732	1.817	16.895	7.149	17.290	24.151	968	19.818	92.820
1991	4.648	1.741	16.274	6.902	19.888	20.181	1.317	20.020	90.971

1990: Provisional data
1991: Estimates

SOURCE:
-For 1950-57: "National Accounts of Greece 1958-1975" (No 23). Athens 1976:204-5.
-For 1958-75: Ibid:152-5.
-For 1976-79: "National Accounts of Greece 1970 and 1974-81 " Athens (n.d:49).
-For 1980-84: Bank of Greece "Monthly Statistical Bulletin" Athens, Jan.1988:table 50a.
-For 1985-91: Bank of Greece "Monthly Statistical Bulletin", Athens, July 1992:table 51a.

SERIES B: SPATIAL STRUCTURE

TABLE B.1
GEOGRAPHICAL DISTRIBUTION OF MANUFACTURING ESTABLISHMENTS, BY PLANNING REGION AND PREFECTURE, 1969-1988.

PLANNING REGIONS AND INCLUDED PREFECTURES	NUMBER OF ESTABLISHMENTS						1969-78	% change 1969-1978	1978-88	% change 1978-1988
	1969	%	1978	%	1988	%				
GREECE, TOTAL	124,651	100.0	128,988	100.0	144,717	100.0	4337	3.5	15729	12.2
I. EASTERN MACEDONIA+THRACE	6,430	5.2	6,350	4.9	6,613	4.6	-80	-1.2	263	4.1
-Evros	1,444	1.2	1,613	1.3	1,748	1.2	169	11.7	135	8.4
-Rodopi	1,190	1.0	1,091	0.8	984	0.7	-99	-8.3	-107	-9.8
-Xanthi	775	0.6	799	0.6	853	0.6	24	3.1	54	6.8
-Kavala	1,831	1.5	1,691	1.3	1,774	1.2	-140	-7.6	83	4.9
-Drama	1,190	1.0	1,156	0.9	1,254	0.9	-34	-2.9	98	8.5
II. CENTRAL MACEDONIA	20,840	16.7	21,420	16.6	27,999	19.3	580	2.8	6579	30.7
-Serres	2,401	1.9	2,440	1.9	2,740	1.9	39	1.6	300	12.3
-Kilkis	784	0.6	756	0.6	970	0.7	-28	-3.6	214	28.3
-Thessaloniki	12,707	10.2	13,082	10.1	18,232	12.6	375	3.0	5150	39.4
-Chalkidiki	834	0.7	856	0.7	975	0.7	22	2.6	119	13.9
-Pieria	1,138	0.9	1,146	0.9	1,357	0.9	8	0.7	211	18.4
-Imathia	1,426	1.1	1,681	1.3	1,946	1.3	255	17.9	265	15.8
-Pella	1,550	1.2	1,459	1.1	1,779	1.2	-91	-5.9	320	21.9
III. WESTERN MACEDONIA	4,340	3.5	5,362	4.2	6,504	4.5	1022	23.5	1142	21.3
-Florina	557	0.4	480	0.4	465	0.3	-77	-13.8	-15	-3.1
-Kastoria	1,288	1.0	2,482	1.9	3,031	2.1	1194	92.7	549	22.1
-Kozani	1,974	1.6	2,003	1.6	2,629	1.8	29	1.5	626	31.3
-Grevena	521	0.4	397	0.3	379	0.3	-124	-23.8	-18	-4.5
IV. EPIRUS	3,241	2.6	3,246	2.5	3,661	2.5	5	0.2	415	12.8
-Ioannina	1,621	1.3	1,701	1.3	1,990	1.4	80	4.9	289	17.0
-Thesprotia	381	0.3	386	0.3	412	0.3	5	1.3	26	6.7
-Preveza	567	0.5	566	0.4	600	0.4	-1	-0.2	34	6.0
-Arta	672	0.5	593	0.5	659	0.5	-79	-11.8	66	11.1
V. THESSALY	8,230	6.6	8,150	6.3	9,158	6.3	-80	-1.0	1008	12.4
-Trikala	1,315	1.1	1,495	1.2	1,823	1.3	180	13.7	328	21.9
-Karditsa	1,466	1.2	1,299	1.0	1,379	1.0	-167	-11.4	80	6.2
-Larisa	2,785	2.2	2,880	2.2	3,508	2.4	95	3.4	628	21.8
-Magnisia	2,664	2.1	2,476	1.9	2,448	1.7	-188	-7.1	-28	-1.1
VI. STEREA HELLAS	6,473	5.2	5,685	4.4	6,403	4.4	-788	-12.2	718	12.6
-Phthiotis	1,913	1.5	1,661	1.3	1,741	1.2	-252	-13.2	80	4.8
-Evritania	266	0.2	107	0.1	159	0.1	-159	-59.8	52	48.6
-Phokida	583	0.5	399	0.3	497	0.3	-184	-31.6	98	24.6
-Viotia	1,247	1.0	1,312	1.0	1,559	1.1	65	5.2	247	18.8
-Evia	2,464	2.0	2,206	1.7	2,447	1.7	-258	-10.5	241	10.9
VII. ATTICA	43,803	35.1	51,350	39.8	54,707	37.8	7547	17.2	3357	6.5
-Greater Athens	40,956	32.9	47,332	36.7	48,656	33.6	6376	15.6	1324	2.8
-Rest of Attica	2,847	2.3	4,008	3.1	5,552	3.8	1161	40.8	1544	38.5
VIII WESTERN GREECE	6,762	5.4	6,584	5.1	7,190	5.0	-178	-2.6	606	9.2
-Etolia and Akarnania	1,958	1.6	1,856	1.4	2,034	1.4	-102	-5.2	178	9.6
-Achaia	2,979	2.4	3,161	2.5	3,430	2.4	182	6.1	269	8.5
-Ilia	1,825	1.5	1,567	1.2	1,726	1.2	-258	-14.1	159	10.1
IX. PELOPONNESOS	7,570	6.1	6,518	5.1	7,127	4.9	-1052	-13.9	609	9.3
-Argolida	1,250	1.0	1,261	1.0	1,398	1.0	11	0.9	137	10.9
-Korinthia	1,672	1.3	1,307	1.0	1,750	1.2	-365	-21.8	443	33.9
-Arkadia	1,249	1.0	966	0.7	980	0.7	-283	-22.7	14	1.4
-Lakonia	1,228	1.0	1,052	0.8	1,006	0.7	-176	-14.3	-46	-4.4
-Messinia	2,171	1.7	1,932	1.5	1,993	1.4	-239	-11.0	61	3.2
X. IONIAN ISLANDS	2,754	2.2	2,332	1.8	2,226	1.5	-422	-15.3	-106	-4.5
-Kerkyra	1,528	1.2	1,338	1.0	1,252	0.9	-190	-12.4	-86	-6.4
-Lefkada	352	0.3	255	0.2	252	0.2	-97	-27.6	-3	-1.2
-Kefalinia	447	0.4	351	0.3	307	0.2	-96	-21.5	-44	-12.5
-Zakynthos	427	0.3	388	0.3	415	0.3	-39	-9.1	27	7.0
XI. NORTHERN AEGIAN	3,770	3.0	2,781	2.2	2,655	1.8	-989	-26.2	-126	-4.5
-Lesvos	2,115	1.7	1,601	1.2	1,568	1.1	-514	-24.3	-33	-2.1
-Chios	738	0.6	521	0.4	534	0.4	-217	-29.4	13	2.5
-Samos	917	0.7	659	0.5	553	0.4	-258	-28.1	-106	-16.1
XII. SOUTHERN AEGIAN	3,291	2.6	2,463	1.9	2,702	1.9	-828	-25.2	239	9.7
-Cyclades	1,558	1.2	957	0.7	1,231	0.9	-601	-38.6	274	28.6
-Dodekanissos	1,733	1.4	1,506	1.2	1,471	1.0	-227	-13.1	-35	-2.3
XIII. CRETE	7,147	5.7	6,757	5.2	8,253	5.7	-390	-5.5	1496	22.1
-Lassithi	1,086	0.9	858	0.7	952	0.7	-228	-21.0	94	11.0
-Iraklio	3,295	2.6	3,437	2.7	3,831	2.6	142	4.3	394	11.5
-Rethymno	959	0.8	855	0.7	1,443	1.0	-104	-10.8	588	68.8
-Chania	1,807	1.4	1,607	1.2	2,027	1.4	-200	-11.1	420	26.1

SOURCE:
-For 1969: NSSG "Statistical Yearbook of Greece 1978", Athens 1979:224.
-For 1978: NSSG "Statistical Yearbook of Greece 1986", Athens 1987:207.
-For 1988: NSSG "Statistical Yearbook of Greece 1990-91", Athens 1994: 269.

(Own calculation of percentages).

TABLE B.2
GEOGRAPHICAL DISTRIBUTION OF MANUFACTURING EMPLOYMENT
BY PLANNING REGION AND PREFECTURE, 1969-1988

PLANNING REGIONS AND INCLUDED PREFECTURES	AVERAGE ANNUAL EMPLOYMENT						1969-78	% change 1969-1978	1978-88	% change 1978-1988
	1969	%	1978	%	1988	%				
GREECE, TOTAL	501,522	100.0	671,496	100.0	706,308	100.0	169974	33.9	34812	5.2
I. EASTERN MACEDONIA+THRACE	17,747	3.5	25,453	3.8	37,463	5.3	7706	43.4	12010	47.2
-Evros	3,474	0.7	4,751	0.7	6,375	0.9	1277	36.8	1624	34.2
-Rodopi	2,463	0.5	2,839	0.4	4,187	0.6	376	15.3	1348	47.5
-Xanthi	2,009	0.4	4,268	0.6	6,949	1.0	2259	112.4	2681	62.8
-Kavala	6,947	1.4	8,053	1.2	11,279	1.6	1106	15.9	3226	40.1
-Drama	2,854	0.6	5,542	0.8	8,673	1.2	2688	94.2	3131	56.5
II. CENTRAL MACEDONIA	79,836	15.9	117,991	17.6	155,669	22.0	38155	47.8	37678	31.9
-Serres	5,873	1.2	8,273	1.2	10,208	1.4	2400	40.9	1935	23.4
-Kilkis	1,525	0.3	3,721	0.6	6,002	0.8	2196	144.0	2281	61.3
-Thessaloniki	59,281	11.8	82,886	12.3	106,919	15.1	23605	39.8	24033	29.0
-Chalkidiki	1,422	0.3	2,183	0.3	2,759	0.4	761	53.5	576	26.4
-Pieria	2,386	0.5	3,375	0.5	6,228	0.9	989	41.5	2853	84.5
-Imathia	5,380	1.1	10,103	1.5	12,048	1.7	4723	87.8	1945	19.3
-Pella	3,969	0.8	7,450	1.1	11,505	1.6	3481	87.7	4055	54.4
III. WESTERN MACEDONIA	13,110	2.6	17,385	2.6	19,641	2.8	4275	32.6	2256	13.0
-Florina	1,106	0.2	1,195	0.2	1,208	0.2	89	8.0	13	1.1
-Kastoria	5,342	1.1	8,900	1.3	8,748	1.2	3558	66.6	-152	-1.7
-Kozani	5,872	1.2	6,410	1.0	8,821	1.2	538	9.2	2411	37.6
-Grevena	790	0.2	880	0.1	864	0.1	90	11.4	-16	-1.8
IV. EPIRUS	7,700	1.5	10,351	1.5	11,992	1.7	2651	34.4	1641	15.9
-Ioannina	3,897	0.8	5,634	0.8	6,397	0.9	1737	44.6	763	13.5
-Thesprotia	606	0.1	876	0.1	1,435	0.2	270	44.6	559	63.8
-Preveza	1,251	0.2	1,821	0.3	2,064	0.3	570	45.6	243	13.3
-Arta	1,946	0.4	2,020	0.3	2,096	0.3	74	3.8	76	3.8
V. THESSALY	25,626	5.1	37,571	5.6	41,246	5.8	11945	46.6	3675	9.8
-Trikala	3,502	0.7	4,878	0.7	5,633	0.8	1376	39.3	755	15.5
-Karditsa	3,328	0.7	3,174	0.5	3,830	0.5	-154	-4.6	656	20.7
-Larissa	8,626	1.7	14,731	2.2	17,171	2.4	6105	70.8	2440	16.6
-Magnisia	10,170	2.0	14,788	2.2	14,612	2.1	4618	45.4	-176	-1.2
VI. STEREA HELLAS	21,164	4.2	40,228	6.0	44,393	6.3	19064	90.1	4165	10.4
-Fthiotida	4,639	0.9	8,529	1.3	8,480	1.2	3890	83.9	-49	-0.6
-Evritania	432	0.1	430	0.1	634	0.1	-2	-0.5	204	47.4
-Fokida	1,032	0.2	793	0.1	1,125	0.2	-239	-23.2	332	41.9
-Viotia	6,884	1.4	15,705	2.3	19,171	2.7	8821	128.1	3466	22.1
-Evia	8,177	1.6	14,771	2.2	14,983	2.1	6594	80.6	212	1.4
VII. ATTICA	251,711	50.2	327,779	48.8	292,509	41.4	- 76068	30.2	-35270	-10.8
-Greater Athens	233,779	46.6	281,821	42.0	246,880	35.0	- 48042	20.6	-34941	-12.4
-Rest of Attica	17,932	3.6	45,958	6.8	51,397	7.3	+ 28026	156.3	5439	11.8
VIII. WESTERN GREECE	25,577	5.1	31,808	4.7	31,905	4.5	6231	24.4	97	0.3
-Etolia and Akarnania	4,609	0.9	6,076	0.9	5,822	0.8	1467	31.8	-254	-4.2
-Achaia	16,425	3.3	21,119	3.1	21,186	3.0	4694	28.6	67	0.3
-Ilia	4,543	0.9	4,613	0.7	4,897	0.7	70	1.5	284	6.2
IX. PELOPONNESOS	21,411	4.3	26,058	3.9	25,871	3.7	4647	21.7	-187	-0.7
-Argolida	4,630	0.9	5,974	0.9	5,617	0.8	1344	29.0	-357	-6.0
-Korinthia	5,827	1.2	8,082	1.2	8,419	1.2	2255	38.7	337	4.2
-Arkadia	2,459	0.5	2,629	0.4	2,956	0.4	170	6.9	327	12.4
-Lakonia	2,428	0.5	2,133	0.3	1,978	0.3	-295	-12.1	-155	-7.3
-Messinia	6,067	1.2	7,240	1.1	6,901	1.0	1173	19.3	-339	-4.7
X. IONIAN ISLANDS	5,511	1.1	5,248	0.8	5,267	0.7	-263	-4.8	19	0.4
-Kerkyra	3,155	0.6	3,408	0.5	3,020	0.4	253	8.0	-388	-11.4
-Lefkada	648	0.1	450	0.1	489	0.1	-198	-30.6	39	8.7
-Kefalinia	750	0.1	618	0.1	700	0.1	-132	-17.6	82	13.3
-Zakynthos	958	0.2	772	0.1	1,058	0.1	-186	-19.4	286	37.0
XI. NORTHERN AEGIAN	7,928	1.6	6,309	0.9	6,181	0.9	-1619	-20.4	-128	-2.0
-Lesvos	4,814	1.0	3,638	0.5	3,392	0.5	-1176	-24.4	-246	-6.8
-Chios	1,681	0.3	1,421	0.2	1,544	0.2	-260	-15.5	123	8.7
-Samos	1,433	0.3	1,250	0.2	1,245	0.2	-183	-12.8	-5	-0.4
XII. SOUTHERN AEGIAN	7,714	1.5	7,414	1.1	8,664	1.2	-300	-3.9	1250	16.9
-Cyclades	3,244	0.6	2,870	0.4	4,186	0.6	-374	-11.5	1316	45.9
-Dodekanissos	4,470	0.9	4,544	0.7	4,478	0.6	74	1.7	-66	-1.5
XIII. CRETE	16,484	3.3	17,900	2.7	19,739	2.8	1416	8.6	1839	10.3
-Lassithi	2,040	0.4	1,783	0.3	1,927	0.3	-257	-12.6	144	8.1
-Iraklio	8,988	1.8	9,124	1.4	10,631	1.5	136	1.5	1507	16.5
-Rethymno	1,458	0.3	1,707	0.3	2,313	0.3	249	17.1	606	35.5
-Chania	3,998	0.8	5,286	0.8	4,868	0.7	1288	32.2	-418	-7.9

SOURCE:
-For 1969: NSSG "Statistical Yearbook of Greece 1978", Athens 1979:224.
-For 1978: NSSG "Statistical Yearbook of Greece 1986", Athens 1987:207.
-For 1988: NSSG "Statistical Yearbook 1990-91", Athens 1994:269.

(Own calculation of the percentages).

TABLE B.3
NUMBER OF MANUFACTURING ESTABLISHMENTS IN GREATER ATHENS BY BRANCH, 1958-1988

Code	BRANCH	GREATER ATHENS								GREECE, TOTAL				G.A. (%)			
		1958	%	1969	%	1978	%	1988	%	1958	1969	1978	1988	1958	1969	1978	1988
A.NON DURABLE CONSUMER GOODS		18,552	72.2	26,973	65.9	29,129	61.5	29,116	59.8	77,029	87,781	82,424	86,691	24.1	30.7	35.3	33.6
20	FOODS	1,947	7.6	2,848	7.0	3,474	7.3	3,827	7.9	16,366	20,849	19,311	19,778	11.9	13.8	18.0	19.4
21	BEVERAGES	180	0.7	218	0.5	163	0.3	135	0.3	2,085	2,862	1,903	2,839	8.6	7.6	8.6	4.8
22	TOBACCO	28	0.1	36	0.1	20	0.0	13	0.0	292	303	131	120	9.6	11.9	15.3	10.8
23	TEXTILES	1,461	5.7	2,259	5.5	2,252	4.8	1,846	3.8	3,570	5,109	5,049	4,370	40.9	44.2	44.6	42.2
24	CLOTHING-FOOTWEAR	8,589	33.4	9,926	24.2	9,515	20.1	10,007	20.6	32,819	28,249	21,926	22,948	26.2	35.1	43.4	43.6
25	WOOD-CORK	1,283	5.0	2,545	6.2	3,366	7.1	2,850	5.9	10,055	12,045	12,365	12,721	12.8	21.1	27.2	22.4
26	FURNITURE	2,523	9.8	4,587	11.2	4,986	10.5	4,285	8.8	6,679	10,062	10,778	10,479	37.8	45.6	46.3	40.9
27	PAPER	167	0.6	278	0.7	321	0.7	346	0.7	242	388	444	595	69.0	71.6	72.3	58.2
28	PRINTING-PUBLISHING	876	3.4	1,523	3.7	1,939	4.1	2,362	4.9	1,400	2,268	2,848	3,809	62.6	67.2	68.1	62.0
29	LEATHER-FUR	420	1.6	672	1.6	737	1.6	635	1.3	1,441	2,143	3,770	4,136	29.1	31.4	19.5	15.4
39	MISCELLANEOUS	1,078	4.2	2,081	5.1	2,356	5.0	2,810	5.8	2,080	3,703	3,899	4,896	51.8	56.2	60.4	57.4
B.INTERMEDIATE GOODS		1,441	5.6	3,166	7.7	3,661	7.7	3,847	7.9	11,909	7,740	8,682	10,253	12.1	40.9	42.2	37.5
30	RUBBER-PLASTIC	152	0.6	871	2.1	1,187	2.5	1,612	3.3	323	1,364	2,184	3,091	47.1	63.9	54.3	52.2
31	CHEMICALS	361	1.4	511	1.2	575	1.2	538	1.1	7,955	985	1,095	1,252	4.5	51.9	52.5	43.0
32	PETROLEUM AND COAL PRODUCTS	30	0.1	61	0.1	53	0.1	55	0.1	36	117	123	245	83.3	52.1	43.1	22.4
33	NON METALLIC MINERALS	898	3.5	1,723	4.2	1,846	3.9	1,642	3.4	3,595	5,274	5,280	5,665	25.0	32.7	35.0	29.0
C.CAPITAL GOODS & DURABLES		5,716	22.2	10,817	26.4	14,542	30.7	16,143	33.2	20,298	29,130	37,882	47,773	28.2	37.1	38.4	33.8
34	BASIC METALLURGY	46	0.2	34	0.1	28	0.1	46	0.1	56	52	59	106	82.1	65.4	47.5	43.4
35	METAL PRODUCTS	2,625	10.2	4,389	10.7	4,506	9.5	3,733	7.7	11,935	13,904	14,685	13,715	22.0	31.6	30.7	27.2
36	NON ELECTRIC MACHINERY	590	2.3	1,209	3.0	1,812	3.4	1,526	3.1	1,443	3,297	4,465	5,294	40.9	36.7	36.1	28.8
37	ELECTRIC EQUIPMENT	1,089	4.2	2,124	5.2	2,829	6.0	2,958	6.1	2,023	3,546	5,308	7,001	53.8	59.9	53.3	42.3
38	TRANSPORT EQUIPMENT	1,366	5.3	3,061	7.5	5,567	11.8	7,880	16.2	4,841	8,331	13,365	21,657	28.2	36.7	41.7	36.4
TOTAL		25,709	100.0	40,956	100.0	47,332	100.0	48,656	100.0	109,236	124,851	128,988	144,717	23.5	32.9	36.7	33.6

SOURCE:
-For 1958: NSSG "Census of Manufacturing, Handicraft and Commercial -in General- Establishments", Athens 1960.
-For 1969: NSSG "Census of Manufacturing, Handicraft and Commercial -in General- Establishments", Athens 1971.
-For 1978: NSSG "Statistical Yearbook of Greece 1986", Athens 1987:table X.2.
-For 1988: NSSG "Statistical Yearbook of Greece 1990-91", Athens 1994:268.

(Own calculation of the subtotals, totals and percentages).

TABLE B.4
AVERAGE ANNUAL EMPLOYMENT IN MANUFACTURING INDUSTRY IN GREATER ATHENS BY BRANCH, 1958-1988.

Code	BRANCH	GREATER ATHENS								GREECE, TOTAL				G.A. (%)			
		1958	%	1969	%	1978	%	1988	%	1958	1969	1978	1988	1958	1969	1978	1988
A.NON DURABLE CONSUMER GOODS		117,511	64.6	138,396	59.2	158,378	56.2	145,652	59.0	291,856	321,119	401,825	436,019	40.3	43.1	39.4	33.4
20	FOODS	17,308	9.5	21,618	9.2	22,418	8.0	24,570	10.0	80,982	81,517	94,324	104,307	28.4	26.5	23.8	23.6
21	BEVERAGES	1,593	0.9	4,273	1.8	4,652	1.7	3,681	1.5	7,752	10,923	12,722	13,530	20.5	39.1	36.6	27.2
22	TOBACCO	5,808	3.2	4,164	1.8	2,717	1.0	2,140	0.9	14,457	13,191	9,711	12,886	40.2	31.6	28.0	16.6
23	TEXTILES	29,217	16.1	30,571	13.1	33,019	11.7	21,787	8.8	56,658	54,961	78,377	66,403	51.6	55.6	42.1	32.8
24	CLOTHING-FOOTWEAR	28,564	15.7	30,792	13.2	41,538	14.7	42,797	17.3	74,974	62,232	87,284	116,924	38.1	49.5	47.6	36.6
25	WOOD-CORK	5,840	3.2	9,049	3.9	9,082	3.2	6,339	2.6	25,050	30,274	33,009	30,949	23.3	29.9	27.5	20.5
26	FURNITURE	11,762	6.5	13,411	5.7	14,789	5.2	11,992	4.9	23,652	26,507	31,263	30,467	49.7	50.6	47.3	39.4
27	PAPER	2,889	1.6	4,197	1.8	5,804	2.1	5,132	2.1	4,914	7,784	11,023	12,011	58.8	53.9	52.7	42.7
28	PRINTING-PUBLISHING	7,535	4.1	11,123	4.8	13,721	4.9	15,730	6.4	10,133	14,123	17,285	22,621	74.4	78.8	79.4	69.5
29	LEATHER-FUR	2,354	1.3	3,069	1.3	3,448	1.2	2,973	1.2	6,473	10,312	15,548	12,018	36.4	29.8	22.2	24.7
39	MISCELLANEOUS	4,641	2.6	6,129	2.6	7,190	2.6	8,511	3.4	6,811	9,295	11,279	13,893	68.1	65.9	63.7	61.3
B.INTERMEDIATE GOODS		22,539	12.4	30,523	13.1	38,140	13.5	31,342	12.7	68,939	60,875	89,751	92,396	32.7	50.1	42.5	33.9
30	RUBBER-PLASTIC	3,080	1.7	8,351	3.6	11,504	4.1	7,632	3.1	4,151	10,845	19,480	19,296	74.2	77.0	59.1	39.6
31	CHEMICALS	10,498	5.8	10,459	4.5	14,984	5.3	14,242	5.8	42,006	16,250	26,009	27,789	25.0	64.4	57.6	51.3
32	PETROLEUM AND COAL PRODUCTS	454	0.2	1,127	0.5	809	0.3	1,718	0.7	959	2,921	4,745	7,483	47.3	38.6	17.0	23.0
33	NON METALLIC MINERALS	8,507	4.7	10,586	4.5	10,843	3.8	7,750	3.1	21,821	30,859	39,517	37,848	39.0	34.3	27.4	20.5
C.CAPITAL GOODS & DURABLES		41,810	23.0	64,880	27.7	85,302	30.3	69,886	28.3	80,297	119,527	179,861	177,893	52.1	54.3	47.4	39.3
34	BASIC METALLURGY	1,681	0.9	1,232	0.5	1,174	0.4	993	0.4	2,922	5,709	9,816	10,418	57.5	21.6	12.0	9.5
35	METAL PRODUCTS	16,181	8.9	21,317	9.1	23,461	8.3	16,814	6.8	34,007	43,266	54,317	47,081	47.6	49.3	43.2	35.7
36	NON ELECTRIC MACHINERY	4,603	2.5	8,694	3.7	9,022	3.2	7,183	2.9	9,741	17,214	22,323	22,320	47.3	50.5	40.4	32.2
37	ELECTRIC EQUIPMENT	6,820	3.8	13,419	5.7	17,049	6.0	13,413	5.4	9,909	18,282	30,401	28,424	68.8	73.4	56.1	47.2
38	TRANSPORT EQUIPMENT	12,525	6.9	20,198	8.6	34,596	12.3	31,483	12.8	23,718	35,056	63,004	69,650	52.8	57.6	54.9	45.2
TOTAL		181,860	100.0	233,779	100.0	281,821	100.0	246,880	100.0	441,092	501,521	671,496	706,308	41.2	46.6	42.0	35.0

SOURCE:
-For 1958: NSSG "Census of Manufacturing, Handicraft and Commercial -in General- Establishments", Athens 1960.
-For 1969: NSSG "Census of Manufacturing, Handicraft and Commercial -in General- Establishments." Athens, 1971.
-For 1978: NSSG "Statistical Yearbook of Greece 1986." Athens, 1987:table X.2.
-For 1988: NSSG "Statistical Yearbook of Greece 1990-91", Athens 1994:268.
(Own calculation of the sub-totals, totals and percentages).

TABLE B.5
INSTALLED HORSEPOWER IN MANUFACTURING INDUSTRY IN GREATER ATHENS BY BRANCH, 1958-1984.

Code	BRANCH	GREATER ATHENS								GREECE, TOTAL				G.A. (%)			
		1958	%	1969	%	1978	%	1984	%	1958	1969	1978	1984	1958	1969	1978	1984
A.NON DURABLE CONSUMER GOODS		139,042	50.2	267,307	45.6	425,896	43.6	495,980	46.3	415,257	967,143	1,999,838	2,607,388	33.5	27.6	21.6	19.0
20	FOODS	41,672	15.0	61,500	10.5	82,453	8.4	115,659	10.8	168,973	399,026	662,627	927,872	24.7	15.4	12.4	12.5
21	BEVERAGES	3,746	1.4	11,377	1.9	14,648	1.5	13,442	1.3	16,520	37,394	80,806	97,556	22.7	30.4	18.1	13.8
22	TOBACCO	2,034	0.7	5,125	0.9	6,989	0.7	7,770	0.7	5,231	19,834	22,300	36,084	38.9	25.8	31.3	21.5
23	TEXTILES	45,658	16.5	78,220	13.4	135,889	13.9	111,676	10.4	105,897	173,727	497,133	567,820	43.1	45.0	27.3	19.7
24	CLOTHING-FOOTWEAR	2,745	1.0	11,951	2.0	28,612	2.9	38,992	3.6	3,941	18,532	67,164	91,280	69.7	64.5	42.6	42.7
25	WOOD-CORK	11,527	4.2	27,917	4.8	34,515	3.5	40,498	3.8	49,112	131,806	214,509	321,489	23.5	21.2	16.1	12.6
26	FURNITURE	6,737	2.4	24,688	4.2	38,568	3.9	47,965	4.5	15,165	64,448	120,896	166,963	44.4	38.3	31.9	28.7
27	PAPER	9,539	3.4	18,965	3.2	40,935	4.2	59,889	5.6	26,151	79,156	223,794	278,788	36.5	24.0	18.3	21.5
28	PRINTING-PUBLISHING	6,517	2.4	14,683	2.5	26,314	2.7	36,359	3.4	8,057	18,294	32,282	50,770	80.9	80.3	81.5	71.6
29	LEATHER-FUR	4,358	1.6	8,106	1.4	8,893	0.9	10,818	1.0	11,148	18,180	32,298	41,717	39.1	44.6	27.5	25.9
39	MISCELLANEOUS	4,509	1.6	4,775	0.8	7,880	0.8	12,912	1.2	5,062	6,746	16,029	27,089	89.1	70.8	49.2	47.7
B.INTERMEDIATE GOODS		70,274	25.4	147,216	25.1	215,687	22.1	257,046	24.0	221,717	584,451	1,231,628	1,927,628	31.7	25.2	17.5	13.3
30	RUBBER-PLASTIC	3,390	1.2	32,113	5.5	65,667	6.7	80,532	7.5	5,970	50,934	146,931	229,087	56.8	63.0	44.7	35.2
31	CHEMICALS	36,451	13.2	38,875	6.6	63,525	6.5	87,791	8.2	122,970	178,848	321,702	399,918	29.6	21.7	19.7	22.0
32	PETROLEUM AND COAL PRODUCTS	1,274	0.5	2,734	0.5	3,501	0.4	5,054	0.5	11,083	38,825	96,885	192,666	11.5	7.1	3.6	2.6
33	NON METALLIC MINERALS	29,159	10.5	73,494	12.5	82,994	8.5	83,669	7.8	81,714	316,044	666,110	1,105,957	35.7	23.3	12.5	7.6
C.CAPITAL GOODS & DURABLES		67,696	24.4	171,287	29.2	335,043	34.3	317,349	29.6	138,786	462,823	1,318,152	1,608,952	48.8	37.0	25.4	19.7
34	BASIC METALLURGY	11,088	4.0	15,447	2.6	14,584	1.5	7,864	0.7	42,434	173,090	547,777	607,926	26.1	8.9	2.7	1.3
35	METAL PRODUCTS	27,450	9.9	62,537	10.7	94,774	9.7	88,219	8.2	40,902	125,239	296,458	408,916	67.1	49.9	32.0	21.6
36	NON ELECTRIC MACHINERY	10,006	3.6	28,756	4.9	36,596	3.7	52,134	4.9	21,020	60,802	109,252	160,676	47.6	47.3	33.5	32.4
37	ELECTRIC EQUIPMENT	4,549	1.6	19,003	3.2	33,062	3.4	28,978	2.7	6,412	26,969	125,102	137,880	70.9	70.5	26.4	21.0
38	TRANSPORT EQUIPMENT	14,603	5.3	45,544	7.8	156,027	16.0	140,154	13.1	28,018	76,723	239,563	293,754	52.1	59.4	65.1	47.7
TOTAL		277,012	100.0	585,810	100.0	976,426	100.0	1,070,375	100.0	775,760	2,014,417	4,549,818	6,143,988	35.7	29.1	21.5	17.4

SOURCE: -For 1958 (Greece, total): NSSG "Census of Manufacturing, Handicraft and Commercial -in General- Establishments", Athens 1960:table 15.
-For 1958 (Greater Athens): NSSG 1960 (Ibid:table 25).
-For 1969: NSSG "Census of Manufacturing, Handicraft and Commercial -in General- Establishments." Athens, 1971:table 1.
-For 1973: NSSG "Results of the Census of Manufacturing Industry, Handicraft and Mining, on 29 Sept. 1973." Athens 1975:table 1.
-For 1978: NSSG "Results of the Census of Manufacturing Industry, Handicraft, Commerce and Other Services on 30 Sept.1978." Athens 1981:table 1.
-For 1984: NSSG "Results of the Census of Manufacturing Industry, Handicraft and Commerce on 28 Sept. 1984." Athens 1988:table 1.

(Own calculation of the subtotals, totals and percentages).

TABLE B.6
GEOGRAPHICAL DISTRIBUTION OF THE NUMBER OF MANUFACTURING ESTABLISHMENTS, BY SIZE OF PLANTS, 1978-1984.

PLANNING REGIONS AND INCLUDED PREFECTURES	1978			1984		
	SMEs (0-49 employees)	+50 employees	Total	SMEs (0-49 employees)	+50 employees	Total
GREECE, TOTAL	127,460	1,528	128,988	143,044	1,419	144,463
I. EASTERN MACEDONIA+THRACE	6,285	65	6,350	6,352	96	6,448
-Evros	1,604	9	1,613	1,724	12	1,736
-Rodopi	1,085	6	1,091	995	11	1,006
-Xanthi	787	12	799	860	26	886
-Kavala	1,668	23	1,691	1,649	31	1,680
-Drama	1,141	15	1,156	1,124	16	1,140
II. CENTRAL MACEDONIA	21,106	314	21,420	26,825	335	27,160
-Serres	2,427	13	2,440	2,693	16	2,709
-Kilkis	741	15	756	807	22	829
-Thessaloniki	12,860	222	13,082	17,585	212	17,797
-Chalkidiki	852	4	856	956	4	960
-Pieria	1,139	7	1,146	1,332	16	1,348
-Imathia	1,652	29	1,681	1,829	38	1,867
-Pella	1,435	24	1,459	1,623	27	1,650
III. WESTERN MACEDONIA	5,351	11	5,362	6,402	7	6,409
-Florina	479	1	480	553	1	554
-Kastoria	2,478	4	2,482	3,160	1	3,161
-Kozani	1,998	5	2,003	2,331	4	2,335
-Grevena	396	1	397	358	1	359
IV. EPIRUS	3,231	15	3,246	3,815	17	3,832
-Ioannina	1,693	8	1,701	2,050	10	2,060
-Thesprotia	389	0	389	453	1	454
-Preveza	564	2	566	598	4	602
-Arta	588	5	593	714	2	716
V. THESSALY	8,060	90	8,150	9,157	99	9,256
-Trikala	1,484	11	1,495	1,763	10	1,773
-Karditsa	1,298	1	1,299	1,337	4	1,341
-Larissa	2,842	38	2,880	3,474	46	3,520
-Magnisia	2,436	40	2,476	2,543	39	2,582
VI. STEREA HELLAS	5,564	121	5,685	6,397	115	6,512
-Fthiotida	1,637	24	1,661	1,827	17	1,844
-Evritania	106	1	107	146	1	147
-Fokida	398	1	399	500	2	502
-Viotia	1,254	58	1,312	1,439	58	1,497
-Evia	2,169	37	2,206	2,485	37	2,522
VII. ATTICA	50,613	727	51,340	54,116	588	54,704
VIII.WESTERN GREECE	6,511	73	6,584	7,410	67	7,477
-Etolia and Akarnania	1,845	11	1,856	1,969	9	1,978
-Achaia	3,107	54	3,161	3,568	50	3,618
-Ilia	1,559	8	1,567	1,873	8	1,881
IX. PELOPONNESOS	6,448	70	6,518	7,119	53	7,172
-Argolida	1,233	28	1,261	1,287	17	1,304
-Korinthia	1,280	27	1,307	1,717	25	1,742
-Arkadia	965	1	966	985	1	986
-Lakonia	1,051	1	1,052	1,056	1	1,057
-Messinia	1,919	13	1,932	2,074	9	2,083
X. IONIAN ISLANDS	2,327	5	2,332	2,369	2	2,371
-Kerkyra	1,334	4	1,338	1,341	1	1,342
-Lefkada	255	0	255	247	0	247
-Kefalinia	351	0	351	340	0	340
-Zakynthos	387	1	388	441	1	442
XI. NORTHERN AEGIAN	2,773	8	2,781	2,842	9	2,851
-Lesvos	1,598	3	1,601	1,706	4	1,710
-Chios	518	3	521	550	4	554
-Samos	657	2	659	586	1	587
XII. SOUTHERN AEGIAN	2,453	10	2,463	2,915	10	2,925
-Cyclades	953	4	957	1,333	5	1,338
-Dodekanissos	1,500	6	1,506	1,582	5	1,587
XIII. CRETE	6,738	19	6,757	7,325	21	7,346
-Lassithi	857	1	858	799	0	799
-Iraklio	3,424	13	3,437	3,726	16	3,742
-Rethymno	855	0	855	980	0	980
-Chania	1,602	5	1,607	1,820	5	1,825

SOURCE: For 1978: NSSG "Results of the Census of Manufacturing Industry, Handicraft, Commerce and other Services, on 30 Sept. 1978", Athens 1981.
For 1984: NSSG "Results of the Census of Manufacturing Industry, Handicraft and Commerce on 28 Sept. 1984", Athens 1988.

TABLE B.7
GEOGRAPHICAL DISTRIBUTION OF MANUFACTURING EMPLOYMENT BY SIZE OF PLANTS, 1978-1984.

PLANNING REGIONS AND INCLUDED PREFECTURES	1978			1984		
	SMEs (0-49 employees)	+50 employees	Total	SMEs (0-49 employees)	+50 employees	Total
GREECE, TOTAL	403,312	268,180	671,492	434,922	249,256	684,178
I. EASTERN MACEDONIA+THRACE	16,621	8,830	25,451	17,282	15,267	32,549
-Evros	3,834	916	4,750	4,006	1,597	5,603
-Rodopi	2,323	515	2,838	2,383	1,509	3,892
-Xanthi	2,402	1,865	4,267	2,504	3,833	6,337
-Kavala	5,116	2,937	8,053	5,402	4,328	9,730
-Drama	2,946	2,597	5,543	2,987	4,000	6,987
II. CENTRAL MACEDONIA	71,876	46,117	117,993	89,632	49,884	139,516
-Serres	6,173	2,100	8,273	6,897	2,179	9,076
-Kilkis	2,242	1,479	3,721	2,880	2,284	5,164
-Thessaloniki	49,795	33,091	82,886	64,246	32,481	96,727
-Chalkidiki	1,905	278	2,183	2,071	404	2,475
-Pieria	2,862	513	3,375	3,297	1,683	4,980
-Imathia	4,942	5,163	10,105	5,555	6,415	11,970
-Pella	3,957	3,493	7,450	4,686	4,400	9,086
III. WESTERN MACEDONIA	15,375	2,009	17,384	17,799	2,220	20,019
-Florina	1,107	88	1,195	1,303	99	1,402
-Kastoria	8,650	250	8,900	10,306	84	10,390
-Kozani	4,789	1,620	6,409	5,456	1,985	7,441
-Grevena	829	51	880	734	52	786
IV. EPIRUS	8,223	2,127	10,350	9,933	2,483	12,416
-Ioannina	4,564	1,070	5,634	5,547	1,058	6,605
-Thesprotia	875	0	875	987	441	1,428
-Preveza	1,374	447	1,821	1,553	661	2,214
-Arta	1,410	610	2,020	1,846	323	2,169
V. THESSALY	22,940	14,630	37,570	24,385	16,232	40,617
-Trikala	3,988	888	4,876	4,324	768	5,092
-Karditsa	3,119	56	3,175	3,289	225	3,514
-Larissa	9,190	5,541	14,731	9,904	6,600	16,504
-Magnisia	6,643	8,145	14,788	6,868	8,639	15,507
VI. STEREA HELLAS	14,557	25,672	40,229	17,315	29,658	46,973
-Fthiotida	4,102	4,518	8,620	4,900	3,771	8,671
-Evritania	216	214	430	299	293	592
-Fokida	735	57	792	1,063	342	1,405
-Viotia	4,735	10,971	15,706	5,347	13,946	19,293
-Evia	4,859	9,912	14,771	5,706	11,306	17,012
VII. ATTICA	187,746	140,033	327,779	186,907	105,602	292,509
VIII.WESTERN GREECE	19,233	12,575	31,808	20,263	13,775	34,038
-Etolia and Akarnania	4,700	1,377	6,077	4,728	1,409	6,137
-Achaia	10,788	10,331	21,119	11,191	11,318	22,509
-Ilia	3,745	867	4,612	4,349	1,048	5,397
IX. PELOPONNESOS	15,889	10,167	26,056	17,458	8,731	26,189
-Argolida	3,585	2,389	5,974	4,055	1,654	5,709
-Korinthia	3,437	4,645	8,082	4,364	4,077	8,441
-Arkadia	2,147	481	2,628	2,150	558	2,708
-Lakonia	2,081	53	2,134	2,153	55	2,208
-Messinia	4,639	2,599	7,238	4,736	2,387	7,123
X. IONIAN ISLANDS	4,660	588	5,248	5,022	401	5,423
-Kerkyra	2,919	490	3,409	3,056	82	3,138
-Lefkada	450	0	450	436	0	436
-Kefalinia	618	0	618	679	0	679
-Zakynthos	673	98	771	851	319	1,170
XI. NORTHERN AEGIAN	5,527	783	6,310	5,769	860	6,629
-Lesvos	3,264	374	3,638	3,369	399	3,768
-Chios	1,146	275	1,421	1,232	261	1,493
-Samos	1,117	134	1,251	1,168	200	1,368
XII. SOUTHERN AEGIAN	5,323	2,091	7,414	6,696	2,472	9,168
-Cyclades	1,808	1,061	2,869	2,700	1,816	4,516
-Dodekanissos	3,515	1,030	4,545	3,996	656	4,652
XIII. CRETE	15,342	2,558	17,900	16,461	1,671	18,132
-Lassithi	1,726	57	1,783	1,789	0	1,789
-Iraklio	8,017	1,106	9,123	8,590	1,193	9,783
-Rethymno	1,706	0	1,706	1,898	0	1,898
-Chania	3,893	1,395	5,288	4,187	478	4,665

SOURCE: For 1978: NSSG "Results of the Census of Manufacturing Industry, Handicraft, Commerce and other Services, on 30 Sept. 1978", Athens 1981.
For 1984: NSSG "Results of the Census of Manufacturing Industry, Handicraft and Commerce on 28 Sept. 1984", Athens 1988.

TABLE B.8

MANUFACTURING EMPLOYMENT IN GREATER ATHENS (G.A.), REST OF ATTICA (R.A.) AND ATTICA (REGION TOTAL) (ATT.) BY BRANCH, 1963-1984.

Code	BRANCHES	1963			1969			1973			1978			1984		
		G.A.	R.A.	ATT.	G.A.	R.A.	ATT.	G.A.	R.A.	ATT.	G.A.	R.A.	ATT.	G.A.	R.A.	ATT.
A. NON-DURABLE CONSUMER GOODS		133,096	6,623	139,719	138,396	6,680	145,076	157,228	9,968	167,196	158,378	14,230	172,608	141,011	16,424	157,435
20	FOODS	18,935	2,020	20,955	21,618	2,046	23,664	21,719	2,726	24,445	22,418	3,195	25,613	22,417	4,067	26,484
21	BEVERAGES	2,331	472	2,803	4,273	478	4,751	4,443	55	4,498	4,652	570	5,222	3,979	872	4,851
22	TOBACCO	5,412	0	5,412	4,164	0	4,164	3,175	0	3,175	2,717	0	2,717	2,481	0	2,481
23	TEXTILES	31,426	2,349	33,775	30,571	2,520	33,091	34,659	3,941	38,600	33,019	4,721	37,740	22,473	3,934	26,407
24	CLOTHING-FOOTWEAR	32,776	929	33,705	30,792	584	31,376	38,058	833	38,891	41,538	1,348	42,886	41,231	1,522	42,753
25	WOOD-CORK	8,362	473	8,835	9,049	493	9,542	10,175	997	11,172	9,082	1,688	10,770	7,889	1,789	9,678
26	FURNITURE	11,629	208	11,837	13,411	331	13,742	15,667	804	16,471	14,789	1,825	16,614	12,609	2,307	14,916
27	PAPER	3,564	16	3,580	4,197	45	4,242	4,686	154	4,840	5,804	447	6,251	4,722	872	5,594
28	PRINTING-PUBLISHING	10,024	18	10,042	11,123	32	11,155	13,048	97	13,145	13,721	114	13,835	12,941	552	13,493
29	LEATHER-FUR	3,344	71	3,415	3,069	76	3,145	3,568	70	3,638	3,448	95	3,543	3,092	126	3,218
39	MISCELLANEOUS	5,293	67	5,360	6,129	75	6,204	8,030	291	8,321	7,190	227	7,417	7,177	383	7,560
B. INTERMEDIATE GOODS		27,441	3,866	31,307	30,523	4,852	35,375	36,517	8,196	44,713	38,140	12,581	50,721	32,404	13,358	45,762
30	RUBBER-PLASTIC	6,184	29	6,213	8,351	116	8,467	10,307	738	11,045	11,504	1,838	13,342	9,073	2,226	11,299
31	CHEMICALS	9,670	1,255	10,925	10,459	1,369	11,828	12,978	2,421	15,399	14,984	4,127	19,111	14,312	4,547	18,859
32	PETROLEUM-COAL PRODUCTS	563	573	1,136	1,127	871	1,998	1,310	1,397	2,707	809	2,739	3,548	750	2,630	3,380
33	NON METALLIC MINERALS	11,024	2,009	13,033	10,586	2,496	13,082	11,922	3,640	15,562	10,843	3,877	14,720	8,269	3,955	12,224
C. CAPITAL GOODS & DURABLES		60,135	4,401	64,536	64,860	5,287	70,147	86,079	14,157	100,236	85,302	19,145	104,447	70,735	18,575	89,310
34	BASIC METALLURGY	575	1,712	2,287	1,232	2,548	3,780	988	2,787	3,775	1,174	2,984	4,158	634	2,673	3,307
35	METAL PRODUCTS	20,488	658	21,146	21,317	1,304	22,621	21,494	3,676	25,170	23,461	5,445	28,906	18,401	5,399	23,800
36	NON ELECTRIC MACHINERY	8,289	374	8,663	8,694	289	8,983	12,777	1,187	13,964	9,022	2,077	11,099	8,564	2,798	11,362
37	ELECTRIC EQUIPMENT	10,892	296	11,188	13,419	358	13,777	20,975	1,002	21,977	17,049	1,543	18,592	13,834	1,674	15,508
38	TRANSPORT EQUIPMENT	19,891	1,361	21,252	20,198	788	20,986	29,845	5,505	35,350	34,596	7,096	41,692	29,302	6,031	35,333
TOTAL		220,672	14,890	235,562	233,779	16,819	250,598	279,824	32,321	312,145	281,820	45,956	327,776	244,150	48,357	292,507

SOURCE: NSSG, Censuses of Manufacturing Industry (1963, 1969, 1973, 1978, 1984).
(Own calculation of sub-totals and totals).

TABLE B 9
MANUFACTURING EMPLOYMENT IN GREATER ATHENS' MUNICIPALITIES BY BRANCH, 1988

MUNICIPALITIES OF GREATER ATHENS	FOODS	DRINKS	TOBACCO	TEXTILES	CLOTHING-FOOTWEAR	WOOD-CORK	FURNITURE	PAPER	PRINTING-PUBLISHING	LEATHER-FUR	RUBBER-PLASTIC	HEMICALS	PETROLEUM-COAL PRODUCTS	NON METALLIC MINERALS	BASIC METALS	METAL PRODUCTS	NON ELECTRIC MACHINERY	ELECTRIC EQUIPMENT	TRANSPORT EQUIPMENT	OTHER	TOTAL
1 ATHENS	6006	300	285	4207	15989	951	2670	2994	8193 *	1282	1371	4138	791	1393	444	2510	1843	3442	6790	4787	70366
2 PIRAEUS	2738	110	1742	2340	1159	388	892	291	500	111	285	896	17	268	30	1515	1522	1434	4984	291	21293
3 DRAPETSONA	91	4	0	4	65	41	26	0	18	3	20	1139	50	813	0	45	95	23	125	3	2565
4 KERATSINI	516	7	0	270	362	154	155	1	21	0	36	12	2	200	0	145	111	101	936	42	3071
5 PERAMA	71	0	0	4	51	83	19	0	2	0	11	10	283	44	0	93	152	43	2250	3	3119
6 NIKEA	395	3	0	151	859	133	267	11	43	11	115	14	0	140	77	212	114	115	395	158	3213
7 KORYDALLOS	313	6	0	91	520	130	120	7	16	13	64	11	0	164	0	104	12	44	106	90	1811
8 HAIDARI	135	5	0	63	456	138	97	13	14	22	71	10	8	55	0	145	75	86	3973	146	5512
9 AGIA VARVARA	109	7	0	43	117	110	46	10	6	3	12	263	0	71	0	58	13	13	60	26	967
10 EGALEO	534	868	0	1847	1262	264	584	222	191	106	769	111	8	742	79	852	252	215	871	97	9874
11 PERISTERI	1550	29	0	2418	3387	740	1111	288	918	60	832	539	26	346	2	1533	832	637	1479	254	16981
12 PETROUPOLI	153	0	0	53	176	75	58	8	4	11	9	0	0	20	0	92	4	23	34	33	753
13 NEA LIOSIA	396	4	0	170	1134	413	341	59	274	18	51	129	16	117	0	395	108	146	362	85	4218
14 KAMATERO	310	0	0	34	243	87	113	16	50	0	62	99	0	19	0	80	57	22	69	4	1265
15 AGIOI ANARGYROI	195	2	0	207	466	113	153	25	43	26	22	67	10	71	0	157	34	81	210	85	1967
16 NEA HALKIDONA	54	0	0	610	146	17	19	0	31	0	15	11	0	11	0	45	7	69	104	29	1168
17 NEA PHILADELPHIA	158	9	0	272	538	17	50	54	21	24	52	32	1	43	5	27	21	45	102	195	1666
18 NEA IONIA	322	10	0	2391	1906	120	217	102	484	46	105	59	0	97	0	258	124	190	304	118	6853
19 GALATSI	231	0	0	158	711	87	127	10	28	16	21	25	0	63	0	111	14	89	279	89	2059
20 IRAKLEIO	145	2	0	674	783	92	88	23	78	5	217	229	0	95	0	144	58	48	126	89	2896
21 METAMORPHOSIS	964	32	0	1266	890	242	448	55	173	24	238	740	35	178	0	363	111	879	279	140	6857
22 LYKOVRYSI	53	0	62	320	100	24	16	40	45	12	108	17	0	408	0	88	11	431	29	48	1812
23 PEFKI	47	0	0	220	34	7	163	3	3	0	5	13	0	0	0	13	0	5	17	3	533
24 PSYCHIKO	15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	16
25 NEO PSYCHIKO	187	0	0	35	52	4	9	0	7	3	9	0	8	31	0	9	5	53	48	5	465
26 FILOTHEI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
27 HALANDRI	343	1	0	50	237	38	82	2	797	7	13	305	0	175	13	106	2	61	365	76	2673
28 MAROUSI	272	469	6	246	173	57	95	14	568	2	41	851	18	721	46	64	73	289	263	46	4114
29 KIFISSIA	212	1216	0	208	270	47	59	71	93	0	144	821	0	41	0	149	83	261	81	27	3783
30 NEA ERYTHREA	104	5	0	231	8	30	13	0	4	0	1	265	0	15	0	28	0	11	43	2	760
31 EKALI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 MELISSIA	31	0	0	0	5	4	9	0	0	0	2	160	0	15	0	2	2	11	23	18	282
33 NEA PENTELI	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	2	0	0	0	0	12
34 PENTELI	4	0	0	0	1	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	12
35 VRILISSIA	46	7	0	9	93	10	1	11	6	0	1	0	0	29	0	6	1	16	16	8	260
36 AGIA PARASKEVI	155	0	0	9	81	59	53	0	45	0	25	83	0	23	0	82	12	35	204	31	897
37 HOLARGOS-PAPAGOS	119	0	0	15	67	4	38	0	2	0	6	0	0	37	0	46	45	40	34	7	460
38 ZOGRAFOS	282	0	0	102	548	54	134	119	97	16	28	25	0	36	0	42	4	112	160	91	1850
39 KESARIANI	116	10	0	32	428	46	82	3	21	45	11	14	0	14	0	46	10	28	109	52	1067
40 VYRON	222	9	0	110	780	98	168	1	98	110	35	15	0	67	0	94	15	112	188	123	2245
41 YMITTOS	43	0	0	16	50	8	42	5	82	3	5	0	0	5	0	2327	7	11	41	2	2647
42 DAFNI	128	0	0	39	608	61	189	7	175	35	7	46	0	23	0	52	14	54	89	60	1587
43 NEA SMYRNI	254	3	0	50	327	38	106	8	18	20	11	11	0	47	0	68	39	167	135	79	1381
44 KALLITHEA	715	142	1	495	1549	124	365	112	315	138	153	532	398	103	0	344	89	1041	1096	198	7910
45 TAVROS	1871	189	0	309	598	98	272	48	441	233	418	164	0	137	237	472	213	335	126	105	6266
46 MOSCHATO	869	2	0	882	1227	128	250	125	291	120	1141	565	9	153	0	478	199	742	303	218	7702
47 AGIOS IOANNIS RENTIS	658	115	45	352	490	179	914	193	631	349	713	1024	36	289	59	2375	522	1021	504	74	10543
48 PALEO FALIRO	371	13	0	37	389	48	118	1	33	41	77	9	1	33	0	81	25	64	150	44	1535
49 AGIOS DIMITRIOS	313	18	0	278	1122	354	776	32	344	19	154	148	0	88	0	456	92	303	464	136	5097
50 ILIOUPOLIS	298	2	0	89	566	212	300	28	132	45	42	57	0	98	0	194	39	123	237	103	2565
51 ARGYROUPOLIS	190	23	0	117	432	82	112	24	16	2	15	42	0	98	0	53	39	92	163	64	1564
52 ALIMOS-ELLINIKO	885	21	0	212	1136	65	146	97	341	0	74	712	0	39	0	179	68	114	2520	100	6689
53 GLYFADA	295	39	0	49	395	56	80	0	12	10	8	28	0	54	0	71	12	130	212	28	1479
54 VOULA	66	0	0	2	10	4	2	0	8	0	5	0	0	14	0	2	0	4	43	0	160
55 VOULIAGMENI	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
GREATER ATHENS TOTAL	24570	3681	2141	21787	42797	6339	11992	5132	15730	2973	7632	14232	1716	7750	991	16814	7183	13413	31483	8511	246867

SOURCE: Unpublished data (computer printouts) of the NSSG census of industrial etc. establishments, 1988.

SERIES C: SURVEY MATERIAL

TABLE C.1
METAMORPHOSIS INDUSTRIAL AREA (M.I.A.): NON INDUSTRIAL ACTIVITIES -VARIOUS CHARACTERISTICS

NAME OF FIRM	ACTIVITY	YEAR OF LOCATION	EMPLOYMENT			BUILT CHARACTERISTICS		
			MALE	FEMALE	TOTAL	PLOT (SQ.M)	BUILT SPACE (SQ.M)	LEVELS
ABATZIS N.	STOCKYARD (MACHINES)	...	5	0	5	10000	30	1
ANATEKO	COMMERCIAL	1983	11	4	15	4000	1500	3
ATENE	COMMERCIAL (WOOD)	1975	22	3	25	8500	1200	2
DOUMANIS	COMMERCIAL (TRANSPORT EQUIPMENT)	1975	4	0	4	850	20	1
DOURIDAS	COMMERCIAL (FURNITURE)	1984	1	1	2	2500	1400	6
GIOVANOS P.	COMMERCIAL	1975	6	0	6	1000	1000	4
LAINOPOULOS	COMMERCIAL (TRANSPORT EQUIPMENT)	1977	30	10	40	6000	2140	2
MELI	COMMERCIAL (FURNITURE-DECORATIONS	1982	22	12	34	1000	500	2
METOPI	COMMERCIAL	1984	12	15	27	12000	10000	2
MILUPA HELLAS	COMMERCIAL (BABY FOODS)	1978	36	26	62	2000	1900	2
MITSUKO	COMMERCIAL	1982	10	4	14	2000	2000	4
OMEGA	COMMERCIAL (FOODS)	1980	1	3	4	1000	500	2
SALAVRAKOU N. SONS	COMMERCIAL (BROOMS)	1986	3	0	3	2300	800	2
SAXYL	COMMERCIAL	1981	4	1	5	4000	200	1
TELEMECHANIC	COMMERCIAL (ELECTR. MATERIALS)	1987	0	0	0	4000	850	2
TRANSALKO	COMMERCIAL (COSMETICS-MEDICINES)	1983	14	0	14	1500	750	1
TSIKNAKOU-KARAMOUSAS	COMMERCIAL (BUILDING MATERIALS)	1983	1	1	2	1000	25	1
VIO-PLYN	SERVICES (LAUNDRY)	1980	10	10	20	1000	600	1
VOGIATZOGLOU	COMMERCIAL (FURNITURE)	1982	6	0	6	3700	3300	2
TOTALS			198	90	288	68350	28715	

SOURCE: Questionnaires

TABLE C.2
M.I.A: PLANTS' LOCATION/RELOCATION REASONS

Code	FIRM'S NAME	PRODUCT	YEAR OF LOCATION	TYPE OF MOVEMENT	PREVIOUS PLACE	REASONS FOR MOVING TO THE AREA
20	AGROTSIK	CATTLE FEED	1972	FIRST LOCATION		AM
20	ANONYMOUS	MEAT INDUSTRY	1978	RELOCATION	CENT.ATHENS	L
20	ANTHOS KIFISSIAS	JAMS	1970	FIRST LOCATION		L, LK
20	EKONOMIDIS & CO.	BUSCUITS	1975	FIRST LOCATION		AM, PL
20	FAGE	MILK PRODUCTS	1975	FIRST LOCATION		AM
20	GEREDES V. & CO.	OLIVE OILS	1963	FIRST LOCATION		IZ
20	KALAMARAS	OLIVE OILS	1973	RELOCATION	KOKKINIA	ET
20	KATSELIS H. SONS	BAKERY	1979	FIRST LOCATION		L
20	PAPADOPOULOS D.	DRY FRUITS	1980	RELOCATION	CENT.ATHENS	PE, ET
20	TELEION-DELIOLANIS	ICE-CREAMS	1973	FIRST LOCATION		L, AM, RM
20	THILIVERIS I.& P.	RICE-MILL	1967	RELOCATION	PELOPONNESE	L
21	GREEK BOTTLING COMPANY	SOFT DRINKS	1967	FIRST LOCATION		AM, L
21	I.B.S.A.E.	SOFT DRINKS	1985	FIRST LOCATION		IZ
21	METAXA	ALCOHOLIC DRINKS	1968	RELOCATION	PIRAEUS	AM
21	SIFNEOS K. & CO.	VINEGAR	1977	RELOCATION	MOSHATO	PE, ET, AM
23	BYRON ANDREAS	TEXTILES	1986	FIRST LOCATION		IZ
23	HABALOGLOU BROS.	TEXTILES	1976	FIRST LOCATION		L
23	HAMILTON TEXTILES	TEXTILES	1974	FIRST LOCATION		IZ
23	HARODAKIS I.	TEXTILES	1979	FIRST LOCATION		IZ, L
23	ILIOPOULOI PROS.	TEXTILES	1970	RELOCATION	NEA IONIA	PE, PL
23	IOANNOU K. & CO.	TEXTILES	1980	RELOCATION	CENT.ATHENS	IZ
23	KONSTADINOU S. & CO.	TEXTILES	1976	FIRST LOCATION		RM, AM
23	KRIKOPOULOS M.	TEXTILES	1984	RELOCATION	CENT.ATHENS	ET
23	KRI-KO	TEXTILES	1982	FIRST LOCATION		IZ, L
23	MIKROPOULOS-SPARTINOS	TEXTILES	1984	RELOCATION	NEA IONIA	PE, L, AM, LK
23	NOVOLAN	TEXTILES	1975	RELOCATION	PERISTERI	PE
23	PADAZOPOULOS	TEXTILES	1974	FIRST LOCATION		L
23	PAPARINOPOULOS A. & SON	TEXTILES	1963	RELOCATION	CENT.ATHENS	ET
23	PAULIDIS M. BROS.	TEXTILES	1974	FIRST LOCATION		IZ, AM
24	AKRIDAS BROS.	CLOTHING	1973	FIRST LOCATION		PL
24	ALMA	SHOES	1987	RELOCATION	NEA IONIA	PE
24	AMALIA KODRAROU	KNITWEAR	1986	FIRST LOCATION		IZ
24	ANONYMOUS	CLOTHING	1987	FIRST LOCATION		IZ, AM, L
24	ANONYMOUS	CLOTHING	1983	FIRST LOCATION		IZ, AM
24	ARGOTYP	CLOTH-STAMPING	1986	RELOCATION	CENT.ATHENS	IZ
24	DICOSTA HELLAS	CHILDREN SHOES	1981	RELOCATION	CENT.ATHENS	PE
24	EBEY	CLOTH-STAMPING	1983	FIRST LOCATION		IZ
24	EFSTATHIOU P. & CO.	CLOTHING	1983	FIRST LOCATION		L
24	FESKOS	CLOTH-STAMPING	1979	FIRST LOCATION		L
24	HARISIOTIS & CO.	CLOTH FINISHING	1980	FIRST LOCATION		IZ
24	KAPADAIS F. & SON	COTTON-RAGS	1975	FIRST LOCATION		IZ
24	KEISOGLOU BROS.	CLOTHING	1979	FIRST LOCATION		L
24	KONSTADINIDIS I.	SILK LININGS	1981	FIRST LOCATION		PR
24	KOROSIDIS	CLOTH FOR SHOES	1970	RELOCATION	CENT.ATHENS	ET, PE
24	LEVADEAKI	COTTON PROCESSING	1962	FIRST LOCATION		PR
24	LEVEDAKIS	CLOTHING	1970	FIRST LOCATION		L, AM
24	LOUVRE	VELVET CLOTHING	1969	FIRST LOCATION		IZ
24	LYMNEOS K.	QUILTS	1981	RELOCATION	CENT.ATHENS	PE
24	MAKE	CLOTHING	1984	FIRST LOCATION		IZ
24	MARKOPOULOS N.	EMBROIDERIES, THREADS	1977	RELOCATION	NEA IONIA	ET, IZ
24	MEDIKA	CLOTHING	1976	RELOCATION	CENT.ATHENS	OR, L
24	NATHANAEL P.	CLOTHING	1973	FIRST LOCATION		IZ
24	NEOTEX	SYNTHETIC FURS FOR SHOES	1985	RELOCATION	CENT.ATHENS	ET, PE
24	PADELIDIS D.	SHOES	1983	RELOCATION	NEA IONIA	ET, RM
24	PAPAIOANNOU S.	KNITWEAR	1985	FIRST LOCATION		IZ
24	PAPALEODIOU BROS.	CLOTH-DYEING & STAMPING	1970	RELOCATION	NEA IONIA	PE
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	1975	RELOCATION	CENT.ATHENS	PE
24	TRAGALOS D. & BROS.	CLOTHING	1975	RELOCATION	CENT.ATHENS	PE, AM
24	TRIA KAPA	CLOTH-LININGS	1976	FIRST LOCATION		IZ
24	TSIAPAS-KONIARIS	CLOTHING	1980	FIRST LOCATION		L
25	DIAMADOPOULOS S.	WOOD FACTORY	1986	RELOCATION	CENT.ATHENS	ET
25	KASTRI	WOOD FACTORY	1980	FIRST LOCATION		L
26	APOSTOLOPOULOS D.	FURNITURE	1982	FIRST LOCATION		L
26	ASLANIDIS	FURNITURE	1986	RELOCATION	CENT.ATHENS	ET, AM, PL
26	GOVESIS E.-PETRAKIS S. & CO.	FURNITURE	1986	FIRST LOCATION		LK
26	KAGALOS P.	FURNITURE FOR TV SETS	1984	RELOCATION	CENT.ATHENS	ET
26	LARO	FURNITURE & WOODEN TOYS	1984	FIRST LOCATION		L, AM
26	NEONAKIS S.	FURNITURE	1985	FIRST LOCATION		IZ
26	PANANI BROS.	FURNITURE	1981	RELOCATION	CENT.ATHENS	PE, AM
26	PAPATHANASIOU E.F. & SON	FURNITURE	1980	FIRST LOCATION		L
26	SILVESTRIDIS	FURNITURE	1978	RELOCATION	CENT.ATHENS	ET, IZ
26	SKORPIOS	FURNITURE	1984	FIRST LOCATION		IZ
26	VARELAS K.	FURNITURE	1969	RELOCATION	CENT.ATHENS	ET
26	VIELEX	FURNITURE	1970	RELOCATION	CENT.ATHENS	L, PL
27	AGYRA	PAPER	1972	FIRST LOCATION		L
27	GOLDEN PACK	CARTONS	1986	RELOCATION	N.FILADELPHIA	PE, AM
27	HART-PAK	CARTONS	1987	FIRST LOCATION		IZ
28	DIKAIOS I.	PRINTING	1978	RELOCATION	CENT.ATHENS	PE, L
28	KYRIAKIS E.	PRINTING	1987	FIRST LOCATION		L, IZ
28	PERIS G.	PRINTING	1983	FIRST LOCATION		ET
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	1975	RELOCATION	CENT.ATHENS	PE
30	ARVANITIS M.	PLASTIC	1976	RELOCATION	CENT.ATHENS	PE, ET
30	ATANALIS P.I. & CO.	PLASTIC	1980	RELOCATION	CENT.ATHENS	PE, ET
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	1984	RELOCATION	PERISTERI	OR, L
30	COMER-PLAST	PLASTIC PIPES	1978	FIRST LOCATION		IZ
30	EL-PLAST	PLASTIC	1983	RELOCATION	CENT.ATHENS	OR, L
30	EUROPE	PLASTIC	1986	FIRST LOCATION		IZ
30	FIALOPLAST	PLASTIC BOTTLES	1972	RELOCATION	PIRAEUS	ET
30	GORGOGIANNIS BROS. & CO.	PLASTIC ROPES	1980	FIRST LOCATION		L, AM
30	HAIPLASTIC	PLASTIC BOTTLES	1975	FIRST LOCATION		L
30	KASIS G.	PLASTIC	1977	FIRST LOCATION		L
30	MANESIS T.	PLASTIC ROLLS	1979	RELOCATION	CENT.ATHENS	PE
30	PIGOPLASTIKI	PLASTIC	1987	FIRST LOCATION		IZ
30	PISKITZIS V. & CO.	PLASTIC SACKS	1977	FIRST LOCATION		IZ
30	PLASTIN	PLASTIC (P.V.C)	1983	FIRST LOCATION		LK
30	PTOTEX	PLASTIC BANISTERS	1987	RELOCATION	CENT.ATHENS	PE, AM
30	REKOR	RUBBER AND PLASTIC	1981	FIRST LOCATION		OR, L
30	RICOMEX	POLYOURETHANE	1978	FIRST LOCATION		AM, RM
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	1984	RELOCATION	TATOI	PE, IZ
30	SYSKEUASTIKI ELLADOS	PLASTIC	1983	FIRST LOCATION		IZ, AM
30	VEEM	PLASTIC	1970	FIRST LOCATION		L
30	VOPAR	PLASTIC	1984	RELOCATION	CENT.ATHENS	PE
31	ANONYMOUS	COSMETICS	1979	FIRST LOCATION		L

TABLE C.2
M.I.A: PLANTS' LOCATION/RELOCATION REASONS

Code	FIRM'S NAME	PRODUCT	YEAR OF LOCATION	TYPE OF MOVEMENT	PREVIOUS PLACE	REASONS FOR MOVING TO THE AREA
31	BENCKISER HELLAS	DETERGENTS	1979	RELOCATION	CENT.ATHENS	PE
31	DALCOHEM	CHEMICALS	1986	RELOCATION	CENT.ATHENS	L, AM, IZ
31	GEFEX	PESTICIDES	1971	RELOCATION	CENT.ATHENS	PE
31	HELP	MEDICINES	1976	FIRST LOCATION		AM
31	IOANNIDIS AIMILIOS	WATER-TIGHT MATERIALS	1975	FIRST LOCATION		L, AM
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	1976	RELOCATION	CENT.ATHENS	L, PR
31	MANKO	COSMETICS	1987	FIRST LOCATION		PL, AM
31	MERKOLA	MEDICINES	1972	RELOCATION	CENT.ATHENS	ET, AM
31	MONOPORA	INSULATING SLABS	1974	FIRST LOCATION		L, AM, RM
31	ODESSA	PAINTS,PLASTIC,INSULATORS	1979	RELOCATION	CENT.ATHENS	ET, PE
31	PAPOUTSANIS P.D.	COSMETICS	1969	FIRST LOCATION		AM
31	PETKO, TOUSOUNIDOU & CO.	GLUES	1986	FIRST LOCATION		L, IZ
31	SANDOZ HELLAS	MEDICINES	1969	FIRST LOCATION		AM
31	STOHOS	COSMETICS	1986	FIRST LOCATION		AM
31	TRYLET	DETERGENTS	1972	FIRST LOCATION		AM
31	UNI-FARMA	MEDICINES	1970	FIRST LOCATION		L
31	VIAFREL	GLUES	1970	RELOCATION	PERISTERI	ET
31	VIANEX	MEDICINES	1978	FIRST LOCATION		L
31	VIKENT	PAINTS	1981	RELOCATION	PERISTERI	PE
31	VIOBEN	PAINTS	1976	RELOCATION	CENT.ATHENS	L, ET
31	VIORYL	CHEMICALS	1965	RELOCATION	PERISTERI	PE
33	BILLYS & SON	MARBLE-CUTTING	1973	FIRST LOCATION		IZ
33	BISDOULIS TH., BONITSIS D.	MARBLE-CUTTING	1975	RELOCATION	CENT.ATHENS	PE, AM
33	GRIGORIS BROS.	MARBLE-CUTTING	1972	RELOCATION	N.HALKIDONA	ET, L
33	HATZIPETROS K.	MARBLE-CUTTING	1970	FIRST LOCATION		L
33	IKTINOS HELLAS	MARBLE-CUTTING	1974	FIRST LOCATION		IZ
33	KIOSEPIDIS H.	SAFETY CRYSTAL	1987	FIRST LOCATION		IZ, L
33	NIKOLOPOULOS BROS. & CO.	MARBLE-CUTTING	1972	RELOCATION	CENT.ATHENS	ET, IZ
33	PSOFAKIS MARBLES	MARBLE-CUTTING	1982	FIRST LOCATION		AM, L
33	SKOUROGIANNIS-SIGALAS	MARBLE-CUTTING	1974	RELOCATION	CENT.ATHENS	ET, AM, IZ
34	ELVIOR- PAPAIOSIF.E.	BRASS FOUNDRY	1970	FIRST LOCATION		IZ
34	SOUTZOGLOU	SMELTING WORKS	1975	RELOCATION	CENT.ATHENS	ET
34	SOULTATIS A.	METALLURGY	1968	RELOCATION	CENT.ATHENS	ET, L
35	AFEDOULIS S.	METAL CONSTRUCTS	1982	FIRST LOCATION		IZ
35	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	1983	RELOCATION	CENT.ATHENS	ET, IZ
35	ANALCO	OXIDIZED ALUMINIUM	1987	FIRST LOCATION		IZ
35	ANONYMOUS	IRON PRODUCTS	1978	FIRST LOCATION		IZ
35	ANONYMOUS	ANODIZED ALUMINIUM	1975	RELOCATION	CENT.ATHENS	ET
35	BELLINOX	STAINLESS CONSTRUCTS	1985	FIRST LOCATION		AM, RM
35	DIAKINISI BITHAS TH.	CONVEYER BELTS	1986	FIRST LOCATION		IZ
35	DIAMAND STAR	MARBLE-CUTTING TOOLS	1987	RELOCATION	CENT.ATHENS	ET, IZ, AM, RM
35	FINIKIS M.	METAL MANUFACTURES	1980	FIRST LOCATION		L
35	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	1981	FIRST LOCATION		IZ
35	KOLIOS G. & KYRIAKOULIS S.	STAINLESS STEEL PRODUCTS	1981	FIRST LOCATION		L
35	KOUNOUPAS & CO.	ANODIZED ALUMINIUM	1979	FIRST LOCATION		AM
35	KREOUZIS G. BROS.	METAL PRODUCTS	1980	FIRST LOCATION		IZ
35	LEFAS P.& I.	ALUMINIUM PRODUCTS	1986	RELOCATION	METAMORPHOSIS	PE, L
35	MEKAMO	METAL PRODUCTS	1977	FIRST LOCATION		PR
35	PAGONAS E.	METAL MOULDS	1979	RELOCATION	CENT.ATHENS	ET
35	PANAGIOTOPOULOS K.	METAL MOULDS	1979	FIRST LOCATION		L
35	POLMETEX	NOBLE METALS REFINEMENT	1976	FIRST LOCATION		IZ
35	POLYZOIS TH. & CO.	METAL ACCESSORIES	1980	RELOCATION	N.FILADELPHIA	IZ, AM
35	SABANIS	METAL PRODUCTS	1977	RELOCATION	CENT.ATHENS	PE, AM, ET
35	SOFIANOU E.	METAL ATTACHMENTS	1982	RELOCATION	CENT.ATHENS	PE, IZ
35	TECHNOSOL	METALLIC SHELVES	1974	FIRST LOCATION		L
35	TSONOPOULOS P. & CO.	HOT-WATER RADIATORS	1983	RELOCATION	NEA IONIA	ET, PR
35	TYPAL-HALKOUSIS S.	ALUMINIUM PRODUCTS	1967	RELOCATION	ERYTHREA	L, ET
35	VOULGARIS A.	METAL MANUFACTURES	1985	FIRST LOCATION		ET
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	1975	FIRST LOCATION		IZ, PL
36	AGRIC.MACHINERY	AGRICUL. MACHINERY	1977	RELOCATION	CENT.ATHENS	ET, AM
36	ARPA K.BARGETIS & CO.	AGRICUL.MACHINERY	1977	RELOCATION	CENT.ATHENS	PE, L
36	ELKAMAS	MACHINERY	1986	RELOCATION	MENIDI	PE, IZ, AM
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	1978	RELOCATION	CENT.ATHENS	PE, ET, AM
36	HADJIKONSTADINOU TH.	BAKERY'S MACHINERY	1975	RELOCATION	NEA IONIA	ET
36	PAPASTAMOU I.	MACHINE-WORKS	1986	FIRST LOCATION		IZ
36	ROBOKAS	BUILDING MACHINERY	1971	RELOCATION	EGALEO	PE, AM
36	SALTANIS N.	MACHINE-WORKS	1986	FIRST LOCATION		IZ
36	STATHAKIS BROS.	BULDING MACHINERY	1980	FIRST LOCATION		L
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	1970	FIRST LOCATION		L
36	VOUNATZIS G. & CO.	MACHINE-WORKS	1985	FIRST LOCATION		L
37	BARBY	ELECTRICAL GOODS	1979	FIRST LOCATION		L
37	CAYZER	SOLAR HEATERS-THERMOSTATS	1972	FIRST LOCATION		L, AM
37	DRAGATIDIS K. & CO.	ELECTRONIC EQUIPMENT	1970	RELOCATION	CENT.ATHENS	IZ, PE
37	ELCO-VAGIONIS	ELECTRICAL GOODS	1969	RELOCATION	PERISTERI	PE, IZ
37	KYRIAKOULIS V.	CENTRAL-HEAT BOILERS	1974	RELOCATION	CENT.ATHENS	PE
37	METELCO	ELECTRONIC EQUIPMENT	1984	RELOCATION	CENT.ATHENS	L
37	MIHALOPULOS-THOMOPULOS & CO.	LIFT-CAGES	1973	RELOCATION	CENT.ATHENS	ET
37	PANAGOPOULOS SONS & CO.	ELECTRICAL KILNS	1974	FIRST LOCATION		L, AM
37	PETROPOULOS G. & CO.	ELECTR. SOUND-BOXES	1986	RELOCATION	CENT.ATHENS	PE, IZ
37	SOLE	SOLAR HEATERS	1985	RELOCATION	METAMORPHOSIS	ET, L, AM
37	TEVHELLAS	ELECTRONIC EQUIPMENT	1974	RELOCATION	CENT.ATHENS	PE
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	1972	FIRST LOCATION		L, AM
39	INTERNA	LIGHT CEILINGS	1979	RELOCATION	PIRAEUS	L, AM
39	LYKOGIANNIS BROS. & CO.	SCHOOL REQUISITES	1983	RELOCATION	CENT.ATHENS	PE
39	TECHNICAL	SWIMMING POOLS	1974	RELOCATION	CENT.ATHENS	PE

SOURCE: Questionnaires

ABBREVIATIONS:

L: LAND-COST RELATED FACTORS (LOW COST OF LAND/LOW RENT OF BUILDING/ PRE-EXISTING PRIVATE PLOT OR BUILDING
IZ: INSTITUTIONAL REASONS (EXISTENCE OF INSTITUTIONALIZED INDUSTRIAL ZONE
AM: TRANSPORT ACCESSIBILITY TO MARKET AND/OR ADMINISTRATIVE CENTRE
PE: NEED OF FREE SPACE FOR PLANT EXPANSION
ET: ENVIRONMENTAL TOLERANCE (AVOIDANCE OF SOCIAL TURMOIL RELATED TO POLLUTING PLANTS
PL: PROXIMITY TO LABOUR MARKET
OR: ORGANIZATIONAL REASONS (MERGING, CHANGE OF OWNERSHIP, ETC)
RM: TRANSPORT ACCESSIBILITY TO RAW MATERIALS
LK: LINKAGES WITH OTHER INDUSTRIES
PR: PURELY PERSONAL REASONS (E.G. PROXIMITY TO THE OWNER'S RESIDENCE)

TABLE C.3
M.I.A: INTRA-FIRM SPATIAL SEGREGATION OF ACTIVITIES

Code	FIRM'S NAME	PRODUCT	FIRM'S ESTABLISHMENTS IN OTHER AREAS			
			PRODUCTION	DISTRIBUTION	ADMINISTRATION	WAREHOUSE
20	AGROTSIK	CATTLE FEED	-	-	-	-
20	ANONYMOUS	MEAT INDUSTRY	-	-	-	-
20	ANTHOS KIFISSIAS	JAMS	-	+	-	-
20	EKONOMIDIS & CO.	BUSCUITS	-	-	-	-
20	FAGE	MILK PRODUCTS	-	-	-	+
20	GEREDES V. & CO.	OLIVE OILS	-	-	-	-
20	KALAMARAS	OLIVE OILS	-	-	-	-
20	KATSELIS H. SONS	BAKERY	-	+	-	-
20	PAPADOPOULOS D.	DRY FRUITS	-	-	-	-
20	TELEION-DELIOLANIS	ICE-CREAMS	+	-	-	-
20	THILIVERIS I.& P.	RICE-MILL	-	-	-	-
21	GREEK BOTTLING COMPANY	SOFT DRINKS	-	+	-	-
21	I.B.S.A.E.	SOFT DRINKS	-	-	-	-
21	METAXA	ALCOHOLIC DRINKS	-	-	-	-
21	SIFNEOS K. & CO.	VINEGAR	-	-	-	+
23	BYRON ANDREAS	TEXTILES	-	-	-	-
23	HABALOGLOU BROS.	TEXTILES	-	-	-	-
23	HAMILTON TEXTILES	TEXTILES	-	-	-	-
23	HARODAKIS I.	TEXTILES	-	-	-	-
23	ILIOPOULOI PROS.	TEXTILES	-	-	-	+
23	IOANNOU K. & CO.	TEXTILES	-	-	-	-
23	KONSTADINOU S. & CO.	TEXTILES	-	-	-	-
23	KRIKOPOULOS M.	TEXTILES	-	-	-	-
23	KRI-KO	TEXTILES	-	-	-	-
23	MIKROPOULOS-SPARTINOS	TEXTILES	-	-	-	-
23	NOVOLAN	TEXTILES	-	+	-	-
23	PADAZOPOULOS	TEXTILES	-	-	-	-
23	PAPARINOPOULOS A. & SON	TEXTILES	-	-	-	-
23	PAULIDIS M. BROS.	TEXTILES	-	-	-	-
24	AKRIDAS BROS.	CLOTHING	-	+	-	-
24	ALMA	SHOES	-	-	-	+
24	AMALIA KODRAROU	KNITWEAR	+	-	+	-
24	ANONYMOUS	CLOTHING	-	-	-	-
24	ANONYMOUS	CLOTHING	-	-	-	-
24	ARGOTYP	CLOTH-STAMPING	-	-	-	-
24	DICOSTA HELLAS	CHILDREN SHOES	-	-	-	-
24	EBEY	CLOTH-STAMPING	-	-	-	-
24	EFSTATHIOU P. & CO.	CLOTHING	-	-	-	-
24	FESKOS	CLOTH-STAMPING	-	-	-	-
24	HARISIOTIS & CO.	CLOTH FINISHING	-	-	-	-
24	KAPADAIS F. & SON	COTTON-RAGS	-	-	-	-
24	KEISOGLOU BROS.	CLOTHING	-	+	-	-
24	KONSTADINIDIS I.	SILK LININGS	-	-	-	-
24	KOROSIDIS	CLOTH FOR SHOES	-	-	-	-
24	LEVADEAKI	COTTON PROCESSING	-	-	-	-
24	LEVEDAKIS	CLOTHING	-	-	-	-
24	LOUVRE	VELVET CLOTHING	+	-	+	-
24	LYMNEOS K.	QUILTS	-	+	+	+
24	MAKE	CLOTHING	-	-	-	-
24	MARKOPOULOS N.	EMBROIDERIES. THREADS	-	-	-	-
24	MEDIKA	CLOTHING	-	-	-	-
24	NATHANAEL P.	CLOTHING	-	-	-	-
24	NEOTEX	SYNTHETIC FURS FOR SHOES	-	-	-	-
24	PADELIDIS D.	SHOES	-	-	-	-
24	PAPAIOANNOU S.	KNITWEAR	-	-	-	-
24	PAPALEODIOU BROS.	CLOTH-DYEING & STAMPING	-	-	-	-
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	-	-	-	-
24	TRAGALOS D. & BROS.	CLOTHING	-	-	-	-
24	TRIA KAPA	CLOTH-LININGS	-	+	-	-
24	TSIAPAS-KONIARIS	CLOTHING	-	-	-	-
25	DIAMADOPOULOS S.	WOOD FACTORY	-	-	-	-
25	KASTRI	WOOD FACTORY	-	-	-	-
26	APOSTOLOPOULOS D.	FURNITURE	-	+	-	-
26	ASLANIDIS	FURNITURE	-	+	-	-
26	GOVESIS E.-PETRAKIS S. & CO.	FURNITURE	-	-	-	-
26	KAGALOS P.	FURNITURE FOR TV SETS	-	-	-	-
26	LARO	FURNITURE & WOODEN TOYS	-	-	-	-
26	NEONAKIS S.	FURNITURE	-	+	-	-
26	PANANI BROS.	FURNITURE	-	-	-	-
26	PAPATHANASIOU E.F. & SON	FURNITURE	-	-	+	+
26	SILVESTRIDIS	FURNITURE	-	+	-	-
26	SKORPIOS	FURNITURE	-	-	-	-
26	VARELAS K.	FURNITURE	-	+	-	-
26	VIELEX	FURNITURE	-	-	-	-
27	AGYRA	PAPER	-	-	-	-
27	GOLDEN PACK	CARTONS	-	-	-	-
27	HART-PAK	CARTONS	-	-	-	-
28	DIKAIOS I.	PRINTING	-	-	-	-
28	KYRIAKIS E.	PRINTING	-	-	-	-
28	PERIS G.	PRINTING	-	-	-	-
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	-	-	-	-
30	ARVANITIS M.	PLASTIC	-	-	-	-
30	ATANALIS P.I. & CO.	PLASTIC	-	-	-	-
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	-	-	-	-
30	COMER-PLAST	PLASTIC PIPES	-	-	-	-
30	EL-PLAST	PLASTIC	-	-	-	-
30	EUROPE	PLASTIC	-	-	-	-
30	FIALOPLAST	PLASTIC BOTTLES	-	-	-	-
30	GORGOGIANNIS BROS. & CO.	PLASTIC ROPES	-	-	-	-
30	HAIPLASTIC	PLASTIC BOTTLES	-	-	-	-
30	KASIS G.	PLASTIC	-	-	-	-
30	MANESIS T.	PLASTIC ROLLS	-	+	-	-
30	PIGOPLASTIKI	PLASTIC	-	-	+	-
30	PISKITZIS V. & CO.	PLASTIC SACKS	-	-	+	-
30	PLASTIN	PLASTIC (P V C)	-	-	-	-
30	PTOTEX	PLASTIC BANISTERS	-	+	-	-
30	REKOR	RUBBER AND PLASTIC	-	-	-	-
30	RICOMEX	POLYOURETHANE	-	-	-	-

TABLE C.3
M.I.A: INTRA-FIRM SPATIAL SEGREGATION OF ACTIVITIES

Code	FIRM'S NAME	PRODUCT	FIRM'S ESTABLISHMENTS IN OTHER AREAS			
			PRODUCTION	DISTRIBUTION	ADMINISTRATION	WAREHOUSE
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	-	-	-	-
30	SYSKEUASTIKI ELLADOS	PLASTIC	-	-	-	-
30	VEEM	PLASTIC	-	-	-	-
30	VOPAR	PLASTIC	-	-	-	-
31	ANONYMOUS	COSMETICS	-	-	-	-
31	BENCKISER HELLAS	DETERGENTS	-	-	-	-
31	DALCOHEM	CHEMICALS	-	-	-	-
31	GEFEX	PESTICIDES	-	-	+	-
31	HELP	MEDICINES	+	-	-	-
31	IOANNIDIS AIMILIOS	WATER-TIGHT MATERIALS	-	-	-	-
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	-	-	-	-
31	MANKO	COSMETICS	-	+	-	-
31	MERKOLA	MEDICINES	-	-	-	-
31	MONOPORA	INSULATING SLABS	-	-	-	-
31	ODESSA	PAINTS,PLASTIC,INSULATORS	-	-	-	-
31	PAPOUTSANIS P.D.	COSMETICS	-	-	-	-
31	PETKO, TOUSOUNIDOU & CO.	GLUES	-	-	-	-
31	SANDOZ HELLAS	MEDICINES	-	-	-	+
31	STOHOS	COSMETICS	-	-	-	-
31	TRYLET	DETERGENTS	-	-	-	-
31	UNI-FARMA	MEDICINES	-	-	+	-
31	VIAFREL	GLUES	-	-	-	-
31	VIANEX	MEDICINES	+	+	+	-
31	VIKENT	PAINTS	-	-	-	-
31	VIOBEN	PAINTS	-	-	-	-
31	VIORYL	CHEMICALS	-	-	-	-
33	BILLYS & SON	MARBLE-CUTTING	-	-	-	-
33	BISDOULIS TH., BONITSIS D.	MARBLE-CUTTING	-	-	-	-
33	GRIGORIS BROS.	MARBLE-CUTTING	-	-	-	-
33	HATZIPETROS K.	MARBLE-CUTTING	-	-	-	-
33	IKTINOS HELLAS	MARBLE-CUTTING	-	-	-	-
33	KIOSEPIDIS H.	SAFETY CRYSTAL	+	+	+	+
33	NIKOLOPOULOS BROS. & CO.	MARBLE-CUTTING	-	-	-	-
33	PSOFAKIS MARBLES	MARBLE-CUTTING	+	-	-	-
33	SKOUROGIANNIS-SIGALAS	MARBLE-CUTTING	-	-	-	-
34	ELVIOR- PAPAIOSIF E.	BRASS FOUNDRY	+	-	-	-
34	SOUTZOGLOU	SMELTING WORKS	-	-	-	-
34	SOULTATIS A.	METALLURGY	-	-	-	-
35	AFEDOULIS S.	METAL CONSTRUCTS	-	-	-	-
35	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	-	-	-	-
35	ANALCO	OXIDIZED ALUMINIUM	-	-	-	-
35	ANONYMOUS	IRON PRODUCTS	-	-	-	-
35	ANONYMOUS	ANODIZED ALUMINIUM	-	-	-	-
35	BELLINOX	STAINLESS CONSTRUCTS	-	-	-	-
35	DIAKINISI BITHAS TH.	CONVEYER BELTS	+	+	-	-
35	DIAMAND STAR	MARBLE-CUTTING TOOLS	-	-	-	-
35	FINIKIS M.	METAL MANUFACTURES	-	-	-	-
35	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	-	-	-	-
35	KOLIOS G. & KYRIAKOULIS S.	STAINLESS STEEL PRODUCTS	-	-	-	-
35	KOUNOUPAS & CO.	ANODIZED ALUMINIUM	-	-	-	-
35	KREOUZIS G. BROS.	METAL PRODUCTS	-	-	-	-
35	LEFAS P.& I.	ALUMINIUM PRODUCTS	-	-	-	-
35	MEKAMO	METAL PRODUCTS	-	-	-	-
35	PAGONAS E.	METAL MOULDS	-	-	-	-
35	PANAGIOTOPOULOS K.	METAL MOULDS	-	-	-	-
35	POLMETEX	NOBLE METALS REFINEMENT	-	-	+	-
35	POLYZOIS TH. & CO.	METAL ACCESSORIES	-	+	-	-
35	SABANIS	METAL PRODUCTS	-	-	-	-
35	SOFIANOU E.	METAL ATTACHMENTS	-	-	-	-
35	TECHNOSOL	METALLIC SHELVES	-	-	-	-
35	TSONOPOULOS P. & CO.	HOT-WATER RADIATORS	-	-	-	-
35	TYPAL-HALKOUSIS S.	ALUMINIUM PRODUCTS	-	-	-	-
35	VOULGARIS A.	METAL MANUFACTURES	-	-	-	-
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	+	+	+	+
36	AGRIC.MACHINERY	AGRICUL. MACHINERY	+	-	-	-
36	ARPA K.BARGETIS & CO.	AGRICUL MACHINERY	-	-	-	-
36	ELKAMAS	MACHINERY	-	-	+	-
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	-	-	+	-
36	HADJIKONSTADINOU TH.	BAKERY'S MACHINERY	-	-	-	-
36	PAPASTAMOU I.	MACHINE-WORKS	-	-	-	-
36	ROBOKAS	BUILDING MACHINERY	-	-	-	-
36	SALTANIS N.	MACHINE-WORKS	-	-	-	-
36	STATHAKIS BROS.	BULDING MACHINERY	-	-	-	-
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	-	-	-	-
36	VOUNATZIS G. & CO.	MACHINE-WORKS	-	-	-	-
37	BARBY	ELECTRICAL GOODS	-	+	-	-
37	CAYZER	SOLAR HEATERS-THERMOSTAT	-	-	-	-
37	DRAGATIDIS K. & CO.	ELECTRONIC EQUIPMENT	-	-	-	-
37	ELCO-VAGIONIS	ELECTRICAL GOODS	-	-	+	-
37	KYRIAKOULIS V.	CENTRAL-HEAT BOILERS	-	-	-	-
37	METELCO	ELECTRONIC EQUIPMENT	-	-	-	-
37	MIHALOPULOS-THOMOPULOS & CO.	LIFT-CAGES	-	-	-	-
37	PANAGOPOULOS SONS & CO.	ELECTRICAL KILNS	-	-	-	-
37	PETROPOULOS G. & CO.	ELECTR. SOUND-BOXES	-	-	-	-
37	SOLE	SOLAR HEATERS	-	-	+	-
37	TEVHELLAS	ELECTRONIC EQUIPMENT	-	-	-	+
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	-	-	-	-
39	INTERNA	LIGHT CEILINGS	-	-	-	-
39	LYKOGIANNIS BROS. & CO.	SCHOOL REQUISITES	-	-	-	-
39	TECHNICAL	SWIMMING POOLS	-	-	-	-

SOURCE: Questionnaires

TABLE C 4
M.I.A. PLANTS' HORSEPOWER (HP) AND NUMBER OF EMPLOYED BY SEX AND POSITION

				NUMBER OF EMPLOYED								
Code	FIRM'S NAME	PRODUCT	POWER (HP)	MALE (PROD)	FEMALE (PROD)	PROD TOTAL	MALE (ADM)	FEMALE (ADM)	ADM TOTAL	MALE (TOTAL)	FEMALE (TOTAL)	TOTALS
20	AGROTSIK	CATTLE FEED	200	4	0	4	1	0	1	5	0	5
20	ANONYMOUS	MEAT INDUSTRY	20	4	0	4	1	0	1	5	0	5
20	ANTHOS KIFISSIAS	JAMS	100	4	10	14	1	1	2	5	11	16
20	EKONOMIDIS & CO	BUSCUITS	48	6	4	10	2	2	4	8	6	14
20	FAGE	MILK PRODUCTS	3600	220	45	265	40	25	65	260	70	330
20	GEREDES V. & CO	OLIVE OILS	36	9	5	14	3	2	5	12	7	19
20	KALAMARAS	OLIVE OILS	15	2	0	2	1	0	1	3	0	3
20	KATSELIS N. SONS	BAKERY	400	45	15	60	9	8	17	54	23	77
20	PAPADOPOULOS D.	DRY FRUITS	100	2	0	2	2	0	2	4	0	4
20	TELEION-DELIOLANIS	ICE-CREAMS	400	10	8	18	6	3	9	16	11	27
20	THILVERIS I. & P.	RICE-MILL	120	2	0	2	1	0	1	3	0	3
21	GREEK BOTTLING COMPANY	SOFT DRINKS	2280	162	18	180	44	30	74	206	48	254
21	I.B.S.A.E.	SOFT DRINKS	88	12	3	15	3	3	6	15	6	21
21	METAXA	ALCOHOLIC DRINKS	1600	105	249	354	92	24	116	197	273	470
21	SIFNEOS K. & CO	VINEGAR	80	4	6	10	1	0	1	6	6	11
23	BYRON ANDREAS	TEXTILES	27	0	2	2	1	0	1	1	2	3
23	HABALOGLOU BROS	TEXTILES	30	1	0	1	2	0	2	3	0	3
23	HAMILTON TEXTILES	TEXTILES	50	0	10	10	3	0	3	3	10	13
23	HARODAKIS I.	TEXTILES	103	5	3	8	3	2	5	8	5	13
23	ILIOPOULOI PROS	TEXTILES	94	2	1	3	1	0	1	3	1	4
23	IOANNOU K. & CO	TEXTILES	50	2	2	4	1	2	3	3	4	7
23	KONSTADINOU S. & CO	TEXTILES	58	3	3	6	1	0	1	4	3	7
23	KRIKOPOULOS M.	TEXTILES	40	3	0	3	1	0	1	4	0	4
23	KRIKO	TEXTILES	100	0	17	17	0	1	1	0	18	18
23	MIKROPOULOS-SPARTINOS	TEXTILES	60	4	7	11	2	2	4	6	9	15
23	NOVOLAN	TEXTILES	40	9	5	14	1	0	1	10	5	15
23	PADAZOPOULOS	TEXTILES	7	0	2	2	1	0	1	1	2	3
23	PAPARINOPOULOS A. & SON	TEXTILES	65	4	0	4	2	2	4	6	2	8
23	PAULIDIS M. BROS	TEXTILES	750	15	41	56	5	5	10	20	46	66
24	AKRIDAS BROS	CLOTHING	320	36	2	37	8	3	11	43	5	48
24	ALMA	SHOES	296	110	90	200	16	5	20	126	95	220
24	AMALIA KODRAROU	KNITWEAR	10	0	9	9	0	1	1	0	10	10
24	ANONYMOUS	CLOTHING	30	4	0	4	1	0	1	5	0	5
24	ANONYMOUS	CLOTHING	43	3	0	3	1	0	1	4	0	4
24	ARGOTYP	CLOTH-STAMPING	40	8	1	9	1	0	1	9	1	10
24	DICOSTA HELLAS	CHILDREN SHOES	10	18	22	40	3	2	5	21	24	45
24	EBEY	CLOTH-STAMPING	30	14	0	14	1	0	1	15	0	15
24	EFSTATHIOU P. & CO	CLOTHING	36	1	1	2	1	1	2	2	2	4
24	FESKOS	CLOTH-STAMPING	10	3	0	3	1	0	1	4	0	4
24	HARISIOTIS & CO	CLOTH FINISHING	100	5	5	10	2	1	3	7	6	13
24	KAPADAIS F. & SON	COTTON-RASS	100	6	1	7	2	0	2	8	1	9
24	KEISOGLOU BROS	CLOTHING	66	3	6	9	2	3	5	5	9	14
24	KONSTADINIDIS I.	SILK LININGS	30	1	0	1	0	0	0	1	0	1
24	KOROSIDIS	CLOTH FOR SHOES	130	5	4	9	1	1	2	6	5	11
24	LEVADEAKI	COTTON PROCESSING	54	4	0	4	1	0	1	5	0	5
24	LEVEDAKIS	CLOTHING	3600	100	106	206	10	5	15	110	110	220
24	LOUVRE	VELVET CLOTHING	347	7	6	13	1	0	1	8	6	14
24	LYMNEOS K.	QUILTS	48	2	16	18	2	4	6	4	20	24
24	MAKE	CLOTHING	76	3	1	4	1	0	1	4	1	5
24	MARKOPOULOS N.	EMBROIDERIES, THREADS	20	8	0	8	3	0	3	9	0	9
24	MEDIKA	CLOTHING	300	19	14	33	2	4	6	21	18	39
24	NATHANAEL P.	CLOTHING	104	3	1	4	3	0	3	6	1	7
24	NEOTEX	SYNTHETIC FURS FOR SHOES	26	6	1	7	2	0	2	8	1	9
24	PADELIDIS D.	SHOES	160	3	0	3	2	0	2	5	0	5
24	PAPAIOANNOU S.	KNITWEAR	100	6	6	12	0	0	0	6	6	12
24	PAPALEGIOU BROS	CLOTH-DYEING & STAMPING	200	13	2	15	2	1	3	15	3	18
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	400	11	4	15	0	2	2	11	6	17
24	TRAGALOS D. & BROS	CLOTHING	28	20	14	34	3	0	3	23	14	37
24	TRIA KAPA	CLOTH-LININGS	63	3	2	5	1	0	1	4	2	6
24	TSIAPAS-KONIARIS	CLOTHING	15	2	0	2	1	0	1	3	0	3
25	DIAMADOPOULOS S.	WOOD FACTORY	30	3	0	3	1	0	1	4	0	4
25	KASTRI	WOOD FACTORY	125	17	0	17	3	0	3	20	0	20
26	APOSTOLOPOULOS D.	FURNITURE	45	8	1	9	0	0	0	8	1	9
26	ASLANIDIS	FURNITURE	60	11	1	12	1	0	1	12	1	13
26	GOVESIS E.-PETRAKIS S. & CO	FURNITURE	106	12	0	12	1	1	2	13	1	14
26	KAGALOS P.	FURNITURE FOR TV SETS	20	17	1	18	1	0	1	18	1	19
26	LARO	FURNITURE & WOODEN TOYS	100	15	2	17	2	2	4	17	4	21
26	NEONAKIS S.	FURNITURE	20	23	1	24	2	0	2	25	1	26
26	PANANI BROS.	FURNITURE	78	18	2	20	7	1	8	25	3	28
26	PAPATHANASIOU E.F. & SON	FURNITURE	250	10	1	11	1	0	1	11	1	12
26	SILVESTRIDIS	FURNITURE	943	53	6	59	14	26	40	67	32	99
26	SKORPIOS	FURNITURE	100	3	0	3	3	0	3	6	0	6
26	VARELAS K.	FURNITURE	22	7	0	7	1	0	1	8	0	8
26	VIELEX	FURNITURE	200	63	15	68	19	13	32	72	28	100
27	AGYRA	PAPER	150	13	5	18	2	0	2	15	5	20
27	GOLDEN PACK	CARTONS	300	25	4	29	6	4	10	31	8	39
27	HART-PAK	CARTONS	22	3	0	3	1	0	1	4	0	4
28	DIKAIOS I.	PRINTING	126	36	3	39	1	0	1	37	3	40
28	KYRIAKIS E.	PRINTING	61	3	2	5	2	0	2	5	2	7
28	PERIS G.	PRINTING	30	1	1	2	1	0	1	2	1	3
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	28	2	18	20	1	2	3	3	20	23
30	ARVANITIS M.	PLASTIC	120	3	4	7	1	0	1	4	4	8
30	ATANALIS P.I. & CO	PLASTIC	100	1	0	1	1	0	1	2	0	2
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	112	8	0	8	4	2	6	12	2	14
30	COMER-PLAST	PLASTIC PIPES	170	7	1	8	2	0	2	9	1	10
30	EL-PLAST	PLASTIC	60	4	2	6	1	0	1	5	2	7
30	EUROPE	PLASTIC	100	4	0	4	1	0	1	5	0	5
30	FIALOPLAST	PLASTIC BOTTLES	150	3	8	11	1	1	2	4	9	13
30	GORGOGIANNIS BROS. & CO	PLASTIC ROPES	300	12	0	12	1	0	1	13	0	13
30	HAIPLASTIC	PLASTIC BOTTLES	220	11	4	15	0	2	2	11	6	17
30	KASIS G.	PLASTIC	127	6	0	6	3	0	3	9	0	9
30	MANESIS T.	PLASTIC ROLLS	26	7	1	8	3	0	3	10	1	11
30	PIGOPLASTIKI	PLASTIC	63	2	0	2	1	0	1	3	0	3
30	PISKITZIS V. & CO	PLASTIC SACKS	50	6	0	6	1	2	3	7	2	9
30	PLASTIN	PLASTIC (P.V.C.)	21	2	0	2	2	0	2	4	0	4
30	PTOTEX	PLASTIC BANISTERS	63	3	1	4	1	0	1	4	1	5
30	REKOR	RUBBER AND PLASTIC	318	75	15	90	22	6	28	97	21	118
30	RICOMEX	POLYURETHANE	220	19	19	38	15	15	30	34	34	68
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	150	4	0	4	1	0	1	5	0	5
30	SYSKEUASTIKI ELLADOS	PLASTIC	416	9	3	12	5	1	6	14	4	18
30	VEEM	PLASTIC	467	3	2	5	1	0	1	4	2	6
30	VOPAR	PLASTIC	90	1	0	1	1	0	1	2	0	2
31	ANONYMOUS	COSMETICS	10	1	7	8	5	0	5	6	7	13
31	BENCKISER HELLAS	DETERGENTS	170	6	12	18	31	10	41	37	22	59
31	DALCOHEM	CHEMICALS	10	9	0	9	1	0	1	10	0	10
31	GEFEX	PESTICIDES	36	3	2	5	4	3	7	7	5	12
31	HELP	MEDICINES	200	20	20	40	2	3	5	22	23	45
31	IOANNIDIS AMILIOS	WATER-TIGHT MATERIALS	166	9	0	9	1	2	3	10	2	12
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	160	13	31	44	62	31	93	75	62	137
31	MANKO	COSMETICS	9	4	10	14	7	10	17	11	20	31
31	MERKOLA	MEDICINES	100	4	1	5	5	5	10	9	6	15
31	MONOPORA	INSULATING SLABS	12	16	0	15	2	2	4	17	2	19
31	ODESSA	PAINTS PLASTIC INSULATORS	15	1	0	1	1	1	2	2	1	3
31	PAPOUTSANIS P.D.	COSMETICS	2192	76	40	116	39	22	61	115	62	177
31	PETKO, TOUSOUNIDOU & CO	GLUES	145	2	0	2	11	3	14	13	3	16
31	SANDOZ HELLAS	MEDICINES	363	32	39	71	68	27	95	90	66	156
31	STOHOS	COSMETICS	9	3	0	3	3	0	3	6	0	6
31	TRYLET	DETERGENTS	248	22	17	39	47	8	55	69	25	94
31	UNI-FARMA	MEDICINES	98	6	24	30	2	3	5	8	27	35
31	VIAFREL	GLUES	317	14	10	24	18	7	25	32	17	49
31	VIANEX	MEDICINES	230	7	64	71	21	20	41	28	84	112
31	VIKENT	PAINTS	15	1	0	1	1	0	1	2	0	2
31	VIOBEN	PAINTS	26	0	1	1	0	1	1	0	2	2
31	VIORYL	CHEMICALS	228	6	5	11	28	26	54	34	31	65
33	BILLYS & SON	MARBLE-CUTTING	750	9	0	9	2	0	2	11	0	11
33	BISDOULIS TH. BONITSIS D.	MARBLE-CUTTING	104	4	0	4	1	0	1	5	0	5
33	GRIGORIS BROS.	MARBLE-CUTTING	299	6	0	6	1	0	1	7	0	7
33	HATZIPETROS K.	MARBLE-CUTTING	50	1	0	1	1	0	1	2	0	2
33	IKTINOS HELLAS	MARBLE-CUTTING	600	30	0	30	6	3	8	36	3	38
33	KOSEPIDIS H.	SAFETY CRYSTAL	333	19	10	29	1	0	1	20	10	30
33	NIKOLOPOULOS BROS. & CO	MARBLE-CUTTING	660	9	0	9	2	0	2	11	0	11

TABLE C.4
M.I.A. PLANTS' HORSEPOWER (HP) AND NUMBER OF EMPLOYED BY SEX AND POSITION

Code	FIRM'S NAME	PRODUCT	POWER (HP)	NUMBER OF EMPLOYED							
				MALE (PROD)	FEMALE (PROD)	PROD TOTAL	MALE (ADM)	FEMALE (ADM)	ADM TOTAL	MALE (TOTAL)	FEMALE (TOTAL)	TOTALS
33	PSOFAKIS MARBLES	MARBLE-CUTTING	630	26	0	26	6	1	7	31	1	32
33	SPOUROGIANNIS-SKSALAS	MARBLE-CUTTING	400	4	0	4	3	0	3	7	0	7
34	ELVIOR-PAPAIOSIF E	BRASS FOUNDRY	50	17	0	17	1	0	1	18	0	18
34	SOUTZOGLOU	SMELTING WORKS	100	1	0	1	1	0	1	2	0	2
34	SOULTATIS A	METALLURGY	788	30	4	34	9	6	16	39	10	49
36	AFEDOULIS S	METAL CONSTRUCTS	80	4	0	4	1	0	1	5	0	5
36	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	50	15	0	15	4	0	4	19	0	19
36	ANALCO	OXIDIZED ALUMINIUM	150	15	0	15	4	0	4	19	0	19
36	ANONYMOUS	IRON PRODUCTS	38	3	0	3	1	0	1	4	0	4
36	ANONYMOUS	ANODIZED ALUMINIUM	65	3	0	3	1	0	1	4	0	4
36	BELLINOX	STAINLESS CONSTRUCTS	63	1	0	1	0	0	0	1	0	1
36	DIAKNISIBITHAS TH	CONVEYER BELTS	15	5	0	5	1	0	1	6	0	6
36	DIAMAND STAR	MARBLE-CUTTING TOOLS	400	9	0	9	1	0	1	10	0	10
36	FINIKIS M	METAL MANUFACTURES	10	1	0	1	1	0	1	2	0	2
36	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	65	3	0	3	1	0	1	4	0	4
36	KOLIOS G. & KYRIAKOULIS S	STAINLESS STEEL PRODUCTS	100	7	0	7	1	1	2	8	1	9
36	KOUNOUPAS & CO	ANODIZED ALUMINIUM	250	11	0	11	1	0	1	12	0	12
36	KREOUZIS G. BROS	METAL PRODUCTS	15	8	0	8	1	0	1	9	0	9
36	LEFAS P & I	ALUMINIUM PRODUCTS	50	9	0	9	1	0	1	10	0	10
36	MEKAMO	METAL PRODUCTS	10	9	0	9	1	0	1	10	0	10
36	PAGONAS E	METAL MOULDS	70	1	0	1	0	0	0	1	0	1
36	PANAGIOTOPOULOS K	METAL MOULDS	20	1	0	1	0	0	0	1	0	1
36	POLMETEX	NOBLE METALS REFINEMENT	35	2	0	2	1	0	1	3	0	3
36	POLYZOIS TH. & CO	METAL ACCESSORIES	130	10	2	12	1	1	2	11	3	14
36	SABANIS	METAL PRODUCTS	60	5	0	5	1	1	2	6	1	7
36	SOFIANOU E	METAL ATTACHMENTS	68	2	1	3	1	0	1	3	1	4
36	TECHNOSOL	METALLIC SHELVES	196	8	0	8	2	1	3	10	1	11
36	TSONOPOULOS P. & CO	HOT-WATER RADIATORS	26	4	0	4	1	0	1	5	0	5
36	TYPAL-HALKOUSIS S	ALUMINIUM PRODUCTS	86	7	0	7	2	1	3	9	1	10
36	VOULGARIS A	METAL MANUFACTURES	15	2	0	2	1	0	1	3	0	3
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	62	5	2	7	1	0	1	6	2	8
36	AGRIC MACHINERY	AGRICUL. MACHINERY	90	14	0	14	1	0	1	15	0	15
36	ARPAK BARGETIS & CO	AGRICUL MACHINERY	360	29	0	29	1	1	2	30	1	31
36	ELKAMAS	MACHINERY	36	10	0	10	0	1	1	10	1	11
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	300	10	0	10	2	0	2	12	0	12
36	HADJIKONSTADINOU TH	BAKERY'S MACHINERY	70	3	0	3	1	0	1	4	0	4
36	PAPASTAMOU I	MACHINE-WORKS	70	2	0	2	1	0	1	3	0	3
36	ROBOKAS	BUILDING MACHINERY	148	40	0	40	4	3	7	44	3	47
36	SALTANIS N	MACHINE-WORKS	16	1	0	1	1	0	1	2	0	2
36	STATHAKIS BROS	BUILDING MACHINERY	60	2	0	2	2	0	2	4	0	4
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	43	9	1	10	2	0	2	11	1	12
36	VOUNATZIS G & CO	MACHINE-WORKS	50	1	0	1	1	0	1	2	0	2
37	BARBY	ELECTRICAL GOODS	0	17	0	17	0	0	0	17	0	17
37	CAYZER	SOLAR HEATERS-THERMOSTATS	15	1	0	1	1	0	1	2	0	2
37	DRAGATIDIS K. & CO	ELECTRONIC EQUIPMENT	15	26	0	26	1	3	4	26	3	29
37	ELCO-VAGIONIS	ELECTRICAL GOODS	1200	191	13	204	32	4	36	223	17	240
37	KYRIAKOULIS V	CENTRAL-HEAT BOILERS	12	3	0	3	1	0	1	4	0	4
37	METELCO	ELECTRONIC EQUIPMENT	10	15	15	30	6	4	10	21	19	40
37	MIHALOPULOS-THOMOPULOS & CO	LIFT-CAGES	75	9	0	9	4	0	4	13	0	13
37	PANAGOPOULOS SONS & CO	ELECTRICAL KILNS	150	4	0	4	1	0	1	5	0	5
37	PETROPOULOS G & CO	ELECTR. SOUND-BOXES	10	2	0	2	2	0	2	4	0	4
37	SOLE	SOLAR HEATERS	80	14	0	14	1	0	1	15	0	15
37	TEVHELLAS	ELECTRONIC EQUIPMENT	18	15	15	30	10	10	20	25	25	50
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	97	4	0	4	1	0	1	5	0	5
39	INTERNA	LIGHT CEILINGS	80	13	0	13	2	1	3	15	1	16
39	LYKOGIANNIS BROS. & CO	SCHOOL REQUISITES	30	11	10	21	3	1	4	14	11	25
39	TECHNICAL	SWIMMING POOLS	15	5	0	5	4	0	4	9	0	9
TOTALS			38228	2696	1248	3843	940	450	1390	5636	1698	5233

SOURCE Questionnaires

(PROD) Employees working in production ("blue collars")
(ADM) Employees working in administration and clerical jobs ("white collars")

why not %?

TABLE C.5
M.I.A: SPATIAL SEGREGATION BETWEEN PLACE OF WORK AND PLACE OF RESIDENCE (Number of workers)

Code	FIRM'S NAME	PRODUCT	DISTANCES OF LABOURERS' RESIDENTIAL AREAS FROM PLANT					
			1 Km	1.1-5 Km	5.1-10 Km	10.1-20 Km	20.1-30 Km	+30 Km
20	AGROTSIK	CATTLE FEED	0	0	0	5	0	0
20	ANONYMOUS	MEAT INDUSTRY	0	0	5	0	0	0
20	ANTHOS KIFISSIAS	JAMS	16	0	0	0	0	0
20	EKONOMIDIS & CO.	BUSCUITS	0	12	2	3	0	0
20	FAGE	MILK PRODUCTS	0	0	330	0	0	0
20	GEREDES V. & CO.	OLIVE OILS	19	0	0	0	0	0
20	KALAMARAS	OLIVE OILS	0	3	0	0	0	0
20	KATSELIS H. SONS	BAKERY	0	62	0	15	0	0
20	PAPADOPOULOS D.	DRY FRUITS	0	0	0	4	0	0
20	TELEION-DELIOLANIS	ICE-CREAMS	0	27	0	0	0	0
20	THILIVERIS I.& P.	RICE-MILL	0	0	0	3	0	0
21	GREEK BOTTLING COMPANY	SOFT DRINKS	15	14	10	127	66	22
21	I.B.S.A.E.	SOFT DRINKS	0	11	10	0	0	0
21	METAXA	ALCOHOLIC DRINKS	7	7	141	94	221	0
21	SIFNEOS K. & CO.	VINEGAR	8	0	0	3	0	0
23	BYRON ANDREAS	TEXTILES	0	0	0	3	0	0
23	HABALOGLOU BROS.	TEXTILES	0	0	2	1	0	0
23	HAMILTON TEXTILES	TEXTILES	0	0	13	0	0	0
23	HARODAKIS I.	TEXTILES	0	10	3	0	0	0
23	ILIOPOULOI PROS.	TEXTILES	0	0	4	0	0	0
23	IOANNOU K. & CO.	TEXTILES	0	7	0	0	0	0
23	KONSTADINOU S. & CO.	TEXTILES	0	0	7	0	0	0
23	KRIKOPOULOS M.	TEXTILES	0	4	0	0	0	0
23	KRI-KO	TEXTILES	0	0	18	0	0	0
23	MIKROPOULOS-SPARTINOS	TEXTILES	0	0	8	7	0	0
23	NOVOLAN	TEXTILES	0	0	15	0	0	0
23	PADAZOPOULOS	TEXTILES	3	0	0	0	0	0
23	PAPARINOPOULOS A. & SON	TEXTILES	8	0	0	0	0	0
23	PAULIDIS M. BROS.	TEXTILES	0	0	46	0	0	0
24	AKRIDAS BROS.	CLOTHING	0	14	34	0	0	0
24	ALMA	SHOES	0	22	121	66	11	0
24	AMALIA KODRAROU	KNITWEAR	0	0	10	0	0	0
24	ANONYMOUS	CLOTHING	0	0	5	0	0	0
24	ANONYMOUS	CLOTHING	0	0	4	0	0	0
24	ARGOTYP	CLOTH-STAMPING	0	10	0	0	0	0
24	DICOSTA HELLAS	CHILDREN SHOES	0	45	0	0	0	0
24	EBEY	CLOTH-STAMPING	0	0	15	0	0	0
24	EFSTATHIOU P. & CO.	CLOTHING	0	0	4	0	0	0
24	FESKOS	CLOTH-STAMPING	0	4	0	0	0	0
24	HARISIOTIS & CO.	CLOTH FINISHING	0	13	0	0	0	0
24	KAPADAIS F. & SON	COTTON-RAGS	0	0	0	9	0	0
24	KEISOGLOU BROS.	CLOTHING	0	0	14	0	0	0
24	KONSTADINIDIS I.	SILK LININGS	0	1	0	0	0	0
24	KOROSIDIS	CLOTH FOR SHOES	0	2	9	0	0	0
24	LEVADEAKI	COTTON PROCESSING	0	5	0	0	0	0
24	LEVEDAKIS	CLOTHING	0	0	220	0	0	0
24	LOUVRE	VELVET CLOTHING	0	4	8	2	0	0
24	LYMNEOS K.	QUILTS	4	6	9	5	0	0
24	MAKE	CLOTHING	0	5	0	0	0	0
24	MARKOPOULOS N.	EMBROIDERIES, THREADS	0	9	0	0	0	0
24	MEDIKA	CLOTHING	0	35	0	4	0	0
24	NATHANAEL P.	CLOTHING	0	0	7	0	0	0
24	NEOTEX	SYNTHETIC FURS FOR SHOES	0	2	7	0	0	0
24	PADELIDIS D.	SHOES	0	0	5	0	0	0
24	PAPAIOANNOU S.	KNITWEAR	0	0	12	0	0	0
24	PAPALEODIOU BROS.	CLOTH-DYEING & STAMPING	0	13	0	4	0	0
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	0	0	17	0	0	0
24	TRAGALOS D. & BROS.	CLOTHING	0	0	37	0	0	0
24	TRIA KAPA	CLOTH-LININGS	0	3	2	1	0	0
24	TSIAPAS-KONIARIS	CLOTHING	0	0	3	0	0	0
25	DIAMADOPOULOS S.	WOOD FACTORY	0	0	0	4	0	0
25	KASTRI	WOOD FACTORY	0	14	6	0	0	0
26	APOSTOLOPOULOS D.	FURNITURE	0	9	0	0	0	0
26	ASLANIDIS	FURNITURE	1	0	12	0	0	0
26	GOVESIS E.-PETRAKIS S. & CO.	FURNITURE	0	0	14	0	0	0
26	KAGALOS P.	FURNITURE FOR TV SETS	0	14	0	5	0	0
26	LARO	FURNITURE & WOODEN TOYS	1	4	8	5	3	0
26	NEONAKIS S.	FURNITURE	0	0	0	26	0	0
26	PANANI BROS.	FURNITURE	14	0	0	14	0	0
26	PAPATHANASIOU E.F. & SON	FURNITURE	0	6	6	0	0	0
26	SILVESTRIDIS	FURNITURE	5	15	30	49	0	0
26	SKORPIOS	FURNITURE	0	3	0	3	0	0
26	VARELAS K.	FURNITURE	0	2	6	0	0	0
26	VIELEX	FURNITURE	0	0	0	100	0	0

TABLE C.5
M.I.A: SPATIAL SEGREGATION BETWEEN PLACE OF WORK AND PLACE OF RESIDENCE (Number of workers)

Code	FIRM'S NAME	PRODUCT	DISTANCES OF LABOURERS' RESIDENTIAL AREAS FROM PLANT					
			1 Km	1.1-5 Km	5.1-10 Km	10.1-20 Km	20.1-30 Km	+30 Km
27	AGYRA	PAPER	0	4	13	3	0	0
27	GOLDEN PACK	CARTONS	0	0	31	8	0	0
27	HART-PAK	CARTONS	0	0	4	0	0	0
28	DIKAIOS I.	PRINTING	0	0	0	40	0	0
28	KYRIAKIS E.	PRINTING	0	0	0	7	0	0
28	PERIS G.	PRINTING	0	1	2	0	0	0
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	0	22	0	1	0	0
30	ARVANITIS M.	PLASTIC	0	4	4	0	0	0
30	ATANALIS P.I. & CO.	PLASTIC	0	0	0	2	0	0
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	0	0	0	14	0	0
30	COMER-PLAST	PLASTIC PIPES	1	7	0	0	0	2
30	EL-PLAST	PLASTIC	0	0	0	7	0	0
30	EUROPE	PLASTIC	0	0	0	5	0	0
30	FIALOPLAST	PLASTIC BOTTLES	0	13	0	0	0	0
30	GORGOGIANNIS BROS. & CO.	PLASTIC ROPES	0	0	13	0	0	0
30	HAIPLASTIC	PLASTIC BOTTLES	0	0	17	0	0	0
30	KASIS G.	PLASTIC	0	6	3	0	0	0
30	MANESIS T.	PLASTIC ROLLS	0	6	5	0	0	0
30	PIGOPLASTIKI	PLASTIC	0	3	0	0	0	0
30	PISKITZIS V. & CO.	PLASTIC SACKS	1	0	7	0	0	0
30	PLASTIN	PLASTIC (P.V.C)	0	1	3	0	0	0
30	PTOTEX	PLASTIC BANISTERS	0	0	0	5	0	0
30	REKOR	RUBBER AND PLASTIC	0	0	24	94	0	0
30	RICOMEX	POLYOURETHANE	0	0	68	0	0	0
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	0	3	1	1	0	0
30	SYSKEUASTIKI ELLADOS	PLASTIC	0	0	0	18	0	0
30	VEEM	PLASTIC	0	0	6	0	0	0
30	VOPAR	PLASTIC	0	1	1	0	0	0
31	ANONYMOUS	COSMETICS	0	0	13	0	0	0
31	BENCKISER HELLAS	DETERGENTS	0	0	30	29	0	0
31	DALCOHEM	CHEMICALS	0	0	5	5	0	0
31	GEFEX	PESTICIDES	0	0	0	12	0	0
31	HELP	MEDICINES	0	0	45	0	0	0
31	IOANNIDIS AIMILIOS	WATER-TIGHT MATERIALS	0	0	0	12	0	0
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	0	41	0	96	0	0
31	MANKO	COSMETICS	0	0	22	9	0	0
31	MERKOLA	MEDICINES	7	8	0	0	0	0
31	MONOPORA	INSULATING SLABS	0	19	0	0	0	0
31	ODESSA	PAINTS,PLASTIC INSULATORS	0	0	3	0	0	0
31	PAPOUTSANIS P.D.	COSMETICS	0	25	57	46	49	0
31	PETKO, TOUSOUNIDOU & CO.	GLUES	0	5	3	8	0	0
31	SANDOZ HELLAS	MEDICINES	0	0	31	78	31	16
31	STOHOS	COSMETICS	0	0	0	6	0	0
31	TRYLET	DETERGENTS	13	10	12	46	13	0
31	UNI-FARMA	MEDICINES	1	13	6	15	0	0
31	VIAFREL	GLUES	0	0	0	49	0	0
31	VIANEX	MEDICINES	0	22	22	56	12	0
31	VIKENT	PAINTS	0	2	0	0	0	0
31	VIOBEN	PAINTS	0	0	2	0	0	0
31	VIORYL	CHEMICALS	0	13	0	52	0	0
33	BILLYS & SON	MARBLE-CUTTING	0	11	0	0	0	0
33	BISDOULIS TH., BONITSIS D.	MARBLE-CUTTING	0	0	5	0	0	0
33	GRIGORIS BROS.	MARBLE-CUTTING	0	0	7	0	0	0
33	HATZIPETROS K.	MARBLE-CUTTING	0	0	2	0	0	0
33	IKTINOS HELLAS	MARBLE-CUTTING	19	4	9	6	0	0
33	KIOSEPIDIS H.	SAFETY CRYSTAL	0	0	30	0	0	0
33	NIKOLOPOULOS BROS. & CO.	MARBLE-CUTTING	0	0	11	0	0	0
33	PSOFAKIS MARBLES	MARBLE-CUTTING	0	0	16	16	0	0
33	SKOUROGIANNIS-SIGALAS	MARBLE-CUTTING	0	2	2	3	0	0
34	ELVIOR- PAPAIOSIF E.	BRASS FOUNDRY	0	0	18	0	0	0
34	SOUTZOGLOU	SMELTING WORKS	0	2	0	0	0	0
34	SOULTATIS A.	METALLURGY	0	5	0	44	0	0
35	AFEDOULIS S.	METAL CONSTRUCTS	0	5	0	0	0	0
35	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	0	9	0	10	0	0
35	ANALCO	OXIDIZED ALUMINIUM	0	19	0	0	0	0
35	ANONYMOUS	IRON PRODUCTS	0	0	2	2	0	0
35	ANONYMOUS	ANODIZED ALUMINIUM	0	0	4	0	0	0
35	BELLINOX	STAINLESS CONSTRUCTS	0	0	1	0	0	0
35	DIAKINISI BITHAS TH.	CONVEYER BELTS	0	3	3	0	0	0
35	DIAMAND STAR	MARBLE-CUTTING TOOLS	0	0	10	0	0	0
35	FINIKIS M.	METAL MANUFACTURES	0	2	0	0	0	0
35	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	0	0	4	0	0	0
35	KOLIOS G. & KYRIAKOULIS S.	STAINLESS STEEL PRODUCTS	0	0	0	9	0	0
35	KOUNOUPAS & CO.	ANODIZED ALUMINIUM	0	0	12	0	0	0
35	KREOUZIS G. BROS.	METAL PRODUCTS	0	0	9	0	0	0
35	LEFAS P.& I.	ALUMINIUM PRODUCTS	0	8	0	2	0	0
35	MEKAMO	METAL PRODUCTS	0	10	0	0	0	0
35	PAGONAS E.	METAL MOULDS	0	1	0	0	0	0
35	PANAGIOTOPOULOS K.	METAL MOULDS	0	0	1	0	0	0
35	POLMETEX	NOBLE METALS REFINEMENT	0	0	0	3	0	0

TABLE C.5
M.I.A: SPATIAL SEGREGATION BETWEEN PLACE OF WORK AND PLACE OF RESIDENCE (Number of workers)

Code	FIRM'S NAME	PRODUCT	DISTANCES OF LABOURERS' RESIDENTIAL AREAS FROM PLANT					
			1 Km	1.1-5 Km	5.1-10 Km	10.1-20 Km	20.1-30 Km	+30 Km
35	POLYZOIS TH. & CO.	METAL ACCESSORIES	0	0	10	4	0	0
35	SABANIS	METAL PRODUCTS	0	0	0	7	0	0
35	SOFIANOU E.	METAL ATTACHMENTS	0	4	0	0	0	0
35	TECHNOSOL	METALLIC SHELVES	0	0	1	10	0	0
35	TSONOPOULOS P. & CO.	HOT-WATER RADIATORS	0	3	2	0	0	0
35	TYPAL-HALKOUSIS S.	ALUMINIUM PRODUCTS	0	1	1	8	0	0
35	VOULGARIS A.	METAL MANUFACTURES	1	2	0	0	0	0
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	0	0	8	0	0	0
36	AGRIC.MACHINERY	AGRICUL. MACHINERY	0	15	0	0	0	0
36	ARPA K.BARGETIS & CO.	AGRICUL.MACHINERY	0	2	14	15	0	0
36	ELKAMAS	MACHINERY	6	0	0	5	0	0
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	0	0	0	12	0	0
36	HADJIKONSTADINOU TH.	BAKERY'S MACHINERY	0	4	0	0	0	0
36	PAPASTAMOU I.	MACHINE-WORKS	0	2	1	0	0	0
36	ROBOKAS	BUILDING MACHINERY	0	0	47	0	0	0
36	SALTANIS N.	MACHINE-WORKS	0	2	0	0	0	0
36	STATHAKIS BROS.	BULDING MACHINERY	0	1	0	3	0	0
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	0	0	12	0	0	0
36	VOUNATZIS G. & CO.	MACHINE-WORKS	0	2	0	0	0	0
37	BARBY	ELECTRICAL GOODS	2	4	8	3	0	0
37	CAYZER	SOLAR HEATERS-THERMOSTATS	0	0	2	0	0	0
37	DRAGATIDIS K. & CO.	ELECTRONIC EQUIPMENT	0	0	0	0	29	0
37	ELCO-VAGIONIS	ELECTRICAL GOODS	0	0	0	240	0	0
37	KYRIAKOULIS V.	CENTRAL-HEAT BOILERS	0	0	0	4	0	0
37	METELCO	ELECTRONIC EQUIPMENT	0	12	0	0	28	0
37	MIHALOPULOS-THOMOPULOS & CO.	LIFT-CAGES	0	0	0	13	0	0
37	PANAGOPOULOS SONS & CO.	ELECTRICAL KILNS	0	0	5	0	0	0
37	PETROPOULOS G. & CO.	ELECTR. SOUND-BOXES	0	0	4	0	0	0
37	SOLE	SOLAR HEATERS	0	3	3	9	0	0
37	TEVHELLAS	ELECTRONIC EQUIPMENT	0	0	30	20	0	0
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	0	0	3	2	0	0
39	INTERNA	LIGHT CEILINGS	0	14	1	1	0	0
39	LYKOGIANNIS BROS. & CO.	SCHOOL REQUISITES	0	4	0	21	0	0
39	TECHNICAL	SWIMMING POOLS	0	0	5	4	0	0
TOTALS			152	802	1995	1762	463	40

SOURCE: Questionnaires

TABLE C.6
M.I.A: LABOURERS' MEANS OF TRANSPORTATION TO AND FROM WORK (Number of workers)

Code	FIRM'S NAME	PRODUCT	LABOURERS' TRANSPORT MEANS		
			PUBLIC TRANSPORT	FIRM'S TRANS-PORT MEANS	PRIVATE MEANS
20	AGROTSIK	CATTLE FEED	0	0	6
20	ANONYMOUS	MEAT INDUSTRY	0	0	5
20	ANTHOS KIFISSIAS	JAMS	12	0	4
20	EKONOMIDIS & CO.	BUSCUITS	0	0	14
20	FAGE	MILK PRODUCTS	0	165	165
20	GEREDES V. & CO.	OLIVE OILS	0	0	19
20	KALAMARAS	OLIVE OILS	0	0	3
20	KATSELIS H. SONS	BAKERY	0	0	77
20	PAPADOPOULOS D.	DRY FRUITS	0	0	4
20	TELEION-DELIOLANIS	ICE-CREAMS	0	0	27
20	THILIVERIS I.& P.	RICE-MILL	0	0	3
21	GREEK BOTTLING COMPANY	SOFT DRINKS	0	127	127
21	I.B.S.A.E.	SOFT DRINKS	7	7	7
21	METAXA	ALCOHOLIC DRINKS	0	329	141
21	SIFNEOS K. & CO.	VINEGAR	0	0	11
23	BYRON ANDREAS	TEXTILES	0	0	3
23	HABALOGLOU BROS.	TEXTILES	0	3	0
23	HAMILTON TEXTILES	TEXTILES	0	0	13
23	HARODAKIS I.	TEXTILES	0	0	13
23	ILIOPOULOI PROS.	TEXTILES	0	4	0
23	IOANNOU K. & CO.	TEXTILES	0	7	0
23	KONSTADINOU S. & CO.	TEXTILES	0	0	7
23	KRIKOPOULOS M.	TEXTILES	0	0	4
23	KRI-KO	TEXTILES	0	0	18
23	MIKROPOULOS-SPARTINOS	TEXTILES	0	15	0
23	NOVOLAN	TEXTILES	0	8	7
23	PADAZOPOULOS	TEXTILES	0	0	3
23	PAPARINOPOULOS A. & SON	TEXTILES	0	0	6
23	PAULIDIS M. BROS.	TEXTILES	0	46	0
24	AKRIDAS BROS.	CLOTHING	0	19	29
24	ALMA	SHOES	0	220	0
24	AMALIA KODRAROU	KNITWEAR	0	0	10
24	ANONYMOUS	CLOTHING	0	0	5
24	ANONYMOUS	CLOTHING	0	0	4
24	ARGOTYP	CLOTH-STAMPING	0	0	10
24	DICOSTA HELLAS	CHILDREN SHOES	0	45	0
24	EBEY	CLOTH-STAMPING	0	0	15
24	EFSTATHIOU P. & CO.	CLOTHING	0	4	0
24	FESKOS	CLOTH-STAMPING	2	0	2
24	HARISIOTIS & CO.	CLOTH FINISHING	0	13	0
24	KAPADAIS F. & SON	COTTON-RAGS	0	0	9
24	KEISOGLOU BROS.	CLOTHING	0	14	0
24	KONSTADINIDIS I.	SILK LININGS	0	0	1
24	KOROSIDIS	CLOTH FOR SHOES	0	5	6
24	LEVADEAKI	COTTON PROCESSING	5	0	0
24	LEVEDAKIS	CLOTHING	0	176	44
24	LOUVRE	VELVET CLOTHING	0	7	7
24	LYMNEOS K.	QUILTS	0	20	4
24	MAKE	CLOTHING	0	5	0
24	MARKOPOULOS N.	EMBROIDERIES, THREADS	0	0	9
24	MEDIKA	CLOTHING	0	35	4
24	NATHANAEL P.	CLOTHING	0	3	4
24	NEOTEX	SYNTHETIC FURS FOR SHOES	0	2	7
24	PADELIDIS D.	SHOES	0	0	5
24	PAPAIOANNOU S.	KNITWEAR	0	6	6
24	PAPALEODIOU BROS.	CLOTH-DYEING & STAMPING	0	0	18
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	0	0	17
24	TRAGALOS D. & BROS.	CLOTHING	0	37	0
24	TRIA KAPA	CLOTH-LININGS	0	6	0
24	TSIAPAS-KONIARIS	CLOTHING	0	3	0
25	DIAMADOPOULOS S.	WOOD FACTORY	0	0	4
25	KASTRI	WOOD FACTORY	4	0	16
26	APOSTOLOPOULOS D.	FURNITURE	0	0	9
26	ASLANIDIS	FURNITURE	6	7	0
26	GOVESIS E.-PETRAKIS S. & CO.	FURNITURE	0	14	0
26	KAGALOS P.	FURNITURE FOR TV SETS	0	10	9
26	LARO	FURNITURE & WOODEN TOYS	0	10	11
26	NEONAKIS S.	FURNITURE	0	21	5
26	PANANI BROS.	FURNITURE	0	28	0
26	PAPATHANASIOU E.F. & SON	FURNITURE	0	6	6
26	SILVESTRIDIS	FURNITURE	10	64	25
26	SKORPIOS	FURNITURE	0	0	6
26	VARELAS K.	FURNITURE	0	0	8

TABLE C.6
M.I.A: LABOURERS' MEANS OF TRANSPORTATION TO AND FROM WORK (Number of workers)

Code	FIRM'S NAME	PRODUCT	LABOURERS' TRANSPORT MEANS		
			PUBLIC TRANSPORT	FIRM'S TRANS-PORT MEANS	PRIVATE MEANS
26	VIELEX	FURNITURE	0	80	20
27	AGYRA	PAPER	0	16	4
27	GOLDEN PACK	CARTONS	0	0	39
27	HART-PAK	CARTONS	0	0	4
28	DIKAIOS I.	PRINTING	0	20	20
28	KYRIAKIS E.	PRINTING	0	7	0
28	PERIS G.	PRINTING	0	0	3
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	0	0	23
30	ARVANITIS M.	PLASTIC	0	8	0
30	ATANALIS P.I. & CO.	PLASTIC	1	0	1
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	0	14	0
30	COMER-PLAST	PLASTIC PIPES	0	0	10
30	EL-PLAST	PLASTIC	0	7	0
30	EUROPE	PLASTIC	0	5	0
30	FIALOPLAST	PLASTIC BOTTLES	0	13	0
30	GORGOGIANNIS BROS. & CO.	PLASTIC ROPES	0	6	7
30	HAIPLASTIC	PLASTIC BOTTLES	0	17	0
30	KASIS G.	PLASTIC	0	0	9
30	MANESIS T.	PLASTIC ROLLS	0	0	11
30	PIGOPLASTIKI	PLASTIC	0	3	0
30	PISKITZIS V. & CO.	PLASTIC SACKS	1	3	5
30	PLASTIN	PLASTIC (P.V.C)	0	0	4
30	PTOTEX	PLASTIC BANISTERS	2	3	0
30	REKOR	RUBBER AND PLASTIC	0	59	59
30	RICOMEX	POLYOURETHANE	0	68	0
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	0	0	5
30	SYSKEUASTIKI ELLADOS	PLASTIC	0	18	0
30	VEEM	PLASTIC	0	0	6
30	VOPAR	PLASTIC	0	0	2
31	ANONYMOUS	COSMETICS	0	13	0
31	BENCKISER HELLAS	DETERGENTS	0	40	19
31	DALCOHEM	CHEMICALS	0	0	10
31	GEFEX	PESTICIDES	0	12	0
31	HELP	MEDICINES	0	0	45
31	IOANNIDIS AIMILIOS	WATER-TIGHT MATERIALS	0	0	12
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	0	68	69
31	MANKO	COSMETICS	0	31	0
31	MERKOLA	MEDICINES	0	15	0
31	MONOPORA	INSULATING SLABS	0	19	0
31	ODESSA	PAINTS,PLASTIC,INSULATORS	0	0	3
31	PAPOUTSANIS P.D.	COSMETICS	18	89	70
31	PETKO, TOUSOUNIDOU & CO.	GLUES	1	0	15
31	SANDOZ HELLAS	MEDICINES	0	78	78
31	STOHOS	COSMETICS	0	3	3
31	TRYLET	DETERGENTS	0	56	38
31	UNI-FARMA	MEDICINES	0	20	15
31	VIAFREL	GLUES	0	37	12
31	VIANEX	MEDICINES	0	90	22
31	VIKENT	PAINTS	2	0	0
31	VIOBEN	PAINTS	0	0	2
31	VIORYL	CHEMICALS	13	0	52
33	BILLYS & SON	MARBLE-CUTTING	0	0	11
33	BISDOULIS TH., BONITSIS D.	MARBLE-CUTTING	0	5	0
33	GRIGORIS BROS.	MARBLE-CUTTING	0	0	7
33	HATZIPETROS K.	MARBLE-CUTTING	0	0	2
33	IKTINOS HELLAS	MARBLE-CUTTING	4	0	34
33	KIOSEPIDIS H.	SAFETY CRYSTAL	0	0	30
33	NIKOLOPOULOS BROS. & CO.	MARBLE-CUTTING	0	11	0
33	PSOFAKIS MARBLES	MARBLE-CUTTING	0	0	32
33	SKOUROGIANNIS-SIGALAS	MARBLE-CUTTING	0	0	7
34	ELVIOR- PAPAIOSIF.E	BRASS FOUNDRY	0	18	0
34	SOUTZOGLOU	SMELTING WORKS	0	0	2
34	SOULTATIS A.	METALLURGY	0	34	15
35	AFEDOULIS S.	METAL CONSTRUCTS	0	0	5
35	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	0	0	19
35	ANALCO	OXIDIZED ALUMINIUM	0	10	9
35	ANONYMOUS	IRON PRODUCTS	0	4	0
35	ANONYMOUS	ANODIZED ALUMINIUM	0	0	4
35	BELLINOX	STAINLESS CONSTRUCTS	0	0	1
35	DIAKINISI BITHAS TH.	CONVEYER BELTS	0	6	0
35	DIAMAND STAR	MARBLE-CUTTING TOOLS	0	0	10
35	FINIKIS M.	METAL MANUFACTURES	0	0	2

TABLE C.6
M.I.A: LABOURERS' MEANS OF TRANSPORTATION TO AND FROM WORK (Number of workers)

Code	FIRM'S NAME	PRODUCT	LABOURERS' TRANSPORT MEANS		
			PUBLIC TRANSPORT	FIRM'S TRANS-PORT MEANS	PRIVATE MEANS
35	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	0	0	4
35	KOLIOS G. & KYRIAKOULIS S.	STAINLESS STEEL PRODUCTS	0	9	0
35	KOUNOUPAS & CO.	ANODIZED ALUMINIUM	0	0	12
35	KREOUZIS G. BROS.	METAL PRODUCTS	0	0	9
35	LEFAS P.& I.	ALUMINIUM PRODUCTS	0	0	10
35	MEKAMO	METAL PRODUCTS	0	0	10
35	PAGONAS E.	METAL MOULDS	0	1	0
35	PANAGIOTOPOULOS K.	METAL MOULDS	0	0	1
35	POLMETEX	NOBLE METALS REFINEMENT	0	0	3
35	POLYZOIS TH. & CO.	METAL ACCESSORIES	0	0	14
35	SABANIS	METAL PRODUCTS	0	0	7
35	SOFIANOU E.	METAL ATTACHMENTS	0	0	4
35	TECHNOSOL	METALLIC SHELVES	0	11	0
35	TSONOPOULOS P. & CO.	HOT-WATER RADIATORS	5	0	0
35	TYPAL-HALKOUSIS S.	ALUMINIUM PRODUCTS	0	0	10
35	VOULGARIS A.	METAL MANUFACTURES	0	0	3
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	0	0	8
36	AGRIC.MACHINERY	AGRICUL. MACHINERY	0	15	0
36	ARPA K.BARGETIS & CO.	AGRICUL.MACHINERY	8	15	8
36	ELKAMAS	MACHINERY	0	0	11
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	0	6	6
36	HADJIKONSTADINOU TH.	BAKERY'S MACHINERY	0	0	4
36	PAPASTAMOU I.	MACHINE-WORKS	0	0	3
36	ROBOKAS	BUILDING MACHINERY	0	47	0
36	SALTANIS N.	MACHINE-WORKS	0	0	2
36	STATHAKIS BROS.	BULDING MACHINERY	0	0	4
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	0	0	12
36	VOUNATZIS G. & CO.	MACHINE-WORKS	0	0	2
37	BARBY	ELECTRICAL GOODS	3	0	14
37	CAYZER	SOLAR HEATERS-THERMOSTATS	0	0	2
37	DRAGATIDIS K. & CO.	ELECTRONIC EQUIPMENT	0	0	29
37	ELCO-VAGIONIS	ELECTRICAL GOODS	0	0	240
37	KYRIAKOULIS V.	CENTRAL-HEAT BOILERS	2	0	2
37	METELCO	ELECTRONIC EQUIPMENT	0	20	20
37	MIHALOPULOS-THOMOPULOS & CO.	LIFT-CAGES	0	13	0
37	PANAGOPOULOS SONS & CO.	ELECTRICAL KILNS	0	0	5
37	PETROPOULOS G. & CO.	ELECTR. SOUND-BOXES	0	4	0
37	SOLE	SOLAR HEATERS	0	7	8
37	TEVHELLAS	ELECTRONIC EQUIPMENT	0	50	0
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	0	2	3
39	INTERNA	LIGHT CEILINGS	1	0	15
39	LYKOGIANNIS BROS. & CO.	SCHOOL REQUISITES	0	22	3
39	TECHNICAL	SWIMMING POOLS	0	0	9
	TOTALS		107	2719	2386

SOURCE: Questionnaires

TABLE C.7
M.I.A: PLANTS' SOURCES OF RAW MATERIALS

Code	FIRM'S NAME	PRODUCT	SOURCES OF RAW MATERIALS			
			LOCAL AREAS	ATHENS WIDER AREA	OTHER AREAS OF GREECE	IMPORTED
20	AGROTSIK	CATTLE FEED	-	+	+	-
20	ANONYMOUS	MEAT INDUSTRY	-	-	+	-
20	ANTHOS KIFISSIAS	JAMS	-	-	+	-
20	EKONOMIDIS & CO.	BUSCUITS	-	+	-	-
20	FAGE	MILK PRODUCTS	-	-	+	+
20	GEREDES V. & CO.	OLIVE OILS	-	-	+	-
20	KALAMARAS	OLIVE OILS	-	-	+	-
20	KATSELIS H. SONS	BAKERY	-	+	+	-
20	PAPADOPOULOS D.	DRY FRUITS	-	+	+	-
20	TELEION-DELIOLANIS	ICE-CREAMS	-	+	-	-
20	THILIVERIS I.& P.	RICE-MILL	-	-	+	-
21	GREEK BOTTLING COMPANY	SOFT DRINKS	-	+	+	+
21	I.B.S.A.E.	SOFT DRINKS	-	-	-	+
21	METAXA	ALCOHOLIC DRINKS	-	+	+	-
21	SIFNEOS K. & CO.	VINEGAR	-	+	-	-
23	BYRON ANDREAS	TEXTILES	-	+	-	-
23	HABALOGLOU BROS.	TEXTILES	-	+	-	-
23	HAMILTON TEXTILES	TEXTILES	-	-	-	+
23	HARODAKIS I.	TEXTILES	-	+	+	-
23	ILIOPOULOI PROS.	TEXTILES	-	+	-	-
23	IOANNOU K. & CO.	TEXTILES	-	-	-	+
23	KONSTADINOU S. & CO.	TEXTILES	+	-	-	-
23	KRIKOPOULOS M.	TEXTILES	-	+	+	+
23	KRI-KO	TEXTILES	-	-	+	-
23	MIKROPOULOS-SPARTINOS	TEXTILES	-	+	+	-
23	NOVOLAN	TEXTILES	-	+	-	-
23	PADAZOPOULOS	TEXTILES	-	+	-	-
23	PAPARINOPOULOS A. & SON	TEXTILES	-	-	+	-
23	PAULIDIS M. BROS.	TEXTILES	-	-	-	+
24	AKRIDAS BROS.	CLOTHING	-	-	+	+
24	ALMA	SHOES	-	+	+	+
24	AMALIA KODRAROU	KNITWEAR	-	-	+	+
24	ANONYMOUS	CLOTHING	-	+	-	-
24	ANONYMOUS	CLOTHING	-	+	-	-
24	ARGOTYP	CLOTH-STAMPING	-	-	-	+
24	DICOSTA HELLAS	CHILDREN SHOES	-	-	+	-
24	EBEY	CLOTH-STAMPING	-	+	-	-
24	EFSTATHIOU P. & CO.	CLOTHING	-	+	+	-
24	FESKOS	CLOTH-STAMPING	-	+	+	+
24	HARISIOTIS & CO.	CLOTH FINISHING	-	+	+	-
24	KAPADAIS F. & SON	COTTON-RAGS	-	+	-	-
24	KEISOGLOU BROS.	CLOTHING	-	-	+	-
24	KONSTADINIDIS I.	SILK LININGS	-	+	-	-
24	KOROSIDIS	CLOTH FOR SHOES	-	-	+	-
24	LEVADEAKI	COTTON PROCESSING	-	+	+	-
24	LEVEDAKIS	CLOTHING	-	+	-	-
24	LOUVRE	VELVET CLOTHING	-	+	+	+
24	LYMNEOS K.	QUILTS	+	-	-	+
24	MAKE	CLOTHING	-	+	+	-
24	MARKOPOULOS N.	EMBROIDERIES, THREADS	-	+	-	-
24	MEDIKA	CLOTHING	-	+	-	+
24	NATHANAEL P.	CLOTHING	-	-	+	+
24	NEOTEX	SYNTHETIC FURS FOR SHOES	-	+	-	+
24	PADELIDIS D.	SHOES	-	+	-	-
24	PAPAIOANNOU S.	KNITWEAR	-	+	+	+
24	PAPALEODIOU BROS.	CLOTH-DYEING & STAMPING	-	-	-	+
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	-	-	-	+
24	TRAGALOS D. & BROS.	CLOTHING	-	+	-	-
24	TRIA KAPA	CLOTH-LININGS	-	+	-	-
24	TSIAPAS-KONIARIS	CLOTHING	-	+	-	-
25	DIAMADOPOULOS S.	WOOD FACTORY	-	+	-	+
25	KASTRI	WOOD FACTORY	-	-	-	+
26	APOSTOLOPOULOS D.	FURNITURE	-	-	+	-
26	ASLANIDIS	FURNITURE	-	+	-	-
26	GOVESIS E.-PETRAKIS S. & CO.	FURNITURE	-	+	+	-
26	KAGALOS P.	FURNITURE FOR TV SETS	-	+	+	-
26	LARO	FURNITURE & WOODEN TOYS	+	+	-	-
26	NEONAKIS S.	FURNITURE	-	+	+	-
26	PANANI BROS.	FURNITURE	-	-	+	-
26	PAPATHANASIOU E.F. & SON	FURNITURE	-	-	+	-
26	SILVESTRIDIS	FURNITURE	-	-	+	+
26	SKORPIOS	FURNITURE	-	+	-	-
26	VARELAS K.	FURNITURE	-	-	+	+
26	VIELEX	FURNITURE	-	-	+	+

TABLE C.7
M.I.A: PLANTS' SOURCES OF RAW MATERIALS

Code	FIRM'S NAME	PRODUCT	SOURCES OF RAW MATERIALS			
			LOCAL AREAS	ATHENS WIDER AREA	OTHER AREAS OF GREECE	IMPORTED
27	AGYRA	PAPER	-	+	+	-
27	GOLDEN PACK	CARTONS	-	+	-	-
27	HART-PAK	CARTONS	-	+	-	-
28	DIKAIOS I.	PRINTING	-	+	-	-
28	KYRIAKIS E.	PRINTING	-	+	+	+
28	PERIS G.	PRINTING	-	+	-	-
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	-	-	+	+
30	ARVANITIS M.	PLASTIC	-	+	-	+
30	ATANALIS P.I. & CO.	PLASTIC	-	+	-	-
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	-	-	-	+
30	COMER-PLAST	PLASTIC PIPES	-	-	+	+
30	EL-PLAST	PLASTIC	-	-	-	+
30	EUROPE	PLASTIC	-	-	-	+
30	FIALOPLAST	PLASTIC BOTTLES	-	-	-	+
30	GORGOGIANNIS BROS. & CO.	PLASTIC ROPES	-	-	-	+
30	HAIPLASTIC	PLASTIC BOTTLES	-	-	-	+
30	KASIS G.	PLASTIC	-	-	-	+
30	MANESIS T.	PLASTIC ROLLS	+	-	-	-
30	PIGOPLASTIKI	PLASTIC	-	+	-	-
30	PISKITZIS V. & CO.	PLASTIC SACKS	-	-	-	+
30	PLASTIN	PLASTIC (P.V.C)	-	-	+	-
30	PTOTEX	PLASTIC BANISTERS	-	+	-	-
30	REKOR	RUBBER AND PLASTIC	-	+	+	-
30	RICOMEX	POLYOURETHANE	-	-	-	+
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	-	-	+	-
30	SYSKEUASTIKI ELLADOS	PLASTIC	-	-	-	+
30	VEEM	PLASTIC	-	+	-	-
30	VOPAR	PLASTIC	-	+	-	-
31	ANONYMOUS	COSMETICS	-	+	-	-
31	BENCKISER HELLAS	DETERGENTS	-	-	+	+
31	DALCOHEM	CHEMICALS	-	+	-	-
31	GEFEX	PESTICIDES	-	-	-	+
31	HELP	MEDICINES	-	-	-	+
31	IOANNIDIS AIMILIOS	WATER-TIGHT MATERIALS	+	-	+	+
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	-	-	-	+
31	MANKO	COSMETICS	-	+	-	+
31	MERKOLA	MEDICINES	-	-	-	+
31	MONOPORA	INSULATING SLABS	-	+	+	+
31	ODESSA	PAINTS,PLASTIC,INSULATORS	+	-	-	-
31	PAPOUTSANIS P.D.	COSMETICS	-	-	+	+
31	PETKO, TOUSOUNIDOU & CO.	GLUES	-	-	+	+
31	SANDOZ HELLAS	MEDICINES	-	-	-	+
31	STOHOS	COSMETICS	-	-	-	+
31	TRYLET	DETERGENTS	-	+	+	+
31	UNI-FARMA	MEDICINES	-	-	-	+
31	VIAFREL	GLUES	-	-	-	+
31	VIANEX	MEDICINES	-	-	-	+
31	VIKENT	PAINTS	-	+	-	-
31	VIOBEN	PAINTS	-	+	-	+
31	VIORYL	CHEMICALS	-	-	+	+
33	BILLYS & SON	MARBLE-CUTTING	-	-	+	-
33	BISDOULIS TH., BONITSIS D.	MARBLE-CUTTING	-	+	+	-
33	GRIGORIS BROS.	MARBLE-CUTTING	-	-	+	-
33	HATZIPETROS K.	MARBLE-CUTTING	-	-	+	-
33	IKTINOS HELLAS	MARBLE-CUTTING	-	+	+	-
33	KIOSEPIDIS H.	SAFETY CRYSTAL	-	+	-	-
33	NIKOLOPOULOS BROS. & CO.	MARBLE-CUTTING	-	-	+	-
33	PSOFAKIS MARBLES	MARBLE-CUTTING	-	-	+	-
33	SKOUROGIANNIS-SIGALAS	MARBLE-CUTTING	+	-	+	-
34	ELVIOR- PAPAIOSIF.E	BRASS FOUNDRY	-	-	+	-
34	SOUTZOGLOU	SMELTING WORKS	-	+	-	-
34	SOULTATIS A.	METALLURGY	-	-	+	+
35	AFEDOULIS S.	METAL CONSTRUCTS	-	+	-	-
35	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	-	+	+	-
35	ANALCO	OXIDIZED ALUMINIUM	-	+	-	-
35	ANONYMOUS	IRON PRODUCTS	-	+	-	-
35	ANONYMOUS	ANODIZED ALUMINIUM	-	+	-	-
35	BELLINOX	STAINLESS CONSTRUCTS	-	+	-	-
35	DIAKINISI BITHAS TH.	CONVEYER BELTS	-	+	-	-
35	DIAMAND STAR	MARBLE-CUTTING TOOLS	-	+	-	+
35	FINIKIS M.	METAL MANUFACTURES	-	+	-	-
35	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	-	+	-	-
35	KOLIOS G. & KYRIAKOULIS S.	STAINLESS STEEL PRODUCTS	-	+	-	-
35	KOUNOUPAS & CO.	ANODIZED ALUMINIUM	-	-	+	+

TABLE C.7
M.I.A: PLANTS' SOURCES OF RAW MATERIALS

Code	FIRM'S NAME	PRODUCT	SOURCES OF RAW MATERIALS			
			LOCAL AREAS	ATHENS WIDER AREA	OTHER AREAS OF GREECE	IMPORTED
35	KREOUZIS G. BROS.	METAL PRODUCTS	-	-	-	+
35	LEFAS P.& I.	ALUMINIUM PRODUCTS	-	+	-	-
35	MEKAMO	METAL PRODUCTS	-	+	-	-
35	PAGONAS E.	METAL MOULDS	-	+	-	-
35	PANAGIOTOPOULOS K.	METAL MOULDS	-	+	-	-
35	POLMETEX	NOBLE METALS REFINEMENT	-	+	-	-
35	POLYZOIS TH. & CO.	METAL ACCESSORIES	-	+	+	-
35	SABANIS	METAL PRODUCTS	+	-	-	-
35	SOFIANOU E.	METAL ATTACHMENTS	-	+	-	-
35	TECHNOSOL	METALLIC SHELVES	-	-	+	-
35	TSONOPOULOS P. & CO.	HOT-WATER RADIATORS	+	+	-	-
35	TYPAL-HALKOUSIS S.	ALUMINIUM PRODUCTS	-	+	+	-
35	VOULGARIS A.	METAL MANUFACTURES	-	+	-	-
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	-	-	-	+
36	AGRIC.MACHINERY	AGRICUL. MACHINERY	-	+	+	-
36	ARPA K.BARGETIS & CO.	AGRICUL.MACHINERY	-	-	-	+
36	ELKAMAS	MACHINERY	+	+	-	-
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	-	+	+	+
36	HADJIKONSTADINOU TH.	BAKERY'S MACHINERY	-	-	-	+
36	PAPASTAMOU I.	MACHINE-WORKS	-	+	-	-
36	ROBOKAS	BUILDING MACHINERY	-	+	-	-
36	SALTANIS N.	MACHINE-WORKS	+	-	-	-
36	STATHAKIS BROS.	BULDING MACHINERY	-	+	-	+
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	-	-	-	+
36	VOUNATZIS G. & CO.	MACHINE-WORKS	-	+	-	-
37	BARBY	ELECTRICAL GOODS	-	+	-	-
37	CAYZER	SOLAR HEATERS-THERMOSTATS	-	+	-	-
37	DRAGATIDIS K. & CO.	ELECTRONIC EQUIPMENT	-	-	-	+
37	ELCO-VAGIONIS	ELECTRICAL GOODS	-	+	+	+
37	KYRIAKOULIS V.	CENTRAL-HEAT BOILERS	-	+	-	-
37	METELCO	ELECTRONIC EQUIPMENT	-	-	-	+
37	MIHALOPULOS-THOMOPULOS & CO.	LIFT-CAGES	-	+	-	-
37	PANAGOPOULOS SONS & CO.	ELECTRICAL KILNS	-	-	-	+
37	PETROPOULOS G. & CO.	ELECTR. SOUND-BOXES	-	-	-	+
37	SOLE	SOLAR HEATERS	-	+	+	-
37	TEVHELLAS	ELECTRONIC EQUIPMENT	-	+	-	-
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	-	-	-	+
39	INTERNA	LIGHT CEILINGS	-	+	+	+
39	LYKOGIANNIS BROS. & CO.	SCHOOL REQUISITES	-	-	+	+
39	TECHNICAL	SWIMMING POOLS	-	+	-	-

SOURCE: Questionnaires

TABLE C.8
M.I.A: PLANTS' MARKET AREAS

(% of production volume)

Code	FIRM'S NAME	PRODUCT	MARKET AREAS			
			LOCAL AREAS	GREATER ATHENS	OTHER AREAS OF GREECE	ABROAD
20	AGROTSIK	CATTLE FEED	0	0	100	0
20	ANONYMOUS	MEAT INDUSTRY	0	100	0	0
20	ANTHOS KIFISSIAS	JAMS	0	80	20	0
20	EKONOMIDIS & CO.	BUSCUITS	0	60	40	0
20	FAGE	MILK PRODUCTS	0	40	40	40
20	GEREDES V. & CO.	OLIVE OILS	0	2	0	98
20	KALAMARAS	OLIVE OILS	0	100	0	0
20	KATSELIS H. SONS	BAKERY	0	70	30	0
20	PAPADOPOULOS D.	DRY FRUITS	0	70	30	0
20	TELEION-DELIOLANIS	ICE-CREAMS	0	50	50	0
20	THILIVERIS I.& P.	RICE-MILL	0	100	0	0
21	GREEK BOTTLING COMPANY	SOFT DRINKS	0	85	15	0
21	I.B.S.A.E.	SOFT DRINKS	0	60	40	0
21	METAXA	ALCOHOLIC DRINKS	0	30	30	40
21	SIFNEOS K. & CO.	VINEGAR	0	80	0	20
23	BYRON ANDREAS	TEXTILES	0	100	0	0
23	HABALOGLOU BROS.	TEXTILES	0	50	50	0
23	HAMILTON TEXTILES	TEXTILES	0	50	50	0
23	HARODAKIS I.	TEXTILES	0	70	30	0
23	ILIOPOULOI PROS.	TEXTILES	0	100	0	0
23	IOANNOU K. & CO.	TEXTILES	0	33	33	33
23	KONSTADINOU S. & CO.	TEXTILES	0	30	70	0
23	KRIKOPOULOS M.	TEXTILES	0	100	0	0
23	KRI-KO	TEXTILES	0	80	20	0
23	MIKROPOULOS-SPARTINOS	TEXTILES	0	40	60	0
23	NOVOLAN	TEXTILES	0	80	20	0
23	PADAZOPOULOS	TEXTILES	20	80	0	0
23	PAPARINOPOULOS A. & SON	TEXTILES	0	90	10	0
23	PAULIDIS M. BROS.	TEXTILES	0	50	50	0
24	AKRIDAS BROS.	CLOTHING	0	40	30	30
24	ALMA	SHOES	0	11	17	72
24	AMALIA KODRAROU	KNITWEAR	0	100	0	0
24	ANONYMOUS	CLOTHING	0	100	0	0
24	ANONYMOUS	CLOTHING	0	60	40	0
24	ARGOTYP	CLOTH-STAMPING	0	20	20	60
24	DICOSTA HELLAS	CHILDREN SHOES	0	50	50	0
24	EBEY	CLOTH-STAMPING	0	80	20	0
24	EFSTATHIOU P. & CO.	CLOTHING	0	90	10	0
24	FESKOS	CLOTH-STAMPING	100	0	0	0
24	HARISIOTIS & CO.	CLOTH FINISHING	0	20	20	60
24	KAPADAIS F. & SON	COTTON-RAGS	0	100	0	0
24	KEISOGLOU BROS.	CLOTHING	0	50	50	0
24	KONSTADINIDIS I.	SILK LININGS	0	100	0	0
24	KOROSIDIS	CLOTH FOR SHOES	0	80	20	0
24	LEVADEAKI	COTTON PROCESSING	0	80	20	0
24	LEVEDAKIS	CLOTHING	0	50	50	0
24	LOUVRE	VELVET CLOTHING	0	100	0	0
24	LYMNEOS K.	QUILTS	0	55	45	0
24	MAKE	CLOTHING	0	90	10	0
24	MARKOPOULOS N.	EMBROIDERIES, THREADS	0	40	60	0
24	MEDIKA	CLOTHING	0	100	0	0
24	NATHANAEL P.	CLOTHING	0	90	10	0
24	NEOTEX	SYNTHETIC FURS FOR SHOES	0	50	50	0
24	PADELIDIS D.	SHOES	0	100	0	0
24	PAPAIOANNOU S.	KNITWEAR	0	90	10	0
24	PAPALEODIOU BROS.	CLOTH-DYEING & STAMPING	0	100	0	0
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	0	60	35	5
24	TRAGALOS D. & BROS.	CLOTHING	20	80	0	0
24	TRIA KAPA	CLOTH-LININGS	0	100	0	0
24	TSIAPAS-KONIARIS	CLOTHING	0	100	0	0
25	DIAMADOPOULOS S.	WOOD FACTORY	0	100	0	0
25	KASTRI	WOOD FACTORY	0	75	25	0
26	APOSTOLOPOULOS D.	FURNITURE	0	20	80	0
26	ASLANIDIS	FURNITURE	0	70	30	0
26	GOVESIS E.-PETRAKIS S. & CO.	FURNITURE	0	50	50	0
26	KAGALOS P.	FURNITURE FOR TV SETS	0	100	0	0
26	LARO	FURNITURE & WOODEN TOYS	0	40	40	20
26	NEONAKIS S.	FURNITURE	0	95	5	0
26	PANANI BROS.	FURNITURE	0	50	50	0
26	PAPATHANASIOU E.F. & SON	FURNITURE	30	35	35	0
26	SILVESTRIDIS	FURNITURE	0	70	30	0
26	SKORPIOS	FURNITURE	0	80	20	0
26	VARELAS K.	FURNITURE	0	80	20	0
26	VIELEX	FURNITURE	0	40	60	0
27	AGYRA	PAPER	0	25	75	0
27	GOLDEN PACK	CARTONS	0	95	5	0
27	HART-PAK	CARTONS	0	80	20	0

TABLE C.8
M.I.A: PLANTS' MARKET AREAS

(% of production volume)

Code	FIRM'S NAME	PRODUCT	MARKET AREAS			
			LOCAL AREAS	GREATER ATHENS	OTHER AREAS OF GREECE	ABROAD
28	DIKAIOS I.	PRINTING	0	100	0	0
28	KYRIAKIS E.	PRINTING	0	100	0	0
28	PERIS G.	PRINTING	0	90	10	0
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	0	30	70	0
30	ARVANITIS M.	PLASTIC	0	100	0	0
30	ATANALIS P.I. & CO.	PLASTIC	0	90	10	0
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	0	20	80	0
30	COMER-PLAST	PLASTIC PIPES	0	0	100	0
30	EL-PLAST	PLASTIC	0	60	40	0
30	EUROPE	PLASTIC	0	100	0	0
30	FIALOPLAST	PLASTIC BOTTLES	0	80	0	20
30	GORGOGIANNIS BROS. & CO.	PLASTIC ROPES	0	70	30	0
30	HAIPLASTIC	PLASTIC BOTTLES	0	90	10	0
30	KASIS G.	PLASTIC	0	100	0	0
30	MANESIS T.	PLASTIC ROLLS	0	100	0	0
30	PIGOPLASTIKI	PLASTIC	0	100	0	0
30	PISKITZIS V. & CO.	PLASTIC SACKS	0	90	10	0
30	PLASTIN	PLASTIC (P.V.C)	0	40	60	0
30	PTOTEX	PLASTIC BANISTERS	0	90	0	10
30	REKOR	RUBBER AND PLASTIC	3	30	67	0
30	RICOMEX	POLYOURETHANE	0	55	43	2
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	70	0	30	0
30	SYSKEUASTIKI ELLADOS	PLASTIC	0	70	30	0
30	VEEM	PLASTIC	0	100	0	0
30	VOPAR	PLASTIC	0	80	20	0
31	ANONYMOUS	COSMETICS	0	90	10	0
31	BENCKISER HELLAS	DETERGENTS	0	45	55	0
31	DALCOHEM	CHEMICALS	0	35	65	0
31	GEFEX	PESTICIDES	0	10	90	0
31	HELP	MEDICINES	0	30	50	20
31	IOANNIDIS AIMILIOS	WATER-TIGHT MATERIALS	10	60	30	0
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	0	65	35	0
31	MANKO	COSMETICS	0	60	40	0
31	MERKOLA	MEDICINES	0	75	25	0
31	MONOPORA	INSULATING SLABS	20	75	5	0
31	ODESSA	PAINTS,PLASTIC,INSULATORS	5	40	55	0
31	PAPOUTSANIS P.D.	COSMETICS	0	35	55	10
31	PETKO, TOUSOUNIDOU & CO.	GLUES	0	60	40	0
31	SANDOZ HELLAS	MEDICINES	0	50	50	0
31	STOHOS	COSMETICS	0	100	0	0
31	TRYLET	DETERGENTS	0	45	55	0
31	UNI-FARMA	MEDICINES	0	60	40	0
31	VIAFREL	GLUES	0	66	30	4
31	VIANEX	MEDICINES	0	100	0	0
31	VIKENT	PAINTS	5	50	45	0
31	VIOBEN	PAINTS	0	30	70	0
31	VIORYL	CHEMICALS	0	50	15	35
33	BILLYS & SON	MARBLE-CUTTING	0	80	20	0
33	BISDOULIS TH., BONITSIS D.	MARBLE-CUTTING	0	100	0	0
33	GRIGORIS BROS.	MARBLE-CUTTING	30	40	30	0
33	HATZIPETROS K.	MARBLE-CUTTING	0	100	0	0
33	IKTINOS HELLAS	MARBLE-CUTTING	10	0	0	90
33	KIOSEPIDIS H.	SAFETY CRYSTAL	0	80	20	0
33	NIKOLOPOULOS BROS. & CO.	MARBLE-CUTTING	70	30	0	0
33	PSOFAKIS MARBLES	MARBLE-CUTTING	20	15	15	50
33	SKOUROGIANNIS-SIGALAS	MARBLE-CUTTING	100	0	0	0
34	ELVIOR- PAPAIOSIF.E	BRASS FOUNDRY	0	80	20	0
34	SOUTZOGLOU	SMELTING WORKS	0	100	0	0
34	SOULTATIS A.	METALLURGY	0	40	40	20
35	AFEDOULIS S.	METAL CONSTRUCTS	0	50	50	0
35	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	40	0	60	0
35	ANALCO	OXIDIZED ALUMINIUM	0	100	0	0
35	ANONYMOUS	IRON PRODUCTS	0	100	0	0
35	ANONYMOUS	ANODIZED ALUMINIUM	0	100	0	0
35	BELLINOX	STAINLESS CONSTRUCTS	0	100	0	0
35	DIAKINISI BITHAS TH.	CONVEYER BELTS	100	0	0	0
35	DIAMAND STAR	MARBLE-CUTTING TOOLS	0	30	60	10
35	FINIKIS M.	METAL MANUFACTURES	0	100	0	0
35	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	0	90	10	0
35	KOLIOS G. & KYRIAKOULIS S.	STAINLESS STEEL PRODUCTS	0	50	50	0
35	KOUNOUPAS & CO.	ANODIZED ALUMINIUM	40	60	0	0
35	KREOUZIS G. BROS.	METAL PRODUCTS	0	60	40	0
35	LEFAS P.& I.	ALUMINIUM PRODUCTS	0	80	20	0
35	MEKAMO	METAL PRODUCTS	0	40	60	0
35	PAGONAS E.	METAL MOULDS	100	0	0	0
35	PANAGIOTOPOULOS K.	METAL MOULDS	0	100	0	0
35	POLMETEX	NOBLE METALS REFINEMENT	0	100	0	0
35	POLYZOIS TH. & CO.	METAL ACCESSORIES	0	60	20	20

TABLE C.8
M.I.A: PLANTS' MARKET AREAS

(% of production volume)

Code	FIRM'S NAME	PRODUCT	MARKET AREAS			
			LOCAL AREAS	GREATER ATHENS	OTHER AREAS OF GREECE	ABROAD
35	SABANIS	METAL PRODUCTS	100	0	0	0
35	SOFIANOU E.	METAL ATTACHMENTS	0	100	0	0
35	TECHNOSOL	METALLIC SHELVES	0	40	60	0
35	TSONOPOULOS P. & CO.	HOT-WATER RADIATORS	0	100	0	0
35	TYPAL-HALKOUSIS S.	ALUMINIUM PRODUCTS	0	100	0	0
35	VOULGARIS A.	METAL MANUFACTURES	0	100	0	0
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	0	50	50	0
36	AGRIC.MACHINERY	AGRICUL. MACHINERY	0	20	80	0
36	ARPA K.BARGETIS & CO.	AGRICUL.MACHINERY	5	0	95	0
36	ELKAMAS	MACHINERY	0	30	40	30
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	0	30	70	0
36	HADJIKONSTADINOU TH.	BAKERY'S MACHINERY	0	50	50	0
36	PAPASTAMOU I.	MACHINE-WORKS	0	100	0	0
36	ROBOKAS	BUILDING MACHINERY	0	70	30	0
36	SALTANIS N.	MACHINE-WORKS	0	100	0	0
36	STATHAKIS BROS.	BULDING MACHINERY	0	10	90	0
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	0	60	40	0
36	VOUNATZIS G. & CO.	MACHINE-WORKS	0	50	50	0
37	BARBY	ELECTRICAL GOODS	0	60	40	0
37	CAYZER	SOLAR HEATERS-THERMOSTATS	0	80	20	0
37	DRAGATIDIS K. & CO.	ELECTRONIC EQUIPMENT	0	50	50	0
37	ELCO-VAGIONIS	ELECTRICAL GOODS	0	40	40	20
37	KYRIAKOULIS V.	CENTRAL-HEAT BOILERS	0	60	40	0
37	METELCO	ELECTRONIC EQUIPMENT	0	10	0	90
37	MIHALOPULOS-THOMOPULOS & CO.	LIFT-CAGES	0	70	0	30
37	PANAGOPOULOS SONS & CO.	ELECTRICAL KILNS	0	40	60	0
37	PETROPOULOS G. & CO.	ELECTR. SOUND-BOXES	0	90	10	0
37	SOLE	SOLAR HEATERS	0	40	60	0
37	TEVHELLAS	ELECTRONIC EQUIPMENT	0	60	40	0
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	0	50	50	0
39	INTERNA	LIGHT CEILINGS	10	20	60	10
39	LYKOGIANNIS BROS. & CO.	SCHOOL REQUISITES	0	50	40	10
39	TECHNICAL	SWIMMING POOLS	60	0	10	30

SOURCE: Questionnaires

TABLE C.9
M.I.A: PLANTS' BUILT CHARACTERISTICS

Code	FIRM'S NAME	PRODUCT	BUILT CHARACTERISTICS				
			PLOT SIZE (Sq.m)	BUILT IND.SPACE (Sq.m)	NUMBER OF LEVELS	CONDITION OF BUILDINGS	NEED FOR EXPANSION
20	AGROTSIK	CATTLE FEED	1,500	1,600	2	AVERAGE	-
20	ANONYMOUS	MEAT INDUSTRY	1,500	500	1	AVERAGE	-
20	ANTHOS KIFISSIAS	JAMS	3,000	2,000	2	GOOD	-
20	EKONOMIDIS & CO.	BUSCUITS	1,000	1,300	2	GOOD	+
20	FAGE	MILK PRODUCTS	55,000	12,000	4	GOOD	-
20	GEREDES V. & CO.	OLIVE OILS	12,500	4,000	1	AVERAGE	-
20	KALAMARAS	OLIVE OILS	1,000	180	1	BAD	+
20	KATSELIS H. SONS	BAKERY	10,000	1,200	3	GOOD	+
20	PAPADOPOULOS D.	DRY FRUITS	6,000	800	2	GOOD	-
20	TELEION-DELIOLANIS	ICE-CREAMS	1,300	1,000	1	AVERAGE	-
20	THILIVERIS I.& P.	RICE-MILL	2,000	600	1	AVERAGE	+
21	GREEK BOTTLING COMPANY	SOFT DRINKS	50,853	19,932	2	GOOD	-
21	I.B.S.A.E.	SOFT DRINKS	3,000	1,200	1	GOOD	+
21	METAXA	ALCOHOLIC DRINKS	59,235	22,240	4	GOOD	+
21	SIFNEOS K. & CO.	VINEGAR	4,500	1,000	1	GOOD	-
23	BYRON ANDREAS	TEXTILES	4,100	300	1	GOOD	+
23	HABALOGLOU BROS.	TEXTILES	2,800	350	1	GOOD	-
23	HAMILTON TEXTILES	TEXTILES	3,000	1,400	2	GOOD	-
23	HARODAKIS I.	TEXTILES	2,000	750	1	AVERAGE	+
23	ILIOPOULOI PROS.	TEXTILES	3,000	1,400	2	GOOD	-
23	IOANNOU K. & CO.	TEXTILES	1,500	900	2	GOOD	-
23	KONSTADINOU S. & CO.	TEXTILES	1,500	680	2	GOOD	-
23	KRIKOPOULOS M.	TEXTILES	3,000	550	1	GOOD	-
23	KRI-KO	TEXTILES	3,200	7,000	5	GOOD	-
23	MIKROPOULOS-SPARTINOS	TEXTILES	6,000	3,900	3	GOOD	-
23	NOVOLAN	TEXTILES	5,000	1,320	3	GOOD	-
23	PADAZOPOULOS	TEXTILES	1,000	80	1	AVERAGE	+
23	PAPARINOPOULOS A. & SON	TEXTILES	3,000	650	2	GOOD	-
23	PAULIDIS M. BROS.	TEXTILES	6,500	4,500	3	GOOD	-
24	AKRIDAS BROS.	CLOTHING	12,000	5,540	2	GOOD	-
24	ALMA	SHOES	5,960	6,700	3	GOOD	-
24	AMALIA KODRAROU	KNITWEAR	2,000	550	2	GOOD	+
24	ANONYMOUS	CLOTHING	2,100	1,000	1	AVERAGE	-
24	ANONYMOUS	CLOTHING	2,100	1,000	1	AVERAGE	-
24	ARGOTYP	CLOTH-STAMPING	3,000	800	1	GOOD	+
24	DICOSTA HELLAS	CHILDREN SHOES	3,000	1,500	1	GOOD	-
24	EBEY	CLOTH-STAMPING	2,100	1,000	1	AVERAGE	+
24	EFSTATHIOU P. & CO.	CLOTHING	2,500	462	1	GOOD	+
24	FESKOS	CLOTH-STAMPING	1,400	380	1	AVERAGE	-
24	HARISIOTIS & CO.	CLOTH FINISHING	2,500	1,000	2	GOOD	-
24	KAPADAIS F. & SON	COTTON-RAGS	4,000	850	1	AVERAGE	+
24	KEISOGLOU BROS.	CLOTHING	2,850	750	1	GOOD	-
24	KONSTADINIDIS I.	SILK LININGS	2,500	500	2	GOOD	+
24	KOROSIDIS	CLOTH FOR SHOES	5,350	1,200	1	GOOD	-
24	LEVADEAKI	COTTON PROCESSING	500	400	1	BAD	-
24	LEVEDAKIS	CLOTHING	15,000	35,000	4	AVERAGE	-
24	LOUVRE	VELVET CLOTHING	7,978	5,600	2	GOOD	+
24	LYMNEOS K.	QUILTS	12,000	2,800	1	GOOD	-
24	MAKE	CLOTHING	4,500	750	1	AVERAGE	+
24	MARKOPOULOS N.	EMBROIDERIES, THREADS	3,000	600	2	AVERAGE	-
24	MEDIKA	CLOTHING	6,500	1,700	2	GOOD	+
24	NATHANAEL P.	CLOTHING	2,200	2,200	2	GOOD	-
24	NEOTEX	SYNTHETIC FURS FOR SHOES	5,350	1,000	1	GOOD	-
24	PADELIDIS D.	SHOES	2,500	85	1	GOOD	+
24	PAPAIOANNOU S.	KNITWEAR	2,850	750	1	GOOD	+
24	PAPALEODIOU BROS.	CLOTH-DYEING & STAMPING	4,000	2,300	2	GOOD	+
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	3,500	1,800	2	GOOD	+
24	TRAGALOS D. & BROS.	CLOTHING	9,000	1,200	2	GOOD	-
24	TRIA KAPA	CLOTH-LININGS	3,000	800	1	GOOD	-
24	TSIAPAS-KONIARIS	CLOTHING	1,100	450	1	GOOD	-
25	DIAMADOPOULOS S.	WOOD FACTORY	880	190	1	GOOD	-
25	KASTRI	WOOD FACTORY	6,000	1,600	2	GOOD	+
26	APOSTOLOPOULOS D.	FURNITURE	8,000	800	1	AVERAGE	-
26	ASLANIDIS	FURNITURE	5,000	1,000	2	GOOD	-
26	GOVESIS E.-PETRAKIS S. & CO.	FURNITURE	12,850	2,500	1	GOOD	-
26	KAGALOS P.	FURNITURE FOR TV SETS	2,500	1,000	3	GOOD	-
26	LARO	FURNITURE & WOODEN TOYS	4,500	4,400	2	GOOD	-
26	NEONAKIS S.	FURNITURE	5,967	2,850	2	GOOD	-
26	PANANI BROS.	FURNITURE	2,800	2,300	2	GOOD	-
26	PAPATHANASIOU E.F. & SON	FURNITURE	1,600	1,140	2	GOOD	-
26	SILVESTRIDIS	FURNITURE	9,552	5,730	3	GOOD	-
26	SKORPIOS	FURNITURE	800	500	2	GOOD	-
26	VARELAS K.	FURNITURE	650	600	2	GOOD	+
26	VIELEX	FURNITURE	27,000	8,000	4	GOOD	-
27	AGYRA	PAPER	6,900	1,860	1	GOOD	+
27	GOLDEN PACK	CARTONS	17,000	4,700	2	GOOD	-
27	HART-PAK	CARTONS	10,000	550	1	AVERAGE	-
28	DIKAIOS I.	PRINTING	12,850	3,500	1	GOOD	-
28	KYRIAKIS E.	PRINTING	700	700	2	GOOD	+
28	PERIS G.	PRINTING	1,000	180	1	GOOD	+
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	2,180	1,650	4	GOOD	-
30	ARVANITIS M.	PLASTIC	1,600	200	1	GOOD	+
30	ATANALIS P.I. & CO.	PLASTIC	3,500	500	1	GOOD	+
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	1,500	700	2	AVERAGE	+
30	COMER-PLAST	PLASTIC PIPES	4,000	1,300	2	GOOD	-
30	EL-PLAST	PLASTIC	2,000	400	2	GOOD	+
30	EUROPE	PLASTIC	1,500	350	1	AVERAGE	+
30	FIALOPLAST	PLASTIC BOTTLES	4,600	1,000	2	AVERAGE	-
30	GORGOGIANNIS BROS. & CO.	PLASTIC ROPES	3,300	490	2	GOOD	-
30	HAIPLASTIC	PLASTIC BOTTLES	2,500	450	1	GOOD	+

TABLE C.9
M.I.A: PLANTS' BUILT CHARACTERISTICS

Code	FIRM'S NAME	PRODUCT	BUILT CHARACTERISTICS				
			PLOT SIZE (Sq.m)	BUILT IND.SPACE (Sq.m)	NUMBER OF LEVELS	CONDITION OF BUILDINGS	NEED FOR EXPANSION
30	KASIS G.	PLASTIC	1,500	480	1	GOOD	-
30	MANESIS T.	PLASTIC ROLLS	2,500	800	1	GOOD	-
30	PIGOPLASTIKI	PLASTIC	4,000	800	1	GOOD	+
30	PISKITZIS V. & CO.	PLASTIC SACKS	2,000	500	1	GOOD	+
30	PLASTIN	PLASTIC (P.V.C)	2,500	1,600	2	GOOD	-
30	PTOTEX	PLASTIC BANISTERS	880	190	1	GOOD	+
30	REKOR	RUBBER AND PLASTIC	8,000	3,800	3	GOOD	-
30	RICOMEX	POLYOURETHANE	6,940	4,260	5	GOOD	+
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	1,500	380	1	GOOD	-
30	SYSKEUASTIKI ELLADOS	PLASTIC	6,000	1,000	1	AVERAGE	+
30	VEEM	PLASTIC	752	1,050	3	AVERAGE	+
30	VOPAR	PLASTIC	3,500	500	1	GOOD	-
31	ANONYMOUS	COSMETICS	2,000	700	2	GOOD	+
31	BENCKISER HELLAS	DETERGENTS	5,000	3,800	3	GOOD	+
31	DALCOHEM	CHEMICALS	3,100	240	2	GOOD	-
31	GEFEX	PESTICIDES	5,300	1,300	2	GOOD	-
31	HELP	MEDICINES	3,000	2,400	2	GOOD	+
31	IOANNIDIS AIMILIOS	WATER-TIGHT MATERIALS	3,000	1,600	4	GOOD	-
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	5,000	2,360	2	GOOD	+
31	MANKO	COSMETICS	1,500	1,100	2	GOOD	-
31	MERKOLA	MEDICINES	6,000	1,100	2	GOOD	-
31	MONOPORA	INSULATING SLABS	800	800	2	AVERAGE	-
31	ODESSA	PAINTS.PLASTIC.INSULATORS	4,000	1,500	3	GOOD	-
31	PAPOUTSANIS P.D.	COSMETICS	28,016	13,347	3	GOOD	+
31	PETKO, TOUSOUNIDOU & CO.	GLUES	2,800	900	1	GOOD	-
31	SANDOZ HELLAS	MEDICINES	8,993	5,276	5	GOOD	-
31	STOHOS	COSMETICS	1,000	320	1	GOOD	+
31	TRYLET	DETERGENTS	8,544	5,500	4	GOOD	+
31	UNI-FARMA	MEDICINES	3,300	2,400	4	GOOD	-
31	VIAFREL	GLUES	10,000	3,300	1	GOOD	-
31	VIANEX	MEDICINES	10,050	6,806	5	GOOD	-
31	VIKENT	PAINTS	1,000	300	1	GOOD	-
31	VIOBEN	PAINTS	1,000	400	1	AVERAGE	-
31	VIORYL	CHEMICALS	8,000	13,000	3	GOOD	-
33	BILLYS & SON	MARBLE-CUTTING	3,500	1,000	1	AVERAGE	-
33	BISDOULIS TH., BONITSIS D.	MARBLE-CUTTING	1,600	188	1	GOOD	+
33	GRIGORIS BROS.	MARBLE-CUTTING	7,000	500	1	AVERAGE	+
33	HATZIPETROS K.	MARBLE-CUTTING	510	60	1	GOOD	-
33	IKTINOS HELLAS	MARBLE-CUTTING	10,000	1,000	1	GOOD	-
33	KIOSEPIDIS H.	SAFETY CRYSTAL	2,600	640	2	GOOD	-
33	NIKOLOPOULOS BROS. & CO.	MARBLE-CUTTING	8,000	350	2	GOOD	+
33	PSOFAKIS MARBLES	MARBLE-CUTTING	12,000	2,000	2	GOOD	-
33	SKOUROGIANNIS-SIGALAS	MARBLE-CUTTING	4,000	960	1	BAD	-
34	ELVIOR- PAPAIOSIF.E	BRASS FOUNDRY	2,300	700	1	GOOD	+
34	SOUTZOGLOU	SMELTING WORKS	1,000	830	1	BAD	-
34	SOULTATIS A.	METALLURGY	4,000	2,000	2	GOOD	-
35	AFEDOULIS S.	METAL CONSTRUCTS	2,000	500	1	GOOD	-
35	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	15,000	800	1	GOOD	-
35	ANALCO	OXIDIZED ALUMINIUM	2,000	2,000	2	GOOD	-
35	ANONYMOUS	IRON PRODUCTS	2,000	100	1	BAD	+
35	ANONYMOUS	ANODIZED ALUMINIUM	1,500	500	1	BAD	-
35	BELLINOX	STAINLESS CONSTRUCTS	2,000	500	1	GOOD	-
35	DIAKINISI BITHAS TH.	CONVEYER BELTS	2,000	200	1	GOOD	+
35	DIAMAND STAR	MARBLE-CUTTING TOOLS	2,500	170	1	GOOD	-
35	FINIKIS M.	METAL MANUFACTURES	500	100	1	BAD	-
35	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	2,000	250	1	AVERAGE	-
35	KOLIOS G. & KYRIAKOULIS S.	STAINLESS STEEL PRODUCTS	4,000	2,000	1	AVERAGE	-
35	KOUNOUPAS & CO.	ANODIZED ALUMINIUM	700	450	1	GOOD	+
35	KREOUZIS G. BROS.	METAL PRODUCTS	2,500	340	1	GOOD	+
35	LEFAS P.& I.	ALUMINIUM PRODUCTS	4,300	700	1	GOOD	-
35	MEKAMO	METAL PRODUCTS	3,000	400	1	AVERAGE	+
35	PAGONAS E.	METAL MOULDS	4,000	540	1	GOOD	-
35	PANAGIOTOPOULOS K.	METAL MOULDS	2,000	900	2	GOOD	-
35	POLMETEX	NOBLE METALS REFINEMENT	1,200	200	1	AVERAGE	+
35	POLYZOIS TH. & CO.	METAL ACCESSORIES	4,000	620	2	GOOD	+
35	SABANIS	METAL PRODUCTS	2,000	900	2	AVERAGE	-
35	SOFIANOU E.	METAL ATTACHMENTS	3,000	600	1	AVERAGE	+
35	TECHNOSOL	METALLIC SHELVES	3,000	1,000	1	GOOD	-
35	TSONOPOULOS P. & CO.	HOT-WATER RADIATORS	4,000	540	2	GOOD	+
35	TYPAL-HALKOUSIS S.	ALUMINIUM PRODUCTS	2,100	1,140	2	AVERAGE	+
35	VOULGARIS A.	METAL MANUFACTURES	500	200	1	AVERAGE	+
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	2,900	360	1	AVERAGE	-
36	AGRIC.MACHINERY	AGRICUL MACHINERY	1,500	1,000	2	AVERAGE	+
36	ARPA K.BARGETIS & CO.	AGRICUL MACHINERY	4,000	700	1	GOOD	+
36	ELKAMAS	MACHINERY	4,380	840	1	GOOD	-
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	1,000	400	1	AVERAGE	+
36	HADJIKONSTADINOU TH.	BAKERY'S MACHINERY	2,800	650	1	GOOD	+
36	PAPASTAMOU I.	MACHINE-WORKS	2,800	450	1	AVERAGE	-
36	ROBOKAS	BUILDING MACHINERY	15,000	2,400	2	GOOD	-
36	SALTANIS N.	MACHINE-WORKS	2,000	500	2	GOOD	+
36	STATHAKIS BROS.	BULDING MACHINERY	2,000	650	1	GOOD	-
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	3,000	1,500	1	GOOD	-
36	VOUNATZIS G. & CO.	MACHINE-WORKS	1,000	150	1	BAD	+
37	BARBY	ELECTRICAL GOODS	1,500	500	1	AVERAGE	+
37	CAYZER	SOLAR HEATERS-THERMOSTATS	2,000	300	1	AVERAGE	-
37	DRAGATIDIS K. & CO.	ELECTRONIC EQUIPMENT	3,000	1,600	2	GOOD	-
37	ELCO-VAGIONIS	ELECTRICAL GOODS	25,000	14,500	4	GOOD	-
37	KYRIAKOULIS V.	CENTRAL-HEAT BOILERS	1,200	450	1	AVERAGE	-
37	METELCO	ELECTRONIC EQUIPMENT	4,000	1,300	2	GOOD	-
37	MIHALOPULOS-THOMOPULOS & CO.	LIFT-CAGES	3,000	1,200	1	GOOD	-
37	PANAGOPOULOS SONS & CO.	ELECTRICAL KILNS	3,000	600	1	AVERAGE	-

TABLE C.9
M.I.A: PLANTS' BUILT CHARACTERISTICS

Code	FIRM'S NAME	PRODUCT	BUILT CHARACTERISTICS				
			PLOT SIZE (Sq.m)	BUILT IND.SPACE (Sq.m)	NUMBER OF LEVELS	CONDITION OF BUILDINGS	NEED FOR EXPANSION
37	PETROPOULOS G. & CO.	ELECTR. SOUND-BOXES	4,000	1,500	3	AVERAGE	-
37	SOLE	SOLAR HEATERS	3,600	620	2	AVERAGE	-
37	TEVHELLAS	ELECTRONIC EQUIPMENT	4,000	2,318	2	GOOD	+
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	3,500	400	1	GOOD	-
39	INTERNA	LIGHT CEILINGS	3,000	1,239	1	GOOD	-
39	LYKOGIANNIS BROS. & CO.	SCHOOL REQUISITES	3,000	2,100	3	GOOD	+
39	TECHNICAL	SWIMMING POOLS	3,124	800	2	GOOD	-
	TOTALS		956,644	373,853			

SOURCE: Questionnaires

TABLE C.10
M.I.A: FIRMS' PROBLEMS WITH THE PUBLIC INFRASTRUCTURE NETWORKS

Code	FIRM'S NAME	PRODUCT	WATER AND SEWERAGE SYSTEMS	TELECOMMUNICATIONS	ELECTRIC POWER SUPPLY	TRANSPORT NETWORK
20	AGROTSIK	CATTLE FEED	-	-	-	+
20	ANONYMOUS	MEAT INDUSTRY	+	-	+	-
20	ANTHOS KIFISSIAS	JAMS	+	-	-	-
20	EKONOMIDIS & CO.	BUSCUITS	-	-	-	-
20	FAGE	MILK PRODUCTS	+	-	-	-
20	GEREDES V. & CO.	OLIVE OILS	+	-	-	-
20	KALAMARAS	OLIVE OILS	+	-	-	-
20	KATSELIS H. SONS	BAKERY	+	-	-	-
20	PAPADOPOULOS D.	DRY FRUITS	-	+	-	+
20	TELEION-DELIOLANIS	ICE-CREAMS	+	-	-	-
20	THILIVERIS I.& P.	RICE-MILL	+	-	-	+
21	GREEK BOTTLING COMPANY	SOFT DRINKS	+	+	+	+
21	I.B.S.A.E.	SOFT DRINKS	-	-	-	-
21	METAXA	ALCOHOLIC DRINKS	+	-	-	-
21	SIFNEOS K. & CO.	VINEGAR	+	-	-	-
23	BYRON ANDREAS	TEXTILES	-	-	-	+
23	HABALOGLOU BROS.	TEXTILES	+	-	-	+
23	HAMILTON TEXTILES	TEXTILES	-	-	-	+
23	HARODAKIS I.	TEXTILES	+	+	-	+
23	ILIOPOULOI PROS.	TEXTILES	+	-	-	+
23	IOANNOU K. & CO.	TEXTILES	-	+	-	+
23	KONSTADINOU S. & CO.	TEXTILES	+	-	-	+
23	KRIKOPOULOS M.	TEXTILES	-	-	-	+
23	KRI-KO	TEXTILES	-	-	+	-
23	MIKROPOULOS-SPARTINOS	TEXTILES	-	+	-	+
23	NOVOLAN	TEXTILES	+	+	-	+
23	PADAZOPOULOS	TEXTILES	+	-	-	+
23	PAPARINOPOULOS A. & SON	TEXTILES	+	-	+	-
23	PAULIDIS M. BROS.	TEXTILES	+	-	+	+
24	AKRIDAS BROS.	CLOTHING	+	-	-	-
24	ALMA	SHOES	+	+	+	+
24	AMALIA KODRAROU	KNITWEAR	+	-	-	-
24	ANONYMOUS	CLOTHING	+	-	+	-
24	ANONYMOUS	CLOTHING	+	-	+	-
24	ARGOTYP	CLOTH-STAMPING	-	-	-	+
24	DICOSTA HELLAS	CHILDREN SHOES	+	-	-	+
24	EBEY	CLOTH-STAMPING	+	-	+	-
24	EFSTATHIOU P. & CO.	CLOTHING	-	-	+	-
24	FESKOS	CLOTH-STAMPING	+	-	-	-
24	HARISIOTIS & CO.	CLOTH FINISHING	+	-	+	+
24	KAPADAIS F. & SON	COTTON-RAGS	+	-	-	+
24	KEISOGLOU BROS.	CLOTHING	+	+	+	+
24	KONSTADINIDIS I.	SILK LININGS	+	-	-	+
24	KOROSIDIS	CLOTH FOR SHOES	+	-	+	-
24	LEVADEAKI	COTTON PROCESSING	-	-	-	-
24	LEVEDAKIS	CLOTHING	+	-	-	-
24	LOUVRE	VELVET CLOTHING	+	-	-	-
24	LYMNEOS K.	QUILTS	+	-	-	-
24	MAKE	CLOTHING	+	+	+	-
24	MARKOPOULOS N.	EMBROIDERIES, THREADS	-	-	-	+
24	MEDIKA	CLOTHING	+	-	+	+
24	NATHANAEL P.	CLOTHING	+	+	+	+
24	NEOTEX	SYNTHETIC FURS FOR SHOES	+	-	+	-
24	PADELIDIS D.	SHOES	-	+	+	+
24	PAPAIOANNOU S.	KNITWEAR	+	+	-	+
24	PAPALEODIOU BROS.	CLOTH-DYEING & STAMPING	+	-	-	-
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	+	-	-	+
24	TRAGALOS D. & BROS.	CLOTHING	+	+	+	+
24	TRIA KAPA	CLOTH-LININGS	-	-	-	-
24	TSIAPAS-KONIARIS	CLOTHING	+	+	-	+
25	DIAMADOPOULOS S.	WOOD FACTORY	+	-	-	-
25	KASTRI	WOOD FACTORY	+	+	-	-
26	APOSTOLOPOULOS D.	FURNITURE	+	-	-	-
26	ASLANIDIS	FURNITURE	+	-	-	-
26	GOVESIS E.-PETRAKIS S. & CO.	FURNITURE	+	-	-	-
26	KAGALOS P.	FURNITURE FOR TV SETS	-	-	-	-
26	LARO	FURNITURE & WOODEN TOYS	+	-	+	-
26	NEONAKIS S.	FURNITURE	+	-	-	-
26	PANANI BROS.	FURNITURE	-	+	+	+
26	PAPATHANASIOU E.F. & SON	FURNITURE	-	-	-	+
26	SILVESTRIDIS	FURNITURE	-	-	-	-
26	SKORPIOS	FURNITURE	-	-	-	-
26	VARELAS K.	FURNITURE	+	-	-	-
26	VIELEX	FURNITURE	-	+	-	-
27	AGYRA	PAPER	+	-	-	-
27	GOLDEN PACK	CARTONS	+	+	-	+
27	HART-PAK	CARTONS	+	+	-	-
28	DIKAIOS I.	PRINTING	+	-	-	+
28	KYRIAKIS E.	PRINTING	+	-	+	+
28	PERIS G.	PRINTING	+	-	+	+
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	+	-	-	-
30	ARVANITIS M.	PLASTIC	+	-	+	-
30	ATANALIS P.I. & CO.	PLASTIC	+	+	-	+
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	+	-	-	+
30	COMER-PLAST	PLASTIC PIPES	+	-	-	-
30	EL-PLAST	PLASTIC	+	+	-	+
30	EUROPE	PLASTIC	+	+	+	+
30	FIALOPLAST	PLASTIC BOTTLES	+	+	+	+
30	GORGOGIANNIS BROS. & CO.	PLASTIC ROPES	-	-	-	-
30	HAIPLASTIC	PLASTIC BOTTLES	+	-	-	+
30	KASIS G.	PLASTIC	-	+	-	+
30	MANESIS T.	PLASTIC ROLLS	-	-	+	-
30	PIGOPLASTIKI	PLASTIC	-	-	+	+
30	PISKITZIS V. & CO.	PLASTIC SACKS	+	-	-	-
30	PLASTIN	PLASTIC (P.V.C)	-	-	+	-
30	PTOTEX	PLASTIC BANISTERS	+	-	-	-

TABLE C.10
M.I.A: FIRMS' PROBLEMS WITH THE PUBLIC INFRASTRUCTURE NETWORKS

Code	FIRM'S NAME	PRODUCT	WATER AND SEWERAGE SYSTEMS	TELECOMMUNICATIONS	ELECTRIC POWER SUPPLY	TRANSPORT NETWORK
30	REKOR	RUBBER AND PLASTIC	+	-	-	+
30	RICOMEX	POLYOURETHANE	+	+	-	-
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	-	+	-	+
30	SYSKEUASTIKI ELLADOS	PLASTIC	+	+	+	+
30	VEEM	PLASTIC	+	-	-	+
30	VOPAR	PLASTIC	+	+	+	-
31	ANONYMOUS	COSMETICS	+	+	-	+
31	BENCKISER HELLAS	DETERGENTS	+	+	-	+
31	DALCOHEM	CHEMICALS	+	+	-	+
31	GEFEX	PESTICIDES	-	+	-	+
31	HELP	MEDICINES	+	+	+	+
31	IOANNIDIS AIMILIOS	WATER-TIGHT MATERIALS	-	-	-	+
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	+	-	-	-
31	MANKO	COSMETICS	+	-	-	-
31	MERKOLA	MEDICINES	-	+	-	-
31	MONOPORA	INSULATING SLABS	+	-	+	-
31	ODESSA	PAINTS.PLASTIC.INSULATORS	-	-	-	-
31	PAPOUTSANIS P.D.	COSMETICS	+	-	-	-
31	PETKO, TOUSOUNIDOU & CO.	GLUES	+	-	+	-
31	SANDOZ HELLAS	MEDICINES	+	+	+	-
31	STOHOS	COSMETICS	-	-	-	-
31	TRYLET	DETERGENTS	+	-	-	-
31	UNI-FARMA	MEDICINES	-	+	-	-
31	VIAFREL	GLUES	+	-	-	-
31	VIANEX	MEDICINES	+	-	-	-
31	VIKENT	PAINTS	+	+	-	-
31	VIOBEN	PAINTS	+	-	-	+
31	VIORYL	CHEMICALS	-	+	+	-
33	BILLYS & SON	MARBLE-CUTTING	-	-	-	-
33	BISDOULIS TH., BONITSIS D.	MARBLE-CUTTING	-	-	-	-
33	GRIGORIS BROS.	MARBLE-CUTTING	+	+	-	+
33	HATZIPETROS K.	MARBLE-CUTTING	+	-	-	+
33	IKTINOS HELLAS	MARBLE-CUTTING	-	-	-	-
33	KIOSEPIDIS H.	SAFETY CRYSTAL	+	+	+	-
33	NIKOLOPOULOS BROS. & CO.	MARBLE-CUTTING	-	+	-	+
33	PSOFAKIS MARBLES	MARBLE-CUTTING	+	+	-	-
33	SKOUROGIANNIS-SIGALAS	MARBLE-CUTTING	-	-	-	+
34	ELVIOR- PAPAIOSIF.E	BRASS FOUNDRY	+	+	+	+
34	SOUTZOGLOU	SMELTING WORKS	-	-	+	+
34	SOULTATIS A.	METALLURGY	-	-	-	+
35	AFEDOULIS S.	METAL CONSTRUCTS	-	-	-	+
35	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	+	+	-	+
35	ANALCO	OXIDIZED ALUMINIUM	+	+	-	+
35	ANONYMOUS	IRON PRODUCTS	+	-	-	+
35	ANONYMOUS	ANODIZED ALUMINIUM	+	-	-	+
35	BELLINOX	STAINLESS CONSTRUCTS	+	-	+	-
35	DIAKINISI BITHAS TH.	CONVEYER BELTS	-	-	-	+
35	DIAMAND STAR	MARBLE-CUTTING TOOLS	-	+	+	+
35	FINIKIS M.	METAL MANUFACTURES	+	-	-	-
35	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	+	-	-	-
35	KOLIOS G. & KYRIAKOULIS S.	STAINLESS STEEL PRODUCTS	+	-	-	-
35	KOUNOUPAS & CO.	ANODIZED ALUMINIUM	+	+	+	+
35	KREOUZIS G. BROS.	METAL PRODUCTS	+	-	-	+
35	LEFAS P.& I.	ALUMINIUM PRODUCTS	+	-	-	+
35	MEKAMO	METAL PRODUCTS	-	-	-	-
35	PAGONAS E.	METAL MOULDS	+	+	-	-
35	PANAGIOTOPOULOS K.	METAL MOULDS	-	+	-	+
35	POLMETEX	NOBLE METALS REFINEMENT	+	+	+	+
35	POLYZOIS TH. & CO.	METAL ACCESSORIES	+	+	-	+
35	SABANIS	METAL PRODUCTS	+	-	-	+
35	SOFIANOU E.	METAL ATTACHMENTS	+	+	-	+
35	TECHNOSOL	METALLIC SHELVES	+	-	-	-
35	TSONOPOULOS P. & CO.	HOT-WATER RADIATORS	+	-	-	-
35	TYPAL-HALKOUSIS S.	ALUMINIUM PRODUCTS	+	-	-	-
35	VOULGARIS A.	METAL MANUFACTURES	+	-	-	-
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	+	+	+	-
36	AGRIC.MACHINERY	AGRICUL. MACHINERY	+	+	-	+
36	ARPA K.BARGETIS & CO.	AGRICUL.MACHINERY	+	+	-	-
36	ELKAMAS	MACHINERY	+	+	+	-
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	-	+	+	+
36	HADJIKONSTADINOU TH.	BAKERY'S MACHINERY	+	+	+	-
36	PAPASTAMOU I.	MACHINE-WORKS	+	+	+	+
36	ROBOKAS	BUILDING MACHINERY	+	-	-	-
36	SALTANIS N.	MACHINE-WORKS	-	+	-	+
36	STATHAKIS BROS.	BULDING MACHINERY	+	-	-	-
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	+	-	+	+
36	VOUNATZIS G. & CO.	MACHINE-WORKS	+	-	+	-
37	BARBY	ELECTRICAL GOODS	+	-	+	-
37	CAYZER	SOLAR HEATERS-THERMOSTATS	-	-	-	-
37	DRAGATIDIS K. & CO.	ELECTRONIC EQUIPMENT	-	-	+	+
37	ELCO-VAGIONIS	ELECTRICAL GOODS	-	-	-	-
37	KYRIAKOULIS V.	CENTRAL-HEAT BOILERS	-	+	-	-
37	METELCO	ELECTRONIC EQUIPMENT	+	-	+	-
37	MIHALOPULOS-THOMOPULOS & CO	LIFT-CAGES	+	-	-	-
37	PANAGOPOULOS SONS & CO	ELECTRICAL KILNS	-	+	-	+
37	PETROPOULOS G. & CO	ELECTR. SOUND-BOXES	+	-	-	-
37	SOLE	SOLAR HEATERS	+	-	-	+
37	TEVHELLAS	ELECTRONIC EQUIPMENT	-	+	+	-
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	+	+	-	+
39	INTERNA	LIGHT CEILINGS	+	+	-	-
39	LYKOGIANNIS BROS. & CO.	SCHOOL REQUISITES	+	-	-	-
39	TECHNICAL	SWIMMING POOLS	-	+	-	-

SOURCE: Questionnaires

TABLE C.11
M.I.A: VARIOUS PRODUCTION INDICES OF PLANTS

Code	FIRM'S NAME	PRODUCT	CAPITAL INTENSITY (1)	LAND INTENSITY (2)	FLOORSPACE/ WORKER (sq.m)
20	AGROTSIK	CATTLE FEED	50.0	7.5	320.0
20	ANONYMOUS	MEAT INDUSTRY	5.0	75.0	100.0
20	ANTHOS KIFISSIAS	JAMS	7.1	30.0	125.0
20	EKONOMIDIS & CO.	BUSCUITS	4.8	20.8	92.9
20	FAGE	MILK PRODUCTS	13.2	15.7	36.4
20	GEREDES V. & CO.	OLIVE OILS	2.5	357.1	210.5
20	KALAMARAS	OLIVE OILS	7.5	66.7	60.0
20	KATSELIS H. SONS	BAKERY	6.7	25.0	15.6
20	PAPADOPOULOS D.	DRY FRUITS	50.0	60.0	200.0
20	TELEION-DELIOLANIS	ICE-CREAMS	22.2	3.3	37.0
20	THILIVERIS I.& P.	RICE-MILL	60.0	16.7	200.0
21	GREEK BOTTLING COMPANY	SOFT DRINKS	12.6	22.5	78.5
21	I.B.S.A.E.	SOFT DRINKS	5.7	35.3	57.1
21	METAXA	ALCOHOLIC DRINKS	4.5	37.0	47.3
21	SIFNEOS K. & CO.	VINEGAR	8.0	56.3	90.9
23	BYRON ANDREAS	TEXTILES	13.5	151.9	100.0
23	HABALOGLOU BROS.	TEXTILES	30.0	93.3	116.7
23	HAMILTON TEXTILES	TEXTILES	5.0	60.0	107.7
23	HARODAKIS I.	TEXTILES	12.9	19.4	57.7
23	ILIOPOULOI PROS.	TEXTILES	31.3	31.9	350.0
23	IOANNOU K. & CO.	TEXTILES	12.5	30.0	128.6
23	KONSTADINOU S. & CO.	TEXTILES	9.7	25.9	97.1
23	KRIKOPOULOS M.	TEXTILES	13.3	75.0	137.5
23	KRI-KO	TEXTILES	5.9	32.0	388.9
23	MIKROPOULOS-SPARTINOS	TEXTILES	5.5	100.0	260.0
23	NOVOLAN	TEXTILES	2.9	125.0	88.0
23	PADAZOPOULOS	TEXTILES	3.5	142.9	26.7
23	PAPARINOPOULOS A. & SON	TEXTILES	16.3	46.2	81.3
23	PAULIDIS M. BROS.	TEXTILES	13.4	8.7	68.2
24	AKRIDAS BROS.	CLOTHING	8.6	37.5	115.4
24	ALMA	SHOES	1.5	20.0	30.5
24	AMALIA KODRAROU	KNITWEAR	1.1	200.0	55.0
24	ANONYMOUS	CLOTHING	7.5	70.0	200.0
24	ANONYMOUS	CLOTHING	14.3	48.8	250.0
24	ARGOTYP	CLOTH-STAMPING	4.4	75.0	80.0
24	DICOSTA HELLAS	CHILDREN SHOES	0.3	300.0	33.3
24	EBEY	CLOTH-STAMPING	2.1	70.0	66.7
24	EFSTATHIOU P. & CO.	CLOTHING	18.0	69.4	115.5
24	FESKOS	CLOTH-STAMPING	3.3	140.0	95.0
24	HARISIOTIS & CO.	CLOTH FINISHING	10.0	25.0	76.9
24	KAPADAIS F. & SON	COTTON-RAGS	14.3	40.0	94.4
24	KEISOGLOU BROS.	CLOTHING	7.3	43.2	53.6
24	KONSTADINIDIS I.	SILK LININGS	30.0	83.3	500.0
24	KOROSIDIS	CLOTH FOR SHOES	14.4	41.2	109.1
24	LEVADEAKI	COTTON PROCESSING	13.5	9.3	80.0
24	LEVEDAKIS	CLOTHING	17.6	4.2	159.1
24	LOUVRE	VELVET CLOTHING	26.7	23.0	400.0
24	LYMNEOS K.	QUILTS	2.7	250.0	116.7
24	MAKE	CLOTHING	18.8	60.0	150.0
24	MARKOPOULOS N.	EMBROIDERIES, THREADS	3.3	150.0	66.7
24	MEDIKA	CLOTHING	9.1	21.7	43.6
24	NATHANAEL P.	CLOTHING	26.0	21.2	314.3
24	NEOTEX	SYNTHETIC FURS FOR SHOES	3.6	214.0	111.1
24	PADELIDIS D.	SHOES	53.3	15.6	17.0
24	PAPAIOANNOU S.	KNITWEAR	8.3	28.5	62.5
24	PAPALEODIOU BROS.	CLOTH-DYEING & STAMPING	13.3	20.0	127.8
24	PAPANDREOU D.	CLOTH-STAMPING & FINISHING	26.7	8.8	105.9
24	TRAGALOS D. & BROS.	CLOTHING	0.8	321.4	32.4
24	TRIA KAPA	CLOTH-LININGS	12.6	47.6	133.3
24	TSIAPAS-KONIARIS	CLOTHING	7.5	73.3	150.0
25	DIAMADOPOULOS S.	WOOD FACTORY	10.0	29.3	47.5
25	KASTRI	WOOD FACTORY	7.4	48.0	80.0
26	APOSTOLOPOULOS D.	FURNITURE	5.0	177.8	88.9
26	ASLANIDIS	FURNITURE	5.0	83.3	76.9
26	GOVESIS E.-PETRAKIS S. & CO.	FURNITURE	8.8	121.2	178.6
26	KAGALOS P.	FURNITURE FOR TV SETS	1.1	125.0	52.6
26	LARO	FURNITURE & WOODEN TOYS	5.9	45.0	209.5
26	NEONAKIS S.	FURNITURE	0.8	298.4	109.6
26	PANANI BROS.	FURNITURE	3.8	37.3	82.1
26	PAPATHANASIOU E.F. & SON	FURNITURE	22.7	6.4	95.0
26	SILVESTRIDIS	FURNITURE	16.0	10.1	57.9
26	SKORPIOS	FURNITURE	33.3	8.0	83.3
26	VARELAS K.	FURNITURE	3.1	29.5	75.0
26	VIELEX	FURNITURE	2.9	135.0	80.0
27	AGYRA	PAPER	8.3	46.0	93.0
27	GOLDEN PACK	CARTONS	10.3	56.7	120.5
27	HART-PAK	CARTONS	7.3	454.5	137.5
28	DIKAIOS I.	PRINTING	3.2	102.8	87.5
28	KYRIAKIS E.	PRINTING	12.2	11.5	100.0
28	PERIS G.	PRINTING	15.0	33.3	60.0

TABLE C.11
M.I.A: VARIOUS PRODUCTION INDICES OF PLANTS

Code	FIRM'S NAME	PRODUCT	CAPITAL INTENSITY (1)	LAND INTENSITY (2)	FLOORSPACE/ WORKER (sq.m)
29	TZEVELEKOS BROS.	LEATHER WATCHSTRAPS-BELTS	1.4	77.9	71.7
30	ARVANITIS M.	PLASTIC	17.1	13.3	25.0
30	ATANALIS P.I. & CO.	PLASTIC	100.0	35.0	250.0
30	BITSOU BROS. & BLAZADONAKIS E.	PLASTIC	14.0	13.4	50.0
30	COMER-PLAST	PLASTIC PIPES	21.3	23.5	130.0
30	EL-PLAST	PLASTIC	10.0	33.3	57.1
30	EUROPE	PLASTIC	25.0	15.0	70.0
30	FIALOPLAST	PLASTIC BOTTLES	13.6	30.7	76.9
30	GORGOGIANNIS BROS. & CO.	PLASTIC ROPES	25.0	11.0	37.7
30	HAIPLASTIC	PLASTIC BOTTLES	14.7	11.4	26.5
30	KASIS G.	PLASTIC	21.2	11.8	53.3
30	MANESIS T.	PLASTIC ROLLS	3.3	96.2	72.7
30	PIGOPLASTIKI	PLASTIC	31.5	63.5	266.7
30	PISKITZIS V. & CO.	PLASTIC SACKS	8.3	40.0	55.6
30	PLASTIN	PLASTIC (P.V.C)	10.5	119.0	400.0
30	PTOTEX	PLASTIC BANISTERS	15.8	14.0	38.0
30	REKOR	RUBBER AND PLASTIC	3.5	25.2	32.2
30	RICOMEX	POLYOURETHANE	5.8	31.5	62.6
30	SUPERCAR-LAVDAS L.	POLYESTER CONSTRUCTS	37.5	10.0	76.0
30	SYSKEUASTIKI ELLADOS	PLASTIC	34.7	14.4	55.6
30	VEEM	PLASTIC	93.4	1.6	175.0
30	VOPAR	PLASTIC	90.0	38.9	250.0
31	ANONYMOUS	COSMETICS	1.3	200.0	53.8
31	BENCKISER HELLAS	DETERGENTS	9.4	29.4	64.4
31	DALCOHEM	CHEMICALS	1.1	310.0	24.0
31	GEFEX	PESTICIDES	7.2	147.2	108.3
31	HELP	MEDICINES	5.0	15.0	53.3
31	IOANNIDIS AIMILIOS	WATER-TIGHT MATERIALS	17.2	19.4	133.3
31	KAVALIERATOS (ROC-RILKEN)	COSMETICS	3.6	31.3	17.2
31	MANKO	COSMETICS	0.6	166.7	35.5
31	MERKOLA	MEDICINES	20.0	60.0	73.3
31	MONOPORA	INSULATING SLABS	0.8	66.7	42.1
31	ODESSA	PAINTS,PLASTIC,INSULATORS	15.0	266.7	500.0
31	PAPOUTSANIS P.D.	COSMETICS	18.9	12.8	75.4
31	PETKO, TOUSOUNIDOU & CO.	GLUES	72.5	19.3	56.3
31	SANDOZ HELLAS	MEDICINES	5.0	25.5	33.8
31	STOHOS	COSMETICS	3.0	111.1	53.3
31	TRYLET	DETERGENTS	6.3	34.7	58.5
31	UNI-FARMA	MEDICINES	3.3	33.7	68.6
31	VIAFREL	GLUES	13.2	31.5	67.3
31	VIANEX	MEDICINES	3.2	43.7	60.8
31	VIKENT	PAINTS	15.0	66.7	150.0
31	VIOBEN	PAINTS	25.0	40.0	200.0
31	VIORYL	CHEMICALS	20.7	35.1	200.0
33	BILLYS & SON	MARBLE-CUTTING	83.3	4.7	90.9
33	BISDOULIS TH., BONITSIS D.	MARBLE-CUTTING	26.0	15.4	37.6
33	GRIGORIS BROS.	MARBLE-CUTTING	49.8	23.4	71.4
33	HATZIPETROS K.	MARBLE-CUTTING	50.0	10.2	30.0
33	IKTINOS HELLAS	MARBLE-CUTTING	26.7	12.5	26.3
33	KIOSEPIDIS H.	SAFETY CRYSTAL	11.5	7.8	21.3
33	NIKOLOPOULOS BROS. & CO.	MARBLE-CUTTING	72.2	12.3	31.8
33	PSOFAKIS MARBLES	MARBLE-CUTTING	25.2	19.0	62.5
33	SKOUROGIANNIS-SIGALAS	MARBLE-CUTTING	100.0	10.0	137.1
34	ELVIOR- PAPAIOSIF.E	BRASS FOUNDRY	2.9	46.0	38.9
34	SOUTZOGLOU	SMELTING WORKS	100.0	10.0	415.0
34	SOULTATIS A.	METALLURGY	23.2	5.1	40.8
35	AFEDOULIS S.	METAL CONSTRUCTS	20.0	25.0	100.0
35	ALOUMINKO	IRON & ALUMINIUM PRODUCTS	3.3	300.0	42.1
35	ANALCO	OXIDIZED ALUMINIUM	10.0	13.3	105.3
35	ANONYMOUS	IRON PRODUCTS	12.7	52.6	25.0
35	ANONYMOUS	ANODIZED ALUMINIUM	21.7	23.1	125.0
35	BELLINOX	STAINLESS CONSTRUCTS	63.0	31.7	500.0
35	DIAKINISI BITHAS TH.	CONVEYER BELTS	3.0	133.3	33.3
35	DIAMAND STAR	MARBLE-CUTTING TOOLS	44.4	6.3	17.0
35	FINIKIS M.	METAL MANUFACTURES	10.0	50.0	50.0
35	KARAGIORGIS-LYKOU-BAKLATZIS	STEEL PRODUCTS	21.7	30.8	62.5
35	KOLIOS G. & KYRIAKOULIS S.	STAINLESS STEEL PRODUCTS	14.3	40.0	222.2
35	KOUNOUPAS & CO.	ANODIZED ALUMINIUM	22.7	2.8	37.5
35	KREOUZIS G. BROS.	METAL PRODUCTS	1.9	166.7	37.8
35	LEFAS P.& I.	ALUMINIUM PRODUCTS	5.6	86.0	70.0
35	MEKAMO	METAL PRODUCTS	1.1	300.0	40.0
35	PAGONAS E.	METAL MOULDS	70.0	57.1	540.0
35	PANAGIOTOPOULOS K.	METAL MOULDS	20.0	100.0	900.0
35	POLMETEX	NOBLE METALS REFINEMENT	17.5	34.3	66.7
35	POLYZOIS TH. & CO.	METAL ACCESSORIES	10.8	30.8	44.3
35	SABANIS	METAL PRODUCTS	12.0	33.3	128.6
35	SOFIANOU E.	METAL ATTACHMENTS	22.7	44.1	150.0
35	TECHNOSOL	METALLIC SHELVES	24.5	15.3	90.9
35	TSONOPOULOS P. & CO.	HOT-WATER RADIATORS	6.3	160.0	108.0
35	TYPAL-HALKOUSIS S.	ALUMINIUM PRODUCTS	12.1	24.7	114.0

TABLE C.11
M.I.A: VARIOUS PRODUCTION INDICES OF PLANTS

Code	FIRM'S NAME	PRODUCT	CAPITAL INTENSITY (1)	LAND INTENSITY (2)	FLOORSPACE/ WORKER (sq.m)
35	VOULGARIS A.	METAL MANUFACTURES	7.5	33.3	66.7
36	ADAMADOTECHNIKI	MARBLE-CUTTING TOOLS	8.9	46.8	45.0
36	AGRIC.MACHINERY	AGRICUL. MACHINERY	6.4	16.7	66.7
36	ARPA K.BARGETIS & CO.	AGRICUL.MACHINERY	12.1	11.4	22.6
36	ELKAMAS	MACHINERY	3.5	125.1	76.4
36	ELLINIKI TECHNIKI	LIFTING MACHINES-CRANES	30.0	3.3	33.3
36	HADJIKONSTADINOU TH.	BAKERY'S MACHINERY	23.3	40.0	162.5
36	PAPASTAMOU I.	MACHINE-WORKS	35.0	40.0	150.0
36	ROBOKAS	BUILDING MACHINERY	3.7	101.4	51.1
36	SALTANIS N.	MACHINE-WORKS	15.0	133.3	250.0
36	STATHAKIS BROS.	BULDING MACHINERY	25.0	40.0	162.5
36	TECHNODIAMAD	MARBLE-CUTTING TOOLS	4.3	69.8	125.0
36	VOUNATZIS G. & CO.	MACHINE-WORKS	50.0	20.0	75.0
37	BARBY	ELECTRICAL GOODS	0.0	...	29.4
37	CAYZER	SOLAR HEATERS-THERMOSTATS	15.0	133.3	150.0
37	DRAGATIDIS K. & CO.	ELECTRONIC EQUIPMENT	0.6	200.0	55.2
37	ELCO-VAGIONIS	ELECTRICAL GOODS	5.9	20.8	60.4
37	KYRIAKOULIS V.	CENTRAL-HEAT BOILERS	4.0	100.0	112.5
37	METELCO	ELECTRONIC EQUIPMENT	0.3	400.0	32.5
37	MIHALOPULOS-THOMOPULOS & CO.	LIFT-CAGES	8.3	40.0	92.3
37	PANAGOPOULOS SONS & CO.	ELECTRICAL KILNS	37.5	20.0	120.0
37	PETROPOULOS G. & CO.	ELECTR. SOUND-BOXES	5.0	400.0	375.0
37	SOLE	SOLAR HEATERS	5.7	45.0	41.3
37	TEVHELLAS	ELECTRONIC EQUIPMENT	0.6	222.2	46.4
38	ELVIFREN	AUTO SPARE PARTS (BRAKES)	24.3	36.1	80.0
39	INTERNA	LIGHT CEILINGS	6.2	37.5	77.4
39	LYKOGIANNIS BROS. & CO.	SCHOOL REQUISITES	1.4	100.0	84.0
39	TECHNICAL	SWIMMING POOLS	3.0	208.3	88.9

SOURCE: Own calculations from tables C.4 and C.9

(1) Plant's horsepower (HP) per worker
This index is a rough estimation of the Capital/Labour ratio (see Giannitsis 1983:187-8) showing the extend at which the plant's capital equipment is used extensively

(2) Plant's plot size (in sq.meters) per horsepower. This index expresses the degree at which the plant's land is used extensively for production purposes

APPENDIX II

THE FORMAT OF QUESTIONNAIRE

PLANT'S IDENTITY

Firm's activity ----------
SIC code number ----------
Name of the firm ----------
Address ----------

Tel. number ----------

When did the firm establish this plant in the area?----------

Did this plant come from relocation? YES------- NO--------

if YES from where?----------

Which were the most basic reasons for chosing the area to locate/relocate this plant? (please specify according to importance):

(1)----------
(2)----------
(3)----------
(4)----------
(5)----------
etc----------

Does the firm have other installations in other areas of Attica? YES--- NO---

If YES: (a) production plant? ------
(b) distribution centre? ------
(c) administration offices? ------
(d) Warehouses? ------

PRODUCTION CHARACTERISTICS

What is the plant's installed horsepower? ---------- (HP)

Which raw materials are used and where they come from?

---------- ----------
---------- ----------
---------- ----------

Does the plant use fuel? YES------- NO -------

If YES, is fuel used for: (a) production purposes? -------
(b) plant's central heating? -------
(c) electrical energy generators? -------

What kind of fuel is used? (a) crude oil? ------
(b) diesel? ------
(c) petrol? ------
(d) gas? ------

Does the plant have chimneys? YES----- NO-----

If YES which are their measures? Height (m) -----Diametre (cm) ------
_____ _____
_____ _____

Is there air pollution from plant's production activity? YES---- NO----

If YES, of what kind? (a) dust? ----
(b) gases? ----
(c) smells? ----
(d) noise? ----

Does the plant have installed anti-polution technologies? YES---- NO----

Are there (solid/liquid) wastes from production activity? YES---- NO----

If YES, what kind of waste?

(a) solid ---- In what quantity/per day?----------
(b) liquid ----In what quantity/per day?----------

Does the plant need a liquid waste treatment system? YES---- NO----

EMPLOYMENT CHARACTERISTICS

How many employees work in production? (Total number)----------

(a) Men? -------
(b) Women? -------

How many employees work in administration? (Total number)---------

(a) Men? --------
(b) Women? --------

What percentage of the plant's employees travel from home to work (and vise-versa) a distance of:

(a) less than 1 km? --------
(b) 1.1 to 5 km? --------
(c) 5.1 to 10 km? --------
(d) 10.1 to 20 km? --------
(e) 20.1 to 30 km? --------
(f) more than 30 km? --------

What percentage of the plant's employees travel to and from work by using:

(a) public means of transport? ---------

(b) firm's means of transport? ---------
(c) private means of transport? ---------

DISTRIBUTION CHARACTERISTICS

What percentage of annual production volume (at the average) is directly distributed from the plant to the market (retail)? ----------

What percentage of annual production volume (at the average) is transported for sale (wholesale):

(a) in central Athens? ----------
(b) in other areas outside Athens? ----------
(c) abroad? ----------

What means of transport are used for distributing the plant's products?

BUILDING-INFRASTRUCTURE CHARACTERISTICS

When the plant was built? ----------
How many floors does the plant have? ----------
How many square metres is the groundfloor space? ----------
How many square metres is the total plant's floorspace? ----------
What is the total plot's size (in sq. metres)? ----------
How the uncovered plot's space is used?

Does the plant have warehouse spaces? YES----- NO-----

If YES of what kind?

(a) sheltered? ----- or open-air? -----
(b) near the plant? ----- or away from plant? -----

How the plant's building condition could be described? (to be filled by the interviewer):

(a) good? ------
(b) average? ------
(c) bad? ------

Is the existing plant's floorspace satisfactory for the current production needs? YES------- NO--------

Does the existing legislative framework allow for the plant's expansion (if and when needed)? YES------ NO--------

How many cars can be accommodated in the plant's car parking space? -------

Please tick on the infrastructure networks that are not considered adequate for the plant's orderly operation:

(a) water and sewerage system -------
(b) electric power supply -------
(c) telecommunications -------
(d) transport infrastructure -------

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(b) The year next to each author's name corresponds to the edition used for references and quotations in this work, and not to any likely original editions.

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