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**ROMANIAN REGIONAL ECONOMIC
DEVELOPMENT
1945-1995**

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A thesis submitted in the partial fulfilment of the requirement of
Nottingham Trent University for the degree of
Doctor of Philosophy

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Abstract

This thesis investigates the processes and influences that have driven regional economic development in Romania during the period 1945-95. One of the central aims is to examine whether the change from a planned to a market economy has significantly influenced the spatial distribution of economic activity.

The initial part of the thesis examines the theoretical perspectives of Romanian regional development challenging the neo-classical hypothesis and proposing that Romanian development patterns, under both the socialist and free market, are best placed within the context of cumulative growth and agglomeration economies.

The thesis presents an investigation of the patterns of national and regional development during 1945-95. One of the central messages that emerges is the importance of national and regional industrial structures to overall economic performance. It is argued that while the transition of the socialist economy to the market model may involve a fundamental change in the national and regional economic framework, both systems prioritised national growth over regional concerns through the focus on economic efficiency at the expense of equity considerations.

The empirical results presented in the thesis reveal that economic growth within Romania is concentrated on previously developed regional centres. Both the socialist and free market systems failed to generate any fundamental change in the distribution of regional economic activity, although the introduction of the market economy is found to be marginally divergent. This is itself a rejection of the argument that the introduction of market forces will lead to a greater convergence in regional economic activity.

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The programme of study was primarily supported by the Department of Economics and Politics of the Nottingham Trent University. Additional assistance was also received from the TEMPER project within the TEMPUS (EU) programme that provided for a number of research visits to be made to Romania which enabled invaluable links to be established with Romanian institutions and individuals alike. Accordingly, I would also like to extend my gratitude to the staff of the Economics Department of ASE University, Bucharest and to the many other individuals who I had the opportunity to meet.

On a more individual level, I would like to extend my gratitude to Dr. Andy Cooke for his support and humour, John F. for his technical expertise and Sandra Odell for her organisational skills (and patience!). I would also like to express thanks to the rest of the academic and administrative support staff of the Economics and Politics Department (Nottingham Trent University). However, I would like to give particular thanks to my Director of Studies, Vaughan Galt, for his continued encouragement and guidance - and for sharing his 'interesting' perspective on many issues.

On a more personal basis I would, of course, like to thank Louise, all my family, friends and the TDF, many of whom were able to offer advice - all of who offered support.

Chapter 1: Introduction

1.1 Overview

The collapse of the socialist planned economy in Romania and the subsequent adoption of a market based system represents one of the most dramatic economic developments in recent history (Bird, 1992; Ferris et al, 1994). Romania's newly created market economy inherited an economic structure that was state-orientated, with low levels of technological development alongside significant excess industrial production capacities relative to market economies with similar levels of GDP per capita (Ben-Ner & Montias, 1991; Stan, 1997). The combination of these issues has led to Romania finding the adjustment from central planning to the market economy particularly difficult.

Under Gheorghiu-Dej (1947-65) and then later Ceaușescu (1965-90) a policy of 'Sovietization' was implemented in Romania, characterised by the nationalisation of industrial and financial institutions, large scale industrialisation, political suppression, foreign policy independence and the amalgamation of private landholdings into state and collective farms. Throughout the 1980s Romania experienced severe economic problems largely brought about by the policies followed by the Government (Tismaneanu, 1993). The period up to 1989 was characterised by an economic policy that resulted in severe economic problems; massive debts, industry became inefficient and the long-running difficulties of the energy sector led to shortages of fuel and power. These economic difficulties were a significant factor in the revolution of 1989 that has led to the introduction of more market-orientated processes in Romania.

The legacy of this system is that regional economic development in Romania has been sectorally and spatially distorted (Ianos, 1994). There was seemingly a tendency towards regional economic convergence through the industrialisation and modernisation of under-developed regions under state

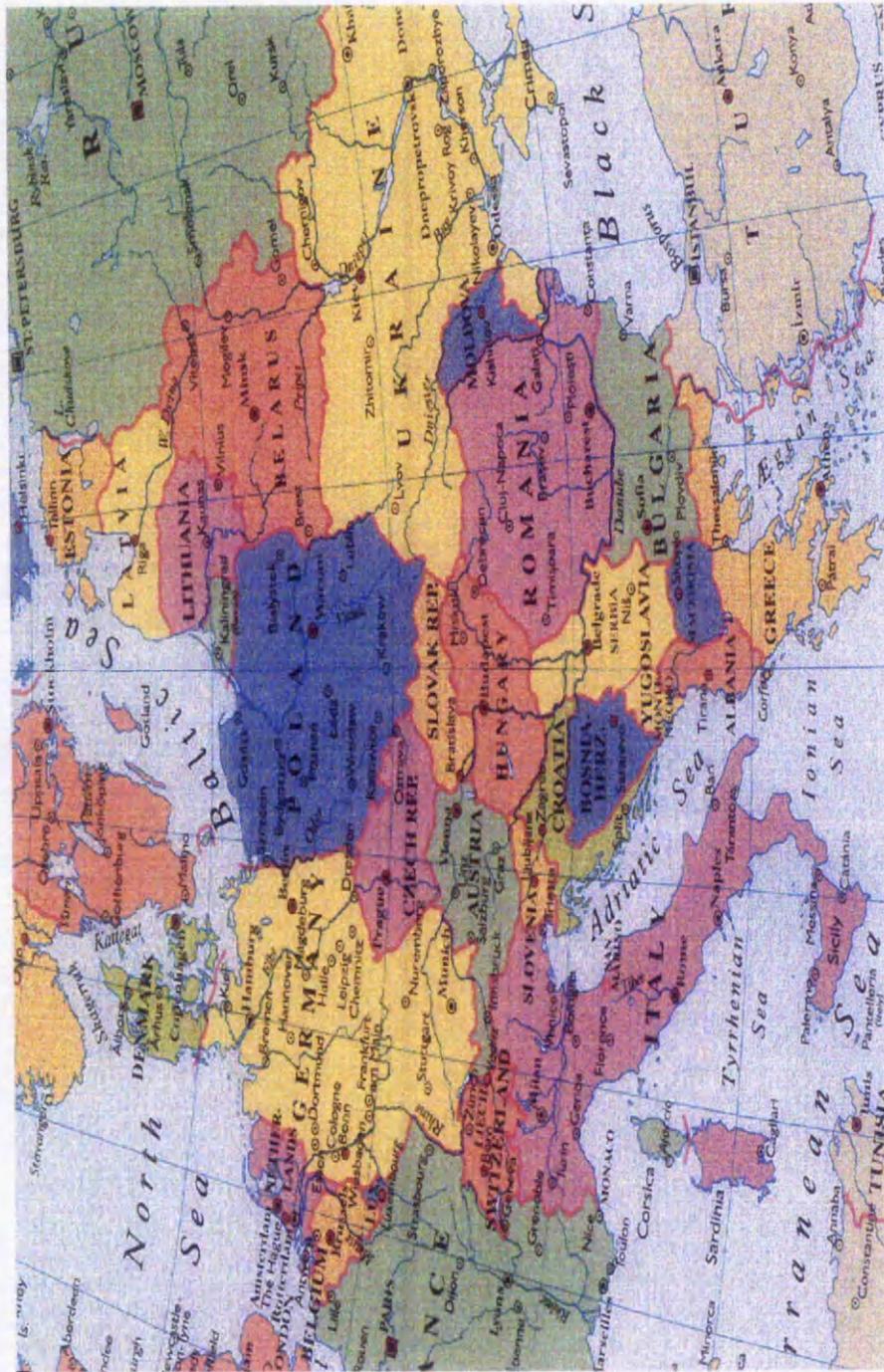
socialism although the extent to which this occurred is questioned as there remained a polarised regional structure (Turnock, 1987). This now appears to have given way to a more competitive process that, in this thesis, we examine to see whether it is likely to lead to the fragmentation of the regional economies and further divergence of activity (Smith, 1998).

In analysing the implications of moving from a planned to a market economy Pickles & Smith (1998) have argued that there is a need for an alternative set of conceptual frameworks on transition that challenges the neo-liberal hegemony and adequately explains the actual processes, strategies and techniques of transition. Consequently, rather than taking the neo-liberal perspective that places the process of transition and regional change in a single, hegemonic framework, this thesis is a critical engagement with the real transformation process and its implications for the regional economies of Romania.

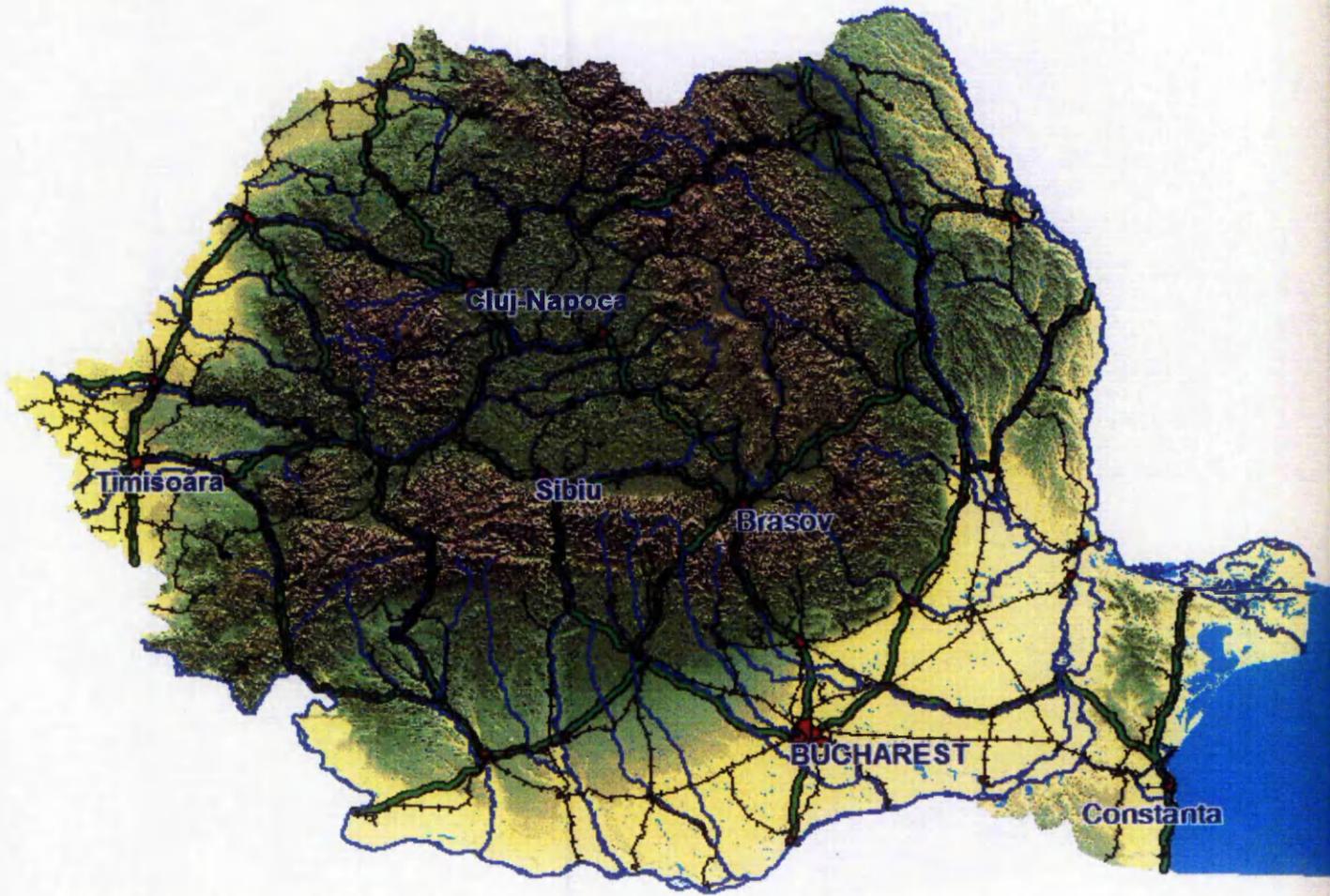
1.2 Geographical Background

Romania lies in south-eastern Central Europe and borders Bulgaria, Serbia, Hungary, Ukraine and Moldova (see Map 1.1). The Black Sea lies on its south-eastern coast. Romania is the 12th largest country in Europe with a land area of 238,391 sq.km. Map 1.2 shows the internal structure of Romania including topography, rivers and transport infrastructure (road and rail). Map 1.3 shows the location of individual judets within Romania.

Map 1.1: Geographical Location of Romania



Map 1.2: Topography, Rivers and Transport Infrastructure



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Map 1.3: Administrative Boundaries (Judets)



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1.3 Aims and Objectives of the Study

The central aim of the research is to see whether a change from a planned to a market economy has significantly influenced the distribution of regional development. The thesis utilises a conceptual framework that draws on a number of regional theories and analytical techniques. Although the thesis addresses the macroeconomic and microeconomic analytical and policy frameworks that may have influenced regional development, it adopts a mainly mesoeconomic approach that focuses on the influence of industrial change on regional development.

Essentially, there are two analytical frameworks that seek to explain regional economic growth. The first, often labelled neo-classical regional growth theories (Nijkamp, 1986), suggests that through mobility of capital and labour adjusting to different factor returns, regional growth rates will converge until they become equal. Therefore, the underlying assumption is that market processes lead to the convergence in growth rates between regions.

The second analytical framework, often labelled cumulative causation (Myrdal, 1957) and agglomeration theory (Venables, 1994, 1995), suggests that contrary to the neo-classical view, capital attracts other capital and labour via a process of increasing returns causing the economies of some regions to develop at a faster rate than others. Therefore, the market system, via this cumulative causation process, actually leads to a divergence of growth rates between regions rather than convergence.

Regional economies are far more open than national economies, and inter-regional trade is generally free from tariff and non-tariff barriers.¹ The approach of mainstream neo-classical economics assumes that regions are homogenous, characterised by perfectly mobile factors of production with zero transport costs. However, reality dictates, and regional economics recognises,

¹ An exception is that of U.S.A. where the difference in state taxes act as an impediment to trade.

that different regions have different resource endowments. There are considerable differences in their size, population, market structure, natural endowments, consumption patterns and other fundamental characteristics, that may explain regional differences. Those characteristics that are important in explaining differential economic activity in Romania are tested in this thesis. However, these regional differences are not static, for regional economies are dynamic entities characterised by frequent fluctuations in income, employment and investment levels.

Given the central aim of the thesis and the different theoretical approaches identified above, the main objectives of the thesis are:

- To examine the factors that influenced Romanian regional development from 1945 to 1989 and draw comparisons with the factors that influenced Romanian regional development from 1989 to 1995.
- To test the essentially neoclassical hypothesis that the introduction of market forces will lead to a greater convergence of regional economic activity and thus test the corollary that through a process of cumulative causation market forces will lead to a greater divergence of regional economic activity.
- To examine the extent to which locational decisions and regional development are invariant to the nature of the resource allocation process.

This thesis thus explores the processes that have driven regional development in Romania and assesses the extent to which these processes have changed with the transformation from a planned to a market economy. One of the principal arguments of, and justifications for, this thesis is that regional development must be understood in the context of the long-run transformation process of the political and socio-economic structure of Romania. It places the regional economy in the context of national economic strategy, from the early process of the pre-war industrialisation of a predominantly agrarian

society under an uneven capitalist economy (Smith, 1998), through to state socialism and the current transition towards a fully functioning capitalist economy.

The selection of Romania as a basis for this study has largely been motivated by the lack of existing work. The majority of academic research has tended to focus on the Visegrad countries of Central and Eastern Europe (Poland, Hungary, the Czech and Slovak Republics) (for example, see Gorzelak & Kuklinski, 1992; Smith, 1998). The reasons for this perhaps lie in the immediacy of their accession to the EU, which in turn is a result of their comparative high levels of development and convergence with the rest of the EU-15.

The regional development focus is an extension of this concern with convergence and a reflection of the present lack of academic literature. Not only has the majority of research centred on Central European countries, but also much of the work concentrates on the national response to the transition challenge per se without specific attention to its spatial dimensions (for example, see Gros & Steinherr, 1995). Additionally, although regional science as a field of study has been around for about 50 years (the Regional Science Association was established in 1954), the discipline fell into somewhat of a malaise since the 1970s. However, it is now in somewhat of a renaissance through the renewed interest in the emergence of the new economic geography perspective as advocated by Krugman and Venables. Consequently, this work is not only a reflection of the gap in existing research but also an acknowledgement to the growing interest within academia and Romania concerning their regional problems and the application of regional analytical methods to provide an adequate explanatory framework.

1.4 Methodology

The methodology adopted throughout this thesis embraces a political-economy perspective of specific national economic development and the effect of this

upon its regional economies. This work has taken a pragmatic approach to the issues surrounding Romanian regional development. In doing so, it focuses specifically on real variables and real changes in comparative levels of development without becoming too embroiled in spatial economic theory. Rather than being a study of spatial theory and methods of regional analysis, the following study utilises such disciplines as a contextual framework within which the Romanian national and regional economy will be considered.

While this work examines regional development in a political economy framework, the paradigm is a rather ambiguous term open to interpretation. For the purpose of this thesis the term is taken to be a rejection of the neo-classical hegemony through the use of alternative approaches. This methodology involves the testing of a set of questions or hypotheses by a diverse means of analytical techniques and theoretical approaches relevant to the subject concerned (Gilpin, 1987).

This thesis has consciously decided to adopt a different methodology to the more traditional methods used in regional analysis. While still both positive and scientific in its approach, it is a reflection of the belief that an effective study of Romania's regional structure should be conducted within the context of a combined theoretical synthesis using a range of empirical techniques to test the hypotheses laid out. In addition to the application of spatial theory, the methodology is an explicit acknowledgement of the influence that historical patterns of development have on the present, and the role of the state in influencing the nature and location of economic activity. Realism, history and institutions, in addition to the organic analysis of economic processes, are integral premises within the political economic approach (Arestis and Sawyer, 1994). These features underline such a mode of inquiry, and the approach is better able to understand reality by surpassing positivist and ahistorical analysis, which largely underpin the neo-classical paradigm.

An effective regional study requires more than constant adherence to the existing neo-classical methodology. A practical approach necessitates an

appreciation of specific spatial theories that have developed through using regions as the basic unit of analysis, examining their factor endowments, their past and present patterns of development, and then using or building explanatory models based on these observations (Higgins & Savoie, 1995).

The simultaneous existence and interaction of the state and market is the rationale behind the 'political economy' concept. In the absence of the state, the price mechanism and market forces would determine the outcome of economic activities. Conversely, in the absence of the market, the state would take responsibility for the allocation of economic forces. The political economy approach combines these two polarised concepts. In particular, the avoidance of the often abstract world of economics where the economy and other aspects of society operate in separate and distinct spheres has been the intention of this work. The subsequent analysis will make use of this political economy approach in which it will be argued that Romanian economic development strategy followed an essentially efficiency orientated approach, but that these economies were exploited as a product of both relative efficiency grounds and national policy orientation.

Cumulative causation and the influence of agglomeration economies are a central theme to this thesis - it is the examination of the proposition that doing more of an activity raises the productive returns to it (Krugman, 1991; Krugman & Venables, 1996). There may be internal economies of scale that lower unit costs. In addition, there may be external economies of scale although their influence on costs is more difficult to measure. While not actually using the terminology of 'agglomeration economies', the first explicit discussion of the concept of external economies of scale is attributed to Alfred Marshall (1920). His research observed that firms may be attracted to a location because it possesses an agglomeration of economic activity that creates a favourable economic environment for the firm; "... great are the advantages which people, following the same skilled trade, get from near neighbourhood to one another" (Marshall, 1920: 225). External economies have become better known as agglomeration economies and the most notable

later contributions come from Ohlin (1933), Hoover (1948), Lichtenberg (1960). This work has been supplemented by a more recent resurgence of research that has emerged from Venables (1994, 1996), Krugman (1995, 1996), Brulhart and Torstensson (1996) and Markusen and Venables (1997) who adapted the existing research to fit the paradigms of the new world economy. The importance of spatial agglomeration activity is central to Porter's (1990) study, which documents the geographical concentration of selected industries in a number of countries, and argues that this concentration is an important source of advantage (Venables, 1996). The work in this thesis builds upon the current resurgence in the analysis of agglomeration economies.

This thesis, in examining the processes at work in determining regional activity in Romania, assesses the extent to which divergence (and thus agglomeration) has occurred. The arguments underpinning cumulative causation also suggest that in addition to attracting capital to capital, labour is also attracted to capital. The direction and size of migratory labour flows between regions can measure the extent to which this has happened in Romania. The expectation being that the faster growing regions attract labour and the slower growing regions lose labour.

Arestis & Sawyer (1994) state that in the context of a political economy methodology "there are a range of criteria relevant for evaluating the adequacy of a theory. The techniques would include formal (including mathematical) modelling, historical and institutional analyses, along with empirical investigation" (Arestis & Sawyer, 1993:4). So, in addition to adopting a historical and institutional approach this thesis uses a number of different empirical techniques to test the central hypothesis as to whether the adoption of a more market orientated approach to resource allocation has led to a greater divergence in regional economic activity than under a planned system.

The analytical investigations have relied upon a range of qualitative and quantitative techniques. Comparative static analysis is used as the basis of

much of the empirical analysis and information is used throughout the thesis to build upon abstract and theoretical arguments. The emphasis is on grounding the theory in real world events rather than treating them as separate entities. In addition to the data presented throughout the thesis chapter seven develops a range of empirical techniques drawing on case studies and statistical analysis. Given the approach adopted for the research and the data limitations which were anticipated at the outset and which were confirmed during the process of the research no econometric work has been presented in this thesis.

A case study approach has been used in this thesis alongside other research methods because it enables an alternative and possibly more systematic investigation of the influences on economic development at the level of the individual judet. The use of case studies contributes to a comprehensive research strategy and is an effective approach to many empirical investigations (Yin, 1999). Furthermore, case study research is a traditional approach to the study of issues connected to economics, the wider social sciences and management (Hamel, 1993). The method relies on the consideration of a larger number of variables where a singularly statistical methodology is often impractical. Through the collection and evaluation of a large amount of data relating to a specific judet the identification of causal influences and relationships may emerge that may not be regarded as operationalised variables in a more statistically orientated study.

In order to be methodologically reliable and rigorous, a case study approach must be representative of the wider area of inquiry (Yin, 1994; Frankfort-Nachmias & Nachmias, 1996). Consequently, the judets selected for individual study have been selected on the basis that they are representative of two particular types of region. Alba is representative of the level of economic development for those judets in the upper third of the rankings while the issues facing Vaslui are a fair proxy of the challenges faced by the more economically undeveloped judets.

Over recent years there has been increased interest in employing case studies in a systematic, stand-alone manner. However, although case study research may be used in its own right, its reliance on insights based on a small number of cases often suggests that a multi-method or triangulation approach would be more appropriate in which the same hypothesis is investigated using a variety of techniques (Denzin, 1978; Jean & Rodgers, 2001). In view of this, the case study should be seen as an element within a wider triangular empirical methodological approach undertaken in this thesis to investigate the response of judets to the transition process.

The case study method is essentially an extension of the Marshallian-type analysis of the firm that uses a representative firm on which to build an analysis of the whole industry (Blaug, 1990). Whereas in the Marshallian analysis the firm is used to represent the industry, this thesis uses an individual judet to be representative of a grade of development. The advantage of this approach is that it enables some issues to be examined in greater depth than other empirical methods used in this thesis.

Nevertheless, there are a number of limitations associated with the use of case studies (Eisenhardt, 1989) and it is acknowledged that the inclusion of two case studies does not offer a comprehensive evaluation of the level of regional economic development for all judets with similar socio-economic profiles. In particular, care should be taken to avoid making naïve generalisations. Although reference has been made to the case study methodological approach as an extension of the Marshallian-type analysis, their representation of a grade of development should be considered with an element of caution. The case studies of Alba and Vaslui judets were selected to provide a fair representation of the state of development for similar judets while also considering specific issues connected to the response of many judets to the challenges of transition. They should not be presumed to be representative of entire levels of development (Eisenhardt, 1989; Jensen & Rodgers, 2001) but indicative of the specific influences upon, and challenges faced, by judets at particular levels of development.

In summary, the thesis is predominantly a political economy discussion and analysis of the Romanian spatial model that views the spatial development of Romania as a historically dependent model. With over 40 years of a socialist planned economy it is the analysis of the past that reveals and explains many aspects of the present. As such, it challenges many neo-liberal perspectives and the belief that one theory can be universally applied across the whole of the Central and Eastern European environment.

1.5 Data Availability and Reliability

The following are the main sources of data used in the completion of this study:

- Romanian National Commission of Statistics (NCS)
- Organisation for Economic Co-operation and Development (OECD)
- Commission of the European Communities
- International Monetary Fund (IMF)
- Romanian Development Agency (RDA)

This analysis of regional economic development is predominantly carried out at the judet (county) level. The rationale for this is as follows:

- The vast majority of work on spatial development is performed at the county level. This allows a detailed sub-national investigation thereby providing for tangible conclusions regarding patterns of regional development.
- Although some smaller district level data is available, it is not available for the whole country, thereby preventing any meaningful comparable analysis from being undertaken. Judet data is the lowest level of data aggregation both readily available and statistically reliable.
- Higher aggregated data was largely rejected as although regional statistics (e.g. south-east) were available, their aggregation would tend to disguise any sub-regional change that has occurred.

In undertaking this research, data availability and reliability was one of the principal problems facing the author. An important aspect of transition economics is that the availability and reliability of data in CEE countries is itself in transition, often characterised by inconsistencies and inaccuracies (Bird, 1992; Earle & Pauna, 1996; Hölscher, 1997). Accordingly, EU commissioned research (1996) stated that governments of CEE countries should undertake prompt action in order to improve the quality of regional statistics.

Professional links, most notably with Romanian universities and the EU delegation in Bucharest that were established through a number of research visits to Romania, were invaluable in overcoming some of these data problems. Of particular use was access to recently commissioned EU regional research projects. However, by and large, access to post-1990 data relating to general regional economic trends was not too problematic as the National Commission of Statistics had adopted a more open information access policy than its predecessors through the publication of annual statistical yearbooks and reports. These data were used for the chapters that investigate regional and national economic trends post-1990.

As regional economies are affected by historical trends it would have been constructive to contrast the results of post-1990 regional development with a parallel study of pre-1990 regional development. It is acknowledged that comparing the data of post-1990 to that of pre-1990 would have offered better insights (Killick, 1984). It would have been more useful to have data prior to 1990 to compare with the existing results or extending the period of study. This 'before and after' approach is used widely in economics and benefits from being a simple analytical tool that offers important trend comparison (Cook & Nikson, 1995).

However, this approach relies on the consistency, reliability and comparability of variables and difficulties arise if the 'before and after' methodology is applied to this thesis. The post-war Romanian economy is characterised by

two distinct time periods (pre and post transition). Not only were the influences upon the regional economies quite distinct from each other, but so were the methods of data collection and in particular reliability. Official pre-1990 data was less than complete (Mihailović, 1972) and invariably distorted by biased concepts, methods of aggregation, under developed accounting systems or was deliberately 'managed' or 'doctored' (Bicanic, 1992; Bird, 1992; Lipton & Sachs, 1992). These distortions render any comparable analysis between the two time periods unreliable. Data availability in Romania was further affected by the period of forced austerity during the mid to late 1980s where the poor economic performance was masked by the reduction in the availability of public information (Teodorescu, 1991).

1.6 The Structure of the Thesis

The rest of the thesis is divided into 7 chapters. Chapter 2 sets out the theoretical framework for the patterns of regional development that have emerged during the post-war era. It is a review of the main concepts and theories that contribute to the discipline of regional science and their relevance to their application to the Romanian space economy. It concentrates on the development of regional development theory, from neo-classical models to more imperfectly competitive models, and places the thesis in the context of the recent renaissance of regional science. The chapter establishes that spatial development was not implemented with specific reference to any regional development theory, rather it is the retrospective application of theory in an effort to explain the regional process.

Chapter 3 sets out the process and priorities of the national economic development strategy of the post-war period up to 1990. Placing Romania in a comparative framework with other CEE countries, this chapter is an investigation of the socialist model of industrialisation and the implications of this for regional development. It argues that the rapid industrialisation programme was based on the promotion of national economic efficiency

although the economy ultimately became increasingly inefficient as a result of soft budget constraints, poor planning and an imposed policy of austerity.

Chapter 4 builds upon the analysis of the national economy under socialism in order to investigate regional development trends during the corresponding period. It is an examination of regional investment and growth and the policy responses of the socialist government. The main focus of this chapter examines the extent to which real regional economic variables were influenced by either historical patterns of development, national economic priorities or the later introduction of more explicit regional initiatives, e.g. *planificare* and *sistematizare*.

Chapter 5 adopts a similar approach to that of Chapter 3. The first part is a consideration of the wider process of economic change within the political economy framework and the debate concerning the strategies relating to the optimal pace of the transition process. It then takes the analysis further to consider the national economy under transition to the free market. As a result of the inefficiencies of the socialist planning model, the regional economy is placed within a framework of national economic decline characterised by deindustrialisation and sectoral imbalances.

Chapter 6 presents an examination and assessment of the regional economies under transition. It focuses on the effect of polarisation and agglomeration economies and the implications of this for spatial development under the free market. With the concentration of economic activity in a few urban centres and their hinterlands, it represents an analysis of the core-periphery dichotomy with particular reference to the difficulties faced by lesser-developed or mono-industrial regions.

Chapter 7 consolidates and extends the discussions of the previous chapter through further analysis of regional activity and their response to the challenges of transition. It presents an empirical analysis of the patterns of regional change that has occurred during 1990-1995 and tests whether the

process of regional change has been one of convergence or divergence. The analyses makes use of a number of techniques; a case study approach of two judets of particular interest, a discussion of a comparative economic development index followed by shift-share analysis and Lorenz Curve analysis.

Chapter 8 is the conclusion which draws together the arguments presented throughout the thesis that analyse the Romanian regional economy and the effect upon this of both the socialist and free market models of resource allocation. It provides the answer as to whether the socialist or capitalist economy has led to increased regional convergence or divergence of economic activity. In short it shows that Romania is an example of a highly polarised economy, one that is dominated by its capital Bucharest supplemented by a limited number of other industrial agglomerations. Through the process of cumulative causation enabled by the exploitation external economies these positions of dominance have been reinforced. This has resulted in a country, with relatively poor levels of economic development compared to both the West and other countries of Central and Eastern Europe, having its internal economy characterised by distinct core and periphery development issues.

Chapter 2:

Theoretical Perspectives on Romanian Regional Development

2.1 Introduction

The discipline of regional economics is primarily concerned with the spatial dispersion of economic activity, the location of production and the fundamental role that spatial factors have on economic development (Dean et al, 1970; Krugman, 1998). The underlying concern is that economic activity and the resources used in their production and consumption are heterogeneously distributed over space thereby leading to the inequitable regional distribution of resources. This thesis is an analysis of disparities within the Romanian space economy and its effects on the economic relations within the nation state.

Existing academic work on regional development in Romania is underdeveloped and as such this work attempts to fill a gap in existing knowledge. The nature of regional development prior to 1989 and the subsequent changes since that date raise a number of theoretical issues that challenge the orthodoxy. This thesis reflects the recent resurgence of regional economics, a discipline that has been somewhat quiescent since the 1970s, but has now benefited from a renewed interest through the emergence of the new economic geography perspective as advocated by Krugman and Venables et al. It is also a reflection of the growing interest within Romania concerning their regional problems and the applicability of spatial analysis to the patterns of development that have emerged.¹

The following chapter presents an overview of the literature concerning regional economic development theory. There are a number of theories that are relevant to this discipline based on neo-classical models to more

¹ This interest was reflected by an EU Commission Green Paper 'Regional Development in Romania' (1997) and the subsequent international conference hosted by the Romanian president 'Regional Economic Development in Romania (1997).

imperfectly competitive models which all offer a valuable framework on which to base regional analysis.

However, no single spatial theory adequately explains the patterns of regional development that have occurred in post-war Romania. All regional theories are incomplete in their application to the Romanian growth process – but some are less incomplete than others. It would also be an over-simplification of the regional analysis of Romania if just one theory is applied as the patterns of development that have emerged do not sit comfortably within a single theory. For this thesis, the models most applicable to the patterns of the Romanian spatial economy are those relating to growth pole theory, agglomeration economies and the cumulative causation process and it will be the inclusion of these perspectives that will offer the best-fit theory to the evidence ‘on the ground’.

In discussions relating to regional economic growth it is important to distinguish between economic space and geographical space. While geographical space refers to the actual measurable distance between any two points, economic space refers to a measure of resource cost where any two points are said to be equal only if the transportation costs of the movement of factors between these two points is equal. Therefore, transport infrastructure is of paramount importance and the concentration of any growth pole or centre of development is dependent upon little economic space separating the core from its ancillary industries. Notwithstanding this distinction, it should be mentioned that economic space is very often contiguous to geographical space.

Economic space is an essential element in the functioning of any national economy which are, in effect, little more than a collection of more or less integrated regional economies (Hansen et al, 1990). There are many influences upon this relationship, and this thesis will acknowledge their applicability to the model of Romanian regional development. However, while this thesis will acknowledge the role of specific regional policies – its

main focus will be on the role of non-spatial policies that had implicit regional consequences (e.g. the rapid process of industrialisation and promotion of economic growth) that led to the reinforcement of a polarised Romanian spatial economy. The nature of development was a reflection of the interaction between the socio-economic evolutionary process that built upon existing nodes of development and the prevailing economic and political philosophy. While the economy was controlled from the centre and, it will be argued, was operated on largely efficiency grounds, it was still subject to ideological persuasion, and once the initial period of industrialisation was completed regional considerations came into play a little more (e.g. planificare).

The term 'region' is a notoriously ambiguous one; a singular definition is difficult as regions can be defined in different ways for different purposes (Armstrong & Taylor, 1985). It does not refer to any specific geographical area rather it is a reference to an area that is smaller than the national economy or "sub-systems operating within the larger national economic system" (Hewings, 1977: 5). For the purpose of this thesis the regional discussions will primarily refer to judets (Romanian administrative counties).

2.2 What are Regional Economic Problems?

This thesis will make frequent references to the core and periphery. In these discussions the core refers to a defined integrated urbanised and industrial centre. This contrasts with the periphery that could be simply defined as the less developed rural area that surrounds the core. However, it is more than this. While it would be reasonable to state that peripheral areas are generally less urbanised it misses the central issue that peripheral areas are characterised by the lack of integration with the core (Hirschman, 1958).

Standard regional analysis is often framed in terms of the core and periphery which while providing a reasonable guide to the historical pattern of industrialisation in Europe is now left wanting in adequately explaining

patterns of modern post-industrial development (Garofoli, 1991). This may be a valid statement given the patterns of economic decentralisation and reconcentration that have emerged over the past 20 years in western economies. However, in the context of the Romanian framework, where a modern and mature industrial economy is still to be achieved – the relationship between the more dynamic core and the less economic potential of the periphery remains an extremely valid contextual framework.

When referring to the regional economic problems of Romania, or any other country for that matter, the discussions tend to be focused on particular issues:

a) Inequality of Incomes

The inequitable distribution of per capita GDP is held to be a cause for concern on the grounds that welfare would be greater if national GDP was to be more evenly distributed and is a symptom of a misallocation of productive resources. If both labour and capital have lower returns in one region compared to another, it is assumed that the lower earning region is a poorer location for that industry. If this is accepted, it follows that production gains will be achieved if these resources were to move to the better-off region (Brown & Burrows, 1977).

b) Unemployment Disparities

The unemployment rate is a useful measure of regional inequalities as it reflects the divergence in economic opportunities between different regions. The social implications aside, unemployment can be seen as the loss of potential output and value-added and a fair indication of demand deficiency (Ingham & Grime, 1994).

c) Migratory Movements

Outward migration is a further consequence of poor regional economic opportunity when industrial decline and unemployment increase the pressure to be not only occupationally mobile, but also geographically (Galbraith, 1974).

2.3 Regional Economic Analysis

In this section some of the basic issues underpinning regional economic analysis are covered. It will be argued that the Romanian economy has experienced a growing spatial concentration of production, with flows of capital and labour towards the most developed areas. Many factors contributed to this polarisation of economic activity. Among the more important contributory factors include the type of economic activity which required minimum levels of production to guarantee high levels of productive efficiency and the rather flexible nature of the labour market that ensured adequate migratory flows from rural to urban areas (Garofoli, 1991). Under these conditions it was the least-cost means of development to expand existing industrial plants and locations exploiting greater economies of scale rather than constructing new ones and broaden the diffusion of economic activity.

Much of the methodology and techniques used in regional analysis are those traditionally associated with understanding the behaviour of national economies. It follows that if individual regions are, for the purpose of analysis, treated as national economies, then existing theories can be used for the purpose of analysing output, income, employment and trade (Higgins & Savoie, 1995). Traditional economics is generally found in the domain of partial and general equilibrium analysis, and it is from this foundation that regional economics stems, merely using existing analytical techniques and extending their use in a way that is appropriate to the field of regional enquiry. Despite this, an effective regional study requires more than constant adherence to the existing neo-classical methodology. A practical approach necessitates an appreciation of specific spatial theories that have developed through using regions as the basic unit of analysis, examining their factor endowments, their past and present patterns of development, and then using or building explanatory models based on these observations (Murrell, 1991; Higgins & Savoie, 1995; Martin & Sunley, 1998).

Regional analysis concentrates on the heterogeneous nature of regions. This differs from the approach of mainstream neo-classical economics that assumes that regions are homogenous, characterised by perfectly mobile factors of production with zero transport costs. However, reality dictates, and regional economics recognises, that different regions have different resource endowments. There are considerable differences in their size, population, market structure, natural endowments, consumption patterns and other fundamental characteristics. It is their heterogeneous nature that enables regional specialisation that in turn provides for the foundation for inter-regional (and international) trade. These regional differences are not static, for regional economies are dynamic entities typified by frequent fluctuations in income, employment and investment levels.

Kaldor (1960) stated that divergence in regional growth stems from two interrelated processes. Firstly, the growth of output is determined by the growth of aggregate demand that in turn is influenced by the degree of competitiveness of the region. Secondly, productivity growth results from the process of dynamic increasing returns through the mechanisms laid out in 'Verdoorn's Law'.² The growth in output leading to productivity gains would enable labour cost savings thereby increasing a region's competitiveness (Lawson et al, 1989). This in turn enables further expansions of output and so the overall process, given the initial advantage that triggered growth, is circular and cumulative and it is this that leads to uneven regional economic development (Myrdal, 1957).

The study of spatial economics has a relatively long history. Of the most notable contributors to the discipline include Von Thünen (1826), the location analysis of Weber (1929), the central-place theory of Christaller (1933) and Lösch (1954), the regional science of Isard (1960), and the urban systems

² 'Verdoorn's Law' says that sustained increases in the growth rate of aggregate demand lead to increases in labour productivity and our ability to produce. This stems from four processes; learning by doing; the transference of labour to high-productivity sectors; investment in new machinery and technology made more profitable; and encouraging the division of labour. The

theory of Henderson (1974). These are all valuable contributions to regional economics but although well established are now quite dated. This chapter through its discussions of regional economic theory will draw upon this work, but will augment it by more recent contributions, of which Venables and Krugman are perhaps the more significant. The issues that will emerge are that:

- Productive polarisation through the existence of significant traditional industrial poles of development.
- Industrialisation and urbanisation in the more developed areas.
- Localisation and spatial centralisation of industrial production affecting both urban and peripheral areas.
- Productive concentration with an increase in the average size of firms and plants resulting from vertical integration and consolidation of productive cycles.

2.4 Location Theory

Societies are formed by location decisions, and location theory can be applied when the analysis is of alternative locations for specified kinds of activities whether these are made at the wider governmental level or by the individual firm. The location of an enterprise is often fundamental to its success, every enterprise is dependent upon efficiently procuring inputs (e.g. labour, materials, energy etc.) and the disposal of certain outputs (e.g. goods produced). For this some locations are obviously better than others through improved access to established markets, or through the availability of inputs/natural resources (Von Thünen, 1826; Lösch, 1954; Isard, 1960; Dean et al, 1970).

The seminal articles on this model are those by Hotelling (1929), Chamberlin (1933) and Lerner & Singer (1939). The simple model can be conceptualised

basic argument is that increases on the supply side can depend significantly on demand-side growth (Harris & Lau, 1998).

as one based on a linear market with uniform customer distribution with two sellers of a homogenous product.³ It is further assumed that there exists completely inelastic demand and that each competitor is free to move his location instantaneously and without cost so that the problem becomes one of “simultaneous location or dynamic adjustment” (Karaska & Bramhall, 1973: 373). The ‘Hotelling economy’ with $n=2$ firms, shows the tendency of firms to cluster near to the centre rather than to the quartiles of the linear market. However, despite the market being evenly divided, it is not an optimal situation from a society’s perspective, for customers at either end of the market have a larger distance to travel in order to buy the product. A socially optimal position, where both the firm and the customer minimise labour costs, would be the point of median location, where each firm is located one quarter of the way along the market (Higgins & Savoie, 1995; McDonald, 1997).

Many of the discussions relating to location theory focus on the constraints imposed by transport costs, but a firm’s location decision must account for other factors which have become increasingly important over recent years as technological change has made transportation and communication less problematical. With infrastructure improvements and the developments in information-technology, manufacturers of products for wider markets now have a larger range of possible locations from the stand-point of transportation and communication costs (McDonald, 1997). This, of course, is true of more developed economies but Romania remains beleaguered by infrastructure and technology problems, and so it is argued that firms can not yet afford to be so dismissive of transport constraints.

With the assumption that demand is constant and buyers are distributed over a defined space, the firm will choose a location where the costs of producing and transport are minimised, but it is here where the traditional theory is found to be wanting. Venables (1994, 1995, 1996) and Krugman (1991, 95) have placed location theory into a more realistic framework to give a credible

³ The famous example was that of ice-cream salesmen along a homogenous plain (the beach) and customers (the bathers) spread along it at equal intervals.

prediction as to where a firm may locate through the inclusion of production costs such as land, energy, labour, capital equipment and other resources. Further to this, production and transport costs vary enormously from industry to industry, and so location decisions will vary considerably. This is of direct applicability to Romania in the analysis of its patterns of regional development. Normally, heavy industry would locate near to sources of raw materials and energy, or textile industries near to sources of plentiful (relatively unskilled) labour and this is congruent to the patterns of development that occurred since 1945.

A further important factor in any location decision is labour. Not only must the wage rate be considered (only a fraction of 'western' levels) but also the quality of the workforce can be an essential ingredient when firms seek a new location. It is commonly argued not so much by location theorists but more so by the public or governments, that low wage rates, either regionally or nationally, are a key to attracting industry to particular locations. Reinforcing this view is the emergence of developing countries as a favoured location for new manufacturing sites. More pertinent to this thesis is the attractiveness of Romania as a source of FDI given its low cost labour supply, are other multinationals set to follow the lead of Daewoo in basing major operations there? Clearly, to date, they have not – implying that not only are other location factors accounted for, but low wages are not the attraction that they are often claimed to be. Hoover (1948), Greenhut (1971) and McDonald (1997) all agree on this, the firm is in fact more interested in low processing costs, which is dependent on labour productivity, that is paradoxically often in areas of relatively high wages.

Linked to this is the argument that activities of both national and local government are an important influence on location decisions. Studies have revealed that taxes, subsidies and other government initiatives are a significant location factor (Newman & Sullivan, 1988). In terms of FDI, foreign firms have been reluctant to invest in Romania due to a lack of stability in the

Romanian government's economic policy, especially in respect to foreign ownership, investment levels and other regulatory activities.

What traditional location analysis failed to address, but was encapsulated in the work of Hoover (1948), Greenhut (1961) and Richardson (1969), was the influence of personal preferences in location decisions. Although it is often difficult to quantify, the extent to which the personal preferences of the central leaders ('the Party') played in the location of industry under the socialist era is often disputed (see Harris, 1994; Turnock, 1974, 1987).

2.5 Inter-Regional and International Trade

Just as the heterogeneity of space provides for international trade, economists have realised that this concept equally applies to inter-regional trade and as such theories relating to international trade are a convenient means by which to consider inter-regional trade (Higgins & Savoie, 1995).

However, it was not until the work of Ohlin (1933) that the theory of interregional trade was incorporated into neo-classical theory. Ohlin's work was of fundamental importance as, in the absence of a competitive world, it discussed the heterogeneous nature of regions with their differing endowments of capital, human and natural resources. With the resultant regional differentials in production costs, supply, demand and ultimately prices, the rationale for inter-regional trade becomes clear. It is where, if barriers to trade exist, then differences in welfare result.

It is these two characteristics; heterogeneity of regional factor endowments and the immobility of factors of production that provide for inter-regional trade. It was upon this foundation that Ohlin built his analysis – but with the simplifying assumption that factors of production are perfectly mobile within regions.⁴ Even within a country such as Romania, with a relatively high

⁴ The inter-regional trade literature draws heavily upon two assumptions; that trade results in regional price structure convergence, and that trade tends to equalise prices of factors of

number of judets, this would pose difficulties – for to achieve mobility each region would have to be very small. A solution would be defining a region as an area within which there is some arbitrarily chosen degree of mobility.

It is here where the links between the regions come into play. The level of wealth and development within a region is dependent upon its trading links with other regions and other countries. This, in turn, implies that its prosperity is influenced by the functioning of the global economic system suggesting that a significant proportion of a region's prosperity is beyond local actors' control.

Nevertheless, the applicability and indeed relevance of one of the foundations of inter-regional trade theory, that of comparative advantage leading to the equalisation of factor prices is questioned by the existence of economies of scale. Without the perfect divisibility of factors of production, barriers to entry occur, as there needs to be a certain level of production and an adequately sized internal market for a firm to reach an efficient level of output.

If the classical theory of inter-regional trade is accepted, then divergence in regional growth rates are likely in the presence of the immobility of factors of production disparities. This immobility, together with regional economic growth arising from three factors; specialisation in growth industries; competitive advantage in all or most of its industries; and specialisation in the particular industries in which it has a competitive advantage, is likely to result in the continued expansion of the more developed regional economies through the relative mobility of capital and labour (Brown & Burrows, 1977).

2.6 Entrepreneurship and Regional Development

Essential to a country's development is the availability of natural resources – but this is not the sole determinant of prosperity. The second, equally vital factor in national and regional growth is the availability of quality

production, thereby reducing the disparities between intra-regional levels of income and welfare.

entrepreneurship as regional disparities can often be the direct result of poor regional entrepreneurship (Higgins & Savoie, 1995).

It follows therefore that the industrial and competitive structure of the region is of primary importance. If the region was traditionally featured by heavy industry, one that tends to be rather oligopolistic in nature, then you would expect less entrepreneurs per capita than a region whose economy is more competitively structured and dynamic (Karaska & Bramhall, 1973). Similarly, their attitudes to risk/innovation would tend to be passed on through the generations through the process of socialisation. This is the problem facing Romania both regionally and as a country as a whole. Under the socialist planning model, the removal of the competitive market meant the curtailment of entrepreneurial attitudes⁵ – and as such the 1989 revolution established a market economy that lacked entrepreneurs. This is particularly true of the more industrialised regions while, perhaps, Bucharest has fared better with more SME development and FDI that, in turn, encourages dynamic entrepreneurs (Anton et al, 1996).

Subsequently, conditions must exist that facilitate entrepreneurial activity in order to generate economic growth. If regional development is constrained by the lack of entrepreneurship, then it is possible to encourage entrepreneurial activity. The importance of opportunity is central, improving incentives while reducing constraints (McClelland & Winter, 1971). It is here where the Romanian government is attempting to improve the situation, reforming its tax intervention and regulatory role.

A further concern is whether the core (i.e. Bucharest) draws in entrepreneurs from elsewhere. Bucharest seems to offer the most opportunities, and this poses the question of whether it actually creates a better class of entrepreneur or whether it attracts quality innovators from other regions thereby depriving

⁵ A capitalist free market encourages risk in return for the accumulation of profit so, consequently, the restricting framework of central planning led to little entrepreneurial activity as the state directed the allocation of resources.

them of the necessary entrepreneurship with which to develop. Here, the rate of migration is an important variable on the rate and levels of development.

2.7 Growth Poles

An area of specific interest to this thesis is the spatial dimension of economic development within the context of growth pole theory. Growth pole theory, first developed by Perroux (1950, 55) with later extensions by Hirschman (1958) and Hansen (1967), is based upon the rather simple observation that national economic growth is uneven across the regions.

“Growth does not appear everywhere at the same time; it becomes manifest at points or poles of growth, with variable intensity; it spreads through different channels, with variable terminal effects on the whole economy” (Perroux, 1955: 94).

The central objective of the theory is to provide a rationale for disparities in spatial economic development and the diffusion of innovation. The theory argues that economic growth on the back of innovation are likely to occur at spatially concentrated centres of development before being diffused to less concentrated peripheral areas.

Growth pole theory is a notable departure from neo-classical regional analysis or the rather more static location theories of Lösch. Now an important part of regional analysis, and integral to this thesis, the discussions relating to the concept of growth poles, or ‘pôles de croissance’ (focal points of growth) offer a valuable and applied approach to the analysis of regional economic interactions (Fredriksson & Lindmark, 1979). The theory generated huge interest during the post-war period, especially during the late 1960s and early 1970s when it became to be regarded as a general solution to, and explanatory framework for, regional development problems.

These growth poles are defined as centres of development from which economic activity originate and to which further economic activity are attracted. The theory is based on the assumption that through uneven economic development, growth becomes initially centred on poles, areas that develop earlier and faster than other regions and is transmitted to other parts of the economy via a process of spillover. This becomes a dynamic, almost self-perpetuating process.

Through growth being focused in particular centres or poles, the polarisation of economic activity was said to be inevitable, in turn leading to the dominance of some regions and the dependence of other regions. Regional development or expansion results from the interaction between the pole and key industries, termed propulsive industries as they form the nucleus of the development pole. These propulsive industries have the greatest impact on the region's economic structure and activity, are generally highly concentrated, selling to national markets and have a strong multiplier and polarising effects on the region (Richardson, 1973).

In simple terms the growth pole can be assumed to be an integrated industrial complex which rest upon an industry that is the driver of the process. From this development occurs through either forward (output) or backward (input) linkages. For example, the large iron and steel industry at Galați is the principal industrial driver of the judet. However, the growth pole extends beyond merely the metallurgy plant itself – it includes also the input suppliers (coal, iron ore) and output industries (engineering). The theory also holds that the key industry will be advanced technologically, and this would generate a process of growth by which technical development and efficiency will spillover to other sectors within the region. The disadvantage of such a strategy in developed industrial societies is that the established centre becomes dependent upon what is happening at the key plant (Nilsson, 1979). This concern has been confirmed by the decline of Romanian mono-industrial urban centres where the central industry/firm was unable to compete in the new market environment.

The importance of growth pole theory is that it represents an implicit rejection of the neo-classical perspective states that stipulates that economic activity tends towards an even distribution throughout economic space (Higgins & Savoie, 1995). Perroux argued that economic development is uneven and that a regional economy's natural tendency is towards polarisation, which ultimately result in spread effects to the rest of the economy (you only need to look at the growth of urban cities for confirmation). There are two concerns, however, in the application of growth pole theory as an explanatory framework that underpins the analysis of the Romanian regional economy. Firstly, what qualifies an area as a growth pole as even the smallest conurbation has some form of individual innovation, and secondly, the concept of spillover can be questioned as there is little evidence of this occurring in the Romanian economy where development has remained centralised.

2.8 Neo-classical Regional Growth Theory

Neo-classical regional growth theory is based on a perfectly competitive, high factor mobility, profit-utility maximising model that views regional growth as the result of equilibrium forces operating in a competitive regional product and factor markets. These conditions are held to be fundamental if the mechanisms of price formation and other instruments of allocation are to operate as the theory maintains they should. Traditional research into the location of industry has been based on these theoretical foundations. There is, however, clear evidence that regional markets and the firms that operate within them are highly imperfect (Galbraith, 1974).

Neo-classical economics is not concerned with intervention in the 'natural' functioning of the market economy and holds that regional equalisation will result from non-intervention. An important element of this approach is the emphasis upon product and factor market equilibrium adjustments. With disequilibrium occurring in regional product prices and factor payments, the

neo-classical theory illustrates the process by which product and factor mobility moves towards the equalisation of disparities. Factor payment equalisation occurs through labour moving to high wage (low capital return) regions and capital moving to low wage (high capital return) regions, a process leading to the equalisation of prices, wages and incomes (Hansen, N., 1990, et al).

Economic development is the result of the free movement of market forces under the conditions of costless transactions. Schrieder et al (2000) state that only under market conditions where transactions have zero cost will aggregate income be maximised regardless of the institutional set-up. This implies that under market conditions where transactions involve a cost, then institutions matter (Stiglitz, 1994). Therefore, an accommodating institutional set-up is a necessary condition for economic development. This is of particular interest in view of Romania's new free market environment where at present potential investors encounter central government induced barriers.

An interesting outcome from the neo-classical perspective is the question of whether regional harmonisation is actually a desirable outcome over the principle of regional competition. If the presence of complete markets free of regulation were assumed, then factor movements and a readjustment of factor prices would eliminate regional disparities. However, if the central assumptions of neo-classical theory are removed – those of complete factor mobility and homogeneity, or if one of the assumptions of the New Institutional Economics holds, namely uncertainty, asymmetric information and risk, then inter-regional economic convergence through competition may rapidly reach its limits. Under these conditions, active or discreet policies may be necessary to reduce the regional inequalities (Hansen, 1990; Schrieder, et al, 2000).

While the processes of the neo-classical perspective have been discussed, the central question is whether neo-classical theory is able to adequately explain the patterns of regional development that have emerged? While it stresses the

processes which, through factor mobility, regional convergence is achieved via the equilibrium adjustment process, the neo-classical approach fails to offer complete explanation of regional growth and an adequate explanation as to how the regional economies achieve disequilibrium in the first place (Amos, 1996).

Neo-classical theory rests upon the assumption that the competitive market produces optimal results and that government interference will lead to an inefficient allocation of resources. However, Murrell (1991) states that this model is compromised by its central normative principle, that of Pareto efficiency, being undermined by asymmetric and incomplete information.

The recent re-emergence of interest in regional economics is in part due to the emergence of new endogenous growth theory. Building upon conventional neo-classical theory one of its key concepts is the focus on increasing returns to scale and treating as endogenous those factors previously assumed to be exogenous – in particular technological change and human capital. However, while the new neo-classical growth models have incorporated a number of new understandings about growth, particularly about the role of technical advances, there still remain a number of notable shortcomings.

Nelson (1998) states that its limitations are in a large part due to its reliance on formal models which fail to adequately discuss the role of the institutions and the often entrenched nature of regional economic development. In addition, the approach of new endogenous growth perspective remains extremely abstract and theoretical. The danger of this is that the issue will become entrenched in general growth equations and increasingly complex regression models that become increasingly focused on the measurement of convergence and thus losing sight of the underlying but very real processes at work (Martin & Sunley, 1998).

2.9 Export Base

A cornerstone of spatial economic theory is the existence of the regional multiplier that has led to further studies, in particular the economic base approach. Economic base theory proposes that an economy's basic, or base, sectors are its driving force; service sectors are merely branches from them (Armstrong & Taylor, 1985; Nijkamp, 1986). Economic base's position in mainstream economic theory was largely the result of the work of Tiebout (1962) and Isard (1960) who recognised the Keynesian and foreign trade multiplier of international trade theory and argued that, at least in the short-run, certain industries are basic – specifically those that serve national markets.

The export base theory is popularly used in regional impact analysis and is founded upon the assumption that regional economies develop around, and specialise in, particular basic economic activities that regionally export goods and upon which other regional activities are dependent. This relationship is often expressed as a multiplier between export base and local activity (Amos, 1996). In doing so, export base theory adopts a different theoretical approach to regional growth emphasising the openness of regional economies (as opposed to national economies) and the difference between exported and locally consumed goods.

Although limited by its inability to model the actual working of the different product markets, the real value of the economic base framework is conceptual, and it may be seen as a predecessor of more elaborate theories on interregional and intersectoral linkages provided by the input-output analysis (Nijkamp, 1986). There are a considerable number of regional models that have been developed to facilitate understanding and analysis of regional economies. Most popular amongst these are input-output analysis, gravity type models, shift-share analysis, econometric and programming models. They have been developed and combined leading to the construction of multiregional models where the simplicity of economic base theory has been exploited, leading to its

continual use in attempts to build these multiregional economic models (Armstrong & Taylor, 1985).

2.10 Cumulative Causation

The cumulative causation theory of regional growth was first developed by the Swedish economist Myrdal (1957) with contributions from Kaldor (1960, 67) and Dixon & Thirlwall (1975). The cumulative causation theory is a response to the neo-classical approach and challenges the assumption of factor mobility and regional market equilibrium through its focus on regional growth cumulatively reinforced by endogenous income divergence.

In Myrdal's model, market forces push economies away from equilibrium, so that the economic forces interact in such a way as to move the economy in one direction, inducing further changes which push the economy even further from its initial point. Cumulative causation conveys the idea of reinforcing processes by which the patterns of uneven development between regions, between countries and between economic and social phenomena may be perpetuated and even accentuated. In other words, change becomes progressive, the expansion of any sector will diffuse into demand for the output of other sectors, which leads to demands for other sectors and so spreads in a cumulative way.

“The simple model of circular causation with cumulative effects, released by a primary change, is, I believe, more typical of actual social processes, than the intersection of the demand and supply curves at an equilibrium price which has become symbolic of much of our reasoning in economic theory” (Myrdal, 1957: 24).

The persistence over long periods of time of faster development and growth in some regions while others lag behind is connected with what Myrdal termed 'cumulative and circular causation'. The polarisation and divergence of inter-regional economic activity arises from economies of large scale similar in

principle to the process by which monopolies are created. Where firms become more efficient as they get bigger, large regional concentrations may be generated through one industry or a complex of industries. This leads to a propensity for the larger industrial agglomerations to grow at a faster rate than smaller ones.

'Spillover/trickle down' and 'polarisation' are the processes referred to by Myrdal (1957) as 'spread' and 'backwash' effects. Myrdal maintained that regional imbalances were inevitable given that polarisation forces were stronger than the trickle down effect. Compatible with the patterns of Romanian regional development and the stage it has reached towards industrial maturity, Myrdal stated that polarisation effects tend to be more powerful in the earlier stages of economic development and that they tended to be weaker towards the later stages.

Hirschman (1958) contributed to the analysis of regional development literature through his theory of 'unbalanced growth'. A complement to Perroux's and Myrdal's work, Hirschman's theory is explained by a concentration of economic activity in selected growth centres through the process of economic development being an unbalanced process that is transmitted through 'chains of disequilibrium'.

Brown & Burrows (1977) apply the concept to the development process by emphasising that agglomerate forces of 'scale' economies are particularly strong in the early stages of a country's economic development, an argument consistent with the evolution and industrial immaturity of the Romanian economy. With early industrial development the national market is small in relation to the minimum economic size of plant for producing that product. In addition, national infrastructure is limited and both these factors combine to limit the developing 'modern sector' of the economy to only one or a very limited number of regions, usually the principal port or capital city. This differs from more developed economies that have larger purchasing power and

better developed, more uniform infrastructure which enable the establishment of a larger number of regional centres.⁶

In contrast to neo-classical theory and its assumption of equilibrium, cumulative causation theory encompasses and applies disequilibrium to account for the patterns of regional economic growth. Under these conditions, the implication is that regional growth can be destabilising to a nation's economy rather than being a stabilising process. Once the process of cumulative growth starts, the initial advantages of the region, combined with the further benefits of development, lead to the attraction of additional factors. This process has been quite evident in Romanian regional economic development and has resulted in a 'dual economy' where a relatively developed industrial sector co-exists with near subsistence agriculture.

The cumulative growth process is based on agglomeration economies and increasing returns to scale. The theory itself relies on a set of assumptions:

- Productivity growth is directly related to the growth of output.
- Efficiency wages (money wages/productivity index) are inversely related to the rate of productivity growth and output growth.

The assumption is that once the growth process is stimulated (e.g. by an exogenous change in regional export demand or resource endowments) the process becomes cumulative. Additional output increases productivity rates causing a reduction in the efficiency wage leading to increases in output and more productivity gains. A 'snowball' effect occurs leading to a process of continuous cumulative growth. Nevertheless, it is not dismissive of neo-classical theory - if the agglomeration and scale economies are spent then the neo-classical market adjustment mechanism is held to equalise the patterns of spatial development.

⁶ However, Brown & Burrows (1977) do not infer that western economies are free from polarised patterns of development arising from economies of scale.

It should also be considered that the cumulative causation hypothesis advocated by Myrdal (1957) can and does operate in reverse. While growth can be a cumulative process, so can economic decline. Many regions of Romania are mono-industrial, reliant upon on a single enterprise (usually large) for its economic activity. Should that enterprise go into decline through its inefficiencies exposed by the competitive market, then the initial effect is unemployment. This will lead to significant income decline and falling demand. This then leads to a further fall in incomes and demand and so the process diffuses throughout the localised economy.

The cumulative argument draws from neo-classical theory through the assumption that the mobility of Romanian capital moves between regions seeking higher rates of return – and this is supported by factor movement, particular labour. However, the consequence of this factor movement has been the reinforcement of a polarised economy. Assuming constant returns to scale, neo-classical theory states that factor mobility leads to regional income convergence. What has actually occurred is the opposite. The backwash effect, reinforced by agglomeration economies and increasing returns to scale, has through factor mobility led to the divergence of regional development.

Where the neo-classical perspective suffers from its ignorance of space, cumulative theory explicitly recognises the importance of this concept through its consideration of the role of transport costs. While effective transport infrastructure reinforces a region's competitive advantage and this was contributed to by public investment in transport infrastructure in the more developed regions, the lack of efficient transport systems in the less developed regions has contributed to the backwash effect.

Furthermore, the consideration of the economic base theory and that of cumulative causation are not mutually exclusive. If the role of the multiplier/accelerator process in export base theory is considered then it should be seen that the multiplicative effect on economic activity of the

multiplier is an identifiable feature of both the backwash and spread down effect components of cumulative growth theory.

This supports Myrdal's hypothesis that growth is cumulative due to the backwash effect caused by factor mobility, trade and investment in public infrastructure and social capital. This establishes and reinforces a region's competitive advantage over other areas. Building on this, Hirschman (1958) stated that the increasing returns to scale that support cumulative growth is created by the combination of three forces. Firstly, competition from the more developed regions restricts manufacturing and industrial development in the less developed regions; secondly, selective inter-regional migration of the most productive labour denies peripheral areas the social capital required for economic progress; and thirdly the flow of public infrastructure investment to the more developed region for greater returns.

Krugman (1998) builds upon the cumulative causation model through highlighting the process by which a firm, once established in a region, develops a network of backward linkages. A firm may purchase intermediate and final goods from other regional firms, as too may its workers. Forward linkages may include the firm supplying intermediate or final goods, or the training of workers. These linkages and increasing returns to scale, through contributing to the relative pull of other firms to a specific location, enable the existence of cumulative causation thereby leading to the establishment or reinforcement of areas of economic activity.

The work of Krugman has led to the development of a new perspective often termed 'new economic geography'⁷ and has led to further work examining new theoretical and empirical approaches. The main argument was that any theory explaining spatial structure endogenously must depart from the assumptions of conventional neo-classical theory. Two notable aspects of this

⁷ Whether Krugman's research has genuinely created the basis for a new regional economic or economic geography model is questioned. It may be argued that Krugman's work has not sufficiently considered prior work – and presents no new insights (Isserman, 1995).

new perspective are the discussions relating to centripetal and centrifugal forces. The centripetal forces (associated with the work of Marshall) are sources of external economies. A large local market creates both backward and forward linkages; a thick local labour market enabling a more efficient match between labour demand and supply; and 'pure' external economies through the transference of information spillovers (Krugman, 1998).

The centrifugal forces include three forces that inhibit the concentration of economic activity. First amongst these are immobile factors from both the supply and demand side where production has an incentive to locate near to both labour and consumers. In addition, the concentration of economic activity leads to pressure on the availability of local land, driving up rents – while congestion further acts as a disincentive for further concentration.

This is one of the central points of the 'new economic geography model' – it considers the forces that engender the concentration of activity while also incorporating the opposing force of immobile factors that work against such concentration. An extension of this is that the philosophical difference between this more recent approach and location theory is that it focuses on a model based on the general equilibrium approach where the spatial structure of a region is the result of economic self-interest (Krugman, 1998).

A further significant contributor to the literature on new economic geography is Venables. He states that many studies of location are based on the classical theory of comparative advantage, and in particular the Heckscher-Ohlin model, which attributes the location of economic activity to differences in technological or factor endowments between regions or countries (Venables, 1998). However, this approach is unable to offer an adequate explanation of spatial inequalities in economic activity in developing countries, particularly where factor endowments are broadly similar.

Building upon the work of Hirschman (1958) and Myrdal (1958), Venables (1998) states that to adequately explain patterns of trade and location a new

economic geography approach combined with theories of cumulative causation is required. These models are based on firms with increasing returns to scale under imperfect market conditions and that these regions will be net exporters of goods produced by these firms. This is caused by increasing returns to scale where industrial production becomes concentrated in a few regions. This is opposite to constant or decreasing returns activities that are more compatible with multi-locational activity. As production is concentrated, regions with good infrastructure and market access are particularly attractive.

The main difference between cumulative growth theory and 'new' growth models centres on the issue that the former does not assume full employment or is based on the general equilibrium model.

2.11 Agglomeration Economies

In order to effectively interpret the nature of Romanian regional development, and to augment the theories of growth poles and cumulative causation, it is important to consider first the main factors that influence the level of concentration and its maintenance over time.

Romania's socialist economy was an example of an economy that lacked a firm profit incentive and where production was concentrated not only in the larger urban agglomerations but also within larger industrial plants. This industrial or market concentration was largely governed by the principle of economies of large-scale plant where average cost would fall in proportion to increases in production (up to a certain level of output). The factors behind this are efficiencies from the division of labour and the economies of scale arising from the indivisible nature of many factors of production, particularly capital equipment (Utton, 1970; Knarvick & Steen, 1997). It is here where one of the inefficiencies of the socialist planning model emerge as it is often accepted that a concentration increase achieved by the internal growth of large firms in a competitive environment is far less likely to be accompanied by

inefficiencies. The socialist model was featured by the establishment of large firms in an uncompetitive environment – ultimately leading to significant inefficiencies (Utton, 1970).

As the result of an imperfect market structure, agglomerations are formed around major firms or concentrations of development in order to maximise external economies and to minimise transport costs (Puga & Venables, 1996). Usually, economic theory suggests that an increase in the number of firms in any given location reduces an area's profitability through competition in the goods and factor markets. With natural resources (including space) also an important determinant, these are assumed to become scarcer with further development thereby limiting further expansion, reducing migratory flows and reducing inter-regional divergence (Brown & Burrows, 1977). If, however, an increase in the number of firms at a location raises the return to other firms through economies of scale achieved by the concentration of economic activity, then agglomeration will occur at a regional level (Venables, 1996). Here, there are similarities with Isard's industrial complex analysis where industries may operate at higher efficiencies when spatially clustered rather than when they trade over a wide area (Richardson, 1969).

Agglomeration economies represent a powerful force underlying the progress of civilisation. By virtue of the close proximity of several production activities, fewer resources are required to address the problem of scarcity. An important part of the cost saving is attributable to the improved market accessibility brought about by proximity.

The concept of agglomeration economies was first discussed by Alfred Marshall (1920) when he observed that firms tend to be attracted to particular localities if they possess a concentration of economic activity that creates a favourable economic environment for the firm, "...so great are the advantages which people following the same skilled trade get from near neighbourhood to one another" (Marshall, 1920: 225). Later contributions include the work of Ohlin (1933), Hoover (1937) and Lichtenberg (1960). More recent work that

has contributed to renewed research into the influence of agglomeration forces includes that of Venables (1994, 1996, 1998), Krugman (1995, 1996), Brulhart and Torstensson (1996) and Markusen & Venables (1997). Spatial agglomeration is central to Porter's (1990) study *The Comparative Advantage of Nations*, which investigates the geographical concentration of selected industries in a number of countries, and argues that this concentration is an important source of advantage (Venables, 1996).

Assuming a reliable transport and communications network, and that economies of scale hold, then one large unit will be more efficient than a number of smaller ones – precisely the industrialisation strategy adopted by Romania that favoured the construction of extremely large industrial plants to exploit internal and external economies. The assumption here is that the large unit would be able to supply the market cheaper than a collection of localised smaller ones. With firms exploiting these economies, spatial concentration results as doing more of an activity raises the productive returns to it (Krugman, 1991; Krugman & Venables, 1994) as the external effects spillover into the rest of the economy. If these agglomeration forces are sufficiently powerful, industry will be located in a particular region, locating close to both supplier and customer firms (Dean et al, 1970). Although the clustering of firms leads to higher wages, the positive pecuniary externalities created by the convergence of activity compensate for the higher wage costs (Puga & Venables, 1996).

“Firms locate where they do because of the presence of other firms, not because of the underlying characteristics of the location. It is these pecuniary externalities that firms generate [that] can compensate for other disadvantages of the location – such as high wages” (Venables, 1996: 57).

Although economic theory often suggests that an increased concentration of firms would lead to reduced profits due to increased competition in the factor markets and reduced sales in the product market (Venables, 1996),

agglomeration economies attract firms to the economic centre. It is this that implies cumulative causation as successive firms make the location increasingly attractive to others. It is these externalities that should be central to any theory of location. These factors remain outside the mainstream of neo-classical regional economic theory although they directly strengthen the advantages of location in an existing industry or metropolitan area for industries with input-output relations with other activities therefore reducing the mobility of factors.

Venables (1998) argues that the primary factor underlying geographical advantage and consolidation is the quality of the network with other economic agents. In addition these are endogenous attributes and are not fixed, as centres of economic development can and do develop. This thesis will highlight Bucharest's economic hegemony – and this has been a permanent feature of the Romanian economy. There are also other centres of economic activity, most notably Braşov. However, Porter (1990) and Venables (1995, 1996) both warn that the decline of an industrial sector (and subsequently the region) is often abrupt, with the agglomeration switching to another regional economy. Patterns of development may change in the future.

The agglomeration economies offered by Bucharest and other centres of development may, after the optimal level of development has been reached, offer diseconomies through the over-concentration of activity and congestion. Basically, cumulative causation can work in reverse, with contraction or 'declustering' of the sector reducing localisation externalities and promoting further contraction. Although unlikely to happen to Bucharest, it is a threat to provincial cities and regions, and the concerns about the erosion of the industrial base are already evident with the rapid decline of Vaslui and Bistrita-Nasaud.

The process by which this may happen is outlined by Venables (1998) in his work examining the new economic geography approach to the emergence of the newly industrialised Asian economies equally applicable to development

patterns in Romania. With Japan as the initial location of regional industrial activity, Japanese manufacturers meet further demand for their products. This increases labour demand in Japan and if labour is not spatially mobile, regional wage differentials and income inequalities will result (Venables, 1995) increasing the divergence between Japanese labour rates and those for the rest of the region. Nevertheless, firms refrain from locating in the lower wage economies as they would forego the benefits of backward and forward links. However, the increased wage costs cannot be accommodated indefinitely and so ultimately firms relocate to the lower wage economies. As soon as this process occurs, firms create their own network of backward and forward linkages, thereby increasing the attractiveness of the region and leading to a process of cumulative causation.

The core issue to agglomeration and regional development analysis is that external economies are one of the most important factors affecting industrial location in developing countries. This leads to the reservations as to the adequacy of many of the theories that consider the location of firms and the nature of spatial development that results as often they fail to capture the dynamic effects of agglomeration economies and inter-industrial linkages (Smith, 1971).

2.12 Synergy of Regional Theories

The thesis will examine the role of agglomeration economies through a discussion of cumulative and circular causation and growth pole theory. While the role and dominant economic influence of Bucharest will be considered, it should be realised that Romania has multiple core regions that requires a study of the role of the urban hierarchy. Studies into the urban hierarchy (Amos, 1996) identify three tiers of this hierarchy. This hierarchical system of cities, has at its top the country's dominant economy (Bucharest) followed by two or three cities of similar size that are 'sub-national' economic capitals. The third tier of the hierarchy consists of regional cities that are

reactive to the national and sub-national urban structures, this hierarchical system continues until the base rural settlements are reached.

There are two principal factors causing divergence between the size of cities. Firstly, agglomeration economies arise through increasing returns to scale through falling average costs for resources and inputs as expansion of the urban space continues. The second factor that contributes to the urban hierarchy is transportation costs. The size of the economic space that feeds off from the urban centre through access to the goods produced by the city is dependent upon transportation costs, and these are in turn influenced by transportation infrastructure and available systems. The lower the transportation costs – the larger the economic space. The dynamic nature of the Bucharest economy, in relation to the rest of the country, is not simply a reflection of the growth of the local population, but should also be seen as a reflection of transportation infrastructure links between emigration regions and the capital.

2.13 Backwash and Spread Effects

As mentioned earlier, cumulative causation and growth pole theory share many similarities and concepts. One of the more significant areas of convergence is their consideration of polarisation and trickle down effects. The polarisation effect of regional development involves the expansion of the core or centre at the expense of the periphery. In contrast to this, the trickle down or spillover effects is the diffusion of economic activity from the core to the periphery. It is supposed that the polarisation process is a particular feature of the early stages of the economic development with the establishment and consolidation of growth poles, with the spillover effects occurring later (Nilsson, 1979).

The polarisation process, in effect the further concentration of resources in the centre, is attributable to agglomeration economies and increasing returns to scale in the growth pole. This attracts resources from the periphery to the

growth pole through resource mobility. This process occurred under both the socialist economy and the free market, and the entry of new resources leads to a reinforcement of the cumulative growth process and the agglomeration economy. Through offering increased gains and thereby attracting more resources and factors to the growth pole, simple logic states the process will be a cumulative reinforcement of growth. Furthermore, the flow of resources from the periphery to feed the cumulative growth in the core region restricts the periphery's productive capacity inhibiting further socio-economic development.

The stabilising spillover effect occurs when the growth pole diffuses economic activity to the periphery. This increased economic activity may include the establishment of new markets, higher levels of employment leading to further development of the transportation infrastructure.

In effect, there are three identifiable stages of growth pole process. The first stage is the polarisation and concentration of economic activity at a single centre as the least cost-higher return method; the second stage is the development of multiple centres of development and the creation of an urban hierarchy through the establishment of industrial complexes. The final stage is the diffusion of economic activity to peripheral areas (Richardson, 1969; Smith, 1971).

One of the central themes of regional analysis is the fundamental role that spatial factors have on economic development. Economic activity and the resources used in their production and consumption are heterogeneously distributed over space and thus leads to the inequitable distribution of the allocation of resources.

Hoover (1948) contributes to the understanding of regional science and spatial inequalities through attributing it to imperfect factor mobility (natural resource advantages), imperfect divisibility (economies of concentration) and imperfect mobility of goods and services (the cost of transport and communication).

Agglomeration economies occur through the exploitation of cost reductions through situating economic activity in one or a few places. Through the close proximity of economic activities, fewer resources are required to address the fundamental of scarcity – more can be produced with fewer resources.

There are four important concepts that agglomeration and regional economies encompass; decreasing average cost, internal scale economies, localisation economies and urbanisation economies. In terms of decreasing average costs and internal scale economies, the Romanian spatial industrial structure was ideally suited through their resource intensive nature and relatively high fixed costs. Through increasing levels of production, it was assumed that reductions in cost per unit would follow through specialisation and division of labour, greater utilisation of by-products and lower per unit input costs.

Localisation and urbanisation economies are similar concepts and important to any analysis of agglomeration economies. Localisation economies involve the exploitation of lower costs through all firms in one particular industry being able to exploit benefits of close proximity e.g. shared pool of skilled labour and the adoption of new innovations. Urbanisation economies are similar in scope, but economies do not solely stem from firms in the same industry but result from several firms in several industries that are able to share inputs e.g. public utilities and infrastructure and an state sector educated labour force (Smith, 1971). Despite the differences in scope, a distinction between localisation and urbanisation economies is often unnecessary since the sole distinction rests on whether the firms are in the same or different industries.

2.14 Conclusion

Two opposing perspectives regarding the patterns of regional development have traditionally dominated the study of the space economy. On the one hand there is the neo-classical perspective; on the other is the analysis of 'natural' divergence. Neo-classical equilibrium economics purports that

national economies tend towards regional convergence provided that there are no major barriers to the free operation of market forces. Regional disparities would be eliminated through the self-correcting transfer of prices, wages, capital and labour.

Conversely, it was argued by Perroux, (1950,55), Myrdal (1957) and Kaldor (1960, 67) that regional economies have no automatic convergence tendencies, even in the long run. It was argued that market forces, and in this I include the efficiency strategy of Romanian regional development strategy, will tend towards regional economic divergence rather than convergence. Economies of scale and agglomeration lead to the cumulative causation of resources while other regions remain on the periphery of development. Unbalanced regional economic development is therefore self-reinforcing as opposed to self-correcting.

It is this dichotomy that will be a focus for this thesis. This is not to imply, however, that other perspectives are to be ignored. Much has been written regarding the Marxist account of uneven development (see Smith, 1984; Higgins & Savoie, 1995) and the manner in which regional economic evolution is neither convergent nor divergent but is viewed in the perspective of period spatial restructuring (Martin & Sunley, 1998).

This thesis is a departure from the more mainstream application of spatial theory and analysis in that it adopts a combined theoretical approach. It is the analysis of the regional structure of Romania; a country subjected to the destabilising shocks of a forced industrialisation process and the transition process, within the broad context of a theoretical synthesis.

The research into Romanian regional development and policy has adopted what is essentially a pragmatic approach – one that focuses on the issues ‘on the ground’ rather than becoming too embroiled in economic theory. Of course, such theories are invaluable in any spatial economic study, but it will be ensured that they remain reference points for the following study,

determining whether the Romanian pattern of development fits into such a framework, rather than allowing theory to become the study itself.

Chapter 3:

Romania National Economic Development 1945-1989

3.1 Introduction

This chapter provides an examination of Romanian economic development from 1945-89. The chapter focuses on the nature of socialist economic planning and development drawing comparisons with other Central and East European states (CEEs). The argument developed in this chapter, and one that underpins the thesis as a whole, is that post-communist Romanian economic development has been influenced by the economic policies of the socialist era. Consequently, the economic difficulties associated with the transition process are a combination of the pre-revolutionary economic crisis and the reform policies that followed (Pasti, 1997; Stan, 1997). Although writing prior to the Romanian revolution in 1989 the following argument forwarded by Shafir (1985) is appropriate for the changes that have taken place since 1989.

“The origins of Romania’s present economic plight should be sought in the strategies pursued during the phase of ‘extensive’ development, in the policies of autarkic nationalist ‘economic independence’ adopted in the early 1960s and, above all, in the leadership’s unaltered adherence to centralisation of planning and to high rates of investment in heavy industry at the expense of current consumption” (Shafir, M., 1985: 107).

The first section of the chapter provides some general geo-political information on Romania. The second part of the chapter develops an essentially sectoral analysis of the Romanian economy between 1945 and 1989 looking at the general economic and political forces influencing industrial development. The third section looks at the agricultural sector in Romania since this has been, and still is, an important sector in the economy. The fourth sector adopts a more

macroeconomic analysis concentrating on the problems of the Romanian economy prior to the Revolution in 1989. As the conclusion will argue this analysis of the economy before 1989 provides the framework for the following chapter that concentrates on regional development between 1945 and 1989. No understanding of the planning of Romania's regional economy (or indeed that of the rest of Central and Eastern Europe) since the Second World War would be complete without a consideration of two fundamental influences. The inheritance of pre-1945 patterns of economic development and the destruction of the war itself; and defeat by the Soviets which brought with it 45 years of economic and political influence (Brus & Matejka, 1985).

3.2 Background

Romania is the second most populated country in Central and Eastern Europe behind Poland but as Table 3.1 shows, the population profile of the CEE states has varied considerably. Although chiefly concerned with the changes between 1950 and 1985 for comparison Table 3.1 provides information on population levels in 2000. Between 1950-85, Albania has shown the strongest growth rates of 142.6%, albeit from a very low initial base. Romania experienced a population growth of 39.4% over the same period, slightly less than Poland (50%). This was due in part to the abolition of contraceptives and abortion. The population growth of other CEEs was less pronounced, but it was an important feature of the region as it provided the human resources for labour intensive industries and for the expansion of the armed forces (Turnock, 1997).

Table 3.1: Population of Eastern Europe 1950-2000 (millions)

	Area sq.km.	1950	1970	1980	1985	2000 ¹	Density sq.km. 1985
Albania	28.7	1.22	2.16	2.59	2.96	4.1	103
Bulgaria	110.9	7.27	8.49	8.88	8.97	9.7	81
East Germany	108.3	17.94	17.26	16.74	16.69	16.6	155
FCSFR ²	127.9	13.09	14.47	15.28	15.50	16.8	121
Hungary	93.0	9.80	10.31	10.71	10.64	10.9	114
Poland	312.7	24.82	30.69	35.73	37.23	41.4	119
Romania	238.4	16.31	20.35	22.20	22.73	25.6	96
Eastern Europe	1274.8	106.80	124.00	134.43	137.84	150.3	108

¹estimated

²Source: United Nations Statistical Yearbooks - cited in Turnock (1997: 15).

The period 1945 to 1989 in Romania was characterised by dictatorships and over forty years of communism. Romania came into the Soviet Union's sphere of influence, and under Gheorghiu-Dej, implemented a 'Sovietization' policy. This policy manifested itself through the rapid nationalisation of industrial and financial institutions and the amalgamation of private landholdings into state and collective farms. Upon the death of Gheorghiu-Dej in 1965, Nicolae Ceauşescu took over as leader and continued the process of large-scale industrialisation and political suppression - but also adopted a notable degree of foreign policy independence that warmed the 'West' to a regime that was becoming increasingly maverick (Gilberg, 1990).

There always existed within Romania a certain detachment from the USSR (Wilde, 1994). The danger of having the country turned into merely a source of agriculture and raw materials under Khrushchev's proposal for division of labour within the Council for Mutual Economic Assistance (CMEA), prompted the communist leadership of Romania to work for the reduction of Soviet hegemony and led to a 'declaration of independence' in 1963 (Fischer, 1989). A process of industrialisation (against the will of the Soviets), the opposition to the Soviet invasions of Czechoslovakia and Afghanistan, and the siding with China in its dispute against the USSR were the more obvious manifestations of this stance

(Montias, 1964). However, the Stalinist model of development was retained – but was implemented without overt Soviet control in the post-1960 era.

The Central and Eastern European countries share many similar features, and now face similar problems, in as much as their post-war political and economic development were influenced by the communist doctrine (Bird, 1992; Kuznetsov, 1999). The fundamental similarity between the countries of the old communist bloc was the command economy - prices, output, investment, economic direction and objectives were decided centrally by the state, rather than by the market mechanism.

In 1947 when the first socialist government gained control, Romania was still basically an agrarian society; much of the farming was subsistence and productivity was low. Industry had grown rapidly, but was focused in a few specific centres, in particular Bucharest, Braşov and Transilvania, following a similar pattern to that of the Soviet Union before 1939 where industries were also concentrated in a limited number of locations e.g. Moscow and Leningrad (Pallot & Shaw, 1981).

3.3 Industrialisation

The industrialisation of Romania following 1947 was rapid. An ample supply of labour was drawn from the countryside, and there was a plentiful source of land on which to build the industrial plant and necessary infrastructure (Gilberg, 1990). This was an integral part of the Soviet model – the rapid industrialisation of the economy had been based on the heavy and extractive industries, the fuels sector, transport and construction, accompanied by large monopolies that facilitated central control. This form of industrial strategy was adopted throughout the whole of the period 1947-90. Ceauşescu's explicit aim, when he came to power in the 1960s, was to establish Romania as one of the region's major producers of

steel, iron, coal, heavy machinery, rolling stock and other elements of heavy industry (Tsantis & Pepper, 1979; Gilberg, 1990). Consumer goods and service industries were regarded as unproductive and their main role was to satisfy the needs of industry.

To provide for the growth of industry as the material basis of the economy it was necessary to allocate an increasingly high portion of the national income to investment. In the absence of capital markets, this was achieved through increasing the rate of domestic saving. By the allocation of much of the national income to investment, it naturally followed that consumption received less. The rationale behind the strategy was that high levels of accumulation generates high levels of income, which in turn leads to higher levels of consumption and investment. Therefore, the planning of consumption levels was secondary to the priorities of the growth of accumulation and national income (Tsantis & Pepper, 1979).

As well as the emphasis on heavy industry much of the national resource went into the construction of 'prestige' developments. For example, the reconstruction of 'old' Bucharest, with its centre piece, the People's Palace, a project which at its peak utilised up to 10% of GDP (Harris, 1994). Other projects included the huge petrochemical site at Pitesti, the 'Iron Gates' hydroelectric project on the Danube River, the Danube-Black Sea Canal – all of which from an economic perspective made little sense (Gilberg, 1990; Harris, 1994).

The primary instruments of economic management were the successive national plans for economic and social development. The state was able to implement a comprehensive and centralised planning system through dictating economic and social activity for the economy as a whole, by sector, by branch and on a regional (judet) basis. Accordingly, the post-war economic period in Romania was characterised by a succession of medium-term plans (except for a one-year plan

implemented in 1949, and a six-year plan introduced after the five-year plan of 1955-60 was abandoned early). The plans adopted the 'traditional' Soviet model of placing a strong emphasis on heavy industry while largely neglecting other sectors, light industry typically received a tenth of the investment in comparison (Popescu, 1994).

The plans laid down the direction and level of investments, production targets, prices and levels of foreign trade. They had the status of law and great significance was attached to the achievement of the targets (Dawson, 1987). However, the manner in which the plans were devised and implemented caused a number of problems. The most important decisions - in particular the production targets - were decided at the very highest political level, and invariably were extremely ambitious and unrealistic given the country's productive resources. As a result, failure in one area had a 'knock-on' effect and led to a fragmentation of the plan itself. Furthermore, the highly centralised process prevented effective co-ordination at the regional and sectoral level.

Construction, transport and power were crucial for industrial development. The need to build plant and infrastructure led to the expansion of the construction industry during the post-war period, growing on average 11.3% per annum between 1950-75, providing 7.6% of national income. This was reflected by the increase in its share of the labour force (Table 3.2), continually increasing its share until the 1980s when it contracted somewhat as a result of increased mechanisation and from the economic malaise of the period (Tsantis & Pepper, 1979). Similarly, the growing demands of industry led to growth in the transport sector. Increased investment occurred in the rail system in an attempt to satisfy the transport requirements for the lowest cost. The expansion of the rail sector resulted, while the road system remained relatively undeveloped.

The changing economic structure had obvious effects on the structure of employment (Table 3.2). In 1950 agriculture employed 74.1% of the labour force but the industrialisation process that directed investment to industry from agriculture resulted in less than 30% of the workforce being employed in this sector by 1981 – while during the same period industry increased its share from 12% to 36.1%.

Table 3.2: Percentage of Labour Force by Sector 1950-81

Sector	1950	1965	1975	1980	1981
Industry	12.0	19.2	30.6	35.5	36.1
Construction	2.2	6.3	8.1	8.3	7.7
Agriculture	74.1	56.5	37.8	29.4	28.9
Forestry	0.2	0.2	0.3	0.4	0.4
Communication	0.3	0.6	0.7	0.8	0.8
Transportation	1.9	3.1	4.6	6.1	6.4
Commerce	2.5	4.0	5.5	6.0	6.0
Low-level Services	0.7	2.1	3.4	3.8	3.8
Higher-level services	5.3	7.0	8.1	8.4	8.6
Other	0.8	1.0	1.2	1.3	1.3

Source: Republica Socialistă România. Direcția Centrală de Statistică, 1982, as quoted in Shafir (1985: 47).

One of the primary reasons for the strategy of industrialisation was that the security of the country and the growth of its economy were heavily reliant upon its growth. Its priority status in the economy stemmed from its role in developing the technical basis of other sectors and as the supplier of metals, chemicals and building materials to both the economy and military-industrial complex (Tsantis & Pepper, 1979; Turnock, 1997). This Romanian emphasis on heavy industry, and the view that producer-goods industries generally offer substantial economies of scale and were more suitable for the application of advanced technologies led to a policy of 'giganticism' (Harris, 1994).

Between 1960 and 1975 the average number of employed persons for each industrial enterprise had doubled from 748 per industrial enterprise to 1480 people (Harris, 1994). By 1975 82% of gross industrial production and the industrial labour force was concentrated in enterprises that employed at least 1000

workers (Tsantis & Pepper, 1979: 200). By 1990, factories employing 2000 or more workers accounted for two-thirds of the workforce. (Harris, 1994: 2863). This concentration of economic activity reflects the approach to post-war national and regional economic development under the socialist system. Such a strategy can be conceptualised by growth pole, cumulative causation and agglomeration theories in that it was an attempt to exploit economies of scale through the construction of huge industrial plants and public works leading to large urban-industrial centres. By 1989, 6000 firms accounted for 92% of all economic activity, 2000 of these were responsible for over half of GDP and employed 40% of the total workforce.

Size considerations were thus a factor in investment decisions and so large enterprises were deemed more appropriate for industrial planning - indicative of a strategy to exploit economies of scale through focusing industrial activity in large industrial plants. (Tsantis & Pepper, 1979). Table 3.3 shows the extent of the dominance of large enterprises in the Romanian economy compared to other CEE states and western countries. It was the general trend that enterprises within CEE countries employed far more people per industrial enterprise than those belonging to industrialised market economies. Despite the economies of scale rationale behind this strategy, labour productivity remained consistently low by western standards and whole branches of industry operated at a loss, some with planned deficits (Montias, 1963; Turnock, 1974). The Romanian system of planning gave enterprises no incentive to increase efficiency as bonuses, linked with the achievement of surplus over and above planned production targets, encouraged the concealment of stocks and the setting of low production targets. Romania clearly had the highest number of workers per enterprise, and this produced a harmful legacy for the restructuring process as often whole towns were reliant on a single industrial enterprise that became uncompetitive in a market environment.

Table 3.3: Numbers Employed per Industrial Enterprise 1973 (for selected countries)

Socialist countries	Number employed
Romania	1480
Hungary	1070
USSR	712
Yugoslavia	531
Bulgaria	520
German Democratic Republic	297
Poland	114
Industrialised market economies	Number employed
Federal Republic of Germany	149
Austria	96
United Kingdom	87
Sweden	68
Canada	58
Belgium	35

Source: Tsantis & Pepper (1979: 200)

3.4 Agriculture

Agriculture was (and is) a fundamental sector of the Romanian economy and as part of state ownership of the means of production, land was nationalised. To improve the efficiency of the agricultural sector, a programme of collectivisation was implemented, similar in size and scope to those of other CEEs. This process was largely completed by 1962, and was followed by a concerted effort to mechanise the sector.

With collectivisation completed, a process of rationalisation followed to free the under-utilised agricultural resources for use in the industrialisation process. The Romanian Communist Party, at its Eleventh Congress in 1974, explicitly stated as one of its long-term economic objectives the aim to restructure the labour force so as to increase the weight of non-agricultural employment. This was an integral part of the socialist strategy, for industrialisation could not be achieved without access to a supply of labour, cheap food and raw materials and with collectivisation, the state took delivery of the vast majority of agricultural produce at fixed, low prices (Turnock, 1997). By controlling prices, output and capital investment, the state believed effective co-ordination and development would be

achieved.

The steady fall in the number of persons employed in agriculture over thirty years (1950-81) is shown in Table 3.2. The proportion of total employment in agriculture fell from 74.1% to 37.8% (Shafir, 1985: 47). The share of the non-agricultural labour force increased from 25.9% in 1950 to 62.2% in 1975, and to 71.1% in 1981. In addition to this decline in the size of the sector, the structure of the agricultural labour force had changed and become increasingly composed of women and the elderly, since many younger male workers had left collectivised agriculture seeking the better wages and conditions of the industrial sector.

As a result of the changes in the sectoral labour force, the structure of the economy changed considerably between 1950-81, with industry becoming the dominant sector by overtaking agriculture as the principal source of national income (Shafir, 1985). During 1950-80 industry's contribution to national income rose from 44% to 56.2%, whereas agriculture's contribution to national income fell from 27.8% to 16% over the same period (Tsantis & Pepper, 1979; Turnock, 1979).

Although agricultural production grew despite the fall in the labour force, and labour productivity trebled between 1955-75, the production gains did not meet the targets set (Shafir, 1985). A feature of the Romanian agricultural sector was under-investment and the poor quality of capital equipment and human resources. Agriculture was the means to achieve industrialisation – and certainly came behind industrialisation and urbanisation in the priorities of the state. Predictably, the result was underdevelopment and poor productivity – remarkable when considering Romania's vast agricultural resources (Gilberg, 1990).

The extent of the redistribution of the population to urban centres away from rural localities is shown in Table 3.4. A consistent and rapid growth in urbanisation

occurred with a simultaneous and consistent decline of the rural communes. Between 1948 and 1984 the proportion of people living in urban areas increased from 22% to 47%. This was reflective of the movement of labour away from agriculture towards industry. The growth of urbanisation was achieved through the co-ordinated control of employment and labour movement and by official policies to distribute new capacities evenly and to control urban growth.

Table 3.4: Urbanisation in Romania 1948-85.

	Cities and Towns	Suburbs	Rural communes
1948	22.0	1.4	76.6
1956	27.1	4.2	68.7
1960	27.8	4.3	67.9
1965	29.8	3.9	66.3
1966	32.6	5.7	61.7
1970	36.9	3.9	57.2
1977	43.6	4.0	52.5
1980	45.8	3.9	50.4
1981	46.9	3.8	49.9
1982	48.4	3.2	48.5
1983	49.0	3.1	47.9
1984	47.2	3.1	47.7

Source: Anuarul Statistic 1985, cited in Gilberg (1990: 87).

Table 3.5 contrasts Romania's urbanisation trends against the patterns for other CEEs. While it shows the urban population more than doubling in size over thirty years from 1950-80, it also shows that this process was, apart from Albania, more pronounced in Romania than anywhere else in Central and Eastern Europe. Over thirty years, the urban growth of Romania was double that of the average for the whole of Central and Eastern Europe.

Table 3.5: Urban Population 1950-80

	1950		1980		Growth 1950-80 in relation to the CEE Average
	Urban Pop. (m)	% Share of Total Pop.	Urban Pop. (m)	% Share of Total Pop.	
Albania	0.25	20.5	0.90	33.6	2.6
Bulgaria	2.00	27.5	5.51	62.1	1.7
FCSFR	6.35	52.5	10.16	66.4	0.6
Hungary	3.55	38.6	5.70	53.2	0.6
Poland	9.61	39.0	20.29	56.8	1.1
Romania	3.71	23.4	11.01	49.6	2.0

Source: UN Demographic Yearbooks, cited in Turnock (1997: 48).

3.5 The Failing Economy

The Soviet model of economic development came under much criticism within CEE after the death of Stalin. There was dissatisfaction with the lack of attention paid to factor costs in the production process, the nature of investment decisions and spatial development issues. In light of these criticisms, member countries of the Council for Mutual Economic Assistance (CMEA) introduced reforms to the traditional model of Soviet economic development (Berliner, 1988; Korbonski, 1989).

It was not a fundamental shift as all major investment decisions were still the responsibility of central government or its appointed ministries. Radical deviations from the Soviet model, in effect a break from Soviet hegemony, resulted in direct and forceful intervention from the USSR (e.g. Hungary and Czechoslovakia). Instead, the reforms were the dispensation of greater freedom to adapt the socialist model to a country's own economic conditions (Dawson, 1987).

Romania (and Albania) deviated far less from the Stalinist model. The emphasis remained on economic growth and industrialisation, and although discussions in the following chapter will show that increased attention was placed on spatial development issues, they remained of secondary importance. This influenced the

economic environment and spatial development patterns – the largest cities continued to grow through agglomeration forces (Pallot & Shaw, 1981).

The main economic indicators (inflation, unemployment, economic growth) of the Romanian Economy and that of other CEE states were relatively promising up until the early 1980s. However, these indicators should be interpreted with care because of the statistical methodologies used to calculate them. In addition to this, Romanian statistics were frequently erroneous, data were often inaccurately calculated or occasionally faked or heavily 'influenced' by the Party. Real growth was routinely overstated and inflation routinely understated (Gilberg, 1990; Lipton & Sachs, 1992). Besides, these economic indicators had a reduced relevance in a country that did not rely on the market mechanism. The low inflation figures imply a lack of demand, but market forces do not determine prices. The very low rates of unemployment signify little when there is little flexibility in the labour markets - rather disguised unemployment was more of a problem. The figures indicate that macroeconomic problems were, if anything, concealed (Bird, 1992; Lipton & Sachs, 1992).

In considering economic growth, problems exist in the comparison of performance, its measurement and interpretation. Whereas the West uses GDP as the measurement of economic growth, CEE states used Net Material Product (a measure of the value added in production) that failed to adequately account for the service sector. Bird (1992) goes on to argue that the credibility of the figures were worsened further by the tendency to reclassify essentially old goods as new ones, the focus on output and the extent to which it failed to match the preferences of consumers, the environmental damage and the inaccuracy for using such indicators as an approximation of living standards.

A further problem of taking pre-1990 CEE data at face value was the extreme bias towards heavy industry and the lack of consumption goods provided. Production

focused on the provision of goods for other heavy industries, output was given an important weight in the production and GNP accounts although it had little real economic value (Lipton & Sachs, 1992).

“For the entire period of real socialism, investments were poured into a close production circle that offered no profit: coal was necessary to produce electricity; electricity was necessary to produce steel; and steel was necessary to mine coal. All that produced a statistical growth in national income, a growth which, as we see now, actually meant a decline in national wealth. Let us keep in mind that the prices for everything were taken out of thin air.” (Skalaski, 1990:112).

Table 3.6: Macroeconomic Indicators 1951-88

	Gross Domestic Product (real) %			GDP per capita (real) %			External Trade	
	1951-73	1974-82	1983-88	1951-73	1974-82	1983-88	Total ¹	E.Bloc Share ²
Eastern Europe	4.7	1.9	2.7	4.0	1.3	2.3	37	60.9
Bulgaria	6.1	2.4	1.4	5.3	2.0	1.2	63	77.4
Czechoslovakia	3.8	1.8	1.8	3.1	1.1	1.4	41	72.8
GDR	4.6	2.6	2.1	4.9	2.8	2.2	36	61.8
Hungary	4.0	1.9	1.4	3.5	1.5	1.5	38	44.2
Poland	4.8	0.5	4.2	3.5	-0.4	3.3	27	40.7
Romania	5.9	3.7	2.9	4.8	2.7	2.5	43	45.1
U.S.S.R	5.0	2.1	1.9	3.6	1.2	1.0	13	51.5
Yugoslavia	5.7	5.0	0.9	4.6	4.1	0.2	38	31.8
France	5.1	2.6	1.8	4.1	2.1	1.3	39	2.3
FRG	5.9	1.6	2.4	4.9	1.7	2.5	41	3.7
United States	3.7	1.6	4.3	2.2	0.6	3.3	18	0.8

¹ Sum of exports and imports as a percentage of GNP in 1980.

² External trade with Eastern Europe and the Soviet Union in per cent of total trade in 1988.

Source: Maddison (1989: 112); World Bank (1989).

As Table 3.6 shows, generally the growth rates of the CEE countries often exceeding those of Western countries when measured by similar indices. Between 1950 and 1975 the Romanian economy rapidly industrialised and grew expeditiously through the state's control over productive resources and within the framework of comprehensive economic planning. Throughout this period Romania maintained the highest growth rates amongst the CMEA states and one of the highest in the world. The engine for this economic growth was the

increasingly high levels of investment. Between 1950-75 investment grew at an annual average of 13.1% that led to a growth in annual industrial output of about 12.9% (the average increase in output of producer goods was 14.5%, while the increase in output of consumer goods was 10.5%). The industrial labour force grew at the rate of 5% yearly, with labour productivity averaging a growth of nearly 8% (Tsantis & Pepper, 1979).

The proportion of national income allocated to investments grew from 17.6% in the period 1951-55 to 34.1% during the 1971-75 Five Year-Plan and to 36.3% in 1976-80. This is a clear reflection of the priority of industrialisation and was typical of the 'traditional Soviet' model that maintained high growth rates through a strong emphasis on heavy industry while largely neglecting other sectors (light industry typically received a tenth of the investment in comparison) and limiting growth in consumption (Gilberg, 1990; Popescu, 1994). Another effect of this strategy was that national income growth (averaging 9.3% between 1951-80) did not come to be fully reflected by the growth of real wages, the growth rate of which was only 4.9% during the same period (Smith, 1981).

Agriculture was the main casualty of this investment strategy (Shafir, 1985). Agriculture contributed nearly 40% to Romanian GDP in 1950, yet only received 11.1% of total investment (Cole, 1981). Throughout the post-war period heavy industry continued to attract the vast majority of investment and pay substantially higher wages, while agriculture lagged behind. These factors, together with the growing peasant resentment that stemmed from the collectivisation of agriculture, combined leading to falling agricultural output. Only when investments were increased and limited land reforms introduced (e.g. guaranteed incomes, improvements in pensions and social benefits, permission to cultivate more private land) did output increase (4.7% 1971-75, 4.9% 1976-80) (Chirot, 1980).

Table 3.7 provides information as to the allocation of investment during the period 1951-80. From this table it can be seen that during the period 1951-55, the largest

proportion of investment went to industry, largely at the expense of agriculture and forestry, which suffered from declining rates of investment after the initial collectivisation process had been completed. Housing and construction was allocated almost a fifth of total investment, a reflection of its role in industrialisation. The levels of investment in transport remained fairly constant, the investment in healthcare declined which had an effect on the quality of life.

Table 3.7: Romanian Investment By Sector As A Percentage Of The Total 1951-80.

Sector	1951-55	1956-60	1961-65	1966-70	1971-75	1976-80
Heavy Industry ¹	48.9	40.0	41.9	43.0	43.5	43.4
Light Industry ²	4.8	4.9	4.6	7.0	7.0	5.8
Agriculture and Forestry	11.3	17.3	19.4	16.1	14.4	13.8
Housing and Construction	15.0	21.2	17.9	16.1	16.9	20.0
Transport and Distribution	12.8	10.3	11.3	13.1	13.7	13.4
Education and Science	4.2	3.7	3.0	2.6	2.6	2.1
Health Services	1.8	1.7	1.2	1.2	0.9	0.7
Administration	0.3	0.5	0.6	0.6	0.6	0.8
Total (billion lei)	61.9	100.2	199.7	330.8	549.0	931.9

¹Includes fuel and power, metallurgy, engineering, chemicals (including ceramics and glass), building materials and wood processing (including paper).

²Includes textiles, clothing, leather and footwear, food processing, ceramics and printing.

Source: Directia Centrala de Statistica, Anuarul Statistic, (various years) - cited from Turnock (1987: 231).

However, by the mid-1970s and 1980s it became apparent that Romanian economic performance and growth rates were slowing down, and more significantly, its growth performance by comparison to Western Europe was poor (typically showing growth rates of 3%). Table 3.8 is a record of planned and achieved Net Material Product (NMP) growth between 1971-85. During the period 1971-75 achieved growth actually exceeded planned growth. However, after 1975 the actual rates of growth consistently fell short of the planned growth rates and this downward trend continued during the early 1980s.

This indicates that the NMP estimations were systematically inaccurate, reinforcing the widespread view that the centrally directed plans were over ambitious (Dawson, 1987 et al). This was combined with ever worsening standards of living, health and the distribution of income appeared to be no more

egalitarian than levels in Western Europe (Bird, 1992). As the gains from increasing inputs began to fall and growth fell, then CEE economies became increasingly reliant upon being able to increase efficiency, but this was hindered by outdated technologies and production methods, and compared less favourably to the West (Maddison, 1989; Gros & Steinherr, 1995).

Table 3.8: Planned and Achieved NMP Growth 1971-85.

	Planned	Achieved
1971-75	9.0-10.0	11.3
1976-80	10.0-11.0	7.3
1981	7.0	2.2
1982	5.5	2.6
1983	5.0	3.4
1981-85	7.6	n.a.

Source: Shafir (1986: 110).

By the end of the 1980s there was a plethora of problems facing the economies of CEE. For many years they had experienced severe shortages on the supply-side, a 'soft budget constraint', repressed inflation and disguised unemployment that was reflected by low labour productivity.

What followed in the period up to late 1989 was an economy marked by poor management and planning (Kuznetsov, 1999). By the 1980s Romania was experiencing severe structural problems and declining rates of economic growth to the extent that it had the lowest average annual growth in CEE. Its industry was inefficient, there were persistent shortages on the supply-side, a wasteful use of resources including labour and capital, and the consumer industry was very undeveloped. Romania continued to push for further industrialisation beyond the point where a meaningful return could be expected – the user industries had persistently grown at a faster rate than the output growth of domestic raw materials.¹ In effect, the industrialisation programme had gradually outgrew the resource base. As a result, Romania passed from a net energy surplus to a net

¹ Caused by the pernicious combination of the oil crisis, depletion of resources and urbanisation

energy deficit in 1972-3, a factor which contributed to a pressing international debt problem that ultimately resulted in a deleterious foreign debt repayment programme (Tsantis & Pepper, 1979; Gilberg, 1990).

The socialist model as implemented in Romania led to substantial macroeconomic imbalances. By allocating goods and services through queuing or party patronage, not the market mechanism - the system was exposed to corruption and misinformation.² In addition there was a problem of co-ordination; each department or government organisation had to ensure that their plans were consistent with one other. Inconsistencies in sectoral demand and supply could not be corrected by the interplay of supply and demand - but had to be rectified by changes in planned outputs. Romania had already experienced a period of economic stagnation and decay throughout the 1980s. The Romanian economy during the socialist era was characterised by consistently high levels of gross fixed capital formation in national income, averaging 30.4% in the 1980s. However, GDP growth throughout the 1980s was low (see Table 3.9), at only 1.52%, this yielded an investment productivity of about 0.05, a poor performance and one that supports the argument of the growth-reducing effects of the large distortions endemic in socialist economies (Frausum et al, 1994).

Table 3.9: Gross Domestic Product (% change per annum)

	GDP
1985	-1.0
1986	2.3
1987	0.8
1988	-5.0
1989	-5.8

Source: Stan (1997: 98)

A further contributory factor to the general economic decline can be attributed to what Kornai (1995) termed a 'soft budget constraint' – a term usually associated

that used up the labour supply.

² In order to satisfy central targets for output.

with the paternalistic role of the state. The socialist economic system sought to maximise desired output, while financial considerations were second to this. The softening of the budget constraint occurs when the relationship between expenditure and income is weakened by the state compensating for the excess of expenditure over income. Consequently, as this external assistance is usually forthcoming, the behaviour of the decision-maker alters accordingly (Kornai, 1995). The failure to use a market-based allocation of resources and the price mechanism has serious implications for economic efficiency, since the ability of prices to signal relative scarcities are lost. Together with the fact that taxes and subsidies covered the difference between costs and value, there was little incentive for firms to use resources efficiently. With firms facing very little competition, and costs and revenues determined arbitrarily by administrative discretion, the lack of financial pressures led to enterprises facing this 'soft budget constraint'. Indeed, the incentive was for the firm to acquire the maximum amount of resources possible in order to produce as much output as possible (Kuznetsov, 1999). This strategy resulted in low productivity and a tendency to produce poor quality goods.

These were problems that all socialist planned economies faced. However, an issue unique to Romania was the foreign debt 'constraint'. By early 1989, Romania announced that it had completely repaid its external foreign debt, which by 1981 had amounted to almost US\$10bn or 20-30% of its GDP (OECD, 1998). Up to the 1980s, adhering to the Stalinist orthodoxy of rapid industrialisation, but with adequate funds from the Soviet Union not forthcoming largely as a result of its independent stance, Romania turned to the West for the necessary capital inflows. Concerned by the prospect of increasing foreign debt and falling creditworthiness, Ceauşescu directed that the foreign debt should be cleared.

"We must understand that we cannot consume more than we produce"
Ceauşescu quoted in 'Scînteia', 1 June 1980 (Shafir, 1985: 206).

The removal of the foreign debt was the principal economic goal of the 1980s and this was to be achieved through a process of internalising the external debt³ (Daianu, 1997). The domestic absorption relative of both consumption and investment to income was reduced, and a larger part of income was diverted to exports. In a market economy, a depreciation in the real exchange rate would be needed, but under a centrally planned economic system, the Romanian government induced a reduction in private consumption (as a share of national income) of 2%, a reduction in gross fixed capital formation (as a share of national income) of 4% and a budgetary surplus.

In 1981, Ceauşescu began a process of boosting exports and restricting imports, while running down the gold and foreign exchange reserves in order to obtain the necessary surpluses on the current account with which to repay the external debt. Enabled by GATT membership (1971) and agreements with the then EEC, Romanian export quotas were increased by about 50%. Subsequent trade surpluses were achieved with the EEC; \$59m in 1980, \$151m in 1981 and \$710m in 1982. However, this was largely achieved by a dramatic reduction in imports from the West. By 1983 imports had been cut by 26.6%, and the trade surplus stood at \$2418m (Scînteia, 29 January 1984, as quoted in Shafir, 1985:117).

Once the repayment of the external debt had been completed it became apparent that the effect had been the decapitalisation of the economy (Teodorescu, 1991). The technology crisis was one of the most serious that faced Romania (Pasti, 1997). Romanian industry underwent considerable technological change during the 1960s and 1970s through the central channelling of investment leading to economic growth. However, the debt repayment programme of the 1980s involved all the current account surpluses being used for the repayment of external debt instead of invested in technical modernisation and so throughout the

³ Daianu (1997) refers to this as an unprecedented policy of pre-transitional shock-therapy.

1980s there was a complete lack of technological renewal.⁴ The technologies bought previously were outdated and in need of replacement - the economic effect of this being inefficiencies, low productivity and a stagnant technological base (Ferris et al, 1994; Pasti, 1997). Through the relaxation of the Stalinist model, other CMEA countries benefited from advanced equipment and machinery bought from the West, Romania, through its unwillingness to import could not take advantage of this.

The second major consequence of the foreign debt repayment programme was the very significant cost to the population in terms of a reduction in the standard of living. After 1984, GDP per capita fell and in 1981 bread rationing was introduced and measures taken to limit consumption and storage of basic foodstuffs. Between 1980 and 1989, meat sales had fallen by 51%, fresh dairy products by 61%, rice by 54%, cheeses by 40% and televisions sets by 36% (Fischer, 1989; Teodorescu, 1991). At the same time, official state prices were continually rising by over 12% on average per year, despite the fact that GDP and the real wage stopped increasing after the early 1980s. In light of the general shortages, and in particular, the very limited access to consumer goods the level of real savings increased at an average rate of 5.3% per annum (Frausum et al, 1994; IMF, 2001).

3.6 Conclusion and the 1989 Revolution

The pernicious combination of a failing economy, an isolationist attitude, continuing abuses of human rights, a controversial rural-urbanisation programme and the sweeping reforms taking place elsewhere in Eastern Europe caused Ceauşescu's regime to become increasingly detached from the international community during the late 1980s. Dissent and frustration at home grew, fuelled

⁴ The industrialisation process emphasised the importance of new technologies and processes, and research and development were expanded to meet the needs of industry. However, there remained a dependence on foreign technologies.

by the ease of holding Ceaușescu personally responsible for the economic crisis in light of his complete control over the economy. By late 1989, it had become clear that his position was untenable. With the support from within his party crumbling - he was arrested with his wife, and after a summary military trial, were both executed by firing squad. This marked the end of 45 years of communist rule and the introduction of what was expected to be a profoundly different economic and political order.

Although the December revolution was essentially a political event the economic crisis was undoubtedly one of the main factors behind this transformation (Pasti, 1997). With the fall of socialism, the true scale of the economic problems soon became apparent, revealing problems that had been accumulating for many years before the transition. However, despite the widespread acknowledgement of these economic pressures, and the fact that Romania's economy suffered as a consequence of it being the most centralised and least flexible system (Anderson, 1983), very few people predicted the system's imminent collapse (Kuran, 1992).

This chapter has placed the post-war Romanian economy up to 1990 within a framework of socialist economic planning and the prioritisation of national industrial growth. The next chapter examines the implications of this strategy for regional economic development and considers whether this process has led to either the further convergence or divergence of economic activity.

Chapter 4:

Romanian Regional Development 1945-90: Concentration or Dispersion?

4.1 Introduction

This chapter builds upon the analysis of national economic performance through an examination of the nature and influences upon post-war regional development up to 1990. The central themes of this chapter are:

1. Post-war regional development was a function of the patterns inherited pre-1945; a low level of industrial development, a predominantly rural economy characterised by a few regional centres of polarised industrial activity resulting in wide disparities economic structure, income, infrastructure and skills.
2. The agglomeration of industrial development in a limited number of regional centres supports the hypothesis that the nature of post-war Romanian regional development is best explained by reference to growth pole, cumulative causation and agglomeration theories.
3. Romania's economy was dominated by Bucharest, together with a small number of other regional centres, e.g. Braşov, Ploesti.
4. Investment, although sometimes influenced by political considerations, was primarily allocated on economic efficiency grounds.

This chapter further highlights the changing nature of regional concerns and offers a critique of the commonly stated belief that one of the primary economic concerns of the Ceauşescu regime was balanced regional development. Instead, it is argued that this goal was readily sacrificed in favour of a policy of rapid national economic progress that was not only driven by a few centres of development, but also actually widened existing disparities.

One of the central arguments of this chapter will be that the dominance of economic considerations was reflected by the desire to achieve a least cost, high-return distribution of economic activity instead of seeking growth through universal development throughout each region and the economy as a whole. Equitable regional considerations did not play a dominant role in the allocation of factors and balanced regional development during the socialist period was not the principal economic objective – despite the frequent ideological declarations alluding to the principle of a homogeneous and developed society. The subsequent adoption of regional equalisation initiatives and specific regional strategies were largely the result of disorganised decisions from the various sectoral ministries (Enyedi, 1990).

4.2 Background

A common misconception is that the socialist countries of CEE were rather homogeneous in view of their political and economic systems (Teodorescu, 1991). While they were similar in ideology, within the framework of central planning, the CEE states were quite different from each other in terms of their resource base and policies adopted in response to the challenges of both national and regional economic development.

Romania followed a rigid model of development, with adherence to a largely unreformed central planning model and the rationalisation of its many rural settlements through the implementation of 'planificare' and 'sistemizare'. Planificare refers to the allocation of resources to regions and sistemizare refers to the policy of regional organisation on which to base allocated decisions. These two policies were to underpin the regional allocation of resources and later patterns of development. Other states chose different policies; the German Democratic Republic focused on expanding its trade through its relatively well-developed industrial base; Albania never strayed far from its Stalinist policies; Yugoslavia chose to implement its own interpretation of socialism while Hungary and Czechoslovakia implemented

significant regional policies, gradually loosening the constraints of the central planning model. What this shows is that the countries and economies of CEE were not symmetrical and the context in which post-war regional development took place under socialism differed from country to country.

Between 1950 and 1975 the Romanian economy underwent extensive change. Interregional disparities were largely overlooked in favour of rapid industrialisation that was driven by the rapidly expanding levels of investment that generated increased national income providing the base for the modernisation and expansion of other economic sectors. At the same time, the transfer of low-productivity agricultural labour to higher-income industry led to increasing levels of urbanisation and agglomeration (Tsantis & Pepper, 1979). However, by the end of 1989 the economy was crumbling, there were widespread shortages, levels of productivity were low, and underdeveloped regions emerged that faced serious economic decline.

It was not until the 1970s that a more specific focus was placed on regional economies and patterns of development. A more coherent (although not necessarily successful) regional policy followed to provide for a more equitable distribution of industrial investment and production, thereby equalising regional incomes through the growth of industrial employment in lesser-developed judets (counties).

At the same time, measures were introduced to constrain agglomeration forces and the further polarisation of economic activity, particularly in relation to Bucharest. Small and medium sized urban centres were further developed and many villages were upgraded to small towns so that they could better accommodate industry. By limiting the further concentration of the population, co-ordinating the movement of the population with the economy's labour requirements and allocating industrial investment to less developed judets, it was supposed that more even equitable development would follow. Despite these measures, the dispersal of industrial development and the

restrictions placed upon migration to Bucharest, few urban concentrations developed. By 1968 almost 10% of the population and one-fifth of the value of the country's industrial production was located within the Romanian capital.

4.3 The Inherited Patterns of Regional Development (Pre-1945)

Understanding the regional structure of the Romanian economy enables a clearer picture of the whole development process. Not only this, but if it is accepted that post-war development patterns were the function of those of the inter-war period, then a brief discussion of the structural changes to the Romanian economy pre-1945 is needed. The economy, like many others of the CEE, was dominated by the agricultural sector with a very high agrarian population amounting to between 60-80% of the total working population. The effect of this excess agricultural labour force was disguised unemployment and low-productivity which, in turn, had a significant influence on the average per capita income.

The industrialisation process was particularly slow and concentrated in only a few regional centres during the inter-war years, the process was much weaker across the rest of the country, and this caused the immediate post-war regional economy to be highly polarised. A familiar feature of relatively under-developed economies and in common with other CEE countries (especially Albania and Bulgaria), industrial activity was limited to a few centres through not only the lack of industrial activity as a whole, but also by the lack of suitable infrastructure and a skilled labour force. In addition, there existed boundaries of industrial development even within CEE as a whole; the further north and to the west e.g. GDR, Czechoslovakia and Poland – the more developed was the country. Further to the east and south were the undeveloped countries of Bulgaria, Romania and Albania.

The concentration of business and industrial activity that generated the agglomeration forces further fuelled the cumulative processes. The effect was the further concentration of industrial activity in the centre and a much weaker dilution to peripheral regions. Industrial development in post-war Romania was predominately situated in its regions to the north-west, with the exception of the economic dominance of Bucharest (with its relatively well-developed infrastructure and markets), and Ploesti that was the focus for the not-inconsiderable Romanian oil industry.

This uneven socio-economic regional development led to the development of 'regional societies' (Mihailović, 1972). Inter-war regional development emphasised the uneven nature of historical development. With decisions taken by private entrepreneurs and the lack of an active regional policy, divergent agglomeration forces led to the continued growth of the relatively developed regions causing the further polarisation of industry, while surrounding regions remained outside the industrialisation process. This caused socio-economic disparities between the centre and the periphery to continually grow. While some towns continued to develop through investment and increased employment opportunities - others fell into decline.

The weakness of the industrialisation process in Romania, Bulgaria, Hungary and Yugoslavia was further demonstrated by the low level of urbanisation and few towns or cities that had more than 100,000 inhabitants - the main centres of development. Pre-war Romania only had two urban centres, apart from Bucharest, with populations in excess of 100,000 (Galați and Iași) while Albania, historically the most undeveloped, did not have a single town with more than 100,000 people (Dawson, 1987). Post-war socialist Romania, with the implementation of a rapid industrialisation and urbanisation programme, saw the populations of its seven largest agglomerations swell to over 100,000 inhabitants, but none were large enough to counter the agglomeration forces of Bucharest (see Table 4.1). Other CEE countries fared slightly better due to their more developed and spatially distributed industrialisation process.

Table 4.1: Population of Largest Urban Areas in Romania, Selected Years, 1930-77.

	City and District							Total Urban Areas
	Bucharest (Bucharest)	Braşov (Braşov)	Constanţa (Constanţa)	Craiova (Dolj)	Galaţi (Galaţi)	Iaşi (Iaşi)	Timişoara (Timiş)	
1930	639,040	59,232	59,164	63,215	100,611	102,872	91,580	3,051,253
1948	1,041,807	82,984	78,586	84,574	80,411	94,075	111,987	3,723,139
1956	1,177,661	123,834	99,676	96,897	95,646	112,977	142,257	4,746,672
1966	1,366,684	163,385	150,276	152,650	151,412	161,023	174,243	6,743,887
1973	1,528,562	193,086	185,737	188,333	191,111	202,052	204,687	7,939,061
1977	1,807,044	257,150	256,875	222,399	239,399	264,947	268,785	9,393,897

Source: Tsantis & Pepper (1979: 535).

While the regional structure of the Romanian economy inherited after the war was largely the result of the patterns of free-market development prior to World War Two, post-war regional economic development was an entirely different concept (Mihailović, 1972). Both national and regional economic development was now decided by central planning processes through public ownership of the means of production. The economy had made little progress during the inter-war period and the CEE region as a whole was generally economically behind the rest of Europe.

The socialists used the polarisation of industrialisation and unequal economic development caused by capitalism as a principle justification for the planned economy. The free market had led to the development of the centre at the expense of the periphery and inequitable economic activity and opportunity. State socialism, it was claimed, would lead to the creation of a more equal society and the emergence of the 'homogeneous socialist man' (Turnock, 1987; Ronnas, 1991; Smith, 1998).

This justification for a central economy was, argues Mihailović (1972), a failure to fully understand the process of economic development. With such a low level of initial development, the volume of industry is simply not sufficient to adequately cover the entire country. Consequently, industry will tend to converge in specific regions where there already exists the necessary infrastructure, skilled labour force and market.

4.4 Regional Development and State Socialism

The replacement of the market economy by the Stalinist model of state socialism inevitably led to a profound change in the socio-economic and political environment (Dawson, 1987). A comprehensive approach to development was adopted where investment and planning became highly centralised; one with a new ideology and a clearly stated regional dimension.

In common with Bulgaria and Yugoslavia, the Romanian socialist administration inherited an economy of polarised industrial activity and urban agglomerations. The regional disparities formed a pattern along axes between developed and underdeveloped regions. Six of the most developed regions¹ (Banat, Hunedoara, Braşov, Ploiesti, Bacau and the capital Bucharest) formed a pattern of development that could be traced through an axis from west to east. Regions not on the 'axis of development' lagged behind in terms of industrial activity, employment and income. In 1950 these six regions accounted for 68.1% of the gross national output, falling slightly to 67.5% in 1963; indicative of the fact that the 'developed-six' regions received 55% of total investment during period 1950-63. The agricultural regions, located in both northern and southern Romania, largely deprived of industrial investment, lagged behind (Ronnas, 1987).

Other CEE countries experienced similar disparities in their levels of regional development. Hungary was perhaps the more extreme example. With the agglomeration forces and dominance of Budapest, where over half of the country's entire industrial activity was located, one urban industrial agglomeration, and the other regions' relationship with it, drove the country's economy (Szelenyi, 1983). Such agglomeration forces are difficult to check in the light of a well-developed infrastructure where further polarisation had the greatest potential for further rapid increases in industrial production.

¹ Based on the previous regional structure of 17 regions rather than the later 40, plus the capital Bucharest.

Subsequently, the post-war economic development of Hungary was a function of that of Budapest. There were (and still are) wide differences between the capital and the rest of the country in terms of industrial activity, investment and employment. These regional disparities were, however, addressed through the accelerated development of less-developed regions and the 'decentralising' initiatives introduced through the New Economic Mechanism of 1968 (Szelenyi, 1983).

In Romania, the socialist government unequivocally condemned the disparities in regional development that they were challenged by and set, as one of its main goals, the universal expansion of industrial activity as a means to diminish them. Regional development was viewed as an integral part of the wider development of Romania and the central authorities recognised the need for the rapid development of the most backward regions. The following statement reflects this reorientation of policy:

“...an intensive development of the productive resources in all parts of the country, in a unitary and long-term perspective, is a precondition for the creation of a socialist society” - Ceaușescu, 1969 (Ronnas, 1984: 173).

A problem that does arise from this egalitarian principle is one of ambiguity. The socialist doctrine failed to clarify the criteria to be used in assessing economic performance, the methods of comparison and to what extent should national economic performance be compromised in order to encourage development in the poorer judets where large amounts of investment were required (Smith, 1998). In a country as spatially diverse as Romania, it infers that regional imbalances were to be overcome through a more even allocation of investments. Alternatively, the term may refer to 'equality' and so implies that polarised development would be replaced with balanced development.

Nevertheless, the growth rates of Romania (and other socialist countries) during the initial years of socialist governance (1945-70) were high. The industrialisation process brought about economic change through increases in employment, the transfer of labour from the land to the secondary sector and a corresponding increase in incomes. However, while rates of growth were good, it should be set against the fact that the development process started from a low initial base. Mihailović (1972) supports this by placing Romania (together with Albania, Bulgaria and Yugoslavia) in a group of economies that were classed as moving from an undeveloped state to a medium-developed state characterised by rapid growth and wide regional disparities.

Once economic growth had taken hold, it became increasingly apparent that an active regional policy was required as the growth in income and employment generated by the industrialisation process affected the various regions differently. In more developed regions and urban agglomerations, the development process shifted them towards industrial maturity, whereas for the peripheral areas it meant that the initial stages of industrial development were only just beginning to take hold. Further growth would therefore merely lead to an increasing concentration of economic activity in the centre, thereby worsening regional disparities in absolute levels of investment, income and employment. With increasing pressure on available resources, both human and natural, a regional policy was further necessary for the wider dispersion of economic activity.

The aim of regional policies was essentially two-fold; a more balanced pattern of spatial economic development; and the reduction of absolute and relative disparities in inter-regional per capita income levels (Turnock, 1979). Both were inter-linked issues; a more even spatial development of economic activity is a precondition for the reduction of per capita income levels.

4.5 Regional Economic Structure 1945-1990: Balanced vs Unbalanced Growth

The socialist planning model struggled (albeit like most other models of development) with the dual objectives of rapid economic development and the reduction of regional disparities. Economic development took priority, and while the forced and rapid industrialisation was instrumental in changing both Romania's economic and social structure, it failed to bring about even economic growth, nor did it eliminate regional inequalities (Dallago et al, 1992; Jackson, 1990).

Central planners were faced by a basic dilemma. While the aim of reducing disparities was always more problematic for the Romanian authorities due to the inheritance of a low level of economic development and polarised activity - should they prioritise national economic growth and development or reduce regional inequalities? The first alternative promoted development in the short and medium term through exploiting its main industrial centres, thereby leading to polarised development and further regional inequalities. The second option, one generally not favoured, focused on the reduction of spatial disparities through restricting growth in more developed regions and promoting growth in the lesser developed regions of the country, thereby narrowing disparities but also slowing down national economic growth (Turnock, 1974, 1987).

The nature of post-war regional and national development was largely set by the inherited concentrations of historical developments, by the availability of raw materials and the physical geography of the region (Ianos, 1994). The development process started post-1945 was principally reliant on the utilisation of the existing industrial plant and available labour supply that was already heavily polarised in a small number of long-established urban concentrations (Ronnas, 1984). The subsequent introduction of a national economic development strategy, one that emphasised specific branches of the

industrial sector, and one largely bereft of regional policies, was logically dependent upon existing facilities, many of which could be quickly adapted and modernised. This was the least-cost means of development, but one that inevitably led to the further concentration and polarisation of industries, production and population (and therefore labour).

Despite the intensive industrialisation programme, the agricultural sector remained one of Romania's foremost economic sectors. Not only did it provide food for domestic consumption, but was also a source of exports and foreign capital. Although the lesser-developed agricultural areas were the source of the under-employed factors released for the industrialisation process, leading to a fall in investment and numbers employed, the agricultural sector still occupied 47% of the total work force in 1972. However, the labour productivity of agriculture was much lower than that of industry, contributing only 25% to national income. In spite of Romania's huge agricultural potential, its favourable climate and soil conditions, labour-efficiency was left wanting, largely the result of the organisation of farms into co-operatives (for this reason many farmers were employed on a part-time basis) and inadequate investment (Ronnas, 1989).

In spite of the widespread opposition from large sections of the agricultural community by 1962 the programme of collectivisation² was largely completed. It was, however, an uneven process. While judets to the south of Romania saw practically all private farming land disappear with over 99% of all arable land collectivised, in more mountainous districts (notably Hunedoara) over a quarter of all arable land remained in private hands. The reasons behind the uneven application of an otherwise robust agricultural reform programme lie in the rather pragmatic nature of Romanian socialism – despite the customary references to ideological sovereignty. Those judets with less collectivisation tended to be mountainous (and therefore not as agriculturally productive),

² Collective farms were later re-named co-operatives (*co-operative agricole de productie*), a less emotive label and an attempt to distance agriculture from the unrest of the past.

were more militant in their opposition to the programme and were populated by minority groups that exerted a significant constraint on collectivisation (Montias, 1963; Turnock, 1974).

Romanian agriculture was not easily regionally defined. While the more important agricultural areas were in the south-east (Danube Delta), north-east (Moldovian plateau lands) and west/north-west regions, it remained a nationally concentrated industry (Popescu, 1994). The importance of agriculture, and the intensity of production, was reflected by the fact that in 7 judets (Botoşani, Timis, Teleorman, Constanţa, Ialomita, Calarasi, Braila) 80-90% of all land was in agriculture. Excluding the capital Bucharest, only Tulcea had less than 40% of its land for agricultural use, while the majority of judets had 50-70% of their land in the agricultural sector.

The lack of agricultural investment was particularly acute during the initial stages of the industrialisation process and was allocated only 10% of total investment between 1951-55, although its share increased during successive 5-year plans to 16.6% and 19.5%, but falling to 12.8% during 1966-70.

Table 4.2: Romanian Investment 1951-80 by Sector as a Percentage of the Total

Sector	1951-55	1956-60	1961-65	1966-70	1971-75	1976-80
Heavy Industry	48.9	40.0	41.9	43.0	43.5	43.4
Light Industry	4.8	4.9	4.6	7.0	7.0	5.8
Agriculture and Forestry	11.3	17.3	19.4	16.1	14.4	13.8
Housing and Construction	15.0	21.2	17.9	16.1	16.9	20.0
Transport and Construction	12.8	10.3	11.3	13.1	13.7	13.4
Education and Science	4.2	3.7	3.0	2.6	2.6	2.1
Health Services	1.8	1.7	1.2	1.2	0.9	0.7
Administration	0.3	0.5	0.6	0.6	0.6	0.8
Total (bn lei)	61.9	100.2	199.7	330.8	549.0	931.9

Source: Popescu (1994: 148)

Agriculture was seen as a feature of the 'old' Romania (Turnock, 1979; Popescu, 1994). Industry was the future and regional development was a

reflection of the national development strategy of industrialisation and modernisation, the priorities of which can be drawn from Table 4.2 showing the structure of investment during the period 1951-80. Overall, investment in industry was at the expense of agriculture and forestry, housing and construction, and while the levels of investment in transport remained fairly constant, investment in healthcare declined. The regional situation reflected the importance of industry in the national economic plan – regions suitable for industrial development (which would promote national growth) were the focus for investment funds. Regions deemed to be non-optimal locations for industry subsequently received less investment (Mihailović, 1972; Tsantis & Pepper, 1979).

To examine the effects of the national strategy on the growth of individual regions, the regional indices per capita for the years 1950-63 are shown in Table 4.3. The increase in industrial output ranges from 243-444 for the period 1950-59 and from 152-210 for the period 1959-63.

Table 4.3: Romanian Regional Growth Rates in Industrial Production

Regions ¹	Index of growth		Average annual growth rates	
	1950-59	1959-63	1951-59	1960-63
Arges	342	179	14.7	15.7
Bacau	338	185	14.5	16.6
Banat	251	162	10.8	12.7
Braşov	373	181	15.8	15.9
Bucharest	303	167	13.1	13.7
Cluj	281	162	12.2	12.9
Crisana	327	157	14.1	12.0
Dobrogea	444	156	17.5	11.7
Galaţi	308	172	13.3	14.5
Hunedoara	311	173	13.4	14.7
Iaşi	429	210	17.6	20.3
Maramures	373	157	15.7	12.0
Mures	387	175	15.9	15.0
Oltenia	372	182	15.7	16.1
Ploiesti	260	166	11.2	13.5
Suceava	243	152	10.4	11.0
Bucharest City	326	179	14.0	15.7
Constanţa City	367	206	16.1	19.8
Romania	316	174	13.6	14.8

¹ For the purpose of this table, the previous administrative divisions of Romania has been used. This was 17 regions and 2 cities. Later reforms increased the number of regions, or judets, to 40 and the municipality of Bucharest.

Source: Mihailović (1972: 166)

Using the data from Table 4.3 some conclusions can be drawn. Although it is stated that the Romanian regional economy remained polarised – this does not necessarily mean that industrial activity was confined solely to the already developed areas. It will be shown in later discussions that investment was skewed to the more industrially mature regions, but the above table shows that while this may well have been the case, all regions nevertheless shared in the industrial growth process.

The process of economic growth explains this apparent paradox. The socio-economic changes that increases in income and employment gave rise to could not simply be confined to a small number of regions and urban agglomerations. The wider distribution of industrial activity was necessary to fully exploit available human and natural resources, but also to avoid the super-convergence of economic activity that would inevitably cause diseconomies of concentration.

Industrial production increased rapidly in all regions, thereby also increasing income and employment. While growth in the developed centres of Bucharest, Constanța and Brașov exceeded the national growth index of 316 (1950-59); industrial growth was highest in Dobrogea, Iași and Mures – not traditional centres of industry. A significant factor behind this was that growth was from a very low initial base and so higher rates of growth were easier to achieve.

The period 1950-59 was the initial period of industrialisation, a process that continued during 1959-63. With some regions approaching industrial maturity, while others had already completed their initial stages of development, the growth rates in industrial production tailed off in every region. Overall, the patterns of rates of growth remained fairly similar, but the national growth index fell to 174, the highest regional index was Iași, and the lowest was Suceava (still predominantly rural).

Of similar interest are the average annual growth rates that mirrored the changes in the growth index. There was little variance in these rates between regions, but while all regions experienced a falling index during the period 1959-63, some regions (typically those that contained developed industrial centres) increased their annual rates of growth during the later period.

Post-war industrial growth was impressive. In 1969 industry accounted for 56.6% of national income compared with 43.4% in 1950, which placed Romania ahead of Bulgaria and Hungary and went some way to closing the gap with Czechoslovakia, the GDR and Poland (Mihailović, 1972).

The process of large-scale nationalisation changed the whole structure of national output by 1965. Only the smallest productive units remained in the private sector while their contribution to national output was just 0.3%. Small sector industrial production was largely replaced by 'socialist' industry; some village co-operative industries remained and were only encouraged as a means to supplement the low incomes of collective farmers and represented only

4.4% of industrial production. Larger local industries accounted for 6.5%, leaving almost 90% of industrial output to the socialist sector (Mihailović, 1972). Nevertheless, there were regional variations, and this was largely dependent upon levels of economic maturity and development. The more developed judet of Braşov had a much stronger socialist sector contributing 95.7% of industrial output; local, co-operative and private sectors contributing 2.3%, 1.9% and 0.1% respectively. In the less developed judet of Salaj, the structure of industrial production was very different; 49.4%, 31.8%, 17.5% and 1.3% (Turnock, 1974).

As part acknowledgement of regional inequalities an increased emphasis was placed on regional development issues during the 1966-70 Directives. Structural economic imbalances had been caused by the unequal distribution of production, employment, income and education - and opportunities were distributed unevenly throughout Romania, and the Directives were introduced, in part, to curtail this. However, it was not until the Fifth Plan 1971-75 that solving these regional problems received significant priority. The Plan stipulated that increased investment, productive facilities and non-productive services should be allocated to poorer, less industrialised judets in order to increase their industrial production annually by 20-27%, compared with the national increase of 10-11%.

According to national statistics, the 1971-75 Plan was largely achieved, with the growth of investment in the less-developed judets during this period exceeding the national increase. Compared with a 70% increase in total national investment, investment growth was 220% in Dimbovita, 190% in Gorj and Tulcea, and over 100% in Dolj, Bistrita-Nasaud, Botoşani, Alba, Satu Mare and Vaslui (Tsantis & Pepper, 1979).

The proportionally higher growth of investment led to a proportionally higher growth in fixed assets. Furthermore, the less-developed judets also experienced higher growth rates in gross output than the economy as a whole,

as shown in Table 4.4. Success was achieved in that all but three of the 19 judets that had gross industrial production of less than 5bn lei in 1970 achieved, and invariably greatly exceeded, their target set out in the 1971-75 plan.

This rapid increase in gross regional industrial output, a reflection of the wider spatial distribution of the industrialisation process, increased the share of the regional industrial workforce and levels of urbanisation. The achievement of this, however, should not cloud the fact that the spatial distribution of industrial activity remained highly polarised, unquestionably dominated by Bucharest.

Table 4.4: Gross Industrial Production, by Judet 1970-75 (1963 prices)

	Gross Industrial Production				
	1970	Plan target for 1975		1975 Achieved Growth	
	(000s lei)	(000s lei)	(%)	(000s lei)	(%)
Alba	4409	5467	124	8106	184
Arad	6951	n.a.	n.a.	11,585	167
Argeş	10,441	n.a.	n.a.	21,937	210
Bacău	10,659	n.a.	n.a.	16,336	153
Bihor	7738	n.a.	n.a.	14,036	181
Bistrita-Năsăud	898	1805	201	1808	201
Botoşani	1811	2662	147	3388	187
Braşov	21,838	n.a.	n.a.	38,295	175
Brăila	6751	n.a.	n.a.	11,198	166
Buzau	3602	8321	231	9058	251
Caraş-Severin	8643	n.a.	n.a.	11,478	133
Cluj	11,446	n.a.	n.a.	20,334	178
Constanţa	6619	n.a.	n.a.	12,842	194
Covasna	1658	n.a.	n.a.	3494	211
Dimboviţa	4864	10,555	217	11,372	234
Dolj	10,166	n.a.	n.a.	18,073	178
Galaţi	10,497	n.a.	n.a.	25,425	242
Gorj	3374	5837	173	5802	172
Harghita	3154	5803	184	6579	209
Hunedoara	16,747	n.a.	n.a.	21,503	128
Ialomiţa	2872	4624	161	5272	184
Iaşi	8731	n.a.	n.a.	19,113	219
Ilfov	4312	7330	170	7433	172
Maramureş	5068	n.a.	n.a.	7952	157
Mehedinţi	2451	5711	233	6447	263
Mureş	10,827	n.a.	n.a.	17,171	159
Neamţ	8175	n.a.	n.a.	15,933	195
Olt	3858	13,155	341	13,456	349
Prahova	20,142	n.a.	n.a.	32,247	160
Satu Mare	3610	n.a.	160	7688	213
Şalaj	782	2033	260	2082	266
Sibiu	11,414	n.a.	n.a.	21,287	186
Suceava	5906	n.a.	n.a.	9928	168
Teleorman	3040	7752	255	6970	229
Timiş	11,544	n.a.	n.a.	20,659	179
Tulcea	1453	3633	250	2675	184
Vaslui	2243	4688	209	4907	219
Vilcea	2777	5554	200	5638	203
Vrancea	2058	2984	145	4223	205
Bucharest	55,947	n.a.	n.a.	103,147	184
Total or average	319,476	n.a.	n.a.	586,878	183.7

Source: Tsantis & Pepper (1979: 106).

The inevitable complement to the process of industrialisation was the process of urbanisation as labour moved from agriculture to industry on both an inter and intra-regional basis. Table 4.5 shows the extent of change and the speed

of urbanisation within the countries of CEE. The relatively more industrially developed states experienced a proportionately less increase in the urban share of their population than less developed, traditionally agrarian countries, and tended to have far higher proportions of their population living in urban areas. The reasons for this was that the 'pull' factors (creation of new jobs in the industrial sector) and the 'push' factors (lack of jobs in agriculture) were weaker and the economic structure was more stable. In areas of rapid industrialisation and low urbanisation these forces were much stronger. For example, the maturity of the industrial process is well demonstrated by over 70% of all East Germans living in urban areas in 1965; compared to only a third of Romanians.

Table 4.5 : Urban Population as a Share of Total Population

Country	Year	Urban Population %
Albania	1938	15.9
	1964	33.2
Bulgaria	1946	24.7
	1965	45.8
Czechoslovakia	1950	51.5
	1965	61.0
German Democratic Republic	1950	70.9
	1965	72.9
Hungary	1949	36.6
	1965	42.6
Poland	1949	36.2
	1965	49.7
Romania	1948	23.4
	1965	33.9
Yugoslavia	1948	16.2
	1965	31.0

Source: Tsantis & Pepper (1979: 135).

With urbanisation increasing, but restricted to a few urban agglomerations, regional concerns were once again voiced in the 1976-80 economic plan:

“The process of balanced economic and social development of all counties and of physically planning of the territory will grow more marked under the next five year plan.” ‘Development of Counties and

Economic and Social Planning' - Directives of the Eleventh Congress of the Romanian Communist Party (Tsantis & Pepper, 1979: 382).

This explicit aim was not always adequately supported by the limited data available from Romanian national statistics. Between 1970-75 there was only a slight fall in the levels of per capita incomes between the poorest judet and that of the most prosperous (see Table 4.6). This implies that while regional income disparities were at least partially narrowed, there did not occur any real significant reduction of income inequality.

Table 4.6: Disparities in Per Capita Income (1970-1975)

	Per capita income (lei per month)		
	Lowest judet	Highest judet	Highest/lowest
1970	1260	1613	1.28
1975	1631	2035	1.25

Source: Tsantis & Pepper (1979: 178).

4.6 The Application of Theory to the Patterns of Regional Development

The development model adopted by central planners in Romania (and similarly in Hungary, Yugoslavia and Poland), had growth pole theory as its theoretical foundation (Mihailović, 1972). The state selected (on specific criteria) regional areas as the location for centrally directed factors (e.g. investment in infrastructure and plant) and established and/or consolidated localised industrial centres. The development strategy centred on the belief that resources should be concentrated to maximise the exploitation of external economies (e.g. concentration of size and economies of scale). The strengthening of these economic development centres, or growth poles, was considered a prerequisite for the later development of other regions that would benefit from a cumulative growth process that would ultimately reduce regional disparities (Buttler, 1975) – but it was a growth strategy that failed to fully materialise.

The regional dilemma faced by central planners was two-fold; whether to reduce regional differences or to boost levels of national output. With the end goal being the establishment of a modern industrialised nation, the acceleration of the industrialisation process was vital (Ronnas, 1989). The most effective method by which to achieve this was to exploit existing industrial facilities in already developed regional centres, taking full advantage of their developed infrastructure and pool of skilled labour. This was designed to set in motion a process of cumulative growth generating further growth and expansion of industrial activity, infrastructure and markets. While such a strategy led initially to some impressive results and supported the decision to focus investments on the developed regions and centres, the economic malaise of the 1970-80s suggests that either the strategy, or its implementation, was mistaken. This pattern of development was rather characteristic of many CEE states where economic activity tended to be more concentrated in the capital (together with a small number of other regions), than capitals in the more developed countries of CEE, e.g. GDR and Czechoslovakia.

The dominant criteria throughout the socialist era were economic efficiency and the promotion of economic growth (Mihailović, 1972; Turnock, 1997). Ideology played an important role, but the failings of the Romanian economy and its subsequent collapse should not be solely attributed to the ideological interference rather to the lack of a hard budget constraint and incentives for efficiency savings (Gross & Steinherr, 1995).

While the post-war regime certainly altered the path and rate of economic growth, the inherited structure was the dominant influence of post-war regional development – what already existed in a region was the dominant influence of regional development thereafter (Mihailović, 1972; Dawson, 1987). Growth pole theory is congruent with the post-war Romanian Marxian political and economic ideology as regional centres represented the most dynamic economic entities within existing industrial structures.

Although regions were quite heterogeneous, each one was sufficiently endowed with raw materials and infrastructure to provide for integrated regional economies with a town as a regional centre, usually selected on the basis of well-developed infrastructure and long administrative experience. With the implementation of an essentially growth-pole driven economic strategy, industrial growth was focused on these regional centres and they grew at a disproportionate rate to the rest of the judet/region.

The industrialisation process was (and still is) much less polarised in many other CEE states than it was in Romania. In countries such as FDR and Czechoslovakia, industry was much more evenly spread over the country, only 6% of industry was located in Berlin, 7% in Prague – compared with over 20% in Bucharest and up to 50% in Budapest (Mihailović, 1972).

The concentration of industry in the capital and a few of the more developed cities in Romania stems directly from the inherited territorial structure that led to regional development to be dictated by specific industrial centres or growth poles. In this, Romania adopted a very similar economic model to Hungary and Yugoslavia through the establishment of growth poles as the primary means of national economic growth and development (Mihailović, 1972). It stemmed from the acceptance that the initial process of growth was dependent upon the concentration of their economic and non-economic activities in order to exploit external scale economies (Higgins & Savoie, 1995).

All significant economic decisions (be they regional or national) became increasingly centralised (especially post Georghe-Dej). With the autonomy of regions over their own development effectively removed, regional development was the product of the combination of largely unsynchronised national decisions implemented at the regional level.

The post-war Romanian authorities faced a choice of regional economic outcomes; that of harmonious development and growth equalisation; or the

maximisation of national economic growth through the development of existing industrial centres – a policy that led to the further polarisation of economic activity. Albania and the German Democratic Republic chose to promote growth, but at the same time eliminated economic and social disparities through the development of less developed regions. As part of this policy of diffused development, agglomeration forces were constrained in urban centres. Romania opted for the strategy that offered maximum national economic growth subject to least-cost resource use.

While the more developed and industrialised nations of GDR, Czechoslovakia, Hungary and Poland could focus more explicitly on regional harmonisation, the Balkan countries, of which Romania is the largest, were more concerned with the development of their poor national industrial base. Characterised by low levels of economic development and quite distinct regional differences, the focus was on satisfying the regional concerns through rapid national development.

It was this period of industrialisation which drove Romanian economic and social change; incomes and employment rose rapidly allowing for the rapid increase in the rate of accumulation, thereby enabling the industrialisation process to diffuse throughout lesser-developed regions. The restriction of socio-economic growth to just a few select regions (due to their already developed status) would fail to utilise all available Romanian human and natural resources and lead to the super-concentration of industry thereby worsening social costs.

The Romanian industrialisation process, with its associated rising incomes and employment, affected the regions differently – as a result of the initial uneven patterns of development that were inherited by the socialist state post-1945. While in the more developed regions this meant a move to industrial maturity, in the less developed regions it merely meant that the initial phase of industrialisation was overcome. During the period 1950-59, the increase in

industrial output ranged from 143% to 344%, while during 1959-1963, the increase was less pronounced – ranging from 52% to 110% (Mihailović, 1972).

Table 4.7 and Map 4.1 illustrates the structure of Romanian regional employment, with the national average for industrial employment at 99 per 1000 people in 1969. It is reasonable to assume that the higher the level of industrial employment, the higher the level of industrial development – and the data shows that the highest concentrations of industrial employment were found in the more industrially developed areas of Braşov, Hunedoara, Sibiu and Bucharest. Those areas where a very small proportion of their population was engaged in industry were predominantly low-productivity rural areas largely cut-off from the industrialisation process. The table shows that Romania remained a polarised economy; 10 judets had less than 50 people per 1000 in industrial employment while 6 judets had industrial employment exceeding 150 per 1000 people, while the variance between the lowest and highest judet was 218 (Botoşani/Olt and Braşov).

The acknowledgement of regional disparities and the introduction of measures (however limited) to address them was the result of the attainment of a defined level of industrial maturity and development. The position of the Romanian economy post-1945, with the focus upon industrialisation and rapid economic growth, and the lack of developed industrial infrastructures in many peripheral areas, the least cost method of delivering growth was the concentration of factors in the most advanced regions. Similarly, this was the methodology adopted by Hungary and Yugoslavia, while Bulgaria with a similar economic structure, chose dispersal over concentration on the basis that this would minimise migration costs and fully utilise residential areas.

Map 4.1: Industrial Employment per 1000 People (1969)

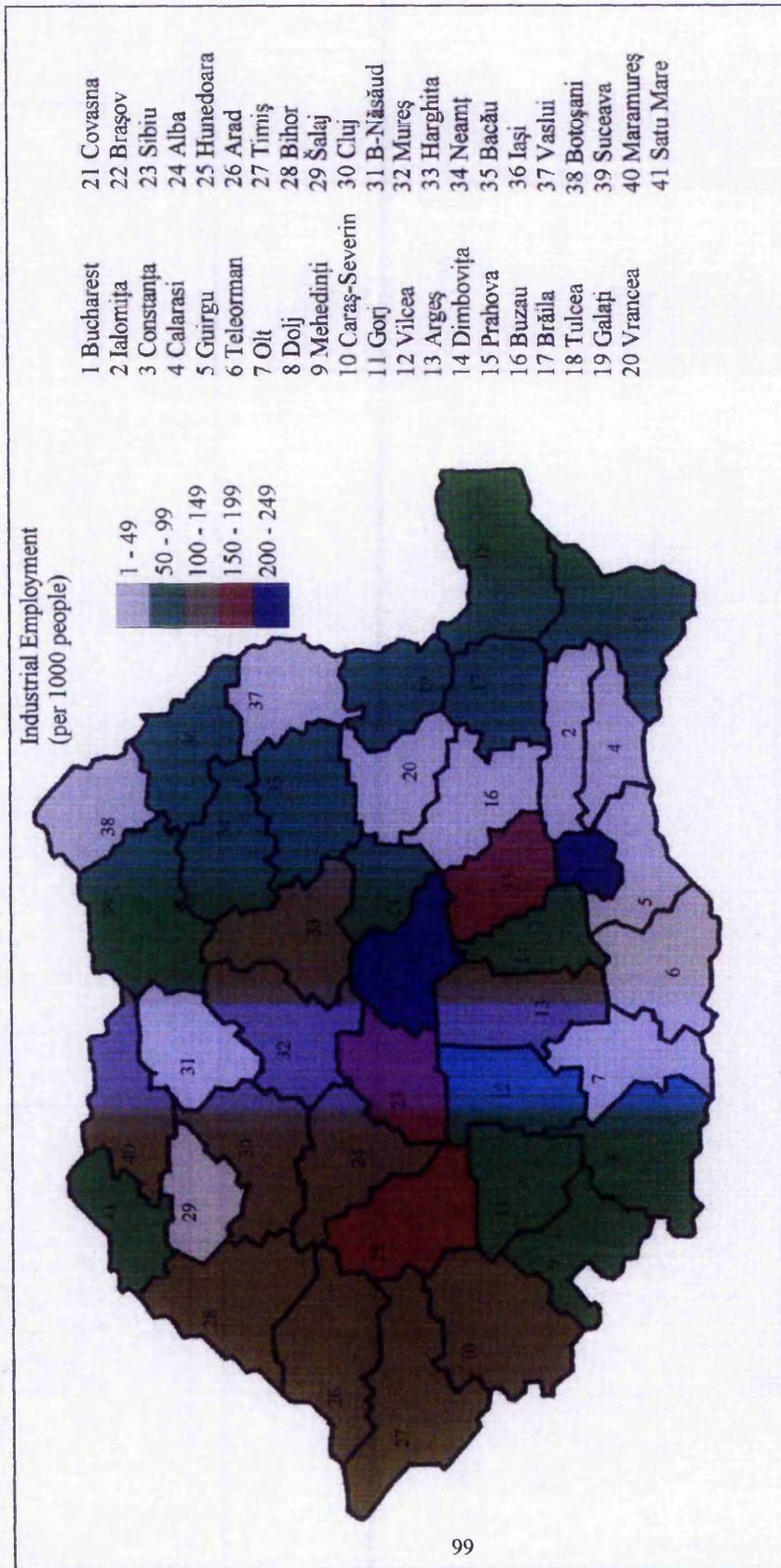


Table 4.7: Population and Industrial Employment in Romania 1969

	Area sq.km.	Population (000s)	Industrial employment	
			(000s)	Per 1000 people
Alba	6231	389	41.4	106
Arad	7654	490	56.1	114
Argeş	6801	560	56.4	100
Bacău	6603	638	61.9	97
Bihor	7535	602	61.6	102
B-Năsăud	5305	279	10.7	38
Botoşani	4965	470	11.6	25
Braşov	5351	468	113.8	243
Brăila	4770	357	33.4	93
Buzau	6072	499	22.0	44
Caraş-Severin	8514	365	53.6	146
Cluj	6650	658	85.6	130
Constanţa	7055	506	35.4	70
Covasna	3705	182	16.9	93
Dimboviţa	3738	440	40.4	92
Dolj	7403	719	43.1	60
Galaţi	4425	514	43.8	85
Gorj	5641	313	27.8	89
Harghita	6610	292	21.9	109
Hunedoara	7016	498	85.8	172
Ialomiţa	6211	377	12.2	32
Iaşi	5469	665	40.1	60
Ilfov	8225	788	26.3	33
Maramureş	6215	452	45.9	102
Mehedinţi	4900	316	16.1	51
Mureş	6696	586	61.3	104
Neamţ	5890	500	42.2	84
Olt	5517	494	12.2	25
Prahova	4694	743	112.3	151
Satu Mare	4405	370	32.3	87
Şalaj	3850	266	10.6	40
Sibiu	5422	435	80.9	185
Suceava	8555	607	49.0	81
Teleorman	5872	536	13.7	26
Timiş	8678	631	84.0	133
Tulcea	8430	246	16.2	66
Vaslui	5300	454	15.1	33
Vilcea	5705	385	19.7	51
Vrancea	4817	367	15.8	43
Bucharest	605	1555	340.8	240
Romania	237,500	20,010	1980.0	99

Source: Mihailović (1972: 207).

Upon reaching industrial maturity, and the emergence of pressing regional economic development problems, the focus then shifted in order to address not only regional concerns but also the diseconomies that threatened from the

over-concentration of industry. It should be reiterated that this was to be achieved without compromising national economic growth.

The priority given to industrial investment was a reflection of the importance of industry to national economic growth. The expansion of industrial capacity made optimal use of available factors and would also enable a longer-term regional expansion of production through the development of basic industries. Hence the priority was the expansion of the existing industrial facilities that were already located in the more developed regions. The industrial production that took place in the more undeveloped regions necessitated the establishment of new infrastructure and plant. The implication here is that the former strategy was the least-cost and higher-return means of development. The regional expansion of industry would not only be more resource intensive, but would also take longer to contribute substantial returns to national output due to time lags to build and establish new plant.

Further analysis finds that the patterns of investment mirrored closely local regional conditions. The structure of Romanian investments, expanding basic and manufacturing industries, was most suited to the developed regions. Through the process of spillover and access to established infrastructure, growth was stimulated in these centres which led to further growth and the expansion of capital industries. Therefore, agglomerate forces established further cumulative growth locking together different industries - so that one industry's demand was another industry's supply. In the more peripheral areas, the majority of investments focused on the promotion of cumulative growth processes based on the exploitation of natural resources that provide resources for industry located in the centre.

While it was anticipated that investing in those industries exploiting natural resources would spillover into the establishment of peripheral growth poles leading to cumulative growth, in reality the expansionary effects were minimal. Most of the investment was directed to the mining and extractive

industry, but these sectors required heavy initial investments, but have less value-added in terms of employment and income growth. The benefits therefore fell to the more developed regions disproportionately as they were able to use the raw materials in the production of its final goods and services. In effect, the periphery fed the centre's industrial sector while failing to provide for a significant cumulative growth process in the periphery. These underdeveloped regions on Romania's northern borders were also unable to exploit the 'border-effects' of their proximity to major trading partners, e.g. the Soviet Union (Boel, 1994). Trade was primarily in raw materials and power that were transported directly to the developed centres without any substantial spillover effects for the poorer regions. The obvious exception here is the developed Black Sea port of Constanța that directly benefited from being the primary commercial port of Romania.

However, more productive investment that did contribute to the emergence of growth poles in underdeveloped regions was the establishment of labour intensive manufacturing industries. These were ideally suited to less developed regions as they were able to exploit the surplus of labour from rural areas and established localised growth poles, typically labour-intensive manufacturing or processing industries, that led to the creation of single-industry towns, sustained by public funds (Mihailović, 1972).

Nevertheless, the establishment of localised poles of economic activity based on traditional labour-intensive industries contributed to Romanian economic stagnation of the 1970-80s. Despite these industries being the initial catalyst for development, the cumulative growth process that was generated began to offer diminishing returns as they became increasingly stagnant through inefficiencies and a lack of investment (Anderson, 1983) – while their presence prevented the creation of new plants/industries through their stranglehold on investment funds and labour. The planners' preference for large projects led to the creation of single industry towns and as a result for many goods there existed only one, or a very limited number of producers,

situated in specific regions. This contrasts sharply with the free market model where only a handful of activities bring together the conditions for natural monopolies (Gross & Steinherr, 1995). Furthermore, the beneficial effects for employment in a small town that stemmed from the establishment of a narrow industrial structure has rebounded onto these regions as these inefficient complexes fall into rapid decline under the present free market constraints (Smith & Ferenčíková, 1998).

4.7 Planificare and Sistematzare: The Introduction of Regional Policies

Planificare and Sistematzare were policies expressly designed to exploit the agglomeration model through the introduction of comprehensive centrally directed regional development policies. Planificare – the allocation of resources to regions; and sistematzare – the policy of regional organisation on which to base allocative decisions were two policies that were to underpin the regional allocation of resources and later patterns of development.

Administrative regions were central to the functioning of the central planning process and their size was one of the greatest influences on regional disparities (Ianos, 1994). The larger the unit, the more homogeneity there tends to be; conversely heterogeneity increases the smaller the region becomes. The larger macro-regions of the initial phase of post-war development tended to conceal regional differences and these became increasingly evident with the introduction of the system of 41 judets (Turnock, 1987).

With all significant economic decisions being made at the centre, administrative regions (judets) were the basis for the allocation of state investments and this required a sufficient number of regions to enable a system of decision-making system based on alternative regional allocations.

4.8 Planificare

Planificare broadly translates as sectoral or overall national planning. It was a policy designed to restructure the Romanian regional economy in order to achieve its economic objectives, be they equity or efficiency. Romania's present administrative system is based on a system of 41 judets (counties) and a municipality – Bucharest. However, this has not always been the case and the regional administration system of Romania has frequently changed. Up until 1950, the local government structure comprised 58 judets, but these were replaced by a system of 28 regiuni (regions), and the number was further reduced to 18 in 1952 and to 16 in 1956. The rationale behind this re-organisation was the establishment of 'macro-regions' through which to co-ordinate national and regional development through the convergence of areas of similar economic structure to create a national economy comprised of a small number of localised economies.

Reliant on principles defined by growth pole theory, most of the regiuni already possessed an urban-industrial core but where there was none, then investment was directed towards them in order to provide a modest base in cities like Craiova and Suceava (Turnock, 1987). There occurred a pronounced shift in the location of new plants from the traditional raw material-based centres of heavy industry, such as e.g., to the capitals of judets with large agricultural populations. The collectivisation of agriculture during the early 1960s and the attempts to mechanise agriculture and to further develop the manufacturing industry resulted in a few huge industrial plants constructed in traditionally agricultural judets to soak up the surplus labour (Ronnas, 1989).

However, the development of an industrial base in less developed regiuni must be set against the fact that the more advanced regions continued to attract a disproportionate share of the investment funds (Montias, 1963; Hermansen, 1971). This trend is reflected by only a marginal drop in developed regions'

contribution to total production, falling from 77.6% to 76.4% during the period 1955 to 1965 (Turnock, 1979).

Ceaușescu became Romanian leader in 1965, and an initial concern was the need to achieve a more even distribution of industrial activity that would promote the growth of the less developed regions. The existing patterns of investment were still biased towards the more developed regions and regional capitals. However, while there was an explicit recognition of the need for a more egalitarian approach to the distribution of investment funds, Ceaușescu stipulated that this should not be at the expense of economic efficiency.

The response was a further reorganisation of the Romanian regional structure that saw the establishment of 39 judets and a municipality of Bucharest – this was then used as the basis for the implementation of the 1971-75 economic plan. The restructuring of the regional economy was designed to focus investment on smaller judets rather than the larger regiuni where the centre tended to dominate (Turnock, 1987). The nature of the regional problem also became more transparent, as variations in development were larger between the more heterogeneous judets than between the more homogeneous regiunis that tended to mask areas of underdevelopment by more prosperous areas. For example, the underdeveloped areas of the Cluj region (e.g. Bistrita and Salaj – who now became judets in their own right) were now more easily identifiable as a focus for development initiatives.

Clearly the policy of homogenous development had not been achieved; in 1965 per capita industrial output in the most advanced region (Brașov) was nearly five times higher than that in the most undeveloped region (Suceava). These regional differences in the level of development become even more extreme if the new administrative system were to be used for the 1965 data. The most advanced region would remain Brașov, but its per capita industrial output would be twelve times that of Salaj, the most backward judet. However, it is reasonable to expect the regional difference to become more

exaggerated if smaller administrative regions are used as the basis for analysis when these smaller more deprived regions are separated from the wealth generating centre.

One of the most significant post-war industrial developments was the building of the Gheorghe Gheorghiu-Dej iron and steel works at Galați (which together with the Danube-Black Sea Canal were the greatest single projects commissioned). With the industrialisation process placing increased demands on the national iron and steel industry leading to an over reliance upon imports, new national plant was established. Galați was chosen as the site for Romania's largest steel plant in order to increase output by 4m tons but which also established a valuable new growth pole for further development of the judet. Turnock (1987) states that it is an illustration of an industrial plant located in a non-optimal area. While it was convenient for imported raw materials from the USSR and its ore sorting plant, it was also partially reliant on substantial iron ore discoveries being made in the Dobrogea region as initially hoped. Constanța, Romania's principal coastal port with its developed capacity for shipping, would have been better placed to receive larger iron ore carriers than Galați.

While it appears that economic efficiency, growth and development were dominant considerations over equity – the notion of harmonious regional development remained prominently on the agenda. For example, while the Galați iron and steel works may not have appeared to be the optimal location due to the economies offered by Constanța, the investment was certainly extolled as the dispersal of industry to less wealthy areas – a convenient argument to support the government's claim of facilitating harmonious national economic development (Ronnas, 1991). However, this equity argument was underpinned by an efficiency rationale. The Galați plant was ideally placed to receive imported ore from the USSR, in addition to its developed transport links with the rest of Romania and a developed power supply with a plentiful source of water for cooling (the Danube). The region

surrounding Constanța was considered to be unsuitable for the iron and steel plant as the area was (and still is) Romania's principal holiday resort that would be threatened by visual and environmental pollution risks.

A further supporting example of economic considerations over ideological or equity concerns was the establishment of an aluminium refinery in Slatina, Olt – an economically deprived region. Although presented as an initiative to address regional equity concerns the rationale behind the development were the benefits offered by the availability of power supply in addition to a better labour pool and communications network. While these investments did not remove spatial inequalities, it did integrate many of the less developed regions more fully into the national growth process (e.g. Dobrogea, Maramures, north Moldova, Oltenia and eastern Transylvania). Nevertheless, the industrial regions of Romania were predominantly located in the more developed regions of the country.

The chemical industry provided an increasingly significant contribution to Romania's industrial production. Generally located along an axis of development from Bucharest through Transylvania to Baia Mare as a direct result of its linkages with the metallurgical and oil industries, it was one of the more sophisticated sectors through co-operation with western firms and purchasing foreign plant.

The industrial regions tend to be characterised by the clustering of industrial agglomerations with substantial integration between factories in the area, especially between individual sectors, e.g. the steel industry was concentrated in two main regions, with the modern automated plants in Hunedoara (west) and Galați (south-east) plants being responsible for the bulk of production.

Romania could justifiably be separated into specific industrial regions. The southern industrial region was centred upon the fuel and power industries; the south-west was the principal mining region with significant metallurgical,

engineering, food processing and textile industries. The central industrial region, while the focus for a significant chemical and textile sector, was principally characterised by the engineering industry (e.g. lorry and tractor plants in Braşov). The fourth industrial region, located to the east of the country, was based on oil refining and the chemical industry (Turnock, 1974).

Using Trebici's model (1971) as discussed in Turnock's (1987) examination of the Romanian economy, we are able to compare the regional distribution of investment and job creation per head. The accompanying Map 4.2 distinguishes between the various groups into which judets have been allocated. There are five groups plus Bucharest.

Trebici's regionalisation model enables analysis of the patterns of post-war regional development (under both the 'old' and 'new' regional system). Tables 4.8a and 4.8b show that the 'regiuni' system, the administrative system of 28 regions, resulted in areas Group 1 and 2, and in particular Bucharest, to be the focus for the majority of investment (determined by investment funds exceed their respective shares of the population). This is expected, as included in this grouping is Romania's dominant industrial interior – Braşov and Prahova – both with well-developed infrastructure and a highly skilled workforce, and so a rational focus for the majority of investment funds.

Bucharest, through its dominant agglomerate role, received the highest investment ratios. The tertiary, or service sector, was the focus for much of the investment, with Bucharest attracting a share approximately 4.5 times greater than its population during the 1950s and 1960s. The concentration of investment in Bucharest was also reflected by it commanding much of the educational resources (8.0 in the 1950s, 4.4 in the 1960s) and administration (7.8 and 8.3 respectively).

The spread of investment in agriculture and forestry is much more even, with Bucharest and Group 1 judets actually recording a smaller amount in terms of

its population share. However, this is consistent with the simple fact that more economically developed areas, through their lack of agricultural land, will attract secondary and tertiary investment rather than primary. Group 1 failed to attract primary investment due to its hilly and mountainous terrain that is generally unsuitable for agricultural use – the fertile lowlands are a more obvious choice offering more productive returns.

The patterns of regional investment changed after 1968 with the introduction of the 'new' regional system of 39 judets and the municipality of Bucharest. The previous territorial system based on larger macro regions tended to conceal large variations in levels of development between its sub-regions. With smaller micro-regions, the distribution of investment appeared to be more evenly distributed. This was particularly evident in regard to the uneven spatial dispersion of industrial investment in favour of Bucharest and Group 1 judets that reduced to levels closer to those expected for its level of population (Turnock, 1987).

An effect of this reorientation of investment was the reduction in industrial job creation, only about half as many new industrial jobs were created in Groups 1 and 2 between 1976 and 1980 as in the early 1970s. However, for the country as a whole, industrial job creation was only three-quarters of earlier levels, suggesting that a general economic decline was a significant contributory factor.

The stemming of the level of investment flowing to the judets of Group 1 and 2 meant that the judets of Group 3, and to a lesser extent Group 4 and 5, finally began to receive a proportionate amount of investment in relation to their population levels. This supports the argument that after the initial phase of industrialisation had been completed, attention then focused on the introduction of policies to establish a more even pattern of development (Turnock, 1987). Ronnas (1987, 1989), however, offers an alternative explanation. Instead of being a policy to increase regional convergence, it is

more indicative of a policy designed to alleviate short-term rural underemployment by the rapid establishment of an industrial base without the need for large-scale long-distance migration.

Nevertheless, it is reasonable to assume that the Romanian government made some progress towards facilitating a more even pattern of development – although there is disagreement as to the motive behind such a policy. However, despite this, it should not be assumed that there occurred a universal and homogeneous spread of development. Tables 4.9a and 4.9b illustrate the relationship between employment and investment, a consistent trend was for Bucharest and Groups 1 and 2 to attract predominantly heavy investment factors while light industry was directed towards Groups 3, 4 and 5. Notably, employment in light industry actually fell in Bucharest during 1976-80.

Bucharest remained the focus for a disproportionate level of investment in the tertiary sector, although at declining rates, falling from 3-4 times that of the population in 1971-75 to 2.9 times in 1976-80. Additionally, the capital Bucharest remained the focus for investment in administration and education, a common feature of most economies – but was more prominent in Romania due to the presence of its highly centralised form of government.

Despite the success of Bucharest and Groups 1 and 2 in securing the majority of tertiary investment, the 'poorer' judets did attract an increasing share of tertiary investment, although 'fairer shares' were only achieved by Group 3 judets during 1976-80 for health services and Group 5 for administration in 1971-75. Group 2 was the biggest recipient of transport investment, a direct result of the construction of the Danube-Black Sea Canal and the redevelopment of Constanța harbour as Romania's primary port.

In order to gauge a more accurate picture of the employment and investment trends during this period, each group can be further examined by looking at the data at a judet basis. Tables 4.10a, 4.10b and 4.10c show the gain in

employment in each sector, per judet, since 1960. Although the tables give data on the whole economy, industry and heavy industry – it excludes those working on co-operative and private firms (the official statistics excluded regular wage earners in this sector).

The data indicates that the centrally directed process did not establish universal economic development, supporting the argument that this was never the primary goal. Many of the investment decisions were primarily motivated and justified on the grounds of economic efficiency and comparative advantage – but the efficiency of such investments should be questioned (Hamilton, 1979). Factors accrued to specific judets in specific sectors, implying an economic efficiency motive.

Braşov was the focus for industry and heavy industry, primarily due to its central location and access to localised raw materials, components, finished products and skilled labour. (Turnock, 1987). Arges (Group 2) in the Pitesti area was the focus for wood processing, engineering and petro-chemical industries. Gorj (Group 3) offered suitable raw materials and a convenient location for their distribution throughout south-western Romania. Consequently, during the 1960s there occurred a doubling of employment levels in both industry and heavy industry, primarily focused in its lignite mining and cement production. Suceava (Group 4), predominantly a rural area, benefited from an expansion in its wood-processing industry. Group 5 also witnessed similar patterns of investment. Slatina (Olt) was the location for the establishment of an aluminium smelter in view of its location on a high voltage electricity grid and its power stations. Turnu Magurele, a river port in Teleorman, was the site for the construction of a large fertiliser factory, largely due to its location enabling the imports of raw materials via the Danube waterway and distribution of the final product to surrounding lowlands. This evidence is counter to the view that investment in socialist economies was primarily driven by a wider political agenda without adequate considerations of efficiency (Ronnas, 1989, 1991; Harris, 1994; Stan, 1997).

Map 4.2: County Boundaries - Trebici Model (1971)

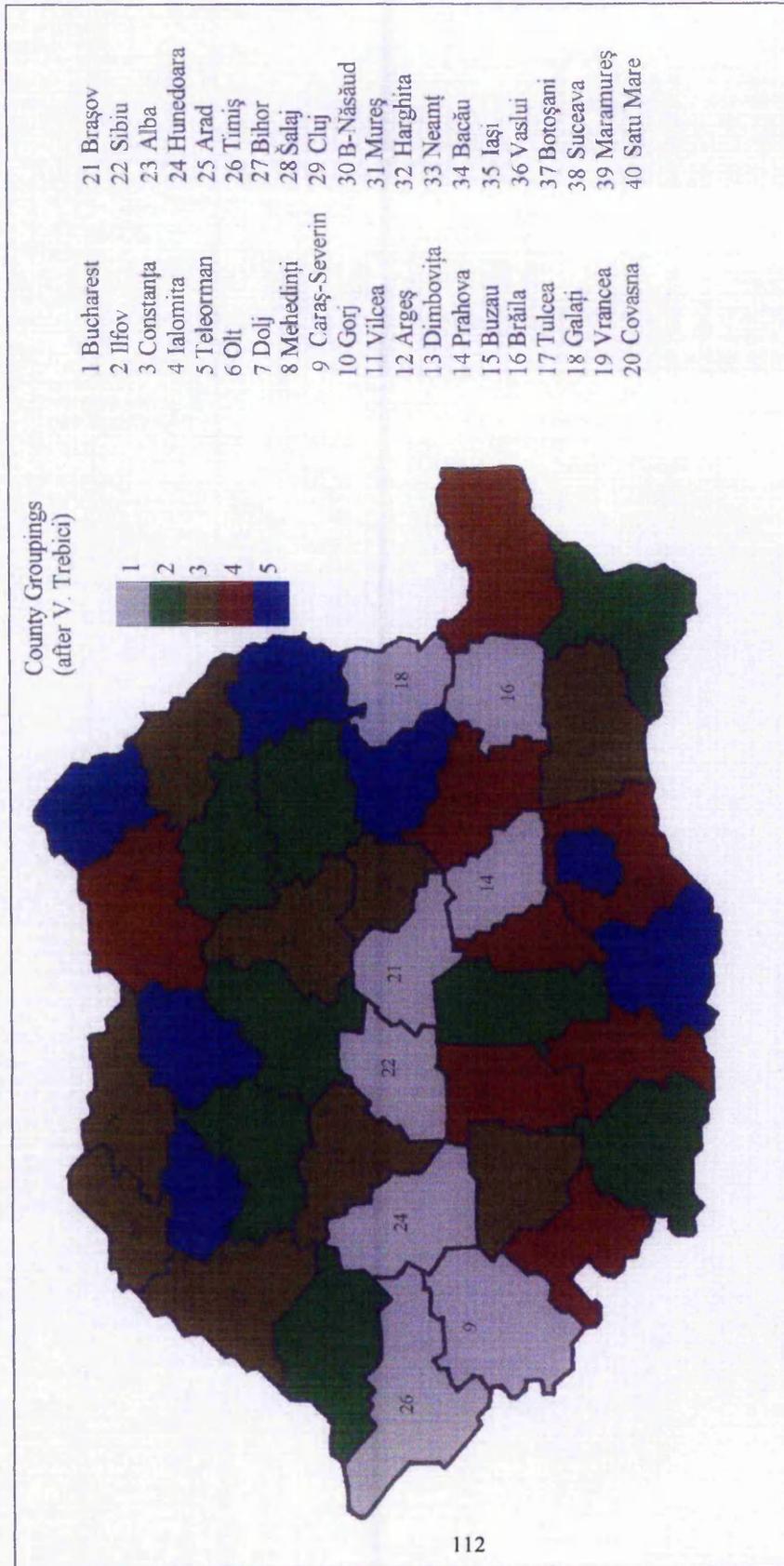


Table 4.8(a): Romanian Investment by Branches of the Economy

Judet Group	Branches of the Economy										Aggregate Investments	
	Industry	Agriculture/ Forestry	Services	Education/ Science	Health Services	Administration	Other ¹	Transport Services				
1951-1960												
Bucharest	1.0	0.4	5.0	8.0	4.6	7.8	4.8	4.0	2.2			
Group 1	2.6	0.8	1.2	0.7	1.1	0.8	1.4	1.2	2.0			
Group 2	1.4	1.3	1.1	0.6	1.2	0.7	1.1	1.3	1.3			
Group 3	0.5	1.2	0.5	0.3	0.5	0.3	0.5	0.5	0.6			
Group 4	0.5	1.0	0.4	0.5	0.5	0.4	0.4	0.5	0.5			
Group 5	0.2	0.8	0.3	0.5	0.4	0.3	0.3	0.3	0.3			
1961-1970												
Bucharest	1.3	0.3	4.2	4.4	1.9	4.0	4.0	4.5	2.1			
Group 1	2.0	0.8	1.0	0.9	0.8	1.2	1.2	0.8	1.6			
Group 2	1.2	1.3	1.1	0.8	1.6	1.1	1.1	1.1	1.2			
Group 3	0.6	1.1	0.6	0.6	0.9	0.6	0.6	0.6	0.6			
Group 4	0.8	1.0	0.6	0.8	0.6	0.5	0.5	0.5	0.7			
Group 5	0.4	1.0	0.3	0.5	0.4	0.3	0.3	0.3	0.4			

Source: Directia Centrala de Statistica, Anuarul Statistic, (various years) - taken from Turnock (1984).

¹ Mainly construction

Table 4.8(b): Romanian Investment by Branches of the Economy

Judet Group	Branches of the Economy							Other ²	Transport Services	Aggregate Investments
	Industry	Agriculture/ Forestry	Services	Education/ Science	Health Services	Administration	Other ²			
1971-1975										
Bucharest	1.1	0.2	3.4	3.8	2.2	6.6	3.5	3.2	1.8	
Group 1	1.7	0.8	0.9	0.9	0.9	0.2	1.0	0.9	1.5	
Group 2	1.2	1.2	1.1	0.8	0.9	0.1	1.0	1.3	1.1	
Group 3	0.8	1.1	0.6	0.6	0.9	0.5	0.6	0.6	0.7	
Group 4	0.9	1.1	0.6	0.8	0.8	0.7	0.6	0.6	0.8	
Group 5	0.4	1.1	0.5	0.6	0.9	1.0	0.5	0.5	0.4	
1976-1980										
Bucharest	0.9	0.2	2.9	3.7	1.9	6.4	2.9	2.6	1.5	
Group 1	1.3	0.8	0.8	1.0	0.8	0.4	0.9	0.6	1.0	
Group 2	1.1	1.2	1.4	0.8	1.1	0.9	1.2	1.7	1.2	
Group 3	1.1	1.0	0.7	0.6	1.0	0.3	0.7	0.6	0.9	
Group 4	0.7	1.2	0.6	0.7	0.9	0.3	0.5	0.7	0.7	
Group 5	0.8	1.1	0.5	0.5	0.7	0.3	0.6	0.5	0.7	

Source: Directia Centrala de Statistica, Anuarul Statistic, (various years) - taken from Turnock (1984).

² Mainly construction

Table 4.9(a): Employment and Investment in Heavy and Light Industry in Romania

Judet Group	Growth of Employment				Investment				Investment per Job			
	Heavy Industry		Light Industry		Heavy Industry		Light Industry		Heavy Ind.	Light Ind.		
	000s	%	000s	%	000m lei	%	000m lei	%				
1966-70												
Bucharest	43.8	18.2	7.4	4.9	13.3	9.7	3.4	12.0	3.0	4.6		
Group 1	63.9	26.5	22.4	14.7	43.3	31.6	5.7	20.1	6.8	2.5		
Group 2	53.4	22.1	52.9	34.7	35.4	25.8	7.2	25.5	6.6	1.4		
Group 3	38.4	15.9	34.1	22.4	17.9	13.0	4.6	16.2	4.7	1.3		
Group 4	32.7	13.6	24.0	15.7	21.4	15.6	6.2	22.0	6.6	2.6		
Group 5	8.9	3.7	11.7	7.6	5.8	4.2	1.2	4.2	6.5	1.0		
Romania	241.1	100	152.4	100	137.2	100	28.3	100	5.7	1.9		
1971-75												
Bucharest	82.6	16.9	13.9	5.6	19.1	8.2	4.0	8.9	2.3	2.9		
Group 1	121.4	24.8	45.9	18.5	66.6	28.6	8.6	19.2	5.5	1.9		
Group 2	100.7	20.6	63.5	25.6	58.9	25.3	10.0	22.4	5.8	1.6		
Group 3	72.8	14.9	52.6	21.2	37.5	16.1	7.2	16.1	5.2	1.4		
Group 4	75.2	15.4	48.6	19.6	39.4	16.9	11.7	26.2	5.2	2.4		
Group 5	35.8	7.3	23.2	9.4	11.0	4.7	3.2	7.2	3.1	1.4		
Romania	488.6	100	247.6	100	232.6	100	44.7	100	4.8	1.9		

Source: Directia Centrala de Statistica, Anuarul Statistic, (various years) - taken from Turnock (1984).

Table 4.9(b): Employment and Investment in Heavy and Light Industry in Romania 1966-80

Judet Group	Growth of Employment				Investment				Investment per Job		
	Heavy Industry		Light Industry		Heavy Industry		Light Industry		Heavy Ind.	Light Ind.	
	000s	%	000s	%	000m lei	%	000m lei	%			
1976-80											
Bucharest	24.0	6.3	-0.5	-0.3	32.3	8.0	5.6	9.9	13.5	-	
Group 1	83.1	21.9	17.8	12.1	86.2	21.4	8.5	15.0	10.4	4.8	
Group 2	86.9	22.9	23.7	16.1	100.6	25.0	10.5	18.6	11.6	4.4	
Group 3	93.2	24.5	36.8	25.0	99.7	24.8	7.6	13.4	10.7	2.1	
Group 4	53.7	14.1	38.7	26.3	46.8	11.6	14.0	24.7	8.7	3.6	
Group 5	39.0	10.3	30.7	20.9	36.3	9.0	10.4	18.4	9.3	3.4	
Romania	379.9	100	147.2	100	401.9	100	56.6	100	10.6	3.8	

Source: Directia Centrala de Statistica, Anuarul Statistic, (various years) - taken from Turnock (1984).

Table 4.10(b): Romanian Employment 1960-80 (per thousand of the population)

Judet	All Sectors			Industry			Heavy Industry		
	1960	Increase 1960-70	Increase 1970-80	1960	Increase 1960-70	Increase 1970-80	1960	Increase 1960-70	Increase 1970-80
Group 3									
Alba	137.5	95.2	107.4	52.1	42.1	63.9	36.6	28.0	42.8
Bihar	141.6	102.1	109.6	63.2	50.7	67.7	49.9	38.7	49.3
Covasna	160.1	97.0	91.9	59.8	49.0	52.9	30.6	30.4	30.4
Dimbovita	149.8	85.4	144.8	74.1	28.2	87.9	46.9	14.2	66.8
Dolj	138.8	75.1	135.3	70.0	31.0	93.6	51.7	22.8	81.5
Gorj	107.4	106.8	89.7	26.2	41.4	49.2	13.5	26.9	35.4
Harghita	122.7	110.2	136.3	42.5	57.7	74.6	35.2	49.3	53.1
Ialomita	150.1	116.2	119.2	76.1	50.3	76.3	55.9	25.5	40.7
Maramures	114.8	130.3	70.0	6.9	30.0	31.9	2.2	8.8	12.6
Maramures	139.8	100.4	104.0	67.1	44.2	62.1	58.0	33.0	33.1
Neamt	162.1	38.0	111.5	60.2	34.9	67.3	46.2	26.1	42.5
Group 4									
Buzau	113.7	81.0	87.8	34.2	30.4	48.9	21.5	16.1	26.7
Iasi	100.8	59.1	117.6	28.5	19.7	80.1	20.4	10.2	48.6
Ifov	118.9	97.4	105.2	29.2	38.8	61.1	14.1	21.1	42.8
Mehedinti	86.7	73.2	55.9	17.4	21.5	23.9	8.7	10.2	6.0
Satu Mare	104.2	98.1	64.8	33.9	21.3	44.4	23.5	11.7	23.3
Suceava	133.0	77.9	97.5	54.3	39.5	58.6	32.6	21.4	31.5
Tulcea	137.4	78.9	73.9	52.9	42.4	36.2	40.3	25.5	6.1
Vilcea	150.0	72.2	131.6	41.8	32.6	48.7	16.9	9.4	27.5
Vilcea	105.7	96.0	84.5	31.5	27.1	50.3	23.3	15.5	39.6

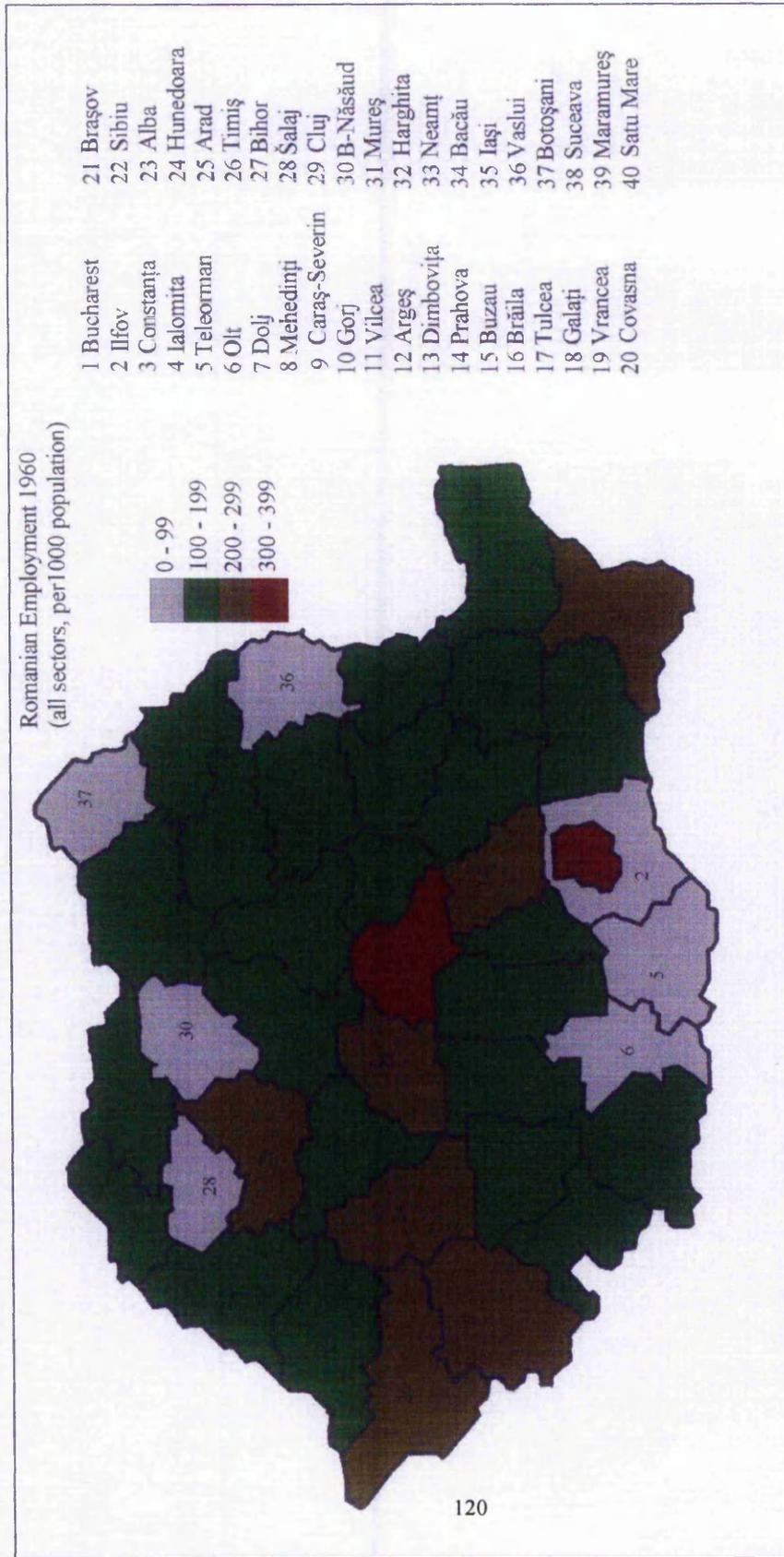
Source: Directia Centrala de Statistica, Anuarul Statistic, (various years) - taken from Turnock (1984).

Table 4.10(c): Romanian Employment 1960-80 (per thousand of the population)

Judet	All Sectors			Industry			Heavy Industry		
	1960	Increase 1960-70	Increase 1970-80	1960	Increase 1960-70	Increase 1970-80	1960	Increase 1960-70	Increase 1970-80
Group 5									
Bistrita-Nasvad	79.8	56.4	98.9	15.7	18.5	53.7	9.0	9.9	32.4
Botosani	88.9	58.5	120.3	30.0	8.9	57.6	24.4	4.5	36.7
Olt	74.0	33.4	95.8	13.0	13.1	50.5	3.8	2.2	21.9
Salaj	73.0	75.6	107.9	9.4	20.4	65.1	4.9	12.4	44.9
Teleorman	74.9	55.8	11.9	19.8	21.2	51.8	13.7	17.8	35.5
Vaslui	67.7	62.9	92.2	9.2	20.7	52.2	2.9	14.2	37.1
Vrancea	87.1	43.3	100.2	17.6	18.1	59.7	11.1	7.2	28.8
	101.9	65.8	72.2	20.5	26.2	35.4	13.4	12.2	19.5
Romania	170.1	97.3	100.5	65.7	42.5	41.8	41.8	27.4	40.3

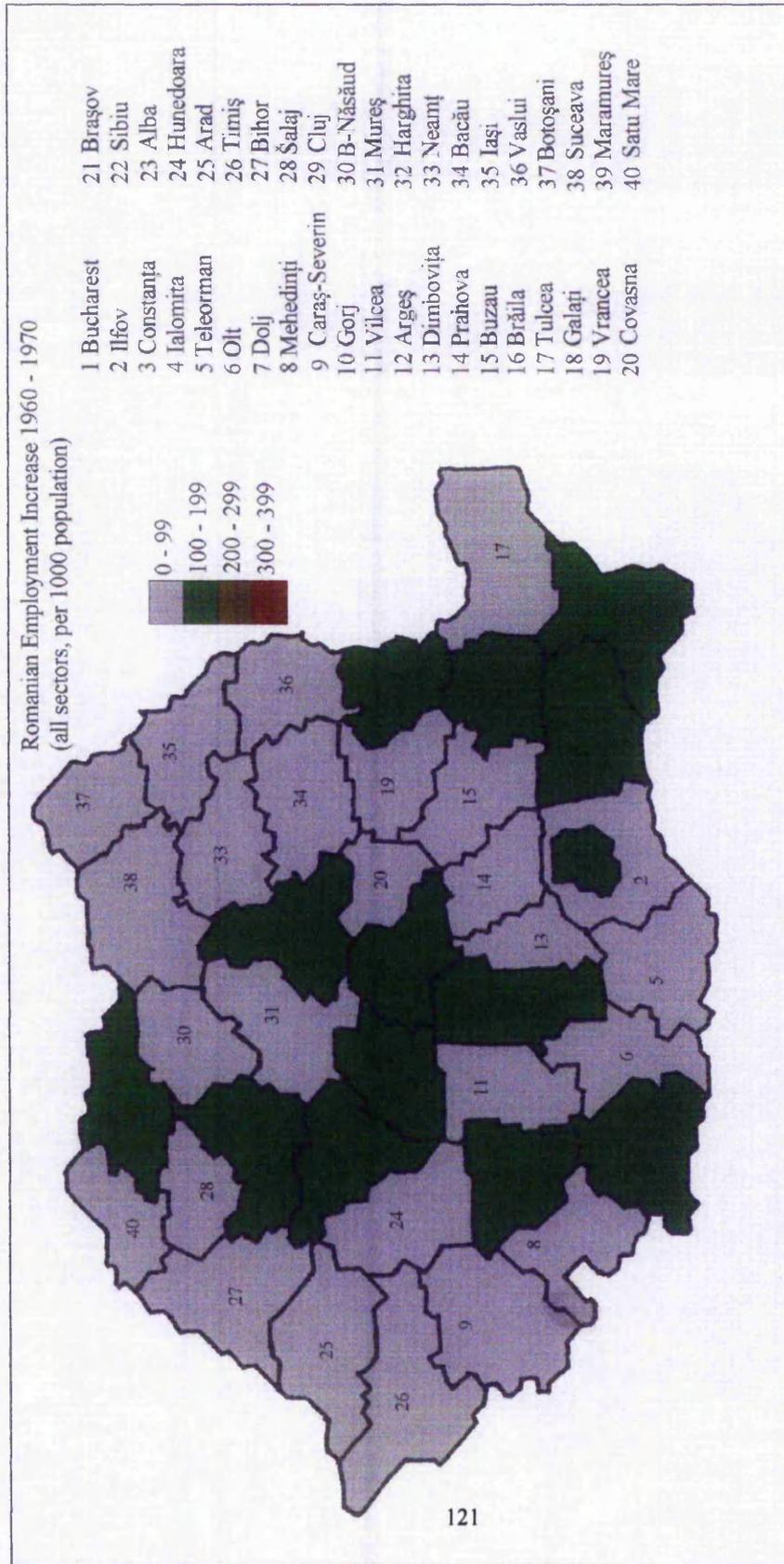
Source: Directia Centrala de Statistica, Anuarul Statistic, (various years) - taken from Turnock (1984).

Map 4.3: Romanian Employment 1960 (all sectors, per 1000 population)



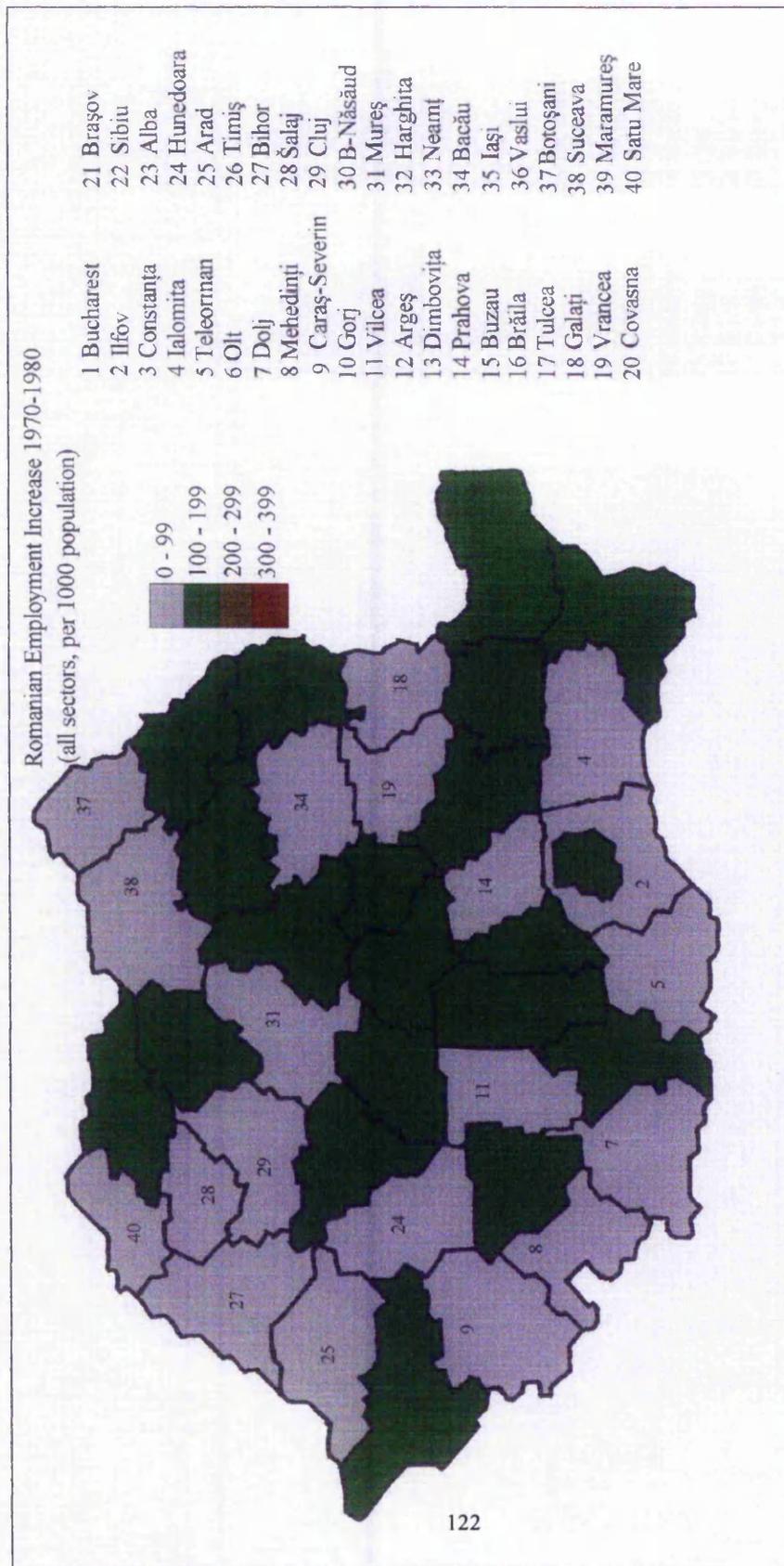
Source: Directia Centrala de Statistica, Anarul Statistic, (various years), Turnock (1984)

Map 4.4: Romanian Employment Increase 1960 - 1970 (all sectors, per 1000 population)



Source: Direcţia Centrală de Statistică, Anuarul Statistic, (various years), Turnoak (1984)

Map 4.5: Romanian Employment Increase 1970 - 1980 (all sectors, per 1000 population)



Source: Direcția Centrală de Statistică, Anuarul Statistic, (various years), Turnock (1984)

Planificare did result in a more even spread of industrial activity and employment during the period 1970-80 (Turnock, 1974, 87). However, this is not to say that disparities were removed, but they were reduced. Group 1 judets continued to show more favourable development characteristics. During the 1960s industrial job creation in these judets was 27.8% greater than the national average, and over 44.5% for heavy industry. By the 1970s this had been reduced to 16.7% and 30.8% respectively. Notably, the position of regional Group 5 was strengthened by an improvement in the level of job creation. During the 1960s, job creation was 56.5% below the national average for industry and 73.9% below for heavy industry. By the 1970s the disparities had been reduced to 8.4% and 19.6% respectively.

Despite the reductions of inter-Group disparities, intra-Group and inter-judet disparities still remained. Braşov maintained its lead position with 105 new jobs in industry per 1000 of the population, of which 96.6% were in heavy industry. Arges maintained its dominant position in Group 2, while the less prosperous Groups witnessed gains for Covasna and Dimbovita in Group 3, in Buzau in Group 4 and Olt in Group 5 – largely due to their proximity to centres of heavy industry and their location in the south-east (Turnock, 1987).

The patterns of post-war regional development can be further explained by demographic changes. The polarisation of population growth has been uneven and biased towards the centre at the expense of the periphery. Again, this is a symptom of agglomeration forces – the population of Bucharest grew 1.33 times faster than the rate of growth for the whole country between 1948-77, while in Groups 1&2 the growth was 1.07 times the national rate. This rate of growth, however, is much less for Groups 3-5, recording a population growth of only 0.92 of the national rate. If it is assumed that an effect regional policy aims to establish uniform economic and population growth then the effectiveness of planificare can be questioned, certainly Ceauşescu's regional reorganisation of 1968 did not produce the desired result.

Augmenting this, if it is assumed that migration is primarily the result of individual selfish motives to improve their own circumstances (often financial or their standard of living), then migratory flows are indicative of opportunities and, invariably, a better level of development (Ramboll, 1996a). Throughout the period 1948-77 migratory flows tended towards the more developed areas - there occurred a net inflow to Bucharest of 390,000, and to Groups 1 and 2 of 180,000 and 10,000 respectively. This was matched by a net outflow from Group 3, 4 and 5 of 90,000, 190,000 and 300,000 people respectively. Although planificare did result in some degree of convergence in regional economic activity, heavy industry was still primarily located in traditional manufacturing and mining areas (the principle extractive industries being located near Oltenia, in the Gorj district, near the town of Tirgu Jiu). In addition, the tertiary sector still tended to favour the capital while light industry tended to be concentrated in the lesser developed regions.

4.9 Sistematzare

A further significant influence upon Romanian regional economic activity was the introduction of sistematzare, a programme of radical rural change designed to develop the regional focus of national economic strategy (Ronnas, 1989). Adopted by the Romanian Party Congress in 1972 through the implementation of the 'National Programme of Physical, Urban and Rural Planning', broadly translated sistematzare referred to the spatial planning of towns and settlements in line with the present and future demands of society.

The policy arose from Ceauşescu's stated intention to reduce social and economic inequalities through the reform of regional development policies, and the concern over the loss of agricultural land through urban development. Instead of reacting to change through a focus on regional economic disparities per se, the planning of spatial settlements was now used as a direct tool in which to influence the development process. This involved the continuation of the policy to limit the growth of large urban agglomerations and to ensure a

more rational spatial distribution of the population by developing an integrated network of towns and urban centres throughout the country. Simply put, *sistematzare* was a uniquely ambitious programme designed to reorganise the settlement structure of Romania – and there is certainly little evidence of any similar schemes attempted elsewhere in Central and Eastern Europe (Pallot, 1979).

Contrary to the views of Ronnas (1989) who argues that the primary motive behind *sistematzare* was explicitly ideological, Johnson (1970), Mihailović (1972) and Turnock (1987) suggest an economic rationale for the programme, a rationale that was essentially three-fold. However, to understand *sistematzare* it is necessary to understand the often stated aim of Romanian socialist government – the creation of a ‘homogeneous socialist man and development plain’ (Ronnas, 1989: 549). Essentially it refers to the objective of enabling the equitable “harmonious development of the entire country...and the creation of one single population of workers” (Ceașescu’s speech, 1988). The vehicle in which to achieve this was to be the removal of the socio-economic differences between towns and villages.

Rural infrastructure was inferior compared to that of urban areas, and the cost of providing the rural population with improved infrastructure and communal services was deemed to be prohibitive. However, it was decided that the cost would be less if the rural population were concentrated in fewer villages, as well as a smaller area within each settlement. The second economic motive was the belief that the concentration of the rural population into smaller settlement pockets would release a significant amount of land for agricultural use. Thirdly, Romania’s economic strategy was based on the establishment and development of existing industrial centres, a process that aimed to generate a critical mass that would then dissipate to surrounding regions – thereby leading to eventual homogenised development. This process failed to occur, and the choice was either to leave those areas in their undeveloped state

or to focus investment upon them. The extent of the disparities and the lack of resources meant that this could only be achieved in certain areas.

Bulgaria, facing a similar dilemma, opted to disperse economic activity into the smaller towns and villages to fully utilise their resources. It was quite common for industry to be located in large villages. Romania, together with Yugoslavia, did not consider such settlements to be suited to development, so the smaller settlements were pooled together in order to establish a viable entity in which industrial activity could effectively operate. Through establishing agglomerations, the differences in town and village were planned to be overcome (Ronnas, 1991).

The rationale behind the policy of *sistematizare* is questioned. The huge amount of resources that went into *sistematizare*; from relocation costs to the investment in 'viable' settlements certainly countered the cost saving motive. The second economic rationale was also dubious, as the release of land was generally in the form of intensively farmed 'gardens' – therefore the effect was the transfer of ownership from the private individual to the collective – and evidence proves that collectivised agriculture had little positive effect on overall agricultural productivity.

The central feature of the programme was the restructuring of all urban and rural areas into a centrally defined hierarchical structure in order to directly influence their levels of development (Ronnas, 1989). The restructuring of rural settlements was seen as an essential component within this strategy as the proliferation of small and scattered villages were viewed as an impediment to modernisation and the narrowing of disparities between urban and rural standards of living.

Linked to *planificare* and the more equitable distribution of industrial activity, *sistematizare* contained a strong element of physical planning and aimed to channel resources to settlements in more 'viable' areas with good development

prospects. This effectively involved the selection of some 300-500 villages for conversion into towns to enable the exploitation of economies of agglomeration. It was assumed that large towns would act as dynamic centres of development, and through the creation of 'super-structures' a cumulative growth process will follow.

While some settlements were actively championed, this discriminatory rural development also meant that many peripheral settlements, some 13,000 villages, were classified as 'non-viable'. These were regarded as unsuitable for development or cost-effective servicing and were phased out altogether, considered to be 'irrational', or "an archaic extravagance that a developing country could not afford" (Johnson, 1970; 357)³. Villages were allowed to decline to such an extent through central authorities failing to allow maintenance that they failed to exist in any real sense, while their populace were encouraged to relocate to urban centres.

Exact figures documenting the extent of the regional change are difficult to come by due to the politically sensitive nature of the programme. The phasing out of several thousand towns (estimated to be between 5,400 to 6,400 villages out of 13,000) and the way in which rural judets were affected disproportionately more than their urban counterparts, was a far thornier issue than the industrialisation of a couple of hundred villages (Ronnas, 1989). For example, 119 out of 380 villages in the judet of Dolj on the Wallachian plain were phased out. In Olt, 207 villages out of 379 were classed as 'non-viable'; 158 out of 341 in Vrancea; 230 out of 497 in Bucau; in Botoşani 144 out of 341 were selected along with 125 out of 132 in Maramures; 200 out of 700 in Alba.

Villages were structured like towns with strict settlement perimeters and land zoning. The prime objective was to achieve an efficient use of available land.

Population densities in villages were increased, all new houses were required to have two floors or more and the personal plots of collective farmers were removed to peripheral areas outside the settlement border. The impact of *sistematizare* was further urbanisation and the reinforcement of the agglomeration structure – larger towns grew at a much faster rate between 1977 to 1982 than smaller towns, and the development of agro-industrial towns removed many regions' sole focus on the primary sector.

Sistematizare was essentially the culmination of the process that started with the collectivisation of agriculture and culminated in sweeping socio-economic reforms. Whereas many other CEE countries saw a gradual loosening of central government control before the eventual downfall of communism, in Romania central management became progressively stricter, until complete autarchy was in force by 1985, with each region subject to direct central control (Anton et al, 1996). The clearance of scattered villages and their replacement with towns, within a specifically drawn settlement perimeter, put in place a system that allowed political control and direction to be tightened.

However, despite this radical programme of socio-economic change the overall impact of *sistematizare* was limited or even counterproductive, evident through the drop in productivity and rural unrest (Ronnas, 1989; Ianos, 1994). The programme's ambitious size slowed its progress and by the late 1980s relatively few villages had been phased out, but many had suffered from a severe lack of resources causing the neglect of communal and social services. The programme also suffered from the economic stagnation of the 1970s – it could only really operate within a dynamic rural environment framework. The construction of new agro-industrial towns fell behind schedule, and the programme was further hindered by the lack of modernisation and the erosion of productivity levels that were largely the result of the further alienation of the Romanian peasantry (Korbonski, 1989).

³ Various indicators were used to determine the viability of settlements, such as location; infrastructure development; transport and communications; commerce; demographic and

However, despite these impediments to socialist directed changes, Ceauşescu reiterated the importance of the sistematizare programme during the late 1980s and called for an even larger number of villages to be phased out and by the year 1990 with two or three agro-industries to be developed in each judet.

4.10 Conclusion

A combination of the inherited patterns of development and the strategy of development adopted allows specific characteristics of the post-war Romanian regional economy to be highlighted:

- Industrial investment remained centrally directed.
- Industry remained highly concentrated and monopolistic.
- Regional variations have been countered by improvements in infrastructure (transport and power) but regional disparities in endowments of raw materials and skilled labour, although recognised, were never fully resolved by Romanian central planners whose priority was to provide for high rates of national economic growth, rather than regional.
- Romania remained a centralised economy – not only in terms of economic freedom but also in terms of national economic development. By favouring large industrial complexes in regional centres, infrastructure was better organised nationally than it was regionally, allowing for better communications between cities and regional centres than between regions and small towns. This was a factor in location decisions to establish plant in major centres rather than in more peripheral areas given the distance from the centres of administration, together with significant power supply and transport problems.
- The polarised more-developed regions continued to develop, but their dominance was limited by increasing levels of investment in underdeveloped regions that led to production being further dispersed throughout the countryside.

employment characteristics etc.

No single theory of regional development can comprehensively explain patterns of post-war Romanian spatial development. There are, of course, certain principles that were common to this study; central planning and the maximisation of national industrial output and growth being the more notable. This policy of spatial organisation and development is consistent with the concept of growth poles, cumulative causation and agglomeration within a planned economy.

The stated aim of the socialist model adopted by Romania and other CEE states was the removal of capitalist-generated inequalities between both people and regions. The replacement of the free-market by the Plan would improve equality and tackle the problems faced by lesser-developed regions who, with few raw materials and skilled workers, and remote from the main centres of commerce, had difficulty in attracting investment sectors other than agriculture (especially manufacturing).

Nonetheless, while this was the ideological goal, it was realised that to achieve this through the establishment of manufacturing centres of development would involve the relocation of either factories and/or future capital investment to backward regions. Such a strategy would require the non-optimal use of finite investment funds and cause supply problems (both in terms of labour and raw materials) - resulting in lower rates of industrial development and output.

Turnock (1989) uses this dilemma of development to highlight the paradox of socialist development. Socialism's claim to legitimacy was that it could modernise society more rapidly and fairly than capitalism. To do this, however, requires rapid economic development through high rates of industrial growth and the removal of regional inefficiencies – a strategy that in itself limits the amount of regional economic assistance that can be given. Furthermore, the emphasis on large enterprises concentrated production in a few regional centres and so reduced the possibility of diffused production.

Therefore, in practice, Romanian economic strategy negated ideology – equality was sacrificed in favour of efficiency.

The rapid industrialisation and modernisation of the Romanian economy, although concentrated in specific regions, had considerable impact on the entire socio-economic structure of Romania (Smith, 1981). Furthermore, while all countries of CEE followed a similar strategy of growth through the expansion of industry, the more developed countries of the north did so from a higher initial level of industrial maturity and so limited the disparities between the more developed and lesser-developed regions. The southern CEE states, including Romania, started from a lower initial level of development and significant regional disparities emerged during the economic growth process.

The regional focus of Romanian central authorities, especially in the earlier years of state-led development, was that regions were the means of national growth. Resources were organised primarily on the basis of what would maximise national development, and the fact that some regions were left behind while the national economy drove forward was seen as a necessary (although not acceptable) price to pay – with the consequence being unbalanced economic growth. It was this dilemma between the often publicly stated policy of ‘harmonious and equitable’ development and the maximisation of national economic growth, with the latter the dominant underlying principle, that caused regional policy to fall into what Mihailović (1972) termed “chronic pragmatism”

“The fact that every decision on the allocation of an activity originally had a territorial dimension does not mean that it was regionally justified” (Mihailović, 1972: 152)

Nevertheless, there is evidence of some positive results that are attributable to the introduction of a more active regional policy. The main instrument of the regional equalisation programme was the redirection of industrial investment

and the 1970s saw evidence of the narrowing of the gap in levels of production and employment between developed and under-developed judets. However, due a lack of reliable data on wages by judet, there is no firm evidence that regional income per capita differentials were narrowed. Nevertheless, as wage levels were higher in the industrial sector than in the agricultural sector, as the industrialisation process diffused to less-developed areas, the regional strategy undertaken is assumed to have reduced the regional disparities in the levels of per capita income.

Part of the explanation behind this lies with planificare and sistematizare - policies that reinforced central control over the regional economy that aimed to increase regional convergence after the initial period of industrialisation had left significant disparities. The extent to which this was achieved is certainly questionable. There is some evidence that the implementation of these regional strategies had a positive effect on regional employment and incomes, matched by a decline in the relative share of the more developed regions in investment funds. This aside, there was no significant redistribution of wealth and the socialist model achieved little success in achieving consistent national growth and equitable regional development.

An examination of the nature of economic planning confirms that it was not conducted with sole and specific reference to ideology, insulated from the criteria and demands of economic efficiency and rationality. Certainly this socialist, utopian ideal was continually reiterated and economic planning was the means to achieve this goal. Central planning did direct industrial resources to less developed regions in an attempt to reduce regional disparities, and provided a useful proof that the regime was committed to egalitarian growth.

However, this motive did not necessarily over-ride considerations of economic efficiency. The general pattern was the direction of resources to more developed and established industrial regions (e.g. Braşov), and as a result, the main industrial centres continued to expand. There are cases where central

interference was a significant influence in the location of investment, particularly from Party leaders always anxious to promote their home towns or regions, but this was a common feature in economies where the state played such a controlling role. The priority of efficiency over equity allowed the process of agglomeration to continue largely unabated enabling the largest cities to maintain their economic growth and dominance (Pallot & Shaw, 1981).

If this view of regional development is accepted, then it should be questioned whether some of the outcomes of the socialist model are that far removed from that of the western free-market - both look for least-cost locations and place primacy in national output and growth over overt regional considerations. In this sense they are similar – but the means of achieving it and the efficiency of outcomes were, of course, far removed.

Central authorities not only made decisions of the level of investment each region was to receive, but also what sector these investment funds were to be directed to. While capitalism allows for flexibility and entrepreneurial activity through open market competition for capital, the Romanian structure stifled the establishment of enterprises that may of appeared suited to local resources but were not viable unless provisions were made for them in the national plan and the relevant ministry approved the location.

A central theme of this chapter has been the suggestion that regional economic development under the socialist governments 1945-90 was the function of the national policy of industrialisation and modernisation that involved the expansion of existing centres of development. While industrialisation certainly diffused to more peripheral regions, the process was predominantly divergent. This has, in turn, influenced patterns of development currently experienced by free-market Romania. The socialist model left the new liberalised economy with a highly polarised structure, one now open to market

forces and largely free from direct government influence and where economic factors are attracted to areas of high-returns and least-cost.

In addition to the previous chapter, the nature of Romanian national and regional development within the socialist economic framework has been examined. With the collapse of the socialist model in 1990, the thesis now turns to an analysis of the national and regional economies within the free market environment and considers whether regional economies have become increasingly convergent or divergent during the present post-socialist era.

Chapter 5:

The Collapse of Socialism and the Transition to a Market Economy

5.1 Introduction

This chapter provides an examination of Romanian economic development from 1990–95. Building upon preceding chapters that examined the patterns of national and regional economic development during the socialist era, the following discussions considers national economic development in Romania within a very different framework - the free market. The socialist model was replaced by the gradual introduction of the market economy from 1990 – and the transition process itself had significant implications for Romania's economic structure and performance.

The first section is an examination of transition itself and the process of structural change that it involves. The second section considers the economic implications of the previous socialist model for the new market economy, followed by discussions relating to different models of transition (i.e. shock-therapy or gradualism). The chapter later focuses on macroeconomic variables such as employment, inflation, investment and trade. The principal purpose of this chapter is to lay the foundations for subsequent discussions and analysis of regional development issues that have emerged post-1990. These need to be placed in the context of national economic change and overall decline.

5.2 The Transition Process

The shift from a centrally planned towards a market based system represents one of the most dramatic economic developments and challenges since the Second World War (Bird, 1992; Ferris et al, 1994). Romania's newly created market economy inherited an economic structure that was state-orientated,

characterised by an extensive central planning committee, a complex bureaucratic mechanism of economic co-ordination and excess industrial production capacities relative to market economies at similar stages of GDP per capita (Ben-Ner & Montias, 1991; Stan, 1997). The first challenge facing Romania and other CEEs was the successful establishment of a market economy. The second, longer-term challenge involved the “recapitalisation and revitalisation of the national industrial base” (Ferris et al, 1994: 81).

Gowan (1995) and Smith (1998) argue that a central feature of the transition is the principle that it fundamentally alters the nature of the state and its ability to wield economic power. Transition has exposed Romania to ‘Western-style’ capitalist forces and patterns of development. The whole economic environment has fundamentally changed presenting new challenges - that of the domestic and international market requiring efficient production processes, a skilled labour force, with modern infrastructure enabling a flexible and innovative industrial structure (Gorzalak, 1996; Hall et al, 1994).

Transition is a dual process. Firstly, it represents a marketisation of economic relations - the introduction of price liberalisation, the law of value, competition and privatisation. Previously, prices played no role in resource allocation, thus there was little incentive for allocative efficiency (OECD, 1998a). Secondly, it can be seen as a move towards the globalisation of economic regulation through foreign direct investment, trade integration through the EU and the WTO, and the increased role of international monetary agencies such as the World Bank and the International Monetary Fund. Within this, there are three identifiable stages (Smith, 1998; Kuznetsov, 1999):

- *Economic stabilisation.* The shift from state socialism to capitalism by using the market mechanism for the allocation of resources, price liberalisation and the removal of financial imbalances.
- *Institutional reform.* Principally concerned with the reform of property rights by implementing a programme of privatisation involving the

removal of state ownership - a principle factor behind the inefficient use of factors. Efficiency would be improved by changes in entrepreneurial behaviour, the industry's competitive structure and the imposition of a hard budget constraint through, for example, the introduction of bankruptcy legislation.

- *Capacity restructuring and Foreign investment.* A reorientation of the economic structure, a shift from primary and the heavy industrial sector to consumer and high-tech goods and the service sector. Increased capital inflows from abroad may ease the transition process by facilitating the modernisation of the Romanian economic structure.

Table 5.1 provides an overview of the Romanian economy between 1989-95. The general trend is one of economic decline followed by a period of partial recovery.

Table 5.1: Selected Economic Indicators for Romania 1989-95

	1989	1990	1991	1992	1993	1994	1995
Output and expenditure							
National accounts	(Percentage change)						
Real GDP	-5.8	-7.4	-15.1	-13.6	1.0	2.4	6.9
Private consumption	0.6	8.0	-15.7	-9.8	-3.0	-0.7	n.a.
Public consumption	1.2	14.0	10.0	2.9	-1.0	14.7	n.a.
Gross fixed investment	-1.6	-35.5	-26.0	-1.1	0.8	n.a.	n.a.
Exports of goods and services	-10.2	-44.6	-4.4	15.1	12.0	13.7	n.a.
Imports of goods and services	2.9	7.4	-14.1	9.4	5.6	-2.1	n.a.
Industrial output ¹	-5.3	-23.7	-22.8	-21.9	1.3	3.3	3
Prices and wages							
Consumer prices (annual average)	0.9	5.1	166.1	210.3	256.1	130.3	45.0
Consumer prices (end-year)	0.6	37.7	222.8	199.2	295.5	61.7	40
Wholesale prices (annual average)	0.0	26.5	255.8	191.7	165.0	n.a.	n.a.
Wages (annual average)	3.9	10.6	121.2	170.0	202.1	n.a.	n.a.
Monetary sector	(In per cent of GDP)						
Broad money (end-year)	5.3	22.0	101.2	79.6	143.2	100	n.a.
Government sector							
Central government balance	n.a.	n.a.	-1.9	-4.4	-1.8	-3.5	-2.9
General government balance ²	8.4	1.2	0.6	-4.6	-0.1	-3	-2
General government expenditure	42.7	39.3	40.4	42.2	31.0	n.a.	n.a.
External data in convertible currencies	(In billions of US dollars)						
Current account balance	2.9	-1.8	-1.3	-1.7	-1.5	-0.7	-1.3
Trade balance	2.6	-1.8	-1.3	-1.4	-1.1	-0.3	-1.6
Gross external debt, net of reserves (end-year)	-1.3	0.6	1.6	2.7	3.5	4	6.60
	(Percentage change in US dollar value)						
Exports (data from balance of payments)	-7.9	-44.0	-1.7	22.9	13.6	28	n.a.
Imports (data from balance of payments)	17.3	49.9	-10.2	16.3	6.2	5	n.a.
	(In months of current account expenditures, excluding transfers)						
Gross int. reserves (end-year), excluding gold	6.0	0.8	1.0	1.3	1.6	2.6	n.a.
Miscellaneous items	(Denominations as indicated)						
Population (in millions, mid-year)	23.1	23.2	23.2	22.8	22.8	22.7	22.6
Employment (% change, end-year)	1.3	-1.0	-0.5	-3.0	-3.8	n.a.	n.a.
Unemployment rate (% of labour force, end-year)	n.a.	n.a.	2.0	8.7	10.2	10.9	14.5
GDP (in billions of lei)	800	858	2199	5982	18835	47500	72249
GDP per capita (US\$, 1995 rates)	2321	1649	1242	852	1087	1324	n.a.
GDP per capita (US\$, at PPP exchange rates)	n.a.	n.a.	n.a.	n.a.	2910	2920	n.a.
Agriculture's share of GDP (%)	13.9	18.0	18.5	20.1	21	n.a.	20.0
Industry's share of GDP (%)	52.8	48.2	43.6	44.3	41	n.a.	33.4
Bank lending rate (end-year)	3	3	8-18	52	86	56	n.a.

¹For 1988 and 1989; industrial real value added.

²General government includes the state, local governments and extra-budgetary funds.

Source: National Commission of Statistics; Economist Intelligence Unit, EIU Country Report, 1st Quarter, 1997.

5.3 Transition, GDP and the J-Curve

The transition from the socialist to the market economy involved a dislocation of individual national economies during the initial stages (see Tables 5.2 & 5.3). Consequently, initial economic performance was seen to worsen significantly during this 'transitional recession' (Bradshaw & Stenning; 2000: 13) as a result of the stabilisation programmes, industrial restructuring, loss of markets and price liberalisation etc. Nevertheless, these costs of restructuring can be interpreted as the successful prelude to competitive capitalism and the

more efficient allocation of resources. Poland was the first country of CEE to recover from the recession with Romania beginning the process of economic recovery a year later in 1993.

Table 5.2: Annual Change in Real Gross Domestic Product 1989-96

	1989	1990	1991	1992	1993	1994	1995	1996
Albania	9.8	-10.0	-27.7	-9.7	11.0	9.0	9.0	9.1
Bulgaria	-1.9	-9.1	-11.7	-5.6	-4.2	2.0	2.6	-10.9
Czech Republic	4.5	-1.2	-14.2	-6.6	-0.3	3.0	4.8	3.9
Hungary	0.7	-3.5	-11.9	-4.5	-1.0	2.5	1.5	1.0
Poland	0.2	-11.6	-7.6	2.6	4.0	5.3	7.0	6.1
Romania	-5.8	-7.4	-15.1	-13.6	1.0	1.0	6.9	3.9
Russia	2.0	-2.0	-15.0	-19.0	-12.0	-15.0	-4.0	-3.5
Slovak Republic	1.2	-2.5	-11.2	-6.1	-4.1	3.5	5.0	6.9

Source: Gross & Steinherr (1995: 279); EIU Country Reports, 1st Quarter (1997: 32).

Table 5.3: Real Gross Domestic Product Per Capita (US\$) 1989-96

	1989	1990	1991	1992	1993	1994	1995	1996
Albania	726	660	477	431	478	521	568	620
Bulgaria	2593	2377	2099	1981	1898	1936	1986	1770
Czech Republic	3426	3385	2904	2712	2704	2785	2919	3033
Hungary	3606	3484	3069	2931	2902	2975	3019	3049
Poland	1726	1547	1429	1466	1525	1606	1718	1823
Romania	1770	1648	1399	1209	1221	1233	1318	1370
Russia	6653	6523	5545	4491	3952	3359	3225	3112
Slovak Republic	2982	2947	2617	2457	2357	2439	2561	2738

Source: United Nations (2000).

The above trends can be illustrated by the use of the J-curve¹ - an explanatory technique for the investigation of the Romanian national economy during the initial years of transition against that of other countries of CEE. As the countries of CEE traverse the J-curve, they move toward economic recovery through the introduction of a modern, better-balanced market economy (Brada & King, 1993; Bradshaw & Stenning, 2000). With time period, t , on the horizontal axis and real GDP on the y -axis, real GDP over time can be used as a measure of national economic performance. Consequently, the J-curve offers a comparison of the respective time lags between the onset of transition and

¹ The J-curve is a concept often associated with exchange rates and open-economy macroeconomics where the initial worsening of a country's current account after depreciation is followed by subsequent upward improvement. The diagrammatic representation of the current account's path has an initial segment that resembles a 'J' - and is therefore called a J-curve (Krugman & Obstfeld, 1997).

the return to national economic growth providing a J-curve of transition (Portes, 1991; Lavigne, 1995; Hölscher, 1999).

The J-curve is an analytical tool that is able to illustrate the point in time during the initial transition process that the countries of CEE began the process of national economic recovery by way of positive GDP growth (Brada & King, 1993). The assumption being that those countries of CEE with the relatively stronger national economies prior to the transition process would be better equipped to respond to the shocks of the transition and return to positive GDP growth sooner than those countries of CEE with relatively weaker economies.

In addition to indicating when national economic recovery began to take hold, J-curve analysis is also a useful technique for showing the depth of recession (as shown by negative annual change in GDP) and the speed and strength of recovery (as shown by positive annual change in GDP) (Worthington, 2001). Other indicators of national economic performance were considered as the basis for J-curve analysis, in particular employment and unemployment. However, these alternatives were rejected as they were unlikely to provide a better indication of national economic performance. For example, although labour market trends could be considered, actual rates were likely to be influenced by factors other than national economic performance as labour policies varied considerably across CEE (Wagner, 1996). The nature of their respective privatisation programmes and the extent of disguised or open unemployment would also be a factor in this.

While GDP was considered to be the most appropriate for J-curve analysis, it is accepted that the results could be skewed if nominal GDP data were used. As a result, the following J-curve analysis uses real GDP data. Furthermore, GDP data is commonly expressed either in US\$ or annual percentage change and both were likely to give different results. It is likely that the J-curve based on GDP annual percentage change will have a different slope than that based on real GDP expressed in US\$ as an upward positive trend is possible without

actually reaching the initial level of GDP recorded at the start of its transition process. Using GDP US\$ will avoid this skew although both analysis are included as a useful basis of comparison.

Figure 5.1 shows annual percentage change in GDP 1989-96. It reflects Table 5.2 by illustrating that all countries experienced a significant fall in output during the early stages of transition. The fall in Albanian output is most prominent (although it did also record the highest growth rates post 1992) while the economies of Hungary, Poland and the Slovak Republic avoided wide fluctuations in output and maintained relatively stable GDP rates. During the initial period of transition 1990-1996 the Russian economy failed to move out of recession.

Figure 5.1: Annual % Change in Real Gross Domestic Product 1989-1996

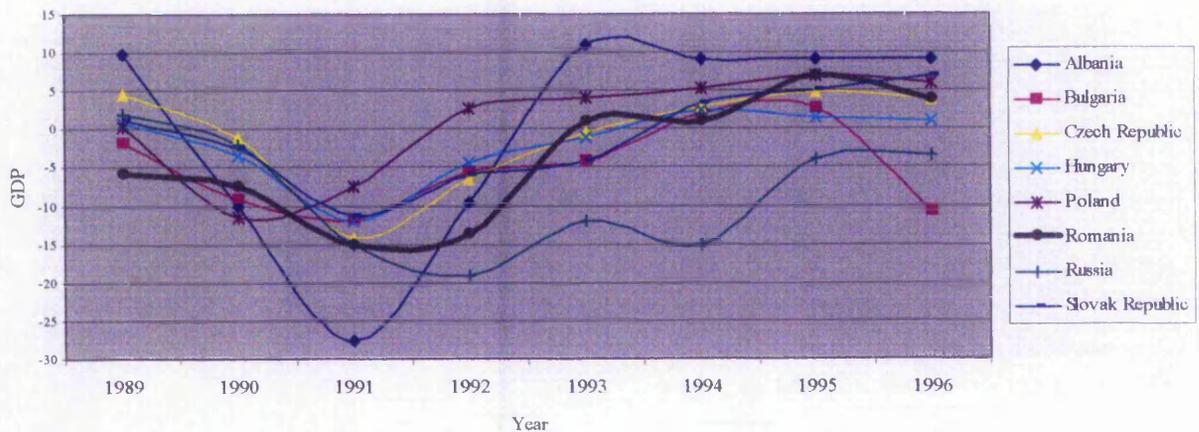


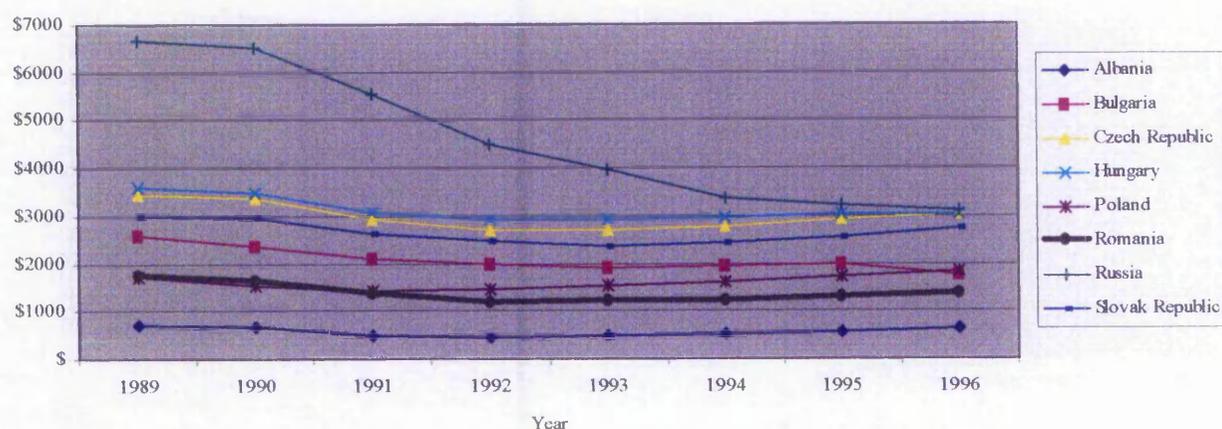
Figure 5.1 usefully shows that the general trend for all CEE counties was one of a contraction in output between 1989-90 followed by a recovery in output from 1991 and returning to positive rates of growth from 1993 onwards. Romania followed this broad trend with a marginal improvement in its output in 1992 followed by a return to positive growth in 1993. However, while the general trend of falling output followed by a return to growth is in evidence, perhaps a reflection of their successful shift to competitive capitalism and

rapid modernisation (Bradshaw & Stenning, 2000), the actual trend fails to follow a smooth J-curve but instead a rather inconsistent and fragile growth pattern.

The patterns of growth as measured by % change in GDP contrast with that as measured by real GDP per capita, as shown in Figure 5.2 and Table 5.3. While % change in GDP for the majority of CEE countries followed a broadly J-curve shape as they returned to positive growth – this does not follow for GDP per capita. Figure 5.2 shows that GDP per capita between 1989-96 to have a much flatter curve and this is indicative of the poor economic performance of CEE states during the initial period of transition. Using GDP per capita data for 1989-96 there is little evidence of a J-curve of transition. This is explained by the fact that by 1996 not a single CEE country had returned to its pre-transitional level of GDP per capita. While many countries were experiencing an improvement in per capita levels of GDP up until 1996, the level of per capita output remained less than it had been at the start of transition.

The levels of Romanian GDP per capita were substantially lower than many other countries of CEE with only Albania recording per capita output below that of Romania. Nevertheless, while the actual levels of GDP differ, the levels of GDP follow a similar trend similar to that shown in Figure 5.1 – that of initial decline followed by partial recovery from around 1992 onwards. Once again, the Russian deterioration in output was the most pronounced.

Figure 5.2: Real GDP Per Capita US\$ 1989 - 1996



This analysis of the J-curve does lead to a number of conclusions. Firstly, the analysis of GDP through J-curves is skewed by the method of measurement, as was initially assumed. Secondly, the 'traditional' J-curve shape is more evident if % change in GDP is used rather than per capita data. Thirdly, and most important, is that the trends as shown by Figure 5.2 imply that rapid economic recovery and the successful introduction of a modern, competitive market economy did not follow the initial dislocation of national economic performance. In effect, the J-curve was still to be traversed after the initial transition period. While this is only an analysis of a partial data set and that recovery was increasingly consolidated after 1996, thereby implying the need for later studies, it has shown some interesting insights into the relative performance of the national economies of CEE during the early years of transition.

5.4 The Legacy of Socialist Planning

On a sectoral level, Romanian industrial structure was strongly skewed toward heavy industry and capital goods and away from light industry, services and consumer goods. Mainly a reflection of the Stalinist model, it led to the formation of large industries with a virtual absence of small to medium-sized firms, an integral part of economic growth in market economies (Lipton &

Sachs, 1992). The existing industrial plant was inefficient and uncompetitive, producing goods of low quality and offered little scope for labour productivity improvements (Gilberg, 1990). With the existing plant, productivity could not simply be increased through improvements in labour productivity as much of the machinery was obsolete.

This is one of the more notable problems - the obsolete nature of much of Romania's capital infrastructure (Frausum et al, 1994). Romania is characterised by inadequate and obsolete communication, road and distribution networks. The shortages of goods and even food of 1990-1 were caused more by the failure of the distribution and communication than a lack of aggregate supply (Ferris et al, 1994). This serves to discourage Foreign Direct Investment (FDI) as multinational corporations often consider developed infrastructure as a prerequisite for investment. This implies that to attract increased FDI the infrastructure needs to be developed through public expenditure provision.

Smith (1998) questions the sustainability of capitalism as a replacement for the state socialism model. Although economic growth is now occurring (albeit slowly and from a low initial base) the transition process has important implications for the character of spatial development as there occurs increasingly competitive struggles over scarce resources.

The structure of the Romanian economy has changed since transition. The decline of the industrial sector and the growth of the private sector have led to a reorientation of the origins and components of national income (see Table 5.4). For example, in 1981 industry contributed over 56% of Romanian national income. By 1996, its contribution had fallen to 33.4% - a reflection of industrial decline rather than the growth of other sectors which remained at fairly constant levels, apart from a rise in agriculture's contribution to GDP. Romania is still a country characterised by the heavy presence of the rural sector, farmland represents 9.5m hectares (23,475,450 acres) and utilises 62% of the country's surface area, employing 26% of the workforce. The

manufacturing industry (which employed 24.5% of the labour force in 1994) is based mainly on the metallurgical, food, mechanical engineering, chemical and timber processing industries (EIU, 1997).

Table 5.4: Origins and Components of GDP 1996.

Origins of GDP	% of total	Components of GDP	% of total
Agriculture and forestry	20.0	Private consumption	66.1
Industry	33.4	Public consumption	12.5
Construction	6.5	Gross fixed investment	21.6
Services	40.1	Increase in stocks	4.5
		Exports of goods and services	18.9
		Imports of goods and services	-23.7
Total	100.0	Total	100.0

Source: EIU Country Report (1997: 37)

A clear outcome of the transition process has been economic decline, so serious that many analysts have predicted that the levels of development reached in the late 1980s are unlikely to be returned to for many years (Rollo and Stern, 1992; Gowan, 1995). This loss of output is reflected in Table 5.5 that records the trends in GDP growth 1971-89, and measures 1995 GDP as a percentage of the levels immediately before transition. Only Poland was nearing its 1989 level of output by 1995 (and achieved in it by 1997). Romania suffered particularly badly, by 1995 it was not yet at 80% of its pre-transition level. Other CEEs suffered similar falls in output, the Visegrad countries fairing slightly better, while Albania and Bulgaria slightly worse (Kuznetsov, 1999). What this implies is a period of sustained economic growth is required to generate real economic growth during the transitional period (Dunford, 1998).

Table 5.5: Transition and GDP Growth.

	Average annual growth 1971-80	Average annual growth 1981-89	1995 GDP as % of 1989
Albania	n.a.	1.7	74.3
Bulgaria	n.a.	4.9	74.4
Czech Republic	n.a.	1.8	85.1
Hungary	4.6	1.8	88.0
Poland	n.a.	2.6	98.8
Russia	6.5	3.0	60.0
Romania	7.6	1.0	78.7
Slovak Republic	n.a.	2.7	84.0

Source: World Bank (1998) & Dunford (1998: 156).

Since 1989, industrial output has fallen by over half (see Table 5.6). GDP fell by 13.6% in 1992 and industrial output by 23.3%, and overall the CEE economies experienced a fall in industrial output of 10%. Industrial unemployment followed this industrial decline, but with a substantial time lag causing a fall in labour productivity (Raiser, 1995). Romania's heavy industry, representing 54% of total industrial output in 1989 fell to 40% by 1993, with even sharper declines in investment (30-35% of GDP before 1989, but averaging only 14% to 24% between 1991-93). Correspondingly, about one million people left industrial employment between 1990-93, a quarter of all industrial employment.

Table 5.6: Percentage Change in Industrial Output 1989-96.

	1989	1990	1991	1992	1993	1994	1995	1996	1997
Albania	n.a.	-8.2	-42.5	-20.4	-10.0	-8.0	-3.0	3.0	n.a.
Bulgaria	-0.2	-17.5	-27.8	-21.9	-6.3	2.9	1.7	1.0	4.0
Czech Republic	1.5	-3.5	-22.8	-10.6	-5.3	2.3	9.2	9.8	9.0
Hungary	n.a.	-8.5	-19.1	-9.8	0.6	5.0	4.8	3.0	5.0
Poland	n.a.	-24.2	-11.9	3.9	6.2	12.1	9.4	8.5	10.0
Romania	-2.1	18.8	-19.6	-23.3	1.3	4.6	9.4	5.0	4.5
Slovak Republic	1.1	-2.7	-21.6	-13.7	-13.5	7.5	7.5	3.0	-3.0

Source: EC Directorate General for Employment, Industrial Relations and Social Affairs, cited in Turnock (1997: 295).

Changes to the employment configuration reflect the change in Romania's overall economic structure. Tables 5.7 and 5.8 illustrate the decline in employment, and its disproportionate effect on the industrial sector, which suffered from a 7% fall. A result of this industrial decline has been the relative growth of the agricultural sector that has experienced an increase in

employment of 350,000, and an increase in agriculture's contribution to GDP from 14% to 24% (and services from 26% to 32%) (Harris, 1994). However, much of the increase is due to the decline of the industrial sector rather than real growth in the agricultural and service sector. This differs from most other transitional economies where labour tends to flow from agriculture and industry towards the service sector (OECD, 1998b). Nevertheless, employment in the trade sector grew owing to the liberalisation of external trade.

Table 5.7: Employment Characteristics - Employment by Branches of the Romanian Economy (end of year).

	1985	1989	1992	1993
Total	10,586,000	10,945,000	10,458,000	10,062,000
<i>By branches (%)</i>				
Industry	37.3	38.1	31.6	30.1
Construction	7.4	7.0	5.5	5.7
Agriculture	28.5	27.5	32.1	35.1
Forestry	0.4	0.4	0.8	0.7
Transport	6.0	6.2	5.3	4.9
Communications	0.8	0.7	0.9	0.9
Trade	5.8	5.9	7.2	7.1
Municipal services, housing, others	4.1	4.9	6.5	4.1
Education, culture, arts	3.9	3.4	4.1	4.3
Science and scientific services	1.3	1.3	1.0	1.0
Health protection, social assistance	2.7	2.7	2.9	3.0
Administration	0.5	0.5	1.1	1.2
Other branches	1.5	1.4	1.0	1.9

Source: Anton, Danciu & Mitu (1996: 83).

Table 5.8: Employment Characteristics - Main Employment Characteristics.

	Total employment (000s)	Total employment as share of population (%)	Industrial employment as share of employed population (%)
1985	10,586	46.6	37.3
1989	10,945	47.3	38.1
1991	10,785	47.4	35.4
1992	10,458	46.0	31.6
1993	10,062	44.2	30.1

Source: Anton, Danciu & Mitu (1996: 83).

The socialist economies of CEE failed because they were unable to keep pace with technological developments and economic dynamism of the West as they had removed themselves from the globalisation process that was determined

by the market mechanism and the rule of value (Smith, 1998). This underlines the weakness of the socialist growth model - that of concentrating on increasing industrial capacity rather than reinvestment to modernise older plant (Turnock, 1997). The bureaucracy, lack of incentives, authoritarian engendered inefficiencies led to a form of economic regulation that was inappropriate for any further long-term growth after the initial gains from forced industrialisation had been exploited (Andrusz, 1996). Murrell (1991) offers an interesting perspective supportive of many of the arguments presented in this thesis. Through empirical analysis it was concluded that state socialism was as efficient, or as inefficient, as more capitalist based systems in the allocation of resources. The central difference was that through their ability to promote innovation, capitalist societies were dynamically more efficient (Grabher & Stark, 1998).

Although Romania abandoned the planned economy model in late 1989, the country and its government continued to be criticised for the slow pace of democratic reform and the transition towards a market economy² (Tismaneanu, 1993; Frausum et al, 1994). Romania's slow progress in economic reform can be attributed to three factors (Stan, 1997):

- Resistance from an indifferent ex-communist nomenklatura anxious to retain as much economic and political power as possible. Members of the old elite often dominate the economy through their role as the new managers – and used their positions to resist economic reform and privatisation.

- Apprehension of the government to the social implications of shock-therapy involving rapid restructuring and privatisation.

² Kornai (1995), Blasi et al (1997), Smith (1998) view economic transition more as a 'revolution' than a 'reform'. They argue that whilst reform yields important changes, it modifies and retains the existing system's central principles. Revolution, however, involves a fundamental shift in an economic and political system, and so the shift from a socialist to capitalist economy should be seen as a revolution in the same sense that the removal of the

- The State Ownership Fund (SOF) has generally avoided implementing measures that would lead to the bankruptcy of politically sensitive or influential firms.

5.5 Strategies for Reform

The collapse of the socialist planning system has ushered in a period of what Steinherr and Gros (1995) appropriately refer to as the 'winds of change'. In response, various strategies for the transition to a market economy have been adopted; there is no universal blueprint for transition. Whilst the general process of transition, i.e. the return to capitalism, is a universal phenomenon, it is important to acknowledge that these countries are not homogeneous entities (Teodorescu, 1991) and as such their experiences, endowments, economies and strategies for reform are very different (Bird, 1992).

The economic and political structures of CEE countries were all very different from each other at the onset of the transition process. The Romanian economy at the time of Ceauşescu's fall had three clearly identifiable features that distinguished it from the other countries within CEE. It was a hypercentralised, Stalinist-socialist economy;³ it had no external debt; and had the distinction of the having the lowest material standard of living (with the exception of Albania).

Consequently, CEE states have not reacted to the challenges of transition in the same way, nor have they had the same capacities and abilities in which to do this. However, the common feature is that all reforms entailed a greater emphasis being placed on the market mechanism. It involved a comprehensive and fundamental restructuring of their economic system. The aim was to increase national output, and to shift the emphasis of production

capitalist system in favour of a socialist economy was.

³ The Stalinist model was subject to much criticism after Stalin's death, and Khrushchev and Brezhnev made considerable amendments. This 'loosening' of Stalinist economic constraints was extended to the satellite states, but Romania deviated much less from the Stalinist model than others (Dawson, 1987).

from the manufacture of industrial goods towards the provision of consumer goods. Included in this re-evaluation of economic priorities was an increased emphasis on the service sector and the scaling down of military expenditure that had traditionally been a priority of CEE states as a result of the Cold War and Soviet hegemony.

There are two generally accepted models of transition; the neo-liberal 'shock-therapy' approach and 'gradualism' (Amsden, 1994). This gradual approach to market reform is a rejection of the comprehensive 'big-bang' reform package and places the main emphasis on the progressive expansion of a new private sector. It can be viewed as an attempt to ensure some protection for incomes, to prevent social dislocations and to avoid high social costs - 'less shock, more therapy' (Stan, 1997).

"The most successful reforms will occur in those countries that effect change consistently over an extended time period rather than in those that attempt to use economic strategies to create a sudden divide between the past and the future" (Murrell, 1992: 92).

By contrast, shock-therapy is an unambiguous statement "supporting the superiority of the free market and the concern to block inflationary pressures through fiscal austerity" (Smith, 1998: 187). This form of macroeconomic stabilisation, price and trade liberalisation has been adopted in Poland and the Czech Republic. By freeing prices, liberalising trade and removing subsidies (implying a limit on government spending and borrowing), firms were obliged to operate according to the rapidly established rules of the market economy. Neo-liberals expected many of the enterprises to fold, and this is the outcome they sought, for it was assumed that many state industries were hopelessly inefficient. Those firms more able to survive in this new competitive environment would then be rapidly privatised. Through this strategy a rapid transition to an efficient market economy could be achieved based largely on new private enterprise.

Shock-therapy has the advantage of credibility – it implies a decisive break with the old economic regime – subsequently altering economic expectations (Raiser, 1995). Advocates of this neo-liberal approach argue that postponing adjustment, through the adoption of gradualism, lacks credibility and a clear sense of purpose. The continuance of any institutions, organisations and relationships of the socialist era is an indication of incomplete change (Grabher & Stark, 1998). It is argued that gradualism, despite minimising short-run costs by spreading the costs of adjustment over a longer period of time, does not maximise long-term benefits and results in an increase in the eventual costs (Edwards & Montiel, 1989; Bird, 1992). Additionally, the gradualist approach risks being viewed as an appeasement to the former party nomenklatura, while failing to adequately increase the production of badly needed consumption goods (Killick & Stevens, 1992).

Alternatively, Gros & Vandille (1994) argue that there is no firm link between the speed (hence strategy) of reform and the reduction in output - but argue that it may be explained by the amount of time the country spent under communism and the extent of pre-transition liberalisation. For example, the fall in GDP was typically 15% higher in the states of the former Soviet Union and those CEE states that adhered more rigidly to the Stalinist model of development (e.g. Romania and Albania).

However, the notion that there must exist a choice between shock-therapy and gradualism is 'illusory' (Turnock, 1997: 145). The nature of the Romanian socialist economy has contributed to the nature of its transition. While it is true that the absence of external debt and the pent-up consumer demand should lead to a surge in production - this was frustrated by the existing socialist administrative and managerial structures that brought about difficulties in implementing economic reforms. While many authors (e.g. Gros & Steinherr, 1995; Smith, 1998 et al) highlight two different approaches to CEE transition approaches - 'shock-therapy or gradualism' - Teodorescu (1991: 69) suggests that it is inappropriate to solely focus on the arguments of the two schools:

“The truth is that until now, no-one has witnessed a socialist CEE economy moving rapidly, efficiently, and directly towards a market economy.”

This argument is linked to the earlier point relating to the relaxation of the Stalinist model. Rather than attributing the CEE states' break from their 'Stalinist legacy' to Gorbachev's introduction of perestroika ('restructuring'), glasnost ('opening') and the cumulative events of 1989 (Kuznetsov, 1999), it is claimed that the transition process started, albeit in a very modest and tentative form many years ago (Korbonski, 1989). Although Romania rejected all economic and political reforms, even despite pleas from Gorbachev, until the fall of Ceaușescu, other CEE states first attempted economic reforms as early as 1957 when Poland reformed its economic system. Yugoslavia also witnessed creeping marketisation for thirty years, Hungary for twenty years (New Economic Mechanism – gradual market orientated reforms introduced 1968) and the Soviet Union for five years. While it is not disputed that it was not until 1989 that substantial progress was made towards economic transformation (Merridale & Ward, 1991; Stuart & Gregory, 1995), it does indicate that the transition process is a slow and often a painful process.

Romania adopted a somewhat erratic combination of gradualism and shock-therapy, dominated by the 'old ways' of thinking and a lack of clarity – leading to a lack of credibility and confidence (EIU, 1997). A factor behind this was the apprehension of open unemployment, inflation, budget and balance of payments deficits. Nevertheless, Romania's transition to a market economy is generally perceived to have followed a more gradual approach than the transitional strategy adopted by its neighbours (Gros & Steinherr, 1995; Daianu, 1997; Turnock, 1997). A cautious approach to price liberalisation was taken in view of the low level of consumption and purchasing power that resulted from the austerity programme of the 1980s. Initially, prices were only liberalised on a limited number of goods, and the removal of subsidies on consumer goods was only largely completed by 1995. Despite the implementation of macroeconomic stabilisation policies,

restructuring at the micro-level was sluggish and institutional reform was at first very limited. Though it aimed to minimise social costs the strategy was unsuccessful and failed to generate sustainable economic gains (OECD, 1998).

Romania has undergone two clear transitional periods. The initial transitional strategy was clearly gradualist, but the onset of economic difficulties and a lack of credibility led to the adoption of a more shock-therapy orientated approach in 1997 that was implemented by a change of government under Emil Constantinescu.

5.6 Trade Issues

Romania's industrial stagnation should not be solely attributed to the transitional reforms, as the loss of markets caused by the disintegration of the old Soviet bloc trading system, the CMEA (Council for Mutual Economic Assistance), is equally important. The economic situation, although already serious in the immediate post-transition period, was certainly exacerbated by the decline in intra-CMEA trade. It had previously sustained much of Romania's heavy industry, CMEA trade was responsible for between 40-50% of Romania's industrial exports, and so its collapse triggered an almost 50% decline in its external trade, affecting 10% of Romania's 1988-89 output (Cook & Nikson, 1995).

The ruinous impact of the decline in intra-CMEA trade and loss of markets is the most important external shock to affect the countries of CEE (Harris, 1994; Gros & Steinherr, 1995; Kuznetsov, 1995; Turnock, 1997). The collapse of CMEA was a severe external shock that was worsened by the CEEs poor competitiveness, the poor quality of their goods, their out-dated industries, the inexperience of their enterprise managers in a competitive environment and the trade barriers of the EU. These factors combined to inhibit the ability of many CEE countries, including Romania, to increase their share of Western markets to compensate for their loss of their traditional markets (Jones, 1996). Many CEE states (but not Romania due to its relative

detachment from the Soviet Union) also sustained further financial losses as CMEA's demise meant that they were no longer able to benefit from Soviet trade subsidies.

It could be argued that the early 1990s were not an ideal time to restructure an economy as Romania's reform programme was initiated against a background of general economic malaise (Harris, 1994). International pressures worsened an already serious national economic situation. Although external trade was liberalised, and oil and imported industrial input prices free from control, exports to the European Union fell by 37% (1989-92) due to a European-wide recession. The Gulf war increased the price of Romania's imported oil and affected its role as an oil refiner and exporter of refined goods. There also existed a trade embargo on Serbia – another valuable trading partner. These pressures, combined with the domestic hardships reduced per capita GDP to levels akin to "lower league middle-income countries" (Frausum et al, 1994: 737). It is estimated that in 1989 Romania's GDP per capita was \$1563. By 1992, with a 46.6% drop in real output and industrial output only 40% of 1989 levels by 1993, Romania's GDP per capita had fallen to \$680 by 1992.

National statistics reveal the importance of the EU as a trading partner, accounting for \$3.77bn of Romanian exports in 1996, 55.3% of the total. However, problems remain, as Romanian exports are concentrated in relatively labour intensive industries, precisely those 'sensitive' sectors that remain relatively well protected by the EU despite the signing of the Europe Agreements.⁴ Nevertheless, it is evidence of a normalisation of trading relations as Romania attempts to increasingly integrate itself into the Western markets, especially those of the EU in anticipation of membership. This represents a successful reorientation of its previous socialist trade relationships away from ex-CMEA partners (Table 5.9).

⁴ Asymmetric trade agreements between the EU and Romania.

Table 5.9: Origins of External Trade 1995

Main destinations of exports	% of total	Main origins of imports	% of total
Germany	17.9	Germany	66.1
Italy	16.6	Italy	12.5
France	5.5	Russia	21.6
Turkey	5.5	France	4.5
Netherlands	4.2	USA	18.9
China	3.2	Egypt	

Source: EIU Country Report (1997: 24)

The onset of the transition process and reforms has led to the general deterioration of the CEE's current accounts (Table 5.10). Overall, there has occurred a contraction in both imports and exports, but the decline in exports was the most pronounced in light of the uncompetitiveness and poor quality of many CEE products. Romania experienced an especially rapid decline in its current account position when considering the austerity programme of the 1980s that involved the maintenance of trade surpluses to finance debt repayment. This persistent balance of payments deficit, worsened by Romania's comparative lack of foreign investment funds, caused a depletion of its foreign exchange reserves.

Table 5.10: Current Account 1990-96

	1990	1991	1992	1993	1994	1995	1996
Bulgaria	-860	-77	-361	-1098	-25	-26	82
Czech Republic	-338	1143	-305	-54	-787	-1362	-4292
Hungary	127	267	324	-3455	-3911	-2480	-1678
Poland	716	-1359	-269	-2329	-944	-2299	-8505
Romania	-3337	-1012	-1564	-1174	-428	-1774	-2571
Russia	-2500	1500	-1700	2000	9300	7900	12100

Source: EIU Country Report (1997: 21)

5.7 Inflation

A second serious adjustment problem that emerged with the onset of economic reform was the emergence of an inflation problem. Under state socialism, inflation of official prices (those set by the state) was contained by keeping the price level fixed for long periods of time. If aggregate demand increased, then inflation became 'repressed inflation', and this manifested itself by causing black market prices to rise, queuing and forced saving – but official prices

remained unchanged (Nordhaus, 1992). As Romania liberalised its economy, repressed inflation became open inflation and prices in both the state and private sector began to rise.

The reform of the price structure is the cornerstone of internal reforms. Marketisation could not take hold if prices remained bureaucratically fixed, and it would then follow that the other elements of economic reform would make little sense (Gross & Steinherr, 1995). Price reform was necessary to allow the market to determine relative prices and the real value of fixed assets (which under central planning were given arbitrary evaluations). The removal of price controls inevitably led to inflation with the freeing-up of demand.

However, changes in relative prices do not necessarily have to lead to an increase in the inflation level – the prices of some goods will go up (foodstuffs, rents) while the prices of others will go down (industrial goods). Nevertheless, the result of price liberalisation in all CEE states was high and sustained inflation. Romania experienced a sustained period of inflation during 1991-93, the same period when the process of price liberalisation was accelerated. The problem with price liberalisation is that so as to avoid high and sustained inflation, firm and credible anti-inflationary policies are needed - but these involved the risk of generating recession. What occurred in most CEEs, and especially in Romania, were lax monetary policies (Cook & Nikson, 1995; Gross & Steinherr, 1995). Inflation is not caused by price liberalisation *per se*, but by an increase in the money supply. Therefore, as the government continued to inject money into the economy, in part due to its failure to remove subsidies leading to the continual monetary financing of large fiscal deficits, inflationary pressures built up (Daianu, 1996).

Inflation very soon became a serious problem endemic to all CEE countries after the transition process began. Table 5.11 illustrates that all CEE countries were characterised by high levels of inflation. It also shows that inflationary pressures grew very strong within a couple of years of transition, but then began to fall after 1994. Even by CEE standards, the Romanian inflation rate

rose suddenly after 1990 reaching its peak of 256% in 1993. Since then, the implementation of tighter monetary policies has led to notable decline in the inflation rate. The Czech and Slovak Republics, Hungary and Poland, although experiencing high inflation (compared to western levels), maintained a lower, stable level through a tighter monetary policy and restricting the rate of increase of its money supply.

Table 5.11: Consumer and Retail Price Inflation 1989-96

	1989	1990	1991	1992	1993	1994	1995	1996
Albania	0.0	0.0	104.0	226.0	85.2	16	5	n.a.
Bulgaria	5.6	23.8	339.0	91.3	72.8	120.0	60.0	123.0
Czech Republic	1.4	9.7	56.7	11.1	20.8	11.0	9.0	8.8
Hungary	17.0	28.9	35.0	23.0	22.5	20.0	17.0	23.6
Poland	251.1	585.8	70.3	43.0	35.3	30.0	23.0	19.9
Romania	0.9	5.1	166.1	210.3	256.0	130.0	45.0	38.8
Russia	2.4	5.6	160.0	1534.0	912.0	250.0	125.0	47.8
Slovak Republic	1.2	10.4	61.2	10.0	23.2	16.0	12.0	10.0

Source: OECD World Economic Outlook (1994); National Commission of Statistics (1997); Economist Intelligence Unit, EIU Country Reports (1st Quarter, 1997).

A further examination of the monetary policies implemented by the CEE countries can be taken from changes in money supply (Table 5.12). As expected, a relationship exists between the rate of inflation and changes in the money supply. The states that experienced relatively low and stable inflation also had a tighter grip on money growth (e.g. the Czech Republic, Hungary). An erratic inflation record reflected Bulgaria's erratic money growth. Romania's consistently high inflation was linked to its lax monetary policies that failed to control monetary growth.

Table 5.12: Percentage Change in Money Supply (M2) 1990-96

	1990	1991	1992	1993	1994	1995	1996
Bulgaria	n.a.	125.6	50.2	39.1	78.6	39.6	124.5
Czech Republic	0.5	26.7	20.7	19.8	19.9	19.8	9.2
Hungary	29.2	29.4	27.3	17.2	13.4	18.4	21.2
Poland	160.1	47.4	57.5	36.0	38.2	34.9	29.3
Romania	22.0	101.2	79.6	141.0	138.1	71.6	66.0
Russia	n.a.	n.a.	568.1	109.4	200.0	125.8	30.6

Source: OECD World Economic Outlook (1994); National Commission of Statistics (1997).

The period of 1991-1995 was one of very high inflation and necessitated a

change in policy mix; the main manifestation of this was the large increase in nominal interest rates. The National Bank's average refinancing rate rose from an annual rate of 59.1% in Sept 1993 to 136.3% by Jan 1994. Further measures included the devaluation of the leu, a policy of general wage restraint and a reduction of fiscal deficits through an increase in taxation and a reduction in government expenditure. Following these policy measures, inflation fell from 130% in end-1994 to 45% a year later and the annual change in GDP increased from 1.0% to 6.9% (OECD, 1998a).

5.8 The Privatisation Programme

The rejection of centralised planning led to the emergence of privatisation and private ownership, a major issue in the transition process. The importance of privatisation was accepted by every transitional government - what differed was the approach. Privatisation was seen as a way to promote efficiency by establishing an incentive-based economy and distributing ownership - from public to private, thereby achieving the separation of political and economic decisions that is necessary for efficiency and stability (Gros & Steinherr, 1995).

With such a large state sector clearly the market reforms could not be introduced overnight (Bolton & Roland, 1992) - macrostabilisation is a process that is still being implemented, while the process of privatisation could take over a decade. It is questioned whether it was realistic to expect Romania, or other CEE states, where the state sector did not represent less than 80% of national value added, to privatise entire economies faster than the privatisation of a handful of British industries during the 1980s which did not exceed more than 5% of value added (Crnobrnja, 1994; Kuznetsov, 1999).

The nature of socialist economic development presents challenges to the privatisation process. With the majority of production and employment concentrated in large industries, together with their loss of markets, inefficiencies and over-employment - they are very unattractive to prospective

investors (Blasi, 1997). Consequently, Romania, Poland, Hungary, Slovakia and Bulgaria implemented organisational restructuring to enable their sell-off, and their conversion to joint-stock or limited liability companies was used to increase their efficiency - and thereby their attractiveness as an asset. However, this increases the financial cost and transitional period, while still having the problem of bureaucratic interference by public bodies in the economy.

The alternative - mass privatisation of the type adopted by the Czech Republic - has not proved to be an over promising alternative. The mass privatisation programme was implemented before restructuring and involved the distribution of vouchers, free of charge, to each adult citizen allowing them to bid for shares for privatised firms at public auctions (Carlin & Mayer, 1992). However, despite the change from state to private ownership, it does not necessarily follow that increased capital or expertise is available thereby frustrating efficiency and profit maximisation (Kuznetsov, 1999). Ownership is not the sole determinant of efficiency and stability, rather it is the entire economic environment in which they operate (Gros & Steinherr, 1995; Blasi, 1997).

The privatisation formula adopted in Romania was a similar scheme, but on a smaller scale. The National Agency for Privatisation was established in August 1990 with the task of selling-off state industries. The aim of the process was to create an ownership class, across the demographic and geographical spectrum. To achieve this 30% of the equity of previously state owned companies was distributed to all Romanian citizens over 18 years old, the rest was available for foreign and domestic investors and held by the State Ownership Fund which governs the privatisation process. This overcomes one of the problems encountered by mass privatisation programmes, that of a very wide spread in ownership preventing any real control, thereby restricting the ability to alter the company's competitiveness. However, the privatisation scheme was undermined by speculation in voucher books, public apathy and inflation (Turnock, 1997). Many of the loss-making large state owned

industries, although due to be privatised, continue to soak up public money through subsidies and those industries deemed to be strategic remained the property of the state, but their structure was reformed to increase economic efficiency.

The process of privatisation and establishing the private sector in Romania is illustrated in Table 5.13. From only 16.4% in 1990, the private sector's contribution to GDP had risen to 52% by the end of 1995, representing 46% of total employment and 30% of foreign trade (Turnock, 1997). The trend is somewhat constant, with incremental increases in each year. The industrial sector conversion to private sector activity has been slow, but is more problematical than other sectors due to its often inefficient nature (thereby discouraging prospective investors), and its strategic importance.

The agricultural sector has almost entirely returned to private hands with the land reform that removed collective farms and gave them to the peasants who worked it (Schrieder, 2000). Similarly, the construction and service industries are now dominated by the private sector – firms tend to be smaller and easier to privatise. There has also been a growth of the service sector, especially financial, since the transition began. Business was aided by the creation of new institutions such as the Romanian Chamber of Commerce and the Romanian Development Agency.

Table 5.13: Share of Private Sector in Economic Activity (%)

	1990	1991	1992	1993	1994	1995*	1996**
GDP	16.4	23.6	26.4	34.8	38.9	45.0	52.0
Industry	5.7	9.2	11.8	17.4	23.3	29.0	35.0
Agriculture	61.3	73.9	81.7	83.5	89.3	89.0	91.0
Construction	1.9	16.1	21.0	26.8	51.6	60.0	65.0
Services (including trade)	2.0	16.8	18.8	29.3	39.1	60.0	70.0
Exports (FOB)	0.2	15.9	27.5	27.9	40.3	41.2	51.4
Imports (FOB)	0.4	16.1	32.8	27.2	39.2	45.4	48.3
Investments	4.3	8.1	15.6	26.0	36.8	39.3	41.6

Source: OECD (1998), National Commission of Statistics, (1997).

* Semi-final data

** Provisional data

By the end of 1994, despite a commitment to privatise, 98% of industrial output still came from State Owned Enterprises (SOEs). Instead of the mass privatisation strategy adopted by Czechoslovakia, Poland and Russia, Romania followed a case-by-case approach in light of political and bureaucratic resistance, conflicting interests among the various state institutions seeking to control the process (Daianu, 1994), limited capital held by the population and the reluctance of strategic foreign investors (Frausum et al, 1994). By the end of January 1993 only 293 enterprises had been privatised and have been mainly concentrated on smaller enterprises (Business Review, 1998). By failing to speed up the privatisation of state industry Romania has been unable to generate the increased revenues that could be used to fund the difficult market restructuring programme.

Notwithstanding the sluggish nature of the process, part of the problem is that it is questionable whether the process could have been accelerated in the light of the unprofitable nature of many of the companies and the lack of quality managers and entrepreneurs after years of suppressing capitalism. Therefore, the reform programme has failed to adequately engender a new competitive environment (Stan, 1997). The SOEs have resisted restructuring, redundancies were avoided, few enterprises were closed down, capital mobility has not been achieved accompanied by poor management incentives, credit allocation, banking reform, bankruptcy legislation, wage rate determination and exchange rate setting.

To kick-start the process, a mass privatisation programme was started in 1994 accompanied by new bankruptcy legislation. This reflected the change of economic direction and priorities of a new government under Emil Constantinescu. It has resulted in some sales to foreign investors, e.g. Dero, a detergent manufacturer, to Unilever and the joint venture with the South Korean conglomerate Daewoo. Also, the renewed commitment to privatisation and reinforce the private economy facilitated international loans from the IBRD and the IMF.

5.9 Labour Market Issues

Labour market issues are now an important concern for all CEE states (Gros & Steinherr, 1995). One reason for this was the virtual absence of open unemployment under the socialist development model - it was held to be non-existent in principle, and reality was not far removed (Nordhaus, 1992). This was a reflection of the ideological priorities that labour played in society, and the official view that unemployment, poverty and exploitation were features endemic to capitalist, not socialist, societies.

The transition process led to huge changes in the labour market environment of CEE states and immediately led to the onset of unemployment difficulties (Earle & Pauna, 1996). Although CEE countries exhibit considerable divergence in unemployment rates (Table 5.14), all have experienced a rapid increase in unemployment immediately after the transition process began. In Poland, unemployment increased from 56,000 in 1990 to 2.5m by 1992, and rose to almost 3m the next year. Hungary's unemployment rose from 1.9% in 1990 to 13.6% by 1993, only then did it see a gradual decline. The Czech Republic suffered considerably less than other CEE countries and its employment levels have remained comparatively high and stable. The Slovak Republic, however, experienced much higher unemployment; for example, in 1994 unemployment was 14.5% but only 3.2% in the Czech Republic. A reason for these disparities is that the Slovak Republic was the focus for much of the old industry and armaments factories of the previous Czechoslovakia that have now gone into decline (Smith, 1998).

Romania's unemployment is largely the result of the decline in industrial output as disguised unemployment became open unemployment with the establishment of a link between productivity, wages and employment - a relationship that had not previously existed (Bird, 1992). Newly privatised firms have laid off, on average, a quarter of their workforce through

restructuring,⁵ a much higher rate than for the 'regies autonomes',⁶ which include many of the dinosaurs of Romanian industry (Earle & Pauna, 1996).

Although some other transition economies (for instance, Poland, Bulgaria) experienced much higher rates, unemployment in Romania steadily rose from 1991 as a result of the restructuring of privatised firms and the mass lay-offs from unprofitable state-owned industries. These difficulties persisted until 1995 when strong GDP growth helped to reduce (registered) unemployment to 6.6% by end-1996. Part of this decline can be explained by increasing participation in the 'grey economy' and the high number of self-employed in agriculture (37% of total employment in 1996).

Table 5.14: Unemployment Rates 1990-96

	1990	1991	1992	1993	1994	1995	1996
Bulgaria	1.5	10.0	15.0	16.0	12.8	11.1	12.5
Czech Republic	1.0	4.0	3.0	3.5	3.2	2.9	3.3
Hungary	1.9	8.0	12.0	13.6	10.9	10.9	10.7
Poland	6.0	12.0	14.0	15.7	16.0	14.9	13.2
Romania	n.a.	2.0	8.7	10.2	10.9	14.5	6.6
Slovak Republic	n.a.	10.0	12.2	14.4	14.5	10.5	9.5

Source: Turnock (1997: 141).

Gowan (1995) highlights the fact that in the absence of developed capital markets, one of the prime mechanisms by which enterprises have been able to restructure is through the reduction in both employment levels and the wage rate. As a result, the unemployment problem has been distributed unequally both between countries and within countries - the unemployment is not evenly spatially distributed throughout Romania and is more concentrated in traditional industrial areas, an issue the next chapter addresses more explicitly. However, Gros & Steinherr (1995) argue that the unemployment did not necessarily stem from economic, particularly industrial, restructuring. Instead the drop in output caused by the loss of CMEA markets and the general worldwide economic downturn heavily influenced employment rates.

⁵ As the Romanian privatisation programme has, in effect, only recently gathered any real momentum, this implies that unemployment is likely to increase still further in the near future as the privatisation process gathers pace.

⁶ These are autonomous, self-governing industrial administrations.

Nevertheless, the unemployment problem looks set to be a persistent problem as the restructuring process begins to take hold.

After price liberalisation, the level of real wages (nominal wages deflated by the consumer price index) witnessed a large and sustained fall in Romania than elsewhere in Central and Eastern Europe (Table 5.15). However, on a year-on-year basis, nominal wages increased as a result of increasing inflation, which led to additional pressures for wage increases. These were granted through a partial indexation policy, but the increases remained below the inflation rate placing a downward pressure on real wages (OECD, 1998a). Public sector wages were particularly hard hit due to the government reducing the share of its expenditure on wages from 6.8% to 4.8% of GDP between 1993 and 1997.

Table 5.15: Percentage Growth in Real Wages 1989-94.

	1989	1990	1991	1992	1993	1994
Albania	3.0	6.2	-42.3	18.6	1.1	1.1
Czech Republic	0.8	-5.5	-26.3	10.3	3.6	4.5
Hungary	0.8	-0.2	-3.7	1.7	-0.4	6.8
Poland	11.6	-27.4	0.2	-2.9	-1.1	2.9
Romania	2.1	5.6	-17.2	-13.0	-16.7	-6.7
Slovak	1.4	-6.1	-25.2	0.7	-4.3	1.7

Source: EU Directorate General for Employment, Industrial Relations and Social Affairs, cited in Turnock (1997: 141).

5.10 Foreign Direct Investment

FDI from developed market economies is considered to be an essential factor in the reconstruction of CEE economies as the market economy is a relatively new phenomenon and the domestic market is still somewhat undeveloped. FDI is championed as the key to a successful transition and that "the opening of Eastern Europe to market forces will, by encouraging inward direct investment, markedly improve the economic lot of its citizens (Dunning, 1993: 20).

FDI offers important externalities as it offers the necessary means to secure improved levels of productivity, access to new markets and sales improvement, technological transfers and modernisation, the reshaping of attitudes to work and entrepreneurship and promoting the export capacity of CEEs. increased productivity (Radulescu, 1996; UNCTAD, 1996). Also, there are important 'spillover' effects as major foreign investments in a certain industry may generate further investments in related industries (Dunning, 1993; Gros & Steinherr, 1995). For example, Daewoo's decision to invest US\$156m at the former Olcit car plant in Craiova generated significant localised investments by component manufacturers. These externalities and spillovers are important as even substantial amounts of FDI may only generate a small amount of employment creation. The General Motors investment of DM500m in Poland is only expected to create about 2000 jobs in the plant itself.

During 1990-92, the levels of FDI in CEE states rose from US\$2.3bn to US\$11bn. Despite this, many investors are discouraged by the lack of credibility of the government's economic policy and the technical isolation that arose from the country's low level of integration in the world economy. The level of infrastructure development also influences the level of FDI, and Romania suffers from poor communication and distribution networks. The overall effect is that although Romania has witnessed substantial increases in FDI since 1990, the absolute level of FDI continues to be relatively modest compared to other CEE states as many investors perceive the risk to be too high as they cannot guarantee quality and productivity.

Present levels of FDI are inadequate in relation to the actual requirements of the Romanian economy (see Table 5.16) (Ferris et al, 1994; Turnock, 1997). An energy crisis continues to loom over the Romanian economy. Although the power cuts have stopped, the reason is not the fact that electricity production has grown, rather that the decline in industrial output has resulted in a lower consumption of electricity in the whole economy (Pasti, 1997).

Estimates for the modernisation of the energy sector alone amount to \$1 billion (Ferris et al, 1994).

The uneven distribution of FDI inflows is a reflection of the diverse nature of the CEE region. Hungary and the Czech Republic's success in attracting foreign investment can be attributed to their openness to foreign participation (expressed through legislation, taxation etc.) and their geographical proximity to Western Europe (the principal provider of FDI into the CEE countries). Romania has introduced reforms, including more liberal investment laws, and has promoted its low wage rate in an effort to create a favourable environment for foreign investment (Turnock, 1997).

Table 5.16: Foreign Direct Investment in Selected CEE States 1992 (end of year).

	Foreign capital (millions US\$)	Av. size of participation (000s US\$)
Baltic States	325.0	175.8
Bulgaria	290.0	263.6
Czech Republic	1321.5	n.a.
Hungary	2993.7	267.4
Poland	832.3	92.6
Romania	386.9	28.8
Slovak Republic	197.5	n.a.

Source: East European Statistics Service (1993), cited in Gros & Steinherr (1995: 290)

In spite of the fact that Romania lags behind other CEE countries in attracting FDI, its natural resources are seen as attractive to foreign investors (RCCI, 1996). Its large reserves in oil have led to UK Enterprise Oil, Shell and Amoco establishing drilling sites in Romania (in 1938 Romania was the second biggest oil producer in Europe and seventh in the world). It also has methane gas reserves (the fifth biggest producer in 1975), coal, non-ferrous ores, gold, silver, salt, woodland, agriculture and tourism. However, the sector lacks efficiency and adequate infrastructure.

Data published by the Romanian Development Agency show that FDI inflows, from US\$245m in 1991, reached \$608m in 1996, after falling from \$568m in 1994 to \$313m in 1995. As Table 5.17 shows, South Korea is the largest

single source of FDI in Romania, the vast majority coming from the Daewoo operations. The EU, however, remains the most important source of funds providing 52% of the FDI inflows into Romania - the capital, Bucharest, was the target for 56% of these funds (EIU, 1997). Inflows from the creation of new enterprises amounted to \$290m (the majority of which locate in Bucharest).

Table 5.17: Leading Foreign Investors 1996

Investor country	Amount invested \$
South Korea	234.9
Italy	208.4
Germany	207.7
Netherlands	166.7
USA	166.2
France	146.4

Source: EIU County Report (1997: 38)

An area for further critical study is the role that FDI has to play in the regional redevelopment of Romania. It is generally assumed that FDI is a pivotal variable in the restructuring of national and regional industries to access West European markets (Ferris et al 1994; RDA, 1995e; Radulescu, 1996). However, there does exist a challenge to the orthodoxy:

“Reliance upon inward investment may not be the godsend that many suggest it will be and that there is enormous [regional] diversity in the local impacts of new investment” (Smith & Ferencikova, 1998: 155).

What is questioned is whether FDI represents an effective strategy for regional redevelopment in the new market environment. It could engender an over-dependent corporate culture and cause the economies of CEE difficulties as they try to develop away from a low-skill, low-cost, ‘warehouse’ structure (Smith & Ferencikova, 1998)

5.11 Conclusion

The transition of Romania and the other CEE states, from dictatorship to democracy, and from a planned to a market economy, represents a significant challenge. The transition of CEE should not be compared to the relatively recent transformation of the authoritarian-capitalist economies of the EU's periphery that was triggered by the rise of transnational capital and the desire for greater economic integration (Spain, Portugal and Greece). The transformation of the CEE countries stemmed from the pressures generated by economic decline (Dunford & Smith, 1998).

The transition process raises two important issues. The neo-liberal view of transition advocated by the World Bank, the IMF and other western multilateral agencies stresses the primacy of the self-regulating market over the state in the co-ordination of economic activity which involves the rapid implementation of policies facilitating economic liberalisation and marketisation. Pickles & Smith (1998) criticise this conventional view of transition for its lack of a theoretical basis in light of its inadequacy in explaining the extent of economic and political change that has occurred in CEE. This arguments rests on the 'diversity of transformation' - the need for an alternative set of conceptual frameworks with which to challenge the neo-liberal perspective.

Transition is a heterogeneous, rather than a homogeneous process. The Czech experience characterised by rapid liberalisation and marketisation, mass privatisation, low unemployment and inflation contrasts sharply with the Romanian experience which is best described as 'sluggish'. Therefore, a more effective method of conceptualising transition is an examination of its heterogeneous nature by an investigation of the real transformations that have occurred (Pickles & Smith, 1998). Transition is a 'learning by doing process' (Stan, 1997; Turnock, 1997). There are sharp contrasts in the transition process and Romania has experienced a sharper fall in industrial output and economic growth than other CEE states. During the socialist period, Romania

adhered more strictly to the Stalinist model of development, and its post-transition economic policy has lacked coherence and credibility. This combination of factors supports Shafir (1985), Pasti (1997) and the OECD (1998) who argue that Romania's present economic difficulties are a function of the policies of the autarkic nationalist economic independence strategy of the socialist era and the weak post-transition programme.

However, there are conspicuous similarities in the 'transition experience' (Raiser, 1995). Firstly, there occurred a sharp decline in the industrial output of all the CEE countries economies, due mainly to inefficiencies and over-capacity. This has led to a subsequent fall in industrial employment. Secondly, all states suffered from a period of high and sustained inflation, to varying degrees. Thirdly, there was a marked fall in GDP, with countries only now approaching their pre-transition levels. The policies introduced in response to these pressures have varied in both style and success.

Since the transition process started in 1989, the countries that first implemented stable and credible macroeconomic stabilisation and structural reforms (e.g. Poland, the Czech and Slovak Republics, Slovenia) have returned the strongest economic performance. By contrast, growth performance and prospects were mixed for those transition economies that have implemented reform policies more slowly and less credibly (Stan, 1997). However, Hungary is, perhaps, a separate case – it adopted a gradual transitional approach and its economic performance has been often shaky, but it remains the focus for foreign investment funds – refuting the argument that the primary determinant of FDI is shock-therapy credibility.

A problem shared by all CEE states from the onset of transition was the sharp decline in industrial production and economic performance. The marketisation process replaced the soft budget constraint with a hard budget constraint and it is clear that there has been a notable decline in the GDP of CEE states. Romania has been hit particularly badly, the industrial capital stock is largely obsolete, highly polluting and uncompetitive even within the

context of Eastern Europe. Particularly affected are metallurgy, shipbuilding, mining, gas and oil production, while agriculture continues to stagnate (Killick & Stevens, 1992).

The CEE states have experienced significant contractionary effects and the transition process is undoubtedly the cause. All states have moved towards a market economy – but Kornai (1995) highlights an interesting issue - it is not the way the CEE states have implemented the process of transition which is the common factor, as the speed at which the transition process was implemented has varied, rather it is the process itself.

Given the nature of the transition process in Romania and the changes in policy that can be likened to ‘stop-go’ economic policies, the following chapter examines the way in which the transition process addressed in this chapter has influenced regional economic development.

Chapter 6:

Romanian Regional Development 1990-1995: The Effect of the Transition Process on the Regional Economies

6.1 Introduction

Building on the arguments presented in chapter five, this chapter begins the process of looking at whether the move to a more market orientated economy has led to a growing convergence or divergence in regional (judet) economic activity. This present chapter together with chapter seven provides an assessment of Romanian regional performance. Chapter six concentrates on the changes that have taken place at the judet level in Romania during the initial period of transition from 1990 to 1995 in a similar manner to that which was adopted in chapter four for regional development 1945 to 1989. Chapter seven then goes on to provide a number of empirical tests through which some assessment of the convergence/divergence process can be achieved.

The rest of chapter six is set out as follows. Section 6.2 looks at the relationship between national economic change and change in the regional economies; Section 6.3 looks at the regional structure of economic activity in Romania placing emphasis on the continued influence of inherited patterns of development. Section 6.4 provides an analysis of regional disparities by looking at the way the industrial structure of Romania impacts differentially on judets. Sections 6.5 and 6.6 consider one of the major changes in economic activity in Romania since 1990, namely the change in firm ownership and the development of small and medium sized enterprises, again addressing the extent to which there has been an even development across local economies; Section 6.5 looks at entrepreneurship, while 6.6 looks at foreign direct investment. The implications of some of these changes in labour markets are developed in Section 6.7, again concentrating on the differential impact of transition on regional unemployment. Section 6.8 provides a conclusion to the chapter.

6.2 Links Between the Romanian National and Regional Economies

The process of economic transformation and democratisation has now been underway in Romania for over a decade. All transition countries of CEE have made significant developments towards implementing a reform programme for the establishment of a market economy. However, it is obvious that not all countries have seen similar results, with Romania lagging somewhat behind the more successful economies of the Czech Republic, Poland, Slovenia and Hungary.

“Regions and their economies are now engaged in an uneven process of restructuring in which there is the emergence of ‘winners’ and ‘losers’ – some places are forging ahead with new forms of economic organisation and new economic activities while others are left behind as the dynamics of change appear to pass them by.” (Smith, 1998: 1-2).

The former socialist economies of CEE were all organised to a central plan with little regional autonomy. Under the free-market this centralisation has been removed, but ironically because of the structural problems facing the national economy, the priorities of the regions still remain secondary and so subject to national direction.

Prior discussions in chapters three and five have centred on national patterns of development from 1945-95 with an analysis of regional growth during the planned era being developed in chapter four. The conclusions from this discussion are that outcomes of national efficiency, industrial growth and development were foremost concerns – those of spatial equality and equity were only expressed through ideological proclamations and were seen as a luxury that could be ill afforded (Turnock, 1997). While it has been argued that Romanian economic policy was directed primarily on the grounds of economic efficiency (however badly implemented under soft budget constraints), once the initial period of industrialisation had been completed the implementation of *planificare* and *sistematizare* can be seen as a relaxation of

this policy. With the rationalisation of the settlement structure, certain areas were industrially developed even though they did not fully take into consideration their physical or economic advantages. With the important criteria of full employment to satisfy, many towns were characterised by a single industrial structure – a consequence of this being that regions were left with potentially vulnerable mono-industrial structures with a high rate of inertia (Balaz, 1995). This vulnerability stems from the need of mono-industrial regions for stable markets that no longer exist under the free market. The loss of this stable market structure and the introduction of competitive market forces through economic deregulation and price liberalisation led to an increase in the price of inputs which rapidly led to the uncompetitiveness of their many primary and secondary products. It is a process that has presented a different set of influences and challenges for the regional economy to face (Fausum et al, 1994).

The central issue of the transition to the free-market is that it is likely to be a process that holds with “Myrdalian notions of cumulative causation” (Begg & Pickles, 1998: 117) where the growth and development of the regional economies is expected to become increasingly divergent through spatial adjustment. However, while this process of dynamic change will certainly result in regional ‘winners’ and ‘losers’, the argument presented here is that no significant changes in the pattern of disparities have emerged. The introduction of the market economy has reinforced the existing structures and patterns of development - the starting point of transition has been the determinant of existing regional economic disparities and has been fundamentally influenced by the previous industrialisation process (Daianu, 1992; Dunford, 1998). In spite of this, the process is far from static and through the course of dynamic change engendered by agglomeration forces and cumulative causation - more developed regions are set to reinforce their position of regional dominance.

Fateyev (2000) highlights the generally accepted view that the process of transition from a centrally planned to a market economy could not be

undertaken without significant short-term costs - a reasonable assumption borne out by evidence. During the initial stages of the reform process from a socialist planned economy to a free-market, policy-makers were primarily concerned with managing the initial effects of transition. Economic policies were mainly focused on macroeconomic problems such as unemployment caused through economic restructuring, since many firms were inefficient, unproductive, labour-intensive and heavily subsidised (Bachtler, 1992; Schrieder et al 2000).

Romania, in common with other CEE countries, has witnessed a significant decline in its levels of economic activity, especially during the initial years of transition 1990-94. This decline in economic output (largely attributed to the adoption of economic stabilisation policies and the contraction of foreign export markets) has led to an acute unemployment problem. Open unemployment is a relatively new concept in CEE countries, although hidden unemployment had long been in existence. While relatively stable nationally at 11% of the working population (1994), regional unemployment varied considerably from 4% in Gorj to 24% in Vâlcea (NCS, 1994). These very high unemployment rates were particularly evident in industrially immature regions, e.g. Moldova, Oltenia, North-Transylvania, i.e., those judets that were at a low level of industrial development at the onset of the transition process.

An interesting effect of the transition process on the regional economies was the changing structure of the labour market. The decline of the manufacturing sector together with the introduction of land reform and a rise in the number of private producers, has seen employment in the secondary sector fall while employment in the primary sector has increased. Unfortunately, the decline of the manufacturing sector has not been offset by the growth of a dynamic tertiary sector, for despite some increases in narrow areas (most notably real estate, finance and insurance - largely based in Bucharest) there has been no significant shift of employment to this sector in general.

The size of Romania's inter-regional disparities, generally expressed by GDP per capita figures, although clearly evident, are certainly no worse than those of Germany, Italy and Poland during 1990-96 (EU Commission, 1996b). Unfortunately, this is not indicative of well-balanced spatial development but rather a reflection of national economic weakness.

A central theme of the following chapter is that present spatial development patterns are a reinforcement of the core versus the periphery dichotomy. This stems from the combination of two factors; the economic structure inherited from the socialist era together with the principal model of development where localised efficiency promoting national growth was favoured over regional equality. The chapter will argue that the 'new' is an extension of the 'old' and patterns of unequal spatial development that exist result from the inability of regions to restructure in the new competitive environment – and this inability stems from previous sectoral structures and models of development.

The contrast between the development patterns of the core and periphery is a predominant characteristic of the Romanian regional structure. Similar to Bratislava's position in Slovakia and Budapest in Hungary, Bucharest occupies a leading position with regard to the location of economic activity and economic performance, followed by Braşov and the industrially developed and urbanised regional centres of Sibiu and Constanţa.

6.3 The Regional Structure of Economic Activity in Romania

Buček (1999), although neglecting the issue of inherited patterns of regional development, argues that existing regional disparities are the outcome of the transformation processes, which include the expansion of the service sector and the rapid expansion of the private sector. A combination of this model of development, together with the inheritance of existing patterns of development, would lead to the further polarisation of economic development and the further concentration of factors in existing growth centres – in particular Bucharest.

The regional problems have been particularly acute in highly specialised industrial regions and individual centres marked by an insufficiently developed industrial structure with little product diversification – the single industry towns. The direct dependence for economic activity on one or two branches of industry was a common problem for these type of regions, often referred to as ‘mono-industrial structures’ (Smith, 1998; Fateyev, 2000). Examples of these regions are those with a high concentration of mining industry, e.g. Tirgu Jiu and Oltenia, as well as many centres of heavy machine engineering, metallurgical and defence industries.

There is a further feature that has contributed to the socio-economic inconsistencies between central and peripheral regions in Romania. The transitional period has not only adversely affected highly specialised industrial regions but territorial units where the agrarian sector constituted a significant part of the economic structure have also experienced difficulties. In particular, the peripheral agrarian regions to the south and east, together with the north-western judets bordering Hungary (Fateyev, 2000).

As a consequence of these regional problems, regional policy now occupies an increasingly central role in the priorities of central government. Regional policy, defined as a spatially restricted policy targeted at specific parts of a country’s territory (Halkier et al, 1998), is currently one of the most dynamic areas of policy making in the transition of CEE countries. Initially rejected during the early transitional phase in favour of more urgent priorities such as the implementation of fundamental political and macroeconomic reforms, the past 6 years have seen an increased focus on regional issues with the emergence of new spatial patterns of socio-economic inequality requiring government intervention to help embed market economic reforms and stimulate growth (Bachtler & Downes, 2000). Furthermore, greater commitment to regional policy issues is also influenced by the prospect (however distant) of EU accession.

However, Romania, together with Bulgaria, rank among the countries with the least developed regional policies. This is partly a reflection of their overall levels of economic development but is also concerned with the problem that less time has been directed to issues not directly associated with crisis management while economic strategies have also frequently changed – leading to a lack of credibility.

Explicit regional policy developments have occurred relatively recently in Romania, the legislative process is still at an early stage and key institutional and administrative questions remain open. A Green Paper in Romania was drawn up in 1996, outlining the objectives and basic principles for the operation and institutional framework of a national regional policy, and a draft of a new Regional Development Act was passed in 1998 (Bachtler & Downes, 2000). The programme was significantly hindered by the lack of an objective overall methodology that could identify those areas in most need for the effective targeting of resources according to the agreed aims of the country's regional policy framework. It was not until the implementation of secondary legislation in early 1999 that a more rigorous methodology for the targeting of limited regional funds was available that identified disadvantaged regions as those that satisfied at least one of the criteria outlined below:

Indicators of 'Less-favoured' Areas in Romania

- Mono-industrial productive structures that include more than 50% of the waged population within the activity specific to the respective area.
- Mining zones, where the workforce has been released through collective dismissals, following restructuring programmes.
- The occurrence of collective dismissals, following liquidation, restructuring or privatisation of economic agents, which affect more than 25% of the employees living in that area.
- An unemployment rate which is greater than 25% of the national average.
- A lack of means of communication and a poor infrastructure.

Regional policy is still in its infancy in Romania, as it is in many other countries of CEE. Hungary alone stands out as the country with a tradition of regional planning and focusing regional aid on specified areas within the country dating from the early 1970s. This culminated in the establishment of the Ministry for Environment and Regional Policy in 1990 at the onset of the transition process, and the establishment of a Regional Development Fund a year later. However, in Romania the aims and objectives of regional policy are blurred by the problem of overall national economic development – a similar story as that which unfolded pre-1990, with the conflict between efficiency and equity continuing.

The concept of growth poles in the regional analysis of CEE countries retains its relevance through the maintenance of the priority of national efficiency as now they provide the basis for regional development policy in many transitional countries. For example, the Bulgarian system designates major towns and cities as 'growth districts' or 'development districts'.

6.4 Analysis of Disparities

The sectoral composition of employment is taken as a measure of the level of development within a country or a region. It is generally assumed that with all other factors constant, high concentrations of economic activity in the primary sector are an indication of low levels of development, while high concentrations in the secondary sector are considered to be an indication of higher levels of development.

However, the traditional relationship linking levels of development exclusively to industrialisation should be questioned on two fronts. Firstly, the tertiary sector is becoming increasingly important to modern developed economies with the business sector, banking, finance and recreation providing dynamic growth. Secondly, socialist Romania was predominately concerned with the creation of an industrial society, with associated high levels of industrialisation. While market economies' industrial share of employment of

around 40% could be interpreted as an indication of economic strength and a source of growth, a similar share in transitional Romania could be interpreted as a source of adjustment difficulties and an indication that the restructuring process is yet to be completed (Petraikos, 1997).

The size structure of Romanian enterprises in the industrial economy has changed significantly since 1990. The average size of enterprises has fallen dramatically, and the number of very large enterprises has also declined. This reflects two processes – the disintegration and fragmentation of large enterprises and the development of new SMEs.

Using data from the Romanian National Commission of Statistics, the analysis of the regional economic structure at judet level is based on the division of the economy into 3 major branches: primary sector (agriculture and forestry), secondary sector (industry and constructions) and tertiary sector (trade, transport, services etc). The main factors that influence the level and the employment structure of the regions could reasonably be assumed to be the following:

- The endowment of factors (land, fixed assets etc)
- The degree of utilisation of the existing productive capacities and the available resources.
- The level of labour productivity.
- The relative price of labour and other productive factors.

The transition process has had significant effects on Romania's regional economic structure. The major trend has been the reduction of the industrially employed, accompanied by an increase in the numbers employed in agriculture. In 1990, agriculture and industry employed 28% and 37% respectively, by 1994 the balance had shifted to 36% and 29%. There are various factors that contribute to these trends but part of the explanation lies in that after the collapse of socialism agricultural land was given back to its former owners or their successors.

Primary Sector

The proportion of employment in the agricultural sector in CEE is large compared to West European standards but there also exists significant variations in the numbers employed in the agricultural sector between countries of CEE. The agricultural labour force varied from 10-11% in Czechoslovakia to over 40% in Romania (1994) although it contributed less than 20% of GDP and 9% of exports (Schrieder et al, 2000).

Overall, the proportion of those employed in the agricultural sector increased during the initial years of transition in both absolute and relative terms. However, as a result of low mechanisation/technology and poor infrastructure in Romanian agriculture, levels of efficiency and productivity are low even in the very fertile lands of the southern Romanian Plains. Much of the agricultural sector is operated with little efficiency concerns (labour intensive, obsolete technology) and is generally loss-making and heavily dependent on government subsidies. Inevitably, the efficiency of food production will have to be increased significantly if Romanian agricultural produce is to compete on world markets although the onset of competitive pressures coming to bear down on the sector is making this increasingly likely (Schrieder et al, 2000).

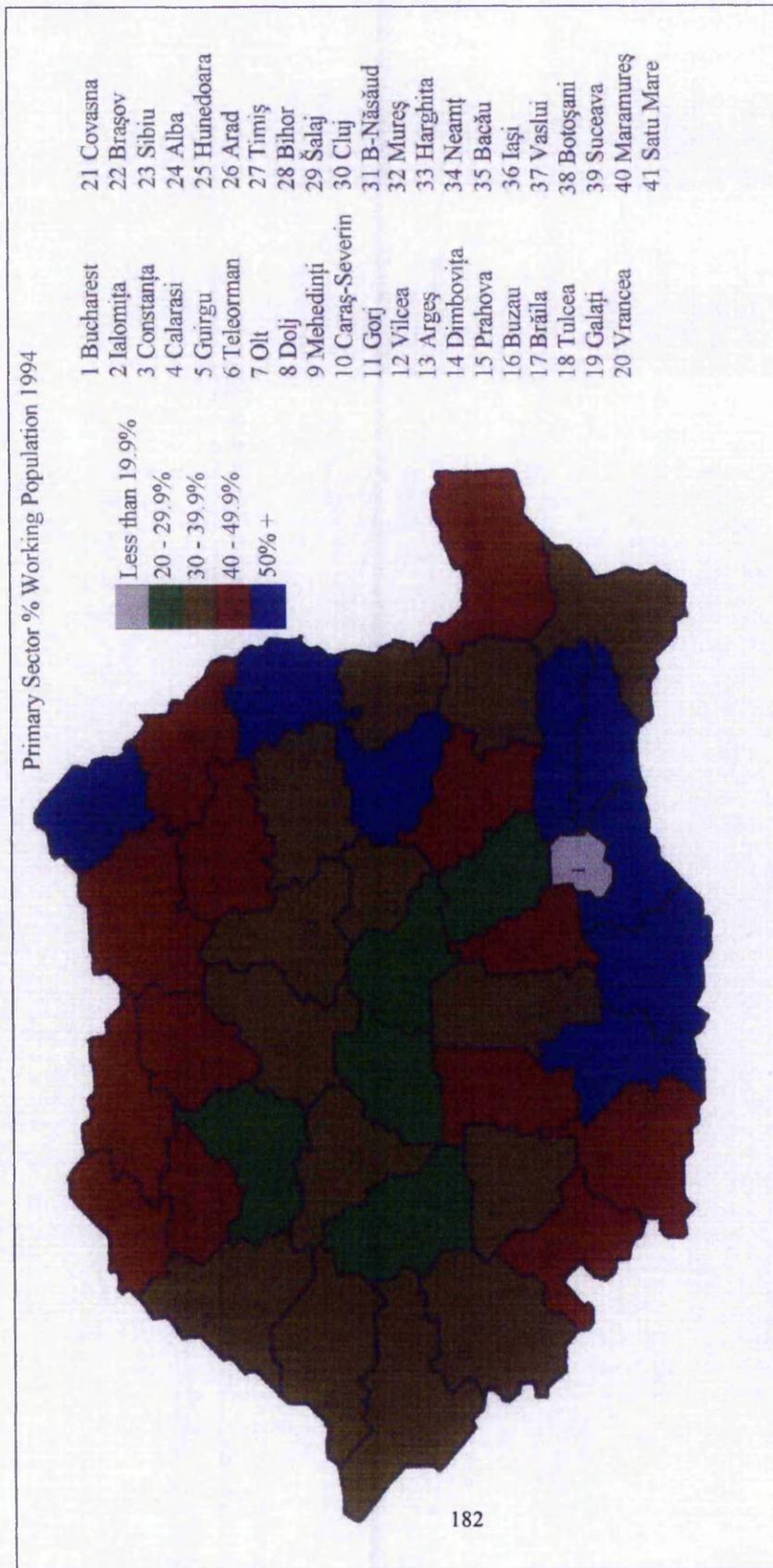
Regional disparities in industrial and agricultural employment have, alongside Poland, been the highest in Romania, reflecting the polarisation of industrial activity and the core-periphery dichotomy with peripheral areas having a larger proportion of agricultural land with specific agricultural activities (Turnock, 1997; EU Commission, 1997). In 1990 there were no judets with more than half of all labour employed in the agricultural sector. The 5 judets with the highest proportion employed in the primary sector were Giurgiu (50%), Ialomita (49%), Botoşani (47%), Calarasi (45%) and Vrancea (44%). In 1994, there were 3 judets with a share of the agrarian population higher than 60% (Giurgiu 62%, Teleorman 62%, Ialomita 60%) and 5 judets with a share of more than 50% (Vaslui, Olt, Vrancea, Botoşani, Calarasi) (see Map 6.1). Those judets with the lowest proportion of their employment engaged in the

agriculture sector in 1994 were Bucharest (5% from 4% in 1990), Braşov (20% from 12%) and Sibiu (23% from 17%). Evidently, even in these less agricultural more industrialised judets, the proportion of the agricultural labour force has increased.

As mentioned earlier, the expansion of the numbers employed in the agricultural sector was related to the adoption of the 'Land Law' that broke up the socialist co-operatives and paved the way for the development of private property once more in the agricultural sector. Paradoxically, although this aimed to improve incentives, harden the budget constraint and promote efficiency, the effect was to encourage a movement of persons normally employed in the industrial sector over to the agrarian one – thereby contributing to inefficiencies. Now it is this high proportion of labour engaged in the agrarian sector that casts a shadow over the Romanian economy's present and future prospects due to agriculture's low contribution to GDP creation.

There are two additional factors to consider. Firstly, the size of farms is too low for an efficient exploitation of land (even for subsistence), especially in the hilly and highly populated regions (Vâlcea, Arges, Dâmbovita, Iaşi, Suceava). Secondly, the expansion of the numbers employed in agriculture has not been sustained by an adequate flow of capital through the privatisation process being detached from the flow of investment. Year on year until 1993 the level of investment in agriculture was 60% below the 1990 level. Only in 1994 did investments in the agricultural sector return to the levels of 1990. The effect is that endowment of agrarian machinery is particularly low even in judets with a large share of the agrarian population. In 1994, while Botoşani had 59% of its workforce employed in agriculture, the large number of smaller sized farms meant that it also had the fewest number of tractors per land area (115 ha/tractor). Similar values were recorded for Teleorman (110 ha/tractor), Ialomita (100 ha/tractor, Tulcea (96 ha/tractor).

Map 6.1: Sector Analysis: Primary Sector % Working Population (1994)



Source: National Commission for Statistics (1995)

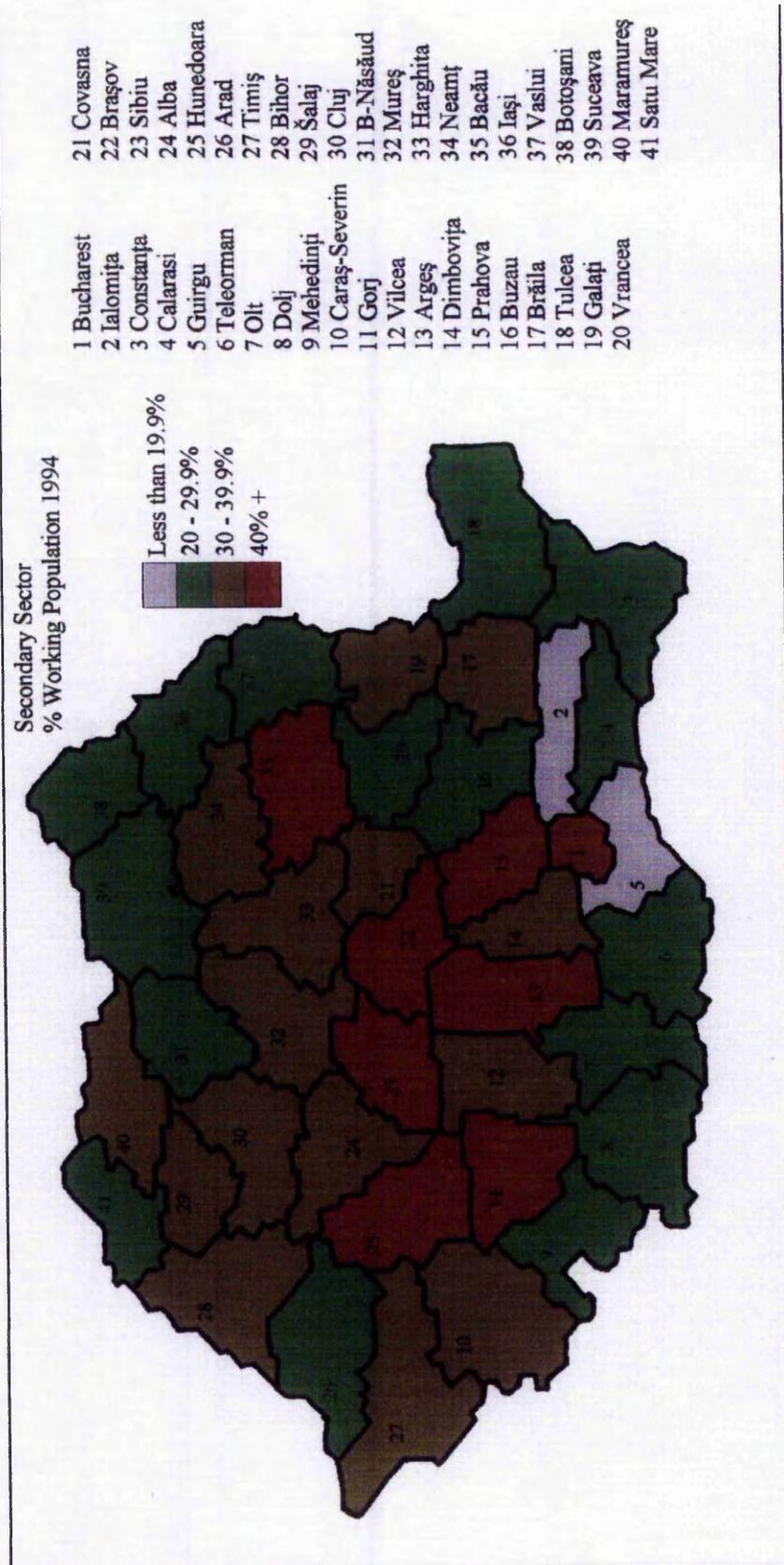
Secondary Sector

As has been argued earlier, the new free market economy transition had a considerable impact upon the secondary sector where the onset of competitive pressures has led to a substantial loss of markets, industrial decline and unemployment. The consequences for employment patterns across judets are outlined below. A fuller set of data relating to the economic structure of each judet can be found in the appendices.

In 1990 there were 5 judets (including Bucharest) that had levels of industrial employment exceeding 50% of the workforce (Braşov 58%, Prahova 56%, Sibiu 55%, Hunedoara 54%, Bucharest 51% - while a further 17 judets had a share of between 40-50%, 18 judets with a share between 30-40% and 2 judets (Giugiu and Ialomita) with a share of less than 30%.

In 1994 only Braşov was left with industrial employment higher than 50% followed by 7 judets with the industrially employed representing between 40-50% of their workforce (Hunedoara, Prahova, Sibiu, Bucharest, Gorj, Arges and Bacau). There was a further 16 judets with industrial employment ranging between 30-40% and 2 judets (Giurgiu and Ialomita) with a share of less than 20% (see Map 6.2).

Map 6.2: Sector Analysis: Secondary Sector % Working Population (1994)



Tertiary Sector

The tertiary sector, so often the dynamic high value added sector of developed western economies, was comparatively underdeveloped in CEE countries before 1990. In Romania the proportion of employment engaged in the so-called 'unproductive sector' was small even by CEE standards - typically accounting for only 25% of total labour. Only Bucharest and Constanța had a service sector that exceeded 40% - the relatively large service sector in Constanța explained by the transport and port/shipping industries.

The slow expansion of the service sector has failed to adequately absorb the excess labour from both the primary and secondary sector and provide growth for the economy as a whole and this is seen as one of the main deficiencies of the Romanian economic structure. Over 4 years from 1990-1994, the tertiary sector was static with only 0.2% growth (EU Commission, 1996).

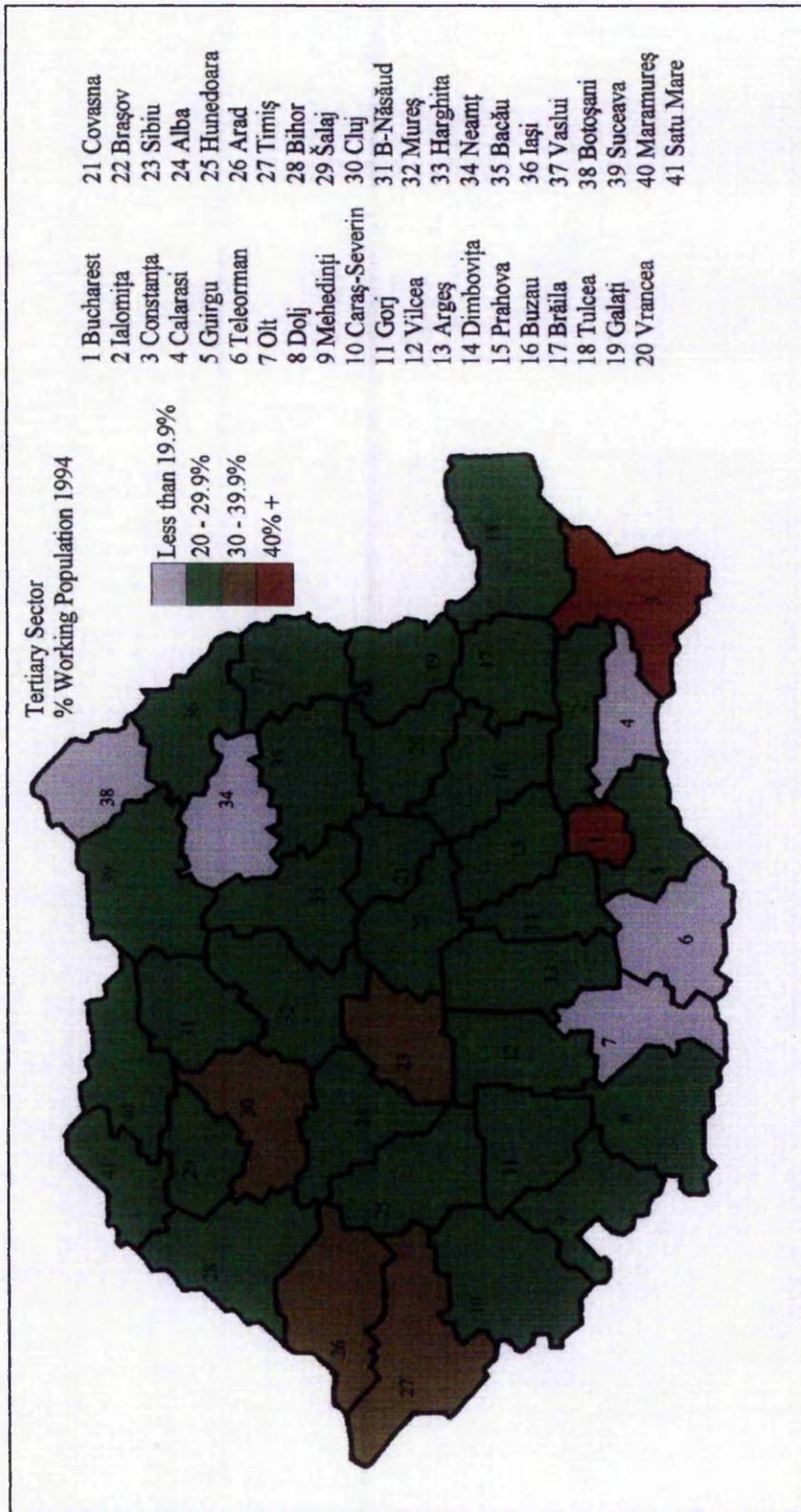
An examination of the tertiary sector at judet level shows that in 1990 there were no judets with more than 50% of their labour force employed in the service sector. Apart from Bucharest (45%) and Constanța (42%) only two other judets - Cluj and Timiș - had the tertiary sector contribution to total employment at over 30% of the workforce. The vast majority of judets had a tertiary sector that accounted for 20-30% whereas one judet - Vaslui - (one of the most undeveloped judets) had an extremely small share of less than 20%.

In terms of employment, in 1994 (see Map 6.3) the share of Bucharest's working population employed in the tertiary sector had increased to 50% - Constanța remained static at 41.6%. There were a further four judets (Timiș 36.4%, Cluj 34.6%, Arad 32.0%, Sibiu 30.6%) with a tertiary sector representing between 30-40% of the workforce, 30 judets with a share of between 20-30% and 5 judets with a share less than 20%. Therefore, while the tertiary sector has remained static, the sector as a whole is spatially fragmented as substantial growth has only occurred in 11 judets (more than

5% over 4 years) and positive growth returned in only 18 judets. All other judets have experienced negative growth.

Although the time frame selected was very short it does reveal a number of interesting characteristics. Agricultural land reform and the restructuring of industrial activities generated many of the changes to the regional economic structure through the basic reduction in numbers employed in industry accompanied by a corresponding increase in the numbers returning to agriculture. For reasons alluded to earlier and through a simple understanding of the potential value added of each economic sector – the effect has been a reduction in both national and regional productivity and growth. Nevertheless, the increasing proportion of the workforce engaged in the agricultural sector is likely to be a short-term trend, as the Romanian economy picks up they will be replaced by a movement into the tertiary sector (EU Commission, 1996).

Map 6.3: Sector Analysis: Tertiary Sector % Working Population



Source: National Commission for Statistics (1995)

6.5 Entrepreneurship

As well as industrial restructuring having an impact on regional development the establishment of new private ownership patterns of firms has also impacted on regional development. The development of the private sector was carried out by either the provision of direct investments (national and foreign) or by the privatisation of state enterprises (Anderson et al, 1997). With reforms to the market mechanism successful in improving efficiency, the first 5 years of transition witnessed the establishment of increasing numbers of new private firms.

A clear image of the levels of entrepreneurship in Romania is difficult to accurately gauge, due to the lack of consistent statistical data. The available data, at the time of writing, failed to sufficiently differentiate between private and state sector activity, while other data, e.g. levels of privatisation, although available at the national level had not been broken down to judet level. The analysis accordingly will be restricted.

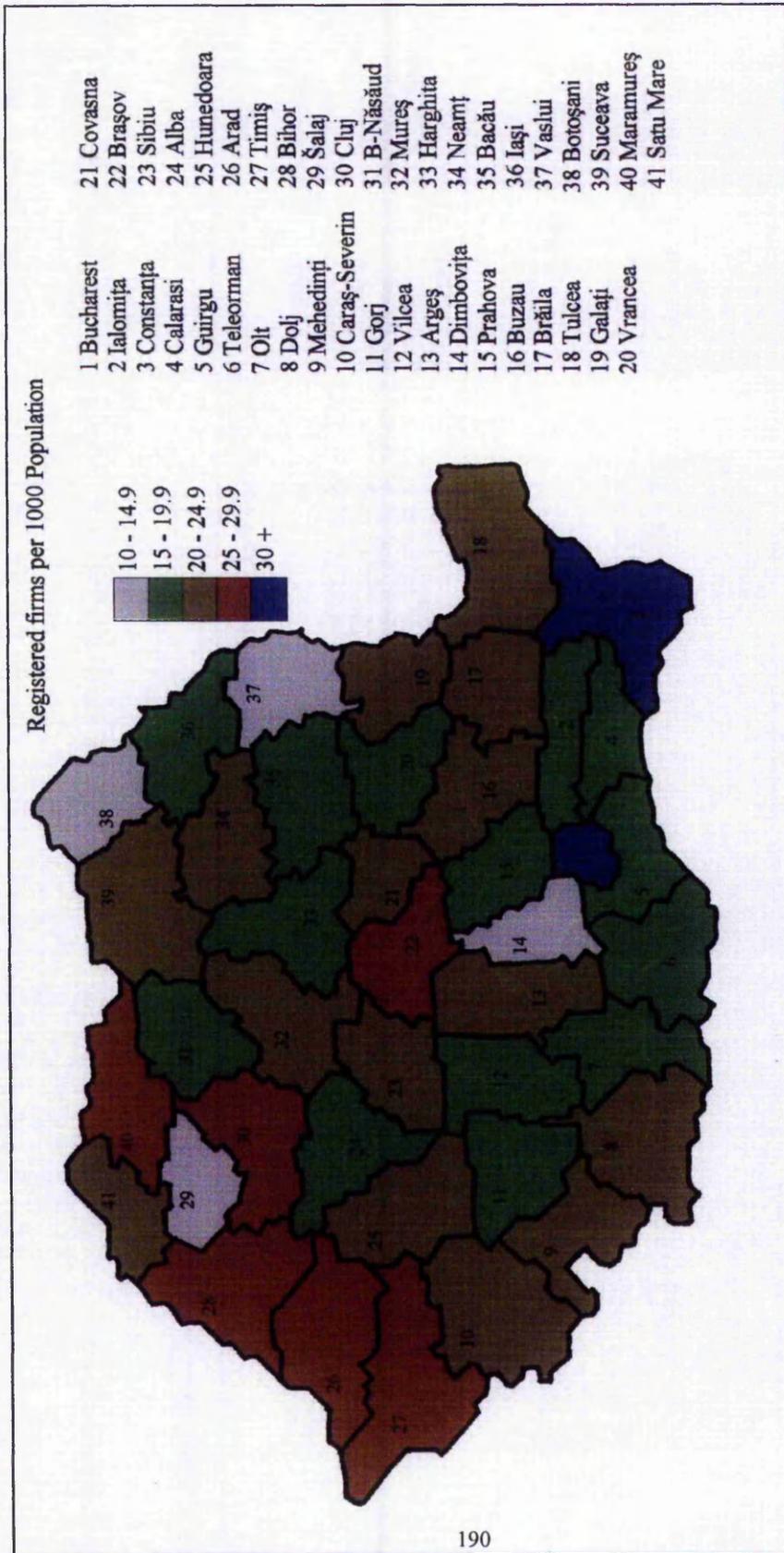
What can be stated with certainty is that the transition process has enabled higher levels of entrepreneurship, but there are significant spatial disparities between regions. At the end of 1994, there were more than 650,000 economic enterprises (commercial societies) registered with the Romanian Chamber of Trade and Industry. Of these, 118,280 enterprises (more than 18% of the total) were located in the capital, Bucharest and more than 45% of the total number of firms were concentrated in 8 judets but within this the disparities are quite stark. Constanța - the judet with the second highest number of registrations – recorded 24,121 registrations followed by Cluj with 21,535 and Timiș with 19,240. The least entrepreneurial judets were Vaslui, Tulcea, Giurgiu, Covasna and Salaj, all with less than 6000 enterprises each (Romanian CCI, 1996, Ramboll, 1996).

The average number of firms in Romania by the end of 1995 was 24 firms per 1000 people (Romanian CCI, 1996). Only eight judets had levels greater than

the national average: Maramures with 25.1 firms/1000 people, Braşov (27 firms), Timiş, Arad and Bihor (28 firms), Cluj (30 firms), Constanţa (32 firms) and Bucharest 51 firms per 1000 inhabitants (see Map 6.4). The agglomeration and uneven distribution of entrepreneurial activity becomes even more apparent when it is considered that more than 45% (245,518) of the total number of firms in Romania are concentrated in these eight judets - with 30% of the total population.

These patterns of entrepreneurial activity are consistent with other CEE countries and indeed other developing or developed countries. The factors that explain the trends in Romania are essentially the limited access to capital, the structure of the economy and the regional availability of effective demand. There was a propensity to develop new enterprises in judets already characterised by relatively large tertiary sector base in order to exploit and to build upon a favourable trading environment. The majority of these new firms registered after 1990 have internal and external trade as their main activity – a departure from the traditional manufacturing sector that was the central feature of the planned era.

Map 6.4: Registered Firms 1994 (per 1000 Population)



Source: National Commission for Statistics (1995)

6.6 Foreign Direct Investment

During the period 1990-1994 Romania received US\$ 1.3bn worth of foreign investment. The five countries that had invested the heaviest during this period were South Korea (\$157m), Italy (\$115), USA (\$114m), Germany (\$114m) and France (\$103m). However, these figures are very low in comparison with other countries of CEE: Poland (\$6.8bn), Hungary (\$10.7bn) and the Czech Republic (\$5.8bn) (Business Central Europe, 1996). This serves as an indication of the lack of confidence amongst many foreign investors regarding the appeal of Romania as a country that offers good investment opportunities, high returns and growth.

However, not all investors are seeking new markets in CEE. The decline of standards of living and consumption associated with the early years of transition have meant that the expected market benefits of investment are not as great as may have been first thought. Instead, it appears that across CEE, a major factor in investor behaviour is access to low-cost, skilled labour force. Here, Romania has an advantage in that its labour costs are lower than those of Hungary, Poland and the Czech Republic (Barnes & Barnes, 1995; Smith & Ferencikova, 1998).

Inward investment is a central component to the transition process¹ (RDA, 1998). However, in Romania, where overall levels of FDI are low and concentrated in relatively few projects, then the national impact of FDI may be somewhat limited and implies that inward investment does not necessarily provide the solutions to restructuring and redevelopment (Smith and Ferencikova, 1998).

While levels of foreign investment in Romania have been relatively low, they are also concentrated in specific areas with 5 judets being the destination for over 70% of total investments whereas eight judets received only insignificant

¹ Smith (1998) argues that while FDI is a useful tool in the construction of a post-socialist market economy, there is a risk of creating areas, or countries, that become over-reliant on foreign capital for the economic growth.

levels of investment (RDA, 1998). Bucharest remains the focus for the vast majority of foreign capital benefiting from its relatively developed tertiary sector, pool of skilled labour and infrastructure endowments. During the period 1990-1994 it received 53% of total foreign invested capital (\$689m); followed some way behind by Dorj with a share of 12%², Bihor with 4.5%, Timiș with 4.4%, and Cluj with 4.3%. In eight judets (Covasna, Tulcea, Olt, Gorj, Mehedinti, Ialomita, Botoșani and Teleorman) foreign investment was said to be insignificant (RDA, 1995; 1996).

Although companies with some element of foreign investment have been established throughout Romania, these too remain highly skewed. Between 1990-1993, companies established with foreign capital represented 10% of total registered companies, of which 55% were in Bucharest, followed by the counties of Timiș, Arad, Mureș and Constanța. The lowest foreign participation was recorded in Arges, Bacau Botoșani and Buzau.

With Bucharest the focus for the majority in FDI, this contributes to the concept of self-reinforcing agglomerations and the further polarisation of local labour markets and economic activity and the further reinforcement of the capitals' economic hegemony. This has limited the diffusion of the potential impacts of foreign business activity (Knarvik & Steen, 1997).

As the regional effects of inward investment are dependent upon the volume of funds, the effect of FDI has been to a large extent merely a reinforcement of disparities already present in the Romanian space economy (RDA, 1995e; Ramboll, 1996; Smith, 1998). As FDI is seen as a means to aid the restructuring of the Romanian economy through increasing output, encouraging better work organisation and technology transfer, then this suggests that enterprise restructuring will be limited to those regions where investment is attracted.

² The relatively high position of Dorj judet is largely explained by the South Korean firm Daewoo's investment in car manufacturing.

It can be concluded that for Romania the absolute differentials between regions have grown and remain unacceptably large, and as yet, the government has failed to address the issue adequately. While this is partly due to a lack of recognition, it is rather more to do with the acceptance that these disparities are inevitable if the transitional gap between a planned and fully developed market economy is to be bridged.

Botoşani-Vaslui in the north-east region and Teleorman-Giurgiu-Calarasi-Ialomita in the south are by far the poorest judets in Romania. These judets have a poorly developed secondary and tertiary sector – agriculture is dominant with over half of all employment in this sector. The implication here that economic development can only progress through the direction of resources to support agriculture, then later exploiting the efficiencies accumulated.

The judets with the highest concentrations of industrial labour force, while offering the benefits of a pool of skilled labour, are those areas of highest potential decline under the new competitive pressures. These judets are grouped in two clusters – one in the centre of the country – Braşov, Sibiu, Arges, Prahova and Dâmbovita – and the second in the west – Hunedoara and Gorj. All these judets have more than 35% of their labour force employed in industry (compared to the national figure of 19% for 1994).

Nevertheless, while the two concentrations of industrialised judets have a similar strong secondary sector – their emergent problems are quite different. Gorj faces employment decline in the face of mining restructuring and the spillover effects this has for its industry while Prahova has witnessed a contraction of its energy sector. Together with Hunedoara, their industry is much less diversified than in Braşov, Sibiu and Arges where unemployment is easier absorbed.

As well as the relative lack of foreign direct investment inadequate infrastructure is considered to be a major factor in the poor economic performance of the CEE region (Bird, 1992; Gros & Steinherr, 1995). The development of Romania's

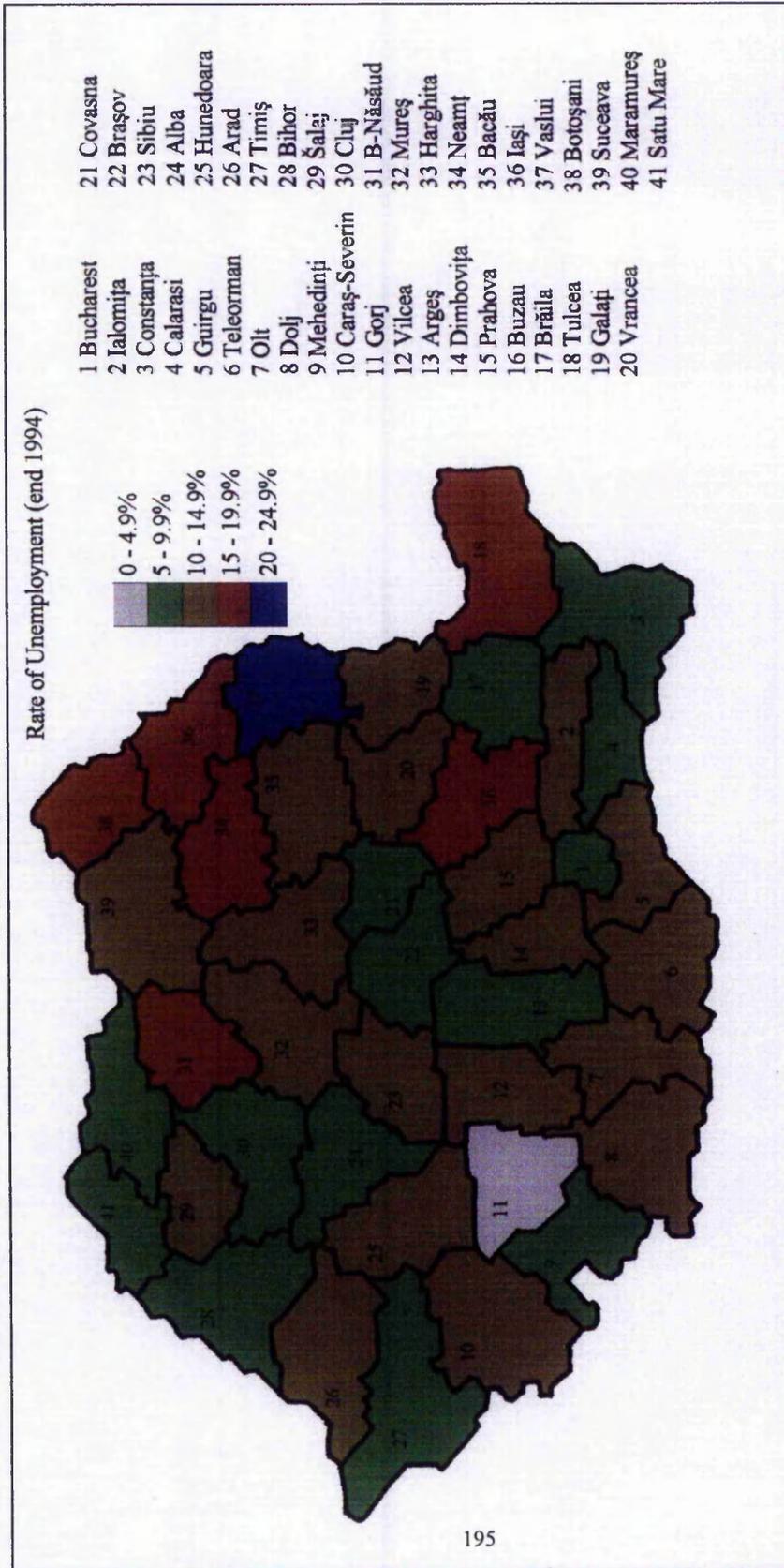
infrastructure base, especially that relating to transport and telecommunications, was concentrated in the urban agglomerations and along the axis of economic activity. By concentrating infrastructure development on core regions, peripheral rural areas were neglected. This pattern of infrastructure development is one of the principal factors that underpin the growth pole development and cumulative growth process of the principle urban-industrial agglomerations and the concentration of economic activity.

6.7 Unemployment

The regional dynamics in Romania between 1990-1994 were characterised by widening economic disparities associated with national economic failure. The primary feature of this at the regional level was the decline in industrial activity and employment. More than half of all unemployment was the result of the sharp fall in industrial employment. As might be anticipated, given the geographical distribution of industry, levels of unemployment vary between individual judets.

The highest levels of unemployment in 1994 was found in judets with low levels of development in 1990 and a very high rate of decline in industrial employment that were less able to adapt to the challenges of the market economy (e.g. Vaslui, Botoşani, Bistrita-Nasaud, Tulcea) (see Map 6.5). Conversely, those judets less affected by unemployment were those that had lower levels of industrial decline and higher levels of development from the onset of the transition process (e.g. Bucharest, Braşov, Alba, Arges, Sibiu, Gorj).

Map 6.5: Unemployment 1994 (end)



Regional unemployment has been one of the more obvious manifestations of regional economic inequalities caused through the process of industrial restructuring where employment losses and the establishment of new firms has varied significantly throughout the regions. The wholesale reforms at the national level aggravated the disparities already experienced at the regional level. One of the more apparent symptoms resulting from the transition process was on the large numbers of the disguised unemployed that had built up over the last years of socialism. The onset of transitional forces to a rapid growth in open unemployment, accompanied by an increase in its duration – in Romania the ratio of those unemployed for more than one year to the total number of unemployed reached 40.7% (Fateyev, 2000).

A further feature of industrial change that is related to the labour market are migratory movements. Future international migration to Western Europe may pose problems to Romania in terms of labour shortages arising from the loss of young, skilled labour. Within the country itself, as the transition process matures and labour leaves the shelter of the rural sector for the new opportunities that should arise in the more competitive industrial sector and the evolving service sector could further place pressure on rural areas (Bachtler, 1992).

The distribution of population in Romania is characterised by significant concentration and agglomeration in a small number of urban areas. The capital city, however, is a more extreme situation with a population of over 2m people representing almost 18% of the total urban population. As Bucharest remains the dominant centre for economic activity, reinforcing the core-periphery polarisation patterns, there is a risk that unless other smaller agglomerations counter its dominance (both socially and economically), then the cumulative growth process may cause the centre's demand to exceed the levels of service provision.

Bachtler (1992) highlights the issue that the instability caused by industrial and agricultural restructuring is likely to result in substantial migration. While the mobility of labour is an important part of the restructuring process through the

reallocation of productive factors – the unemployment caused would constrain this mobility. In addition, mobility would be further constrained by housing shortages and/or rising prices. However, while Bachtler (1992) outlines this scenario for CEE as a whole, for Romania it is not the case and what has actually occurred is a movement back to the primary sector in order for temporary insulation for transitional shocks in the face of few alternative employment opportunities in the secondary or tertiary sector.

6.8 Conclusion

This chapter has examined the effect of the transition process on the regional economy and the nature of the regional problems that have emerged in Romania. Whatever definition of a market economy is adopted – whether it is a fully functioning free market based capitalist economy or a social market economy – it is clear that the process is far from complete and it is reasonable to expect that the process will continue for many years to come (Andreff, 1997).

Nevertheless, the adoption of free-market ideology had significant implications for regional development, changing both the methodology of tackling regional disparities and the environment in which it operated. The former centrally planned system took place under a directive strategy through the central allocation of resources and through “district industrialisation” (Buček, 1999: 360). Consistent with growth pole theory, this strategy resulted in polarised development and the promotion of centralised industries that underpinned the economic activity of particular regions.

The scope of regional policy during the socialist era was essentially the implementation of national sectoral priorities at the regional level. Decentralised decision making was limited with the economy tightly controlled from the centre. Regional policy, although primarily based on ‘neo-classical’ location factors (proximity to resources and markets, transport costs, availability of skilled labour) was directed by the state via a central plan with a passive role

for price, monetary and financial mechanisms. Other non-economic issues such as personal preferences, military and defence considerations and the aim for self-reliance were a factor – but not dominant influences.

The problems associated with economic restructuring has affected all countries of CEE, even those with comparably strong industrial sectors (e.g. Czech Republic). The fundamental transformation of the Romanian economy, accompanied by a severe decline of industrial output and rising unemployment, has led to the widening of some regional disparities. However, many of these disparities are historical, inherited from both the pre-war and socialist eras, so although recent inequalities have been contributed to by the transition process, they are not directly caused by it. The regions that are better placed to manage the transition process and competitive pressures are the more diversified ones, enabling job losses in particular sectors and enterprises to be more easily absorbed (Bachtler, 1992; Smith, 1998; Ramboll, 1996).

The danger of substantial regional variations in economic development is grounds for national concern – be its threat to the relationship between regions, welfare losses or for their significance as symptoms of a misallocation of productive resources (Brown & Burrows, 1977). The economic decline has been most pronounced in those regional economies that underwent late industrialisation during the 1970s and 1980s as a result of the changing priorities of *planificare* and *sistemizare*. As a result, the impact of transition is more pronounced in mono-industrial areas that offer few alternative job opportunities, areas generally dominated by an industrial structure based on raw materials or heavy engineering, chemicals and textiles, and whose closure has caused significant unemployment. Even if these industries continue to operate, they can only do so by productivity and efficiency improvements, a process also associated with significant job losses and out migration.

In the short-term, the priorities of national economic stabilisation have taken precedence over any regional considerations thereby denying resources to the regions to address spatial inequalities. In fact, regional development policies

have been about the promotion of potential growth areas – in particular Bucharest – as those areas best equipped (e.g. good infrastructure, skilled labour, diversified economy) to exploit the opportunities offered by the market economy thereby offering the least-cost method for national economic restructuring and growth. This fuels the agglomeration process.

Interestingly, this does not represent any significant departure from the scope of policies implemented by the socialists during the post-war era. The evidence suggests that Romania has followed a consistent regional strategy that has prioritised national economic growth over that of the regions. Despite glaring ideological differences, the socialists followed this policy to address the gap in levels of international development that existed when they took office. Faced with structural and competitive imbalances upon the downfall of socialism, the free-market has adopted similar strategies on similar grounds. Therefore, the regional experience of Romania is evidence that the economic priorities and strategies of state socialism and capitalism are “dualistic poles” (Smith, 1998: 383) but are share a common approach for different ideological goals.

In the medium term it is likely that once the fundamental macroeconomic reforms have been completed and the national economy becomes more stable then longer term regional development issues will gain a higher priority. Here, there does not seem to exist any real disputes and Bachtler rightly highlights certain key issues that should be considered alongside the more general issues as industrial restructuring and environmental improvements. Regional development issues on the horizon include congestion and over-development in the large urban/industrial agglomerations together with the lack of investment and infrastructure in peripheral areas, and improvements to the spatial distribution of settlement and industry (Bachtler, 1992). Part of this is addressing one of the more pressing legacies of the socialist era, the need to improve the diversity and opportunities in the mono-industrial towns.

Without departing into policy recommendation and evaluation, if it is assumed that a more balanced regional structure is the goal, then it is likely that this will

depend on the outcome of national macroeconomic reforms – but the prospects for national and regional growth are determined by developments on the world market.

This chapter has argued that economic strategy prioritised localised efficiency over regional equity – in effect an extension of the socialist programme of development. Patterns of development have not diverged significantly during the years of transition and have been dictated by socialist sectoral strategies and levels of diversification. Taking a wider perspective, the work of Gowan (1995) and Smith (1998) provide an intelligent rationale for this regional strategy and deserves consideration. The success and failure of the economies and regions of CEE have taken place under zero-sum competitive conditions imposed through IMF and World Bank sponsored programme of rapid marketisation and globalisation. The project of transition has been one where regional stabilisation is not a central objective. Instead, transition has been primarily a process of facilitating FDI, restructuring programmes (e.g. SME support) together with fiscal constraints where clearly the neo-liberal agenda has been pushed to the fore and Western capitalism now controls the CEE's political economy.

In summary, this chapter has argued that:

- The size and scope of regional disparities that have occurred during the initial years of transition largely match those of the socialist era up to 1990. The historical patterns of development, reinforced by the socialist era are evident in the new free-market of Romania.
- Gorzelak & Kuklinski (1992) argue that the transition process will fundamentally alter the pattern of regional inequalities. Upon an examination of post-transition Romanian regional development, this assumption is rejected as the competitive market will allow for capital to flow to areas of highest return – i.e., those areas with a better economic and infrastructure base already developed under the socialist planned economy. As capital and free market forces are likely to exploit these areas in an environment largely absent of a strong redistributive regional policy, this chapter has argued that there is unlikely to occur any radical

re-orientation of development structures, rather a reinforcement of existing patterns of development.

- It is generally the poorest regions – the least industrialised regions or those mono-industrial towns - which now face the most severe impact of economic change; extreme environmental degradation, high unemployment and low standards of living (e.g. Vaslui, Olt, Salaj, Ialomita, Mehedini, Buzau). The transition is likely to hit the more undeveloped areas harder than more developed areas – implying that although general patterns of development will remain fairly stable, the extent of disparities may widen as some regions are better equipped for adjustment to the market economy.
- Economic growth, through restructuring, will continue to be concentrated in a few urban centres and their hinterlands. Alongside this, a large number of regional economies, predominantly to the south, north and north-east, will continue to be marginalised.

This chapter has taken a rather general approach to the spatial development issues that have arisen since the start of the transition process. The analysis will be expanded upon and deepened in the subsequent chapter that takes a more focused approach examining specific regions and individual judets while using empirical methods to determine whether the process has been convergent or divergent.

Chapter 7:

Empirical Analysis of Comparative Regional Development

7.1 Introduction

This chapter reports on a number of empirical methods that have been used to identify whether the move to a more market orientated economy has led to a convergence or divergence in regional economic activity. It builds upon the previous chapter that provided a contextual framework on which to expand the economic analysis of specific judets and regions and how they have performed comparatively during the period 1990-1995.

The next section of the chapter looks at the changes that have taken place in the judets between 1990 and 1995 in terms of population and employment. Section 7.3 uses a comparative economic development index to compare the performance of each judet; section 7.4 uses a measure of dispersion or inequality namely the Lorenz Curve and Gini Coefficient to identify the extent to which economic activity across judets has become more/less equal; section 7.5 undertakes a further analysis of the individual components of the general development index; section 7.6 uses shift share or component analysis to analyse the extent to which regional change is determined by national, industrial or local factors. Section 7.7 adopts a case study approach to complement the statistical approaches mentioned above to enable a more in depth analysis of the changes that two judets have experienced since 1990 and section 7.8 draws some conclusions together from the analysis undertaken in the chapter.

The empirical work has drawn on data supplied by the Romanian National Commission for Statistics as it provides the most reliable source of statistical data, although at the judet level the data available is limited. Data on employment that is used for the empirical analysis is more reliable than many other data sets. The change in methods of data collection before and after

1990 make any time series econometric work subject to data errors and for this reason no econometric analysis has been attempted that would enable a test of the divergence/convergence hypothesis.

7.2 Population and Employment Data

Romania is dominated by the capital, Bucharest which has over 2 million inhabitants – the next largest urban agglomeration being Constanța with around 349,000 inhabitants (Table 7.1). From 1966 to 1995 the population of Romania grew by 19%. This high rate was a consequence of the active promotion of large families and the ban on contraception thereby expanding the population providing a convenient pool of socialist labour (Teodorescu, 1991). However, population growth was regionally asymmetrical, ranging from -16% in Maramures to 61% in Constanța largely reflecting the migration flows identified in chapter 6. Next to Constanța, the highest levels of population growth were experienced by Bucharest and Brașov, both recording increases in excess of 40%, closely followed by Galați (36% largely as a result of drawing in labour to the huge iron and steel plant). The judets with the lowest (or even negative growth) were Teleorman (-7.5%), Calarasi (-0.2%), Arad (0.2%), Salaj (0.5%), Valcea (1.3%) and Botosani (2.2%).

The data in Table 7.1 and Map shows population change and levels of urban population that are consistent with one of the central themes of this thesis. The examination of Romanian regional development has been conducted within the framework of growth poles and the polarisation of activity in specific urban agglomerations. In effect the attraction of economic factors to the centre at the expense of the periphery. It is no coincidence that all the judets that experienced a substantial increase in their population were also subject to significant industrial expansion and were the focus for a large proportion of investment funds throughout both the socialist and post-socialist era. Conversely, those judets that experienced static or very low population growth rates were those agricultural judets with excess labour that received

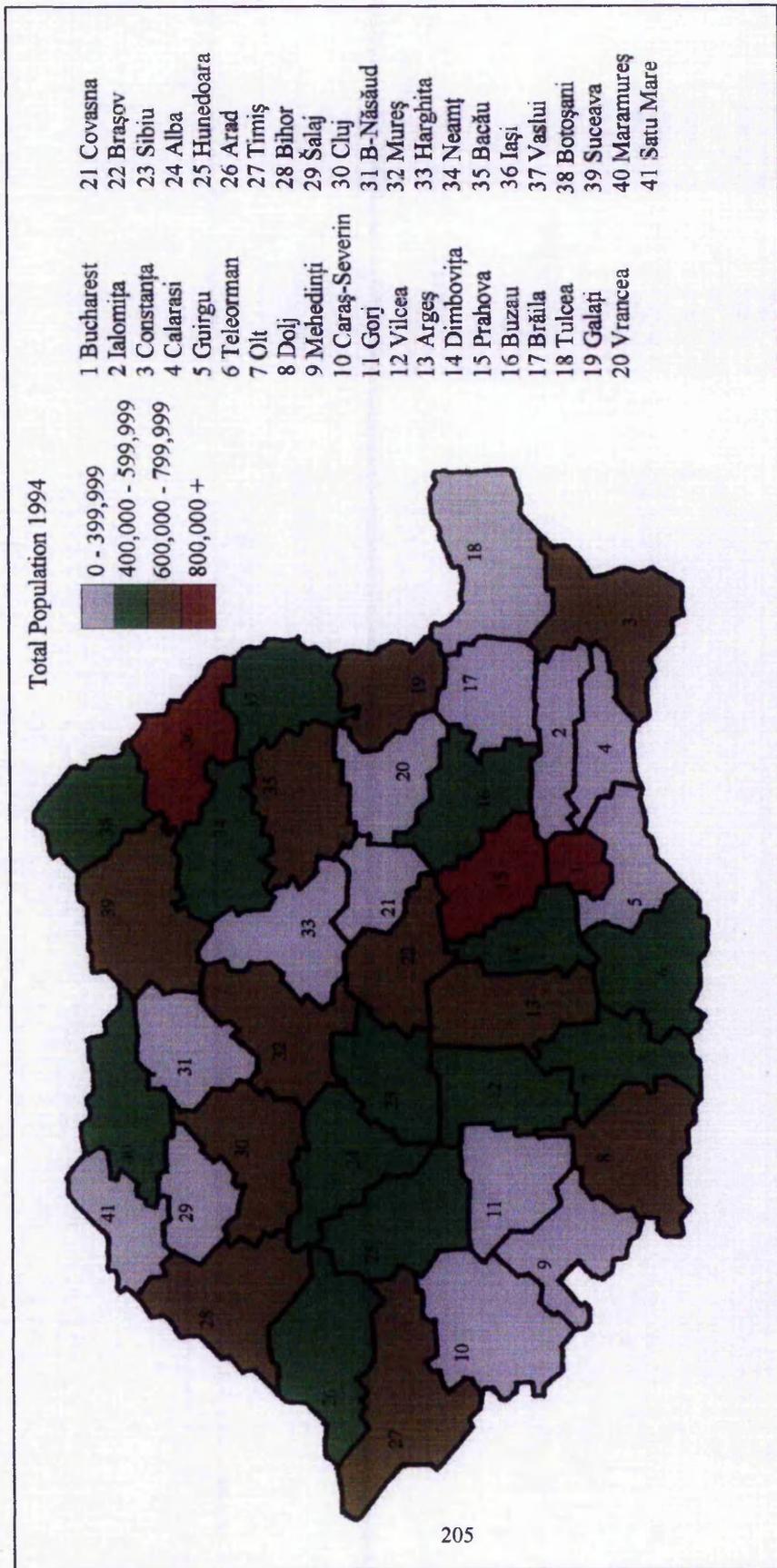
little investment and were the source of the necessary labour to fuel the industrial expansion in the industrial agglomerations at the centre.

Table 7.1: Administrative Divisions and Population Change 1966-95

Administrative Divisions and Population Change 1966-95					
	Area (km ²)	Estimated population 1966	Estimated population 1995	% Change 1966-95	Administrative Capital (with population)
Alba	6242	382,786	408,457	6.7	Alba Iulia (72,962)
Arad	7754	481,248	482,144	0.2	Arad (187,876)
Arges	6826	529,833	679,868	28.3	Pitești (184,171)
Bacau	6621	598,321	742,901	24.2	Bacau (207,730)
Bihor	7544	586,460	633,629	8.0	Oradea (221,885)
Bistrita-Nasaud	5355	269,954	328,786	21.8	Bistrita (87,646)
Botoșani	4986	452,406	462,370	2.2	Botoșani (128,332)
Braila	4766	339,954	391,923	15.3	Braila (235,763)
Brașov	5363	442,962	642,764	45.1	Brașov (324,210)
Buzau	6103	480,951	515,202	7.1	Buzau (149,610)
Calarasi	5088	337,261	336,657	-0.2	Calarasi (78,874)
Caras-Severin	8520	358,726	370,058	3.2	Rejia (96,197)
Cluj	6674	629,746	727,033	15.4	Cluj-Napoca (326,017)
Constanța	7071	465,752	747,441	60.5	Constanța (348,575)
Covasna	3710	176,858	232,951	31.7	Sfantu-Gheorghe (68,073)
Dambovita	4054	453,241	558,518	23.2	Targoviste (99,235)
Dolj	7414	691,116	758,895	9.8	Craioava (306,825)
Galați	4466	474,279	642,983	35.6	Galați (326,728)
Giurgiu	3526	320,120	305,661	-4.5	Giurgiu (73,997)
Gorj	5602	298,382	397,927	33.4	Targu-Jiu (98,050)
Harghita	6639	282,392	347,145	22.9	Miercurea-Ciuc (46,854)
Hunedoara	7063	474,602	547,180	15.3	Deva (77,218)
Ialomita	4453	291,373	305,454	4.8	Slobozia (56,719)
Iași	5476	619,027	815,368	31.7	Iași (339,889)
Maramures	6304	427,645	359,718	-15.9	Baia Mare (149,975)
Mehedinti	4933	310,021	330,017	6.4	Drobeta-Turnu-Severin (118,383)
Mures	6714	561,598	607,355	8.1	Targu-Mureș
Neamț	5896	470,206	584,364	24.3	Piatra-Neamț (125,622)
Olt	5498	476,513	520,870	9.3	Slatina (87,012)
Prahova	4716	701,057	874,219	24.7	Ploiești (254,408)
Salaj	3864	263,103	264,448	0.5	Zalau (70,358)
Satu Mare	4418	359,393	398,401	10.9	Satu Mare (131,431)
Sibiu	5432	414,756	448,474	8.1	Sibiu (170,528)
Suceava	8553	572,781	708,571	23.7	Suceava (117,314)
Teleorman	5790	516,222	477,527	-7.5	Alexandria (59,414)
Timiș	8697	607,596	691,797	13.9	Timișoara (327,830)
Tulcea	8499	236,709	269,311	13.8	Tulcea (97,616)
Valcea	5765	431,555	436,989	1.3	Ramnicu Valcea (114,286)
Vaslui	5318	368,779	463,832	25.8	Vaslui (80,316)
Vrancea	4857	351,292	394,257	12.2	Focșani (100,900)
Bucharest	1821	1,596,457	2,339,156	46.5	Bucharest (2,080,363)
Romania	238,391	19,103,163	22,730,622	19.0	

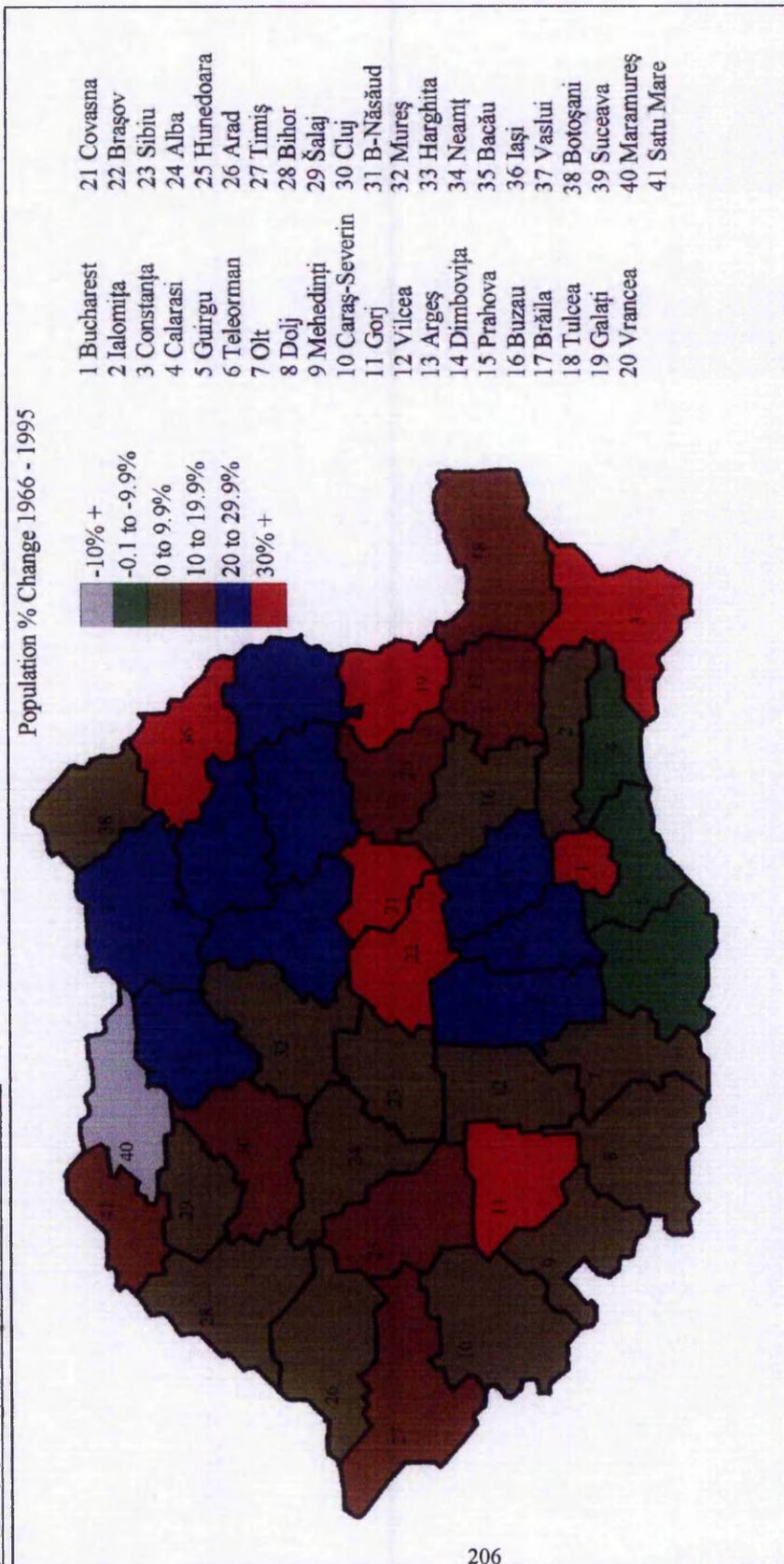
Source: Romanian Statistical Yearbook, National Commission for Statistics (1995).

Map 7.1.1: Total Population 1995



Source: National Commission for Statistics (1996)

Map 7.2: % Change in Population (1966 – 1995)



Source: Romanian Statistical Yearbook, National Commission for Statistics (1996).

Table 7.2: Judet Employment 1990-1995

	Number of Employees (000s)		
	1990	1995	% Change
Alba	149	116	-22
Arad	174	140	-20
Arges	257	208	-19
Bacau	242	191	-21
Bihor	224	151	-33
Bistrita-Nasaud	92	66	-28
Botoşani	112	81	-28
Braila	148	226	-24
Braşov	297	108	-27
Buzau	155	101	-35
Calarasi	145	95	-34
Caras-Severin	106	69	-35
Cluj	288	230	-20
Constanţa	313	231	-26
Covasna	82	62	-24
Dambovita	181	129	-29
Dolj	246	160	-35
Galaţi	223	190	-15
Giurgiu	78	48	-38
Gorj	157	133	-15
Harghita	122	91	-25
Hunedoara	238	194	-18
Ialomita	85	70	-18
Iaşi	250	210	-16
Maramures	174	131	-25
Mehedinti	103	72	-30
Mures	217	164	-24
Neamţ	181	125	-31
Olt	151	109	-28
Prahova	341	277	-19
Salaj	126	98	-22
Satu Mare	78	60	-23
Sibiu	196	139	-29
Suceava	204	146	-28
Teleorman	126	91	-28
Timiş	282	210	-26
Tulcea	95	76	-20
Valcea	126	86	-32
Vaslui	142	112	-21
Vrancea	111	86	-23
Bucharest	1139	878	-23
Romania	8156	6160	-24

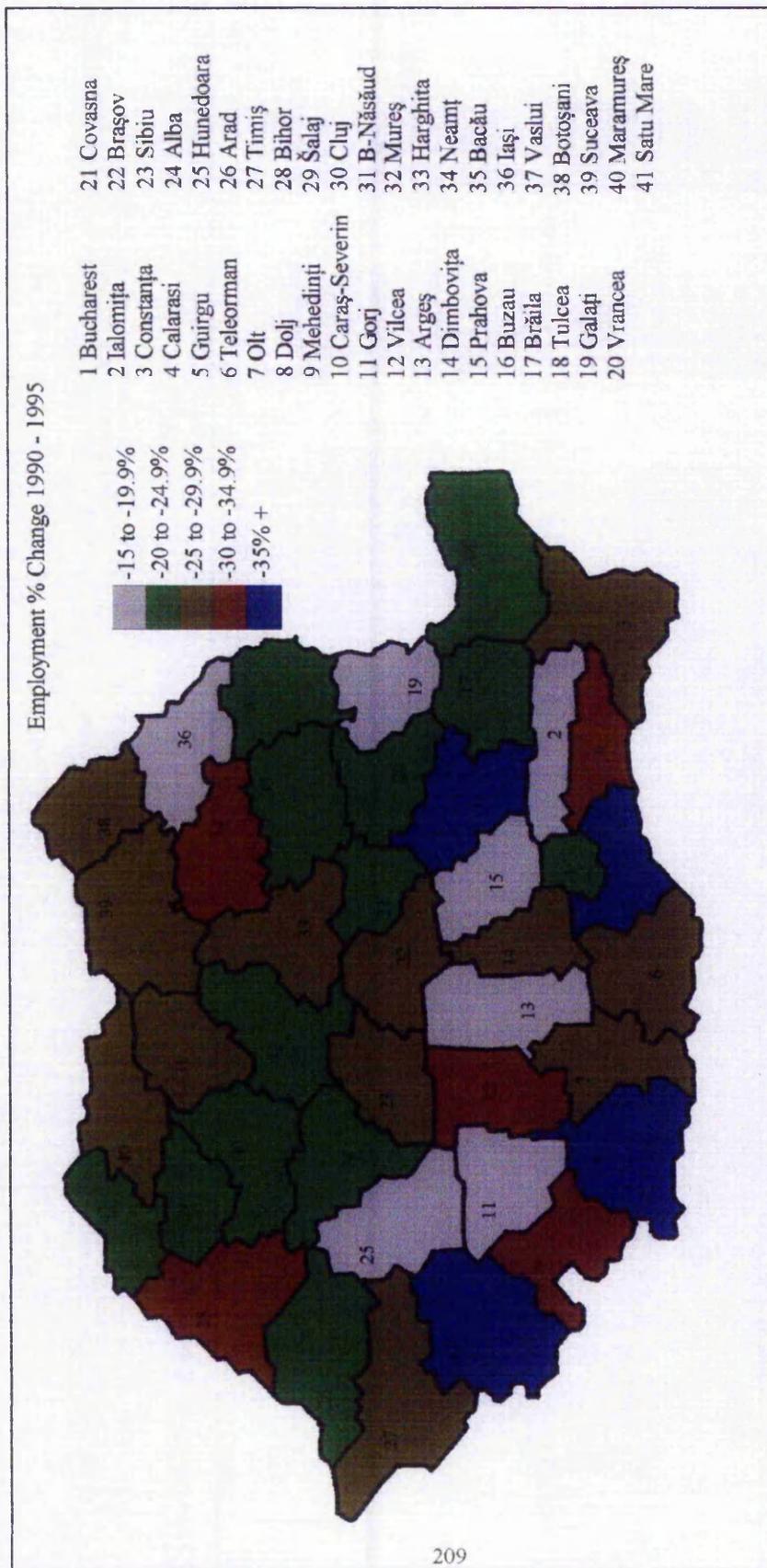
Source: Romanian Statistical Yearbook, National Commission for Statistics (1995).

Extending this analysis, by looking at employment change over a five-year period 1990 to 1995 (Table 7.2 and Map 7.3), further confirms the argument that the impact of transition has been uneven on the regions. While all judets have suffered a contraction in the numbers employed, actual levels of decline

range from 38% (Giurgiu) to 15% (Galați), compared to 24% nationally. Just a brief examination of these figures show that it is the lesser developed judets that have generally suffered the largest falls in employment while the judets of higher levels of development tended to experience a decline in employment at or around the national average. This implies that transition has led to a divergence in employment levels between judets.

Thus even before undertaking any detailed analysis the picture emerging from the descriptive data is of a differential impact on population and employment change resulting from the changes taking place during the transition process and these reinforce some of the divergence that was apparent prior to transition. The next few sections of the chapter enable a more detailed examination of this proposition to be undertaken.

Map 7.3: % Change in Employment (1990 – 1995)



7.3 Comparative Index

Since 1989 Romania has lacked a strongly identifiable regional policy, largely as a result of regional imbalances being pushed to the periphery of the policy-making arena. However, the Romanian Government, in collaboration with the EU Commission's PHARE programme, has established a regional policy taskforce to examine initiatives to redress the imbalance in socio-economic development. Part of this work included a study that provided a detailed regional examination of socio-economic conditions and trends to inform both the Romanian Government and the EU to enable the development of future regional strategies (Ramboll, 1996a).

The study produced a comparative index of regional development that ranked the economic development of each judet against each other for the years 1990-1994. Using this as a basis for analysis, the index is applied and evaluated within the framework previously laid out in this thesis. This index provides a database through which we are able to test the convergence/divergence hypothesis.

The comparative regional index is aggregated from five individual domains and is based on a selection of official statistics that are relevant to the spatial economy.

1. **Economy:** Measuring the dynamic changes in industrial production and employment in terms of industrial production and employment.
2. **Infrastructure:** Measuring the social endowment of judets in terms of health, education and water consumption.
3. **Household Resources:** Measuring the technical endowment of Romanian households in terms of numbers and distribution of cars, telephones and TV subscriptions.

4. **Socio-Demographics:** Measuring the changes of some of the most significant demographic parameters expressed through infant mortality rate and migration rates.
5. **Urbanisation:** Measuring the changes in the proportion of the urban population in each judet.

Each of the five main categories were equally weighted and measured by an index and the judets ranked accordingly. The indexes were summed to give a final aggregated indicator that was taken to be an expression of the socio-economic development of each judet in 1990 and 1994. However, the methodology is open to question. There is no a priori rationale for a set of domains of equal weighting. Although equal weighting is convenient it implies that each domain is equally important although it is not clear how different measures of production and consumption can be treated as such. An index weighted to the importance of individual domains would have been able to draw out specific regional disparities. In addition, Bucharest was omitted from the analysis as stipulated by the EU. It was argued that its removal would prevent the model being skewed through Bucharest's economic dominance, an issue decided ex ante rather than ex post and therefore not subject to testing

Despite these shortcomings, the index provides a useful analysis of the nature of regional change within the Romanian economy during the initial transition period. The index values are given in Table 7.3 and are presented in descending rank order with ranking '1' representative of the judet with the least level of development, '40' the judet with the highest level of development. The resulting index is particularly valuable as not only does it show the hierarchy of development for all judets, thereby placing them in a comparable framework, but the change in development levels over a 4 year period provides a good measure of the nature of regional change.

Table 7.3 General Development Index 1990-1994

General Development Index 1990-1994 ¹					
	Rank 1990	Rank 1994	Index 1990	Index 1994	Rank 1990 -Rank 1994
Timiș	40	40	73.5	73.0	0
Cluj	39	39	72.0	72.7	0
Brașov	38	38	71.2	71.3	0
Sibiu	37	37	69.2	68.7	0
Mures	36	36	62.3	65.8	0
Constanța	33	35	59.6	61.6	2
Braila	30	34	56.4	61.3	4
Arad	31	33	57.7	60.5	2
Arges	34	32	60.2	60.0	-2
Hunedoara	35	31	60.4	59.6	-4
Prahova	32	30	59.4	57.0	-2
Covasna	29	29	56.2	56.5	0
Bihor	27	28	55.9	55.3	1
Alba	28	27	55.9	53.9	-1
Harghita	25	26	52.4	52.0	1
Gorj	24	25	52.2	51.8	1
Galați	23	24	50.9	51.8	1
Dolj	21	23	50.2	51.2	2
Caras-Severin	26	22	53.4	51.0	-4
Valcea	22	21	50.3	49.4	-1
Satu Mare	19	20	48.5	47.6	1
Maramures	18	19	47.7	47.6	1
Iași	20	18	48.7	47.5	-2
Bacau	16	17	46.6	46.2	1
Tulcea	15	16	46.3	46.0	1
Buzau	14	15	45.0	44.5	1
Dambovita	10	14	42.5	44.1	4
Bistrita-Nasaud	11	13	43.0	43.1	2
Mehedinti	17	12	47.2	42.5	-5
Olt	13	11	44.9	42.2	-2
Salaj	12	10	43.2	42.1	-2
Neamț	9	9	41.3	42.0	0
Vrancea	8	8	40.4	39.3	0
Ialomita	4	7	34.8	38.6	3
Suceava	7	6	39.4	37.6	-1
Teleorman	6	5	36.1	35.3	-1
Calarasi	5	4	35.8	34.8	-1
Vaslui	3	3	32.3	32.4	0
Botoșani	1	2	27.4	31.3	1
Giurgiu	2	1	29.7	31.0	-1

Source: National Commission for Statistics, 1994

The above development index shows a rather stable situation in the hierarchy of the judets during the study period. This stability in the rank scores, with the index recording a movement of more than 3 places occurring in only five judets, confirm the assumption that economies have a long memory and past patterns of

¹ General Development Index using the 5 indicators; Economy, Infrastructure, Resources, Demography and Urbanisation

development influence those of the present. It can be said therefore that the hierarchy of development changed little between the years 1990-94. Nevertheless, there were a few notable exceptions that included Mehedinti, Caras-Severin and Hunedoara that slid down the rankings for development and Dâmbovita, Braila and Ialomita that improved their rankings.

The most stable situation was found among the higher developed judets, with Timis, Cluj, Braşov, Sibiu and Mures retaining their status as the most developed judets in 1994. At the lower end of the hierarchy, among the last 9 judets only one improved its position (Ialomita) while the others remain practically unchanged.

However, these discussions refer to the hierarchy of development per judet and while it is stated that the ranking of economic development has remained fairly static, actual levels of development have altered as a result of national macroeconomic decline. On the basis of this index, the implication is that the transition process that adversely affected the Romanian economy during the early 1990s has affected all regions is proportional and left the nature of spatial inequality relatively unaltered.

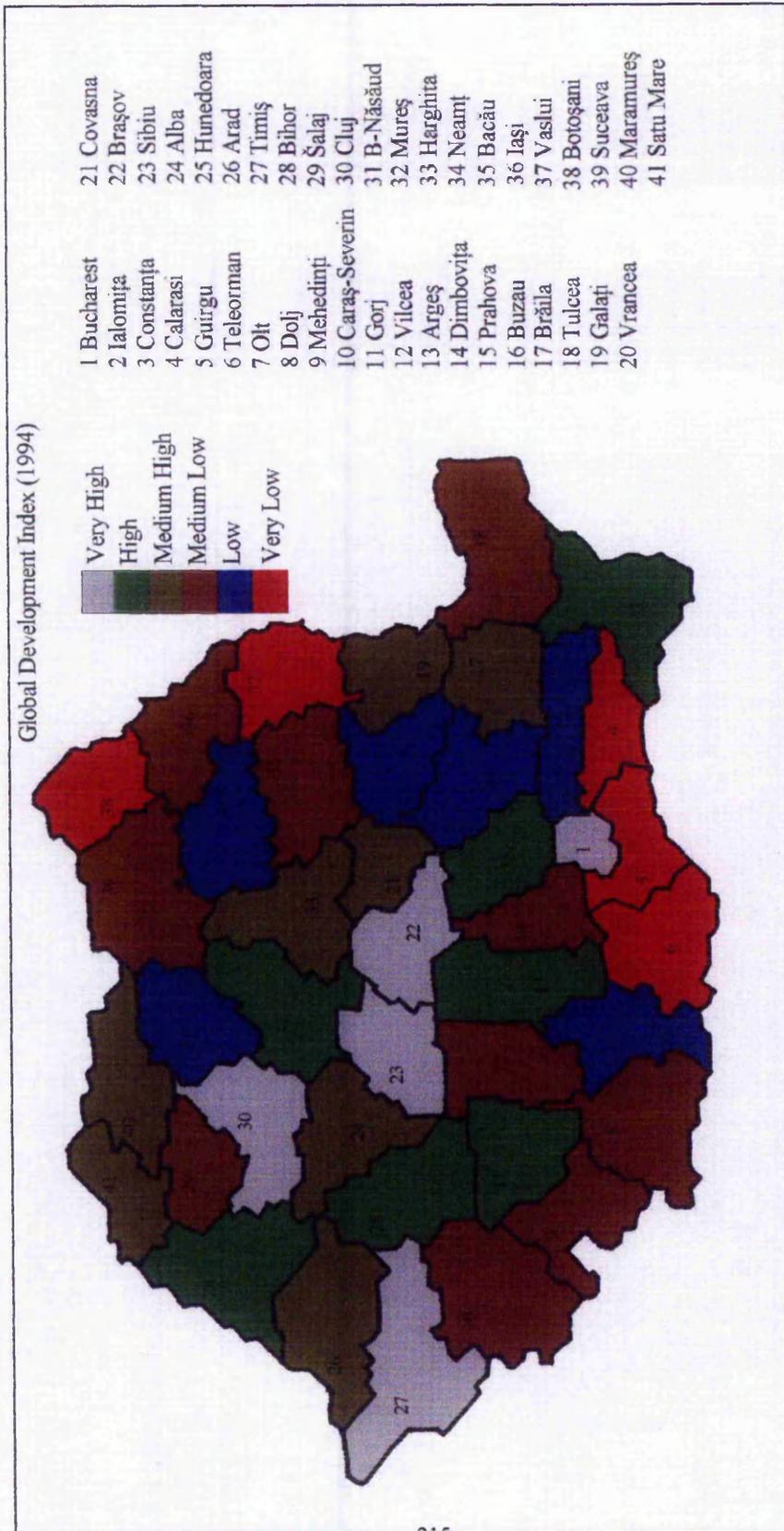
In terms of spatial development there are significant differences between the east and the south of the country and the central and western parts. Most of the low and very low developed judets are to be found in Moldova and Muntenia regions, while the majority of the highly and very highly developed judets are located in Transylvania and Banat regions. The historical regions of Maramures are characterised by a medium level of development. An interesting feature is that one of the most underdeveloped areas is contiguous to Bucharest, with the exception of the high industrialised and urbanised judet of Prahova. This feature is largely the result of the region's largely rural character and the absorption effect of the big urban agglomeration of Bucharest – with more than 2,000,000 inhabitants (9% of total population) and almost 18% of the total urban population.

Map 7.4 shows the level of regional disparities according to the general development index. Regional underdevelopment is mainly located in two main areas of the country; the north-eastern part including almost all of the historical area of Moldova, and the Southern part covering the largest agricultural area called the Romanian Plain. The Western and the Central areas of the country are, on the contrary, more wealthy and developed in terms of income, social and technical endowments, and economic assets. The highest unemployment in 1994 was found in those judets with a low level of development at the onset of transition, and with a very high rate of decline in industrial employment.

Individual Indicator Analysis

Although the general index of development shows a rather stable situation, the analysis of the individual categories that make up the overall economic development index contain important differences between judets from one category to another. Data in the appendices gives the ranks, general scores and the relative indicators for each of the selected categories; economy, infrastructure, household resources, socio-demographic and urbanisation.

Map 7.4: Regional Distribution of the General Development Index (1994)



The highest regional disparities in 1990, measured as the difference between the first rank and the 40th rank, occurred within the infrastructure category (a gap of 64 points), followed by socio-demographic (60 points), economic (56 points), household resources (55 points) and urbanisation (47 points). In 1994 the gap between the highest and lowest judets decreased or remained constant - an indication of slight convergence, i.e. the narrowing of disparities through national economic decline. The most significant reduction was registered within the socio-demographic indicator (7 points) and household resources (3 points). A very slight reduction was registered in the economic indicator, while the infrastructure and urbanisation remained relatively stable. Similar findings emerge from the comparative analysis of the differences between the average scores of the first and last five judets. The most significant reductions occurred within the socio-demographic and household resources indicators.

The general pattern of change tends to occur in judets at or around the centre values of the index. The extreme values of the index are the most stable, particularly in the first 3-5 leading judets. A further pattern to emerge is that the judets that ranked highly in the general development index hierarchy were also the highest ranked in each individual indicator. This signifies that the transition process has altered some regional ranking for the judets not at the extreme values while those judets either at the top or bottom of the ranking structure have remained stable. The notable exceptions are Gorj, maintaining a strong position under the economic indicator (4th position in 1990 and 2nd in 1994) and Iași with the infrastructure indicator (due to a strong health sector) but were both middle position judets under the general development index hierarchy.

At the bottom end, the changes are largely insignificant, although once again there are some exceptions. Notable among these are Tulcea whose infrastructure development improved by 1994, and Calarasi, poorly ranked for the majority of indicators but with a higher rank for the economic indicator - which helps it to a better overall position under the general development index hierarchy.

Overall, infrastructure and socio-demographic aspects of regional activity seem to be less affected by the transition process than that of economic development and household resources. Urbanisation registers no significant change. This trend is rather expected as economic development and household resources are more responsive to national economic trends and are influenced in the short run. Infrastructure, socio-demographics and urbanisation rates, although similarly influenced by the national economy, are much less responsive and tend to change in the longer run. Infrastructure and socio-demographic development is a lengthy process requiring a long term programme of change in the social fabric of regions while urbanisation is the result of employment opportunities, geographical and occupational mobility to name a few of the influences. This suggests that certain trends can be identified for the first two indicators, while for the following three there appears to be a more random pattern of development.

Below we discuss in detail the significant issues that relate to each of the five different domains developed in the index.

1. *Economic development:* During 1990-1994 five judets experienced significant changes in their economic index.
 - Ialomita and Olt improved their rank score by 11 places due to the lower rates of unemployment and, in the unique case of Olt, an increase in industrial production.
 - Caras-Severin, Dolj and Mehedinti suffered a fall in their economic development index as a result of their proportionally high decline in industrial employment.
 - Some judets experienced smaller changes of 3-4 places along the index. Alba, Buzau, Covasna, Sibiu and Tulcea experienced a small fall along the index, while Bihor, Constanța, Cluj or Vâlcea made slight movements upwards.
2. *Infrastructure:* During the period 1990-1994 there occurred significant variation within the ranking for this indicator.

- Towards the lower end of the scale, 6 judets increased their relative rank by more than 6 positions while 2 judets lost ground by 6-7 places.
 - Tulcea, Dâmbovita, Satu-Mare, Arad and Braşov moved up the ranking by between 6-12 places, and Braila by 17. Contributory factors were that Dâmbovita, Arad and Braila significantly improved the supply of drinking water which led to an increase in consumption, Braşov improved its position in terms of physicians and teachers, while Tulcea and Bacau improved their figures in terms of pupils per teacher and water consumption.
 - Teleorman and Buzau slid down the rankings by 6 and 7 places respectively, mainly on the basis of their poor health and water indicators.
 - Similar changes occurred in the rankings among the higher developed judets. Dolj and Harghita saw an improvement in their rank score by 8 and 11 places respectively through positive changes in their education and health sectors.
 - Conversely, some judets have undergone a significant decline in their overall development rankings. For example, Mehedinti fell from 26 to 19, Gorj from 27 to 8, Vâlcea from 34 to 22 and Olt from 35 to 12. The primary factors behind the decline of Gorj and Olt were the poor levels of water supply and consumption and a decline in the number of physicians. Vâlcea and Mehedinti suffered a similar decline in the number of physicians, but also a fall in the number of teachers. The decline in the numbers of professionals (e.g. teachers and physicians) is largely the result of a decline in the numbers of new entrants and a removal of migration limits so that many were free to move to other areas, in particular to Bucharest.
 - The ranking of judets within the infrastructure indicator was primarily influenced by changes within water consumption and the number of physicians per 1000 of the population. The education indicator showed a general improvement in 1994 compared to 1990 due to the reduction in the school age population. The impact of this indicator was less pronounced than changes in physician levels and water.
3. *Household resources*: This indicator was relatively stable with few judets experiencing significant variations in their rank scores.

- Mures scored highly under this ranking due to its very high levels of car ownership.
 - The most significant changes occurred towards the middle and lower part of the hierarchy. Teleorman, Iași, Neamt, Harghita and Galați improved their rank scores by 3-4 places, while Gorj, Alba, Caras-Severin and Brașov fell by the same number. Mehedinti recorded the largest decrease due to the low levels of telephone and TV ownership (largely due to the rather agricultural nature of the judets).
4. *Socio-Demographic*: This indicator was characterised by both high regional variations and the narrowing of inter-judet disparities. This is primarily the result of reductions in the migration and infant mortality rate of the poorest judets (with the exception of Iași and Vaslui).
- The judets with the highest levels of socio-demographic development for 1990 retain their position in 1994 (except Harghita).
 - Most regional variations in development during 1990-1994 occurred in the 'medium developed' judets. In particular, Braila and Gorj improved their ranking position by reversing their migration trends from a negative one in 1990 to a positive one in 1994.
 - The principle cause of judet's relative decline under this indicator was the failure to address the high rates of infant mortality (e.g. Suceava, Mehedinti, Prahova and Satu-Mare).
5. *Urbanisation*: The variation within the urbanisation index was extremely low – principally due to the 4 year time period being too short for any significant trends to emerge.
- The process is better observed in judets that were already highly urbanised with important urban agglomeration, where there is an identifiable contrast between the general decrease of the judet population and urban population growth (e.g. Alba, Bacau, Bihor, Cluj, Dolj, Hunedoara, Sibiu).

From the index of economic development and the more specific individual indicator analysis certain trends have emerged for the majority of the judets

during the period 1990-1994. Firstly, a significant movement in the economic indicators has occurred; both employment and industrial production declined, and this decline was more acute for industrial production than employment.

Secondly, the trends for the infrastructure indicators appear to be rather inconsistent as an improvement in drinking water consumption and the number of teachers occurred, but a worsening situation in terms of the number of physicians per head of the population.

Thirdly all judets of very low infrastructure rankings were also characterised by very low level of household resources in 1990, e.g. Teleorman, Ialomita, Calarasi, Gorj and Olt. With the exception of Gorj – a judet of high economic growth, all other judets within this group were also characterised by low levels of economic development in 1990.

Fourthly, the pattern of change in household resources and socio-demographic life suggests a 'compensation lag'. Poorer regions may have tried to offset their long-term marginal position by faster accumulation of the good things in life (e.g. private cars, TV and telephone subscriptions) and migratory movements - key components of the social life that are not influenced directly by formal institutional regulations. Economic life and infrastructure are areas of larger institutional domination and so the changes are much slower. The patterns of regional development have tended to favour the more developed regions and these areas are more able to exploit the transition process leaving the poorer less developed judets in their wake.

Furthermore, the changes to the regional socio-economic structure that have resulted from the transition process are not only dependent upon the initial stage of development, but are also interrelated. In less developed judets, e.g. Vaslui, Vrancea, Botoşani, Bistrita-Nasaud, household resources tended to increase during the years under investigation. On the contrary, judets with high economic growth are slower to increase household resources. This is the case of Bihor, Braşov, Braila, Arges, Prahova, Tmis, Cluj, Gorj, Ialomita and Olt. Mures is a

clear exception with a very high increase in household resources but medium economic growth. In addition, the socio-demographic development was higher in judets with low economic growth, e.g. Botoşani, and lower in judets with higher economic development, e.g. Timis.

One of the most important disparities to emerge was related to the number of physicians. The judets with higher levels of urbanisation and better social conditions also had a higher number of physicians, implying that this highly skilled resource was drawn in from other more peripheral regions.

A further trend to emerge were that household resources and demographic development had higher growth rates in less developed areas, e.g. Botoşani, Teleorman and Bistrita-Nasaud. However, higher developed judets also experienced improvements in the level of household resources, e.g. Mures, Sibiu and Constanţa. Both these situations are consistent if it is considered that the less developed judets are starting from a very low base, and so a higher proportional increase is not unexpected, while for the more developed judets further development in household resources is consistent with further socio-economic development per se.

The analysis of the index and the individual rankings confirms the previous assertions that the more developed judets were better insulated from the decline in industrial production and employment triggered by the transition process than less developed judets. As a consequence of the differential rates of change, inter-judet disparities have both simultaneously increased and decreased. The most important increase in disparities was recorded with the economic indicator – disparities in employment and industrial production increased as a knock-on effect of economic activity.

The main conclusions that can be drawn from the EU commissioned survey of Romanian regional development are that the judets with the lowest standards of living are located in two main areas. The first area with the most pressing problems is located around Eastern Moldova, Vaslui and Botoşani – an area

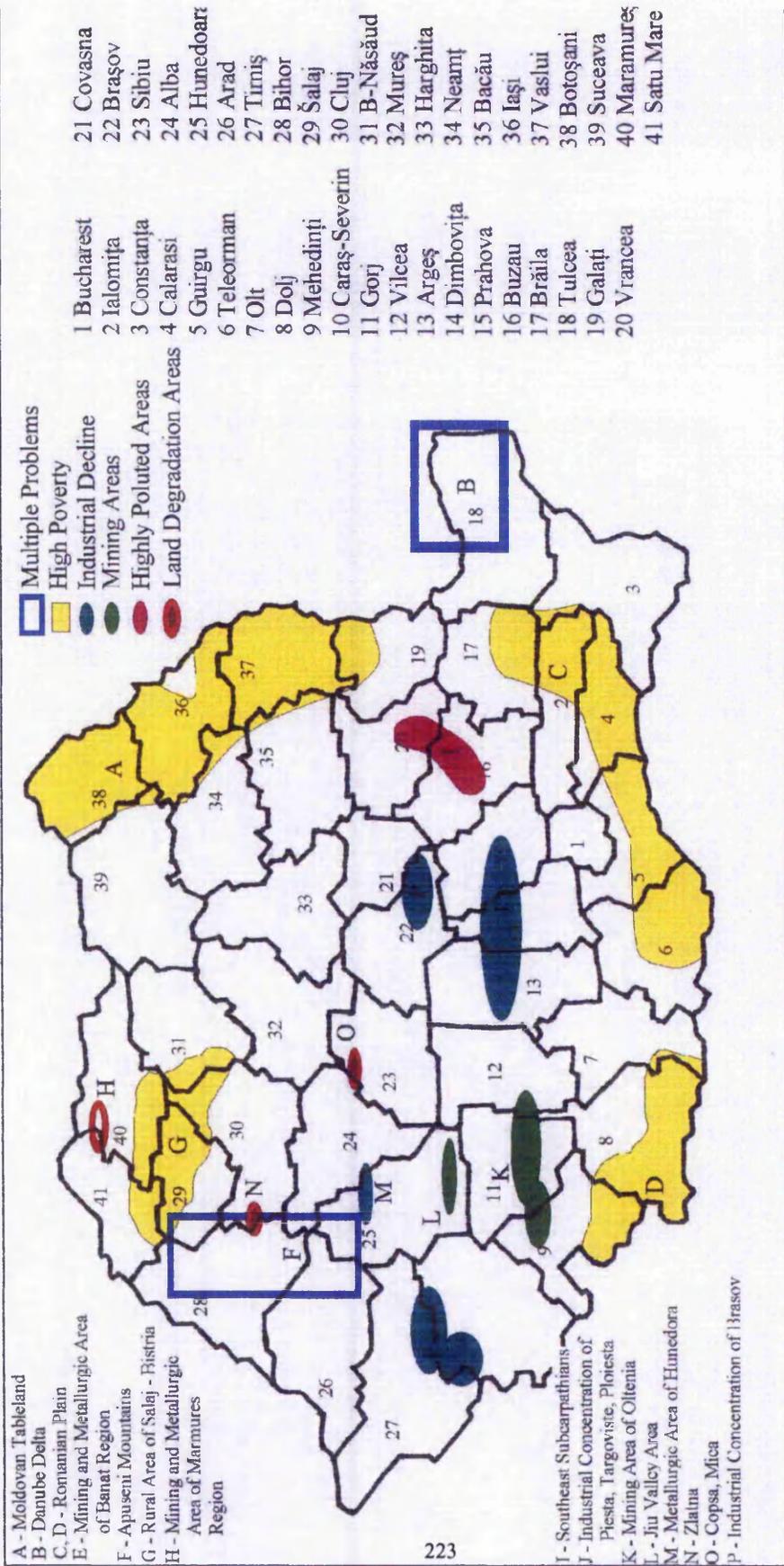
characterised by poor natural resources, high infant mortality and high out-migration and unemployment. Over half of the unemployment post-1990 is a result of the decline of industrial employment that has affected a number of judets, in particular Vaslui, Botoşani, Bistrita-Nasaud, Tulcea.

The second area is to be found in the agricultural southern plain region, comprising Giurgiu, Teleorman, Ialomita and Calarasi, characterised by a low standard of living and poor educational standards. Alternatively, the most developed areas are those located to the west of the country (areas of traditional development and activity) and central regions dominated by large agglomeration economies, most notable of which are Bucharest and Braşov. However, one of the most depressed areas of Romania is that surrounding the capital, with the single exception of the highly industrialised and urbanised judet of Prahova. This is a result of the predominantly agricultural nature of the region.

Map 3 extends the analysis of levels of economic development per judet through highlighting specific sub-judet problems that should be observed. The map highlights five specific types of problem areas:

1. poverty areas (Moldavian tableland, Romanian Plain, Salaj and Bistrita-Nasaud)
2. industrial decline areas (Hunedoara, Jiu Valley)
3. soil degradation areas (Vrancea, Buzau)
4. highly polluted areas (Baia Mare)
5. complex problem areas (Danube Delta)

Map7.5: Special Problem Areas



7.4 Lorenz Curve and Gini Coefficient

In this section we use Lorenz Curves and Gini Coefficients to test whether, over the period of transition, regional activity has been divergent or convergent. The Lorenz Curve (Lorenz, 1909) shows the cumulative percentage of employment in judets on the vertical axis and the judets, ranging from the smallest to the largest proportion of national employment, on the horizontal axis. If the employment was distributed evenly then one would obtain a line of equality as shown in Figure 7.1, i.e. ten percent of judets account for ten percent of employment; fifty percent of judets account for fifty percent of employment and likewise for all other percentages.

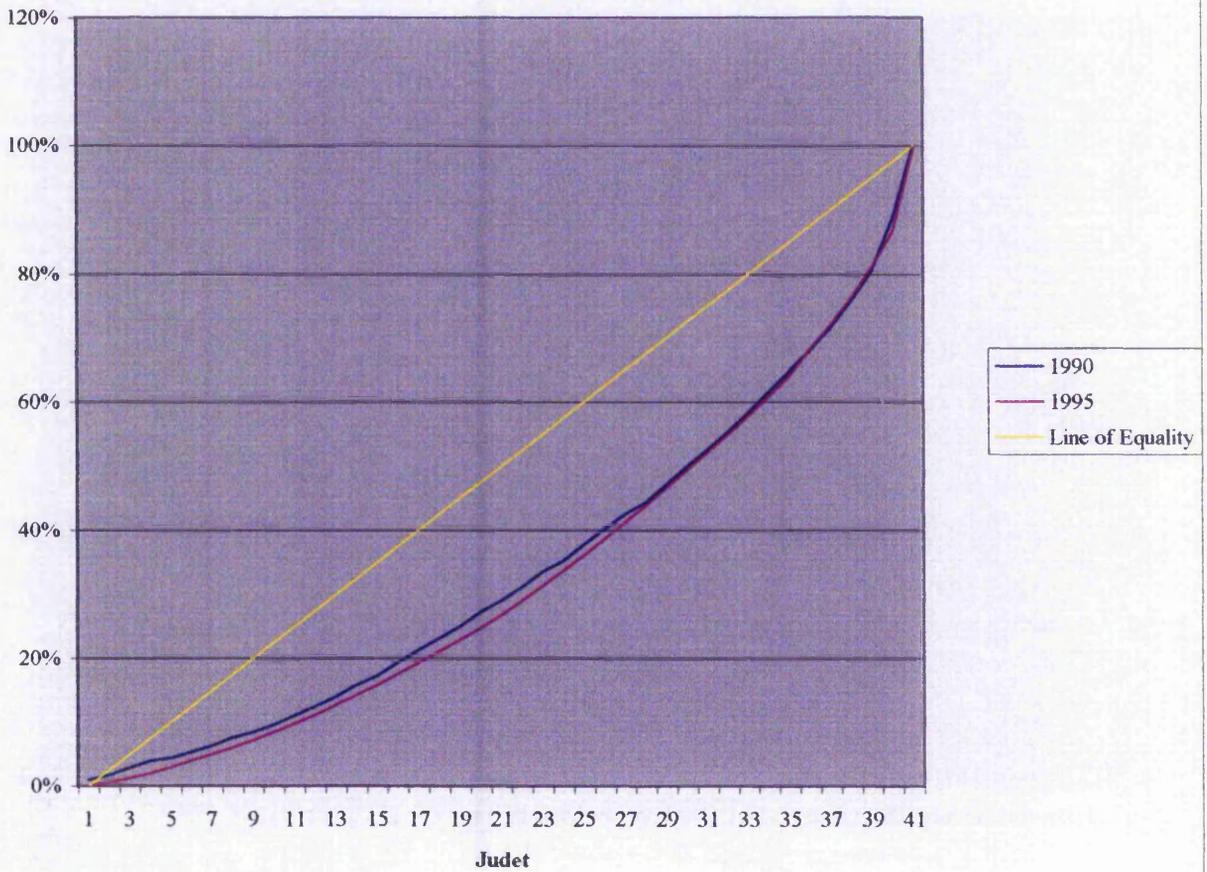
In the absence of perfect equality the smaller judets will have a proportionately lower share of employment. This would be the case largely because of the variation in the size of employment opportunities in each judet. Any Lorenz Curve must lie below the diagonal (line of equality and its slope will increasingly rise as we move to larger and larger judets. All that any one Lorenz Curve shows is the cumulative distribution of some measure, in our case employment, for a particular data set at a particular point in time.

However by comparing Lorenz Curves for different time periods, in our case 1990 and 1995 we are able to see the extent to which inequality is being reduced or is increasing. In other words the extent to which, in 1995, activity, as measured by employment, is becoming more (or less) concentrated than it was in 1990 when transition commenced. This then provides a test as to whether economic activity, across judets in Romania, became more or less equally distributed. What is evident from the Lorenz Curves presented in Figure 7.1 is that the 1995 Lorenz curve is further away from the line of equality than the 1990 Lorenz Curve thus implying greater inequality between judets and a more divergent path of regional economic activity

To further test whether divergence has or has not occurred we have used the Gini Coefficient. The Gini Coefficient is the ratio of the difference between the line

of equality (the diagonal) and the Lorenz Curve. In terms of measurement, the Gini Coefficient is one half of the relative mean difference, which is defined as the arithmetic average of the absolute values of differences between all pairs of judet employment figures.

Figure 7.1: Lorenz Curve Showing Cumulative Distribution of Judet Employment



Thus

$$G = (1/2n^2u) \sum_{i=1}^n \sum_{j=1}^n (y_i - y_j) \quad (1)$$

$$= 1 - (1/n^2u) \sum_{i=1}^n \sum_{j=1}^n \text{Min}(y_i, y_j) \quad (2)$$

$$= 1 + (1/n) - (2/n^2u) [y_1 + 2y_2 + \dots + ny_n] \quad (3)$$

for $y_1 \geq y_2 \geq \dots \geq y_n$

The Gini Coefficient for judet employment in 1990 is 0.258 and for 1995 it is 0.359. A Gini Coefficient value of zero implies complete equality and a value of one implies complete dominance by one unit (judet). Thus the move from 0.258 to 0.359 implies a growing concentration of activity, albeit a relatively small change, implying an increasing divergence of employment patterns between judets. As one might expect it supports the conclusions drawn from the Lorenz Curve analysis.

The use of employment as an indication of economic activity has its drawbacks since we do not know how productive this labour force is across judets, nor do we know the level of capital resources available. Nevertheless, the direction of change is such that with some degree of caution we can conclude that between 1990 and 1995 during the early period of transition the concentration of economic activity apparent before and during the socialist period has been further reinforced by a continuing process of divergence as the economy has become opened up to market forces.

7.5 Empirical Analysis of Component Indicators

Given the availability of the data sets that form the basis of the General Development Index we are able to further test the convergence/divergence hypothesis. Some thought was given to the use of components of change

analysis² showing why some of the changes, be they convergent or divergent, have occurred. However, this was not possible due to data problems, the analysis would require detailed statistics on the opening, growth and closure of new firms which is unavailable. In view of this, the individual data sets that comprise the general development index have been used for a comparison of variance analysis.

Comparison of Variance

While a components of change analysis was not possible due to the data limitations, further analysis of the general development index could be undertaken through a comparison of the variance of means using the F-test. This empirical technique enables a more detailed investigation of the changing status of regions through an analysis of individual components of the regional development indicators. The analysis of the variance of means will show the existence of convergence or divergence in specific indicators of the general development index over the four-year initial period of transition (1990-1994).

Comparison of variance is used to test the variance about the mean scores of the each component indicator in the general development index. The group

² Components of change analysis can make a useful contribution to the analysis of regional economic change. From using this technique, Fothergill & Gudgin (1982) argue that differential growth between urban and rural areas has a significant impact upon the pattern of employment change and that only some of this change is attributable to industrial structure. The premise is rather straightforward, industrial decline in the larger agglomerations can often be attributed to 'constrained locations' (Fothergill & Gudgin, 1982: 68), limited by out-dated factories and equipment while further hampered by existing urban development that reduces the ability for additional expansion. This means that in the industrial centres, investment in new capital equipment displaces labour to a greater extent than that occurring in small towns and rural areas as these areas allow for expansion and the construction of new factories.

The components of change approach is typically used to investigate regional employment trends through the analysis of the opening, closure and growth of secondary sector establishments. The technique allows for the disaggregation of employment change thereby enabling the analysis of the individual elements of employment data (Robinson & Storey, 1981). However, in their discussions of the application of components of change analysis to regional employment trends, Fothergill et al (1985) argue that one of the principal difficulties is its reliance on a comprehensive data set (e.g. opening, growth and closure of firms). Information is required from entire sectors, from self-employment through to multi-nationals in order to measure new firm formation.

mean (i.e. all judets and Bucharest) is taken as representative of the typical regional performance during 1990-1994. However, the performance of individual judets varies widely and some judets deviate markedly from group mean implying high variability between (i.e. among) judet groups. The comparison of variance F statistic is calculated by dividing an estimate of the variability between groups by the variability within groups.

If the following hypothesis is considered:

$$H_0: \sigma_x^2 = \sigma_y^2$$

$$H_1: \sigma_x^2 \neq \sigma_y^2$$

σ_x^2 and σ_y^2 are the variances of two different populations.

$$F = (\text{variance between}) / (\text{variance within})$$

If there are large differences among the judet scores, the numerator F (and therefore F itself) will be inflated and the null hypothesis is likely to be rejected; but if there is no effect, the numerator and denominator of F should have similar values, giving F close to unity. A high value of F, therefore, is evidence against the null hypothesis of equality of all judet means.

If the test shows significance, we reject H_0 and accept H_1 , the means of all judets are not equal, and it can be concluded that divergence in regional performance has occurred between 1990-1994.

With two data samples n_x and n_y , with unbiased estimates of the respective population variances being denoted by s_x^2 and s_y^2 . The corresponding random variables are S_x^2 and S_y^2 . If the distributions sampled are normal, in common with variance σ^2 , then:

$$(n_x - 1 / \sigma^2) S_x^2 \sim X_{n_x-1}^2 \quad \text{and} \quad (n_y - 1 / \sigma^2) S_y^2 \sim X_{n_y-1}^2$$

From the definition of an F-distribution, taking the scaled ratio of variables with X^2 distributions, then:

$$(\{[n_x - 1 / \sigma^2] S_x^2\} / n_x - 1) / (\{[n_y - 1 / \sigma^2] S_y^2\} / n_y - 1) \sim F_{n_x-1, n_y-1}$$

Which can be simplified to:

$$S_x^2 / S_y^2 \sim F_{n_x-1, n_y-1}$$

and:

$$S_y^2 / S_x^2 \sim F_{n_y-1, n_x-1}$$

With a two-tailed test and a level of significance of $\alpha=0.05$, (40 df), the hypothesis that the two groups of judets have equal populations is tested. This gives an F-distribution of 1.88. Consequently, it can be determined whether the result is statistically significant, whether H_0 is accepted and the extent to which the variances between individual indicators have altered.

Table 7.4 gives the results of the F-test for consumption goods included in the household resources indicator of the general development indicator. It is clear that the average variance for cars has increased substantially between 1990-1994 indicating that levels of car ownership per judet have diverged significantly (F-value > F-distribution)

Table 7.4: Consumption Goods F-test

	Variance 1990	Variance 1994	F-value	F-distribution
Cars	354.0	2440.6	6.875	1.88
Telephones	1264.8	1316.0	1.041	1.88
Televisions	970.6	907.9	1.069	1.88

The Household Resources Development Index (HReso) calculated by the standardisation of the 3 components; Car, Phone and TV.

Car: Relative indicator measuring the number of private cars per 1000 people.

Phone: Relative indicator measuring the number of private telephone subscriptions per 1000 people.

Televisions: Relative indicator measuring the number of private television subscriptions per 1000 people.

The variance in telephone subscriptions has also diverged, albeit only slightly, while television subscriptions has actually marginally converged. However, the change in variance is only marginal for both these observations and their respective F-values > F-distribution and so H_0 should not be rejected and the variances are assumed to be equal.

Undertaking a similar analysis for public goods provision (infrastructure indicator) again shows differences within the individual indicator (Table 7.5). The change in variance during 4 years for the health indicator is notable and implies that there has occurred significant divergence in the number of people per doctor in each judet. Consequently, H_0 is rejected and H_1 is accepted - the variance of means 1990-1994 is not equal. This confirms the trends identified in the 'National Human Development Report' (UN, 1997) that emphasised that the migration of health professionals to urban centres was depriving the more peripheral areas of adequate health care.

Table 7.5: Public Goods Provision F-test

	Variance 1990	Variance 1994	F-value	F-distribution
Education	1.80	1.55	1.16	1.88
Health	12,624.5	49,470.6	3.92	1.88
Water	2162.3	2048.7	1.06	1.88

The Infrastructure Development Index (Infra) was calculated by the standardisation of the 2 components; Education, Health and Water.

Education: Relative indicator measuring the number of pupils in high school per 1 teacher.

Health: Relative indicator measuring the number of people per 1 physician.

Water: Relative indicator measuring the consumption of drinkable water per inhabitant per day.

The results for education and water are not statistically significant and so H_0 is accepted, the variances are assumed to be equal as the corresponding F-values < F-distribution. Nevertheless, while not significant statistically, we are still able to make some observations from the data. There has occurred marginal convergence in the numbers of pupils per teacher, implying higher equality across regions in the level of teaching provision. Similarly, there has occurred slight convergence in the consumption of drinkable water. Further investigation will be required to establish whether this is due to an

improvement in supplies in disadvantaged areas or a reduction in the quality of water supplies in other areas as water infrastructure suffers from the general economic malaise caused by the transition process.

Repeating the analysis for the economic indicator, i.e. industrial production and levels of employment, convergence is evident in the means of variance for both indicators during the 4-year study period (Table 7.6). This is likely to have been caused by the pervasive industrial decline caused by the transition process. Both results, however, are not statistically significant although they give some interesting insights to the extent of regional convergence or divergence during the first years of transition.

Table 7.6: Industrial Production and Employment F-test

	Variance 1990	Variance 1994	F-value	F-distribution
Industrial Production	346.4	194.8	1.78	1.88
Employment	5934.1	3237.4	1.83	1.88

The Economic Development Index (Econ) was calculated by the standardisation of the 2 components; Industrial Production and Employment.

Industrial Production: Relative indicator measuring the industrial production in thousand lei per people in comparable prices.

Employment: Relative indicator measuring the number of employees per 1000 people.

In summary, the general trends revealed by the further investigation into the general development index show that the period of 1990-1994 has been one of mild turbulence with some marginal convergence and divergence in the regional levels for specific indicators within the general development index. This is similar to the findings from the additional analyses undertaken in this thesis where regional economic performance, expressed in terms of convergence or divergence, has been relatively stable during the early years of transition.

7.6 Shift-Share Analysis of the Secondary (Industrial) Sector

Shift-share analysis is a technique for explaining regional growth trends through the measurement of the effect of the sectoral mix of a judet upon its

growth performance. It is a technique that examines a region's industrial performance by systematically evaluating the national, local and industrial components of employment change. A shift-share analysis of the Romanian regional economy provides a dynamic consideration of that element of total employment growth or decline that is attributable to the growth of the national economy, a mix of faster or slower than average growing industries, and the competitive nature of the local industrial base.

The foundation of shift-share analysis is its separation of regional employment change into three constituent parts. The first part refers to the contribution to the change in the regions' industrial sector employment of the national rates of employment change; the second part reflects the region's specific mix of industry (suggesting that if the region has above average representation of a growth sector it should benefit accordingly). The third part is due to residual influences not accounted for elsewhere and is therefore regional employment change not explained by its industrial structure (Armstrong & Taylor, 1985; Temple, 1994). As such, this third component represents the strength or weakness of a particular region. Change at the regional (judet) level will be a composite of macro, industrial and judet change. Shift-share analysis allows us to see the influence of each of these components.

National Growth Share

This represents the share of local job growth that can be attributed to the growth of the national economy. The faster the rates of national sectoral growth, it is expected that the faster will be the corresponding rate of judet growth. In this analysis, we first examine the national growth share by measuring the change in judet employment as if it had changed proportionate to overall national employment trends. This is shown in the identity below.

$$\sum j_{i,1990} \cdot (\sum n_{i,1995} / \sum n_{i,1990}) - 1$$

where: $\sum j_i$ = sum of industrial employment in judet in time period

$\sum n$ = total national employment in Romania

Industrial Mix

This represents the local job growth that can be attributed to the judet's specific sectoral structure. It is the change in employment in a local industry that would be caused by the decline of the industry nationally. This element of the model isolates the fact that some industries have performed differently than others. It represents the contribution that a specific industry nationally has made to the change in the region's employment. This is represented in the identity below.

$$\sum j_{i,1990} \cdot ([\sum n_{i,1995} / \sum n_{i,1990}] - [\sum n_{1995} / \sum n_{1990}])$$

where: $\sum n_i$ is the sum of national industrial employment in time period

Regional Growth at National Growth Rates for the Industrial Sector

This represents the residual element of the judet's growth that remains unexplained or, in other words, the share of local job growth that is attributable to factors unique to the local area that have caused either growth or decline in regional secondary employment. This local component enables the identification of a region's economic strength or weakness, and is a representation of how a region's competitive position can contribute to employment performance. This enables the specific identification of a region's local comparative advantage.

$$\sum j_{i,1990} \cdot ([\sum j_{i,1995} / \sum j_{i,1990}] - [\sum n_{i,1995} / \sum n_{i,1990}])$$

These three elements combine in order for a model of regional employment growth. Thus, the change in industrial employment in a judet between 1990

and 1995 can be characterised as the change in three elements - national, industrial and local. These three elements are brought together below.

Judet employment growth = National growth component + Growth due to industry mix + Growth due to other factors

$$\begin{aligned} \Delta j_i = & (\sum j_{i,1990} \cdot [\sum n_{i,1995} / \sum n_{i,1990}] - 1) \\ & + (\sum j_{i,1990} \cdot \{ [\sum n_{i,1995} / \sum n_{i,1990}] - [\sum n_{,1995} / \sum n_{,1990}] \}) \\ & + ([\sum j_{i,1990} \cdot \{ [\sum j_{i,1995} / \sum j_{i,1990}] - [\sum n_{i,1995} / \sum n_{i,1990}] \}]) \end{aligned}$$

The level of industrial employment in each judet in 1990 and 1995, along with the actual and percentage change, is shown in Table 7.7. The results of the shift-share analysis are shown in Table 7.8. The national employment change refers to that part of the change in total employment in a region that is attributable to the rate of growth of employment in the nation and has a positive sign. The industry mix effect of the model is the amount of change the judet would have experienced had the industrial sector grown at the national industrial rates less the national growth effect. This is negative as it reflects decline in the industrial sector.

Of particular interest are the results that represent the judets' share of industrial growth. It is important to acknowledge that even though in this case the industrial sector is in decline per se, the industry of a judet could still show a positive local share effect if it were declining at a slower rate than the industry nationally. Of course, the ideal scenario for a judet would be where the local share is larger than the industry mix, and both are positive, as this would be an indication of a judet's comparative advantage. However, this does not occur in this analysis of the Romanian spatial economy.

The local share column gives an indication of the relative economic performance of that judet with respect to the industrial sector. The results show that some judets have a positive local share alongside a negative industrial mix. This

indicates that the local area industry has performed well relative to the poor national industrial performance. This in turn may be an indication that the local area may have some comparative advantage in these industries, despite national industrial performance.

Shift-share is a means by which to account for the relative regional competitiveness of each judet and to analyse the local economic base. As such, some conclusions can be drawn from the results of the model that are contained in Table 7.5. While the results for the local shares show that 16 judets had a negative local share, most of the results show no definite growth pattern at all.

Of the more significantly positive results, these findings are consistent with previous discussions relating to the economic dominance of the more developed regions, in particular Bucharest. The capital has the highest positive share indicating its concentration of industry and its relative comparative advantage. Other developed judets have similar positive shares, e.g. Arges (28.3), Prahova (26.7), Gorj (21.7), Braşov (16.2) and Galaţi (14.5).

Conversely, those judets of lower levels of development tend to have negative local shares. The largest negative local shares in the traditionally agricultural judets, in particular Calarasi and Caras-Severin with 28.6 and 27.5 respectively.

What this implies is the transition has led to the divergence of levels of employment in the secondary sector as some judets have a significantly positive local share while other judets have significantly negative local shares. This can be taken as an indication of the relative strength and weakness of the regional economies.

Table 7.7: Employment Change in Judets 1990-1995

	Industrial Sector (000s)			
	1990	1995	Change	Change (%)
Alba	71.9	67.5	-4.4	-6.1
Arad	72.5	51.2	-21.3	-29.4
Arges	114.9	120.2	5.3	4.6
Bacau	101.1	95.9	-5.2	-5.1
Bihor	97.7	81.7	-16.0	-16.4
Bistrita-Nasaud	38.4	28.8	-9.6	-25.0
Botoşani	42.0	31.9	-10.1	-24.0
Braila	53.2	46.1	-7.1	-13.3
Braşov	153.6	139.0	-14.6	-9.5
Buzau	66.9	48.9	-18.0	-26.9
Calarasi	64.0	22.6	-41.4	-64.7
Caras-Severin	93.0	51.3	-41.7	-44.8
Cluj	127.6	112.3	-15.3	-12.0
Constanţa	65.2	57.5	-7.7	-11.8
Covasna	38.4	35.6	-2.8	-7.3
Dambovita	88.5	78.5	-10.0	-11.3
Dolj	85.2	67.7	-17.5	-20.5
Galati	82.8	80.7	-2.1	-2.5
Giurgiu	22.6	13.9	-8.7	-38.5
Gorj	66.4	74.8	8.4	12.7
Harghita	63.2	56.3	-6.9	-10.9
Hunedoara	117.2	113.1	-4.1	-3.5
Ialomita	19.0	15.6	-3.4	-17.9
Iasi	95.7	82.7	-13.0	-13.6
Maramures	78.5	66.6	-11.9	-15.2
Mehedinti	35.6	29.6	-6.0	-16.9
Mures	101.8	77.5	-24.3	-23.9
Neamţ	86.6	71.9	-14.7	-17.0
Olt	52.5	44.1	-8.4	-16.0
Prahova	170.1	162.7	-7.4	-4.4
Salaj	34.5	29.7	-4.8	-13.9
Satu Mare	59.4	44.3	-15.1	-25.4
Sibiu	107.4	78.2	-29.2	-27.2
Suceava	89.5	67.2	-22.3	-24.9
Teleorman	45.7	38.3	-7.4	-16.2
Timiş	115.1	85.6	-29.5	-25.6
Tulcea	30.8	19.2	-11.6	-37.7
Valcea	54.6	39.5	-15.1	-27.7
Vaslui	52.8	51.3	-1.5	-2.8
Vrancea	39.4	31.0	-8.4	-21.3
Bucharest	407.7	371.2	-36.5	-9.0
Romania	3403.0	2881.7		-13.7

Source: Romanian Statistical Yearbook, National Commission for Statistics (1991&1995).

Table 7.8: Industrial Employment and Shift Share Results 1990-1995

	Change	National Change (1)	Industrial Change (2)	Local Change (3)
Alba	-4.4	40.77	-55.17	9.99
Arad	-21.3	41.11	-55.63	-6.79
Arges	5.3	65.15	-88.16	28.30
Bacau	-5.2	57.33	-77.57	15.04
Bihor	-16.0	55.40	-74.96	3.56
Bistrita- Nasaud	-9.6	21.77	-29.46	-1.91
Botoşani	-10.1	23.82	-32.22	-1.69
Braila	-7.1	30.17	-40.82	3.55
Braşov	-14.6	87.10	-117.85	16.15
Buzau	-18.0	37.94	-51.33	-4.61
Calarasi	-41.4	36.29	-49.10	-28.59
Caras-Severin	-41.7	52.74	-71.35	-27.45
Cluj	-15.3	72.36	-97.90	10.24
Constanţa	-7.7	36.97	-50.02	5.35
Covasna	-2.8	21.77	-29.46	4.89
Dambovita	-10.0	50.18	-67.90	7.72
Dolj	-17.5	48.31	-65.37	-0.44
Galaţi	-2.1	46.95	-63.53	14.48
Giurgiu	-8.7	12.82	-17.34	-4.18
Gorj	8.4	37.65	-50.95	21.69
Harghita	-6.9	35.84	-48.49	5.75
Hunedoara	-4.1	66.46	-89.92	19.36
Ialomita	-3.4	10.77	-14.58	0.40
Iaşi	-13.0	54.27	-73.43	6.16
Maramures	-11.9	44.51	-60.23	3.82
Mehedinti	-6.0	20.19	-27.31	1.13
Mures	-24.3	57.73	-78.11	-3.92
Neamţ	-14.7	49.11	-66.44	2.64
Olt	-8.4	29.77	-40.28	2.11
Prahova	-7.4	96.46	-130.51	26.65
Salaj	-4.8	19.56	-26.47	2.11
Satu Mare	-15.1	33.68	-45.57	-3.21
Sibiu	-29.2	60.90	-82.40	-7.70
Suceava	-22.3	50.75	-68.67	-4.38
Teleorman	-7.4	25.91	-35.06	1.75
Timiş	-29.5	65.27	-88.31	-6.46
Tulcea	-11.6	17.47	-23.63	-5.43
Valcea	-15.1	30.96	-41.89	-4.17
Vaslui	-1.5	29.94	-40.51	9.07
Vrancea	-8.4	22.34	-30.23	-0.51
Bucharest	-36.5	231.19	-312.81	45.12
Romania	n/a	n/a	n/a	n/a

Source: Romanian Statistical Yearbook, National Commission for Statistics (1991&1995).

What this shift-share analysis fails to explain is what causes this change to occur, what are the factors that have led to some judets experiencing a higher level of real industrial decline than others? We may speculate as to the causes of why some areas were found to have positive local share under a negative industry mix, and the level of historical development is certainly a factor in local comparative advantage. In addition, discussions the author has had with representatives from the Romanian Ministry of Finance and academics on visits to Romania produced anecdotal evidence to suggest that the higher rates of efficiency within firms of some judets arose from local raw materials/inputs, transportation, local wage rates and the influence of local universities. However, the precise factors that explain these trends are unclear and an area for further research.

The technique of shift-share analysis suffers from a number of main limitations (Armstrong & Taylor, 1985; Temple, 1994). Firstly, it is insufficiently sensitive to the data set's level of aggregation. A shift-share analysis of the secondary (industrial) sector does reveal specific regional variations but it fails to adequately account for regional effects of specific plants in specific regions.

A second criticism of the shift-share approach is that it views the industrial sector independent from both its environment and local market linkages. In doing so, it fails to account for the effects of agglomeration economies which we have argued throughout the thesis will significantly influence the output performance and growth of an industry in a region (Temple, 1994).

Thirdly, the residual element of the model, although accounted for remains an unexplained influence. Temple (1994) states that these elements may be attributable to variations in labour skills and productivity. These important influences upon a judet's economic performance are overlooked despite the fact that the residual element may represent a relatively large part of the total change in employment.

Although this holds for any time series analysis, it should however be mentioned that any shift-share exercise should ensure that the level of aggregation and choice of base year is appropriate. This work opted for a broad level of aggregation and for the purpose of this analysis the years 1990 and 1995 were selected on the basis that 1990 offered a good approximation of the economic performance of judets under the socialist model as they existed at the start of transition. Pre-1990 is viewed upon with suspicion due to the incentives inbuilt within the socialist model (e.g. the achievement of targets rewarded with favours). As five years is assumed to be a sufficient time period for any regional changes to emerge, 1995 was chosen as the end year.

The conclusions from the shift-share analysis, although tempered by its limitations, are that industrial employment change (a measure of regional activity) in judets between 1990 and 1995 was positively affected by national growth but inversely (negatively) affected by industrial decline. Some judets experience a positive benefit from their own industrial structure while others did not. In part this difference will be due to differential firm efficiency, labour productivity and other local influences. Thus, some of the judets have performed worse than national and industrial change would imply, while others have performed better. The effect of transition is that there has been a differential impact on judets at least as measured by industrial employment. We would argue that this lends support to the other empirical evidence presented in this chapter and elsewhere in the thesis that since transition there has been a continual gradual divergence in economic activity across judets.

The shift-share analysis is no means an innovative technique but what is new is the application to CEE data for the analysis of convergence or divergence in economic activity. While this technique certainly has its detractors it does have the advantage of being easily interpreted utilising available datasets, thus being particularly useful for any study of a CEE regional economy.

7.7 Regional Development: Two Case Studies

The following section examines at a more detailed level the patterns of development experienced by two quite different judets; one towards the upper-end of the index of development and one towards the bottom end. It is precisely due to these characteristics that the following judets were selected as they represent the regional issues facing Romania - Alba being an area of reasonable development and so rather indicative of judets that occupy the 'middle ground' of development while Vaslui is representative of an under-developed region.

This case study methodological approach is an extension of the Marshallian-type analysis of the firm that is based on the use of a representative firm on which to build an analysis of the whole industry. The principle here is the same, where instead of a firm being taken as a representative unit of the relevant industry, a judet has been chosen to be representative of a grade of development. It enables issues to be developed that have not been developed in the other empirical methods used in this chapter.

Alba Judet

Alba is situated in central Romania and is mid-sized in both population and surface area (408,457 inhabitants and 624,157 hectares). It provides a useful basis for further investigation because it is in the upper third of the general index of development (Ramboll, 1996b) (position 34 out of 40 in an ascending hierarchy). Industrial activity represents a significant sector of its economy. This is characterised by a large agglomeration centre of polarised development although this does not disproportionately dominate the judet as an important number of medium sized urban centres with a large variety of economic resources also exist. The economic structure of Alba is more balanced than other regions, e.g. Braşov, Bucharest, Teleorman, Vaslui and Vrancea, but has similarly suffered from the country's general economic malaise with the

associated decline of its industrial sector and strengthening of its primary sector.

Using census information and data published by the Romanian Development Agency (1995c) and Ramboll Consulting (1996b), the changing sectoral structure of Alba can be evaluated. In 1990, the dominant economic activity was the industrial or secondary sector employing 45% of the active population. The other significant economic activity was the primary sector that employed 30% of the active population. By 1994, the forces shaping the transitional structure of Romania led to a 15% decline of Alba's secondary sector falling to 38% of the active population. With the service sector stagnant, only employing 25% of the active labour force (falling 3% between 1990-94), it has been the expansion of the primary sector that has maintained employment levels employing 37% of the workforce in 1994 (an increase of 26%).

Alba has a traditionally industrial judet with an important wood and metal processing sector largely as a result of its natural endowment of ferrous materials, valuable metal (e.g. gold) and non-metal resources (e.g. salt and forestry). The restructuring hit Alba particularly hard as it experienced a fall in demand for both the raw materials for industry and its processing facilities. What makes Alba particularly interestingly is the manner in which its industrial structure is representative of that of Romania as a whole, i.e. the restructuring process leading to the decline of traditional sectors of economic activity worsened by the collapse of mono-industrial towns. Alba has two industrial centres – Alba Iulia and Cugir - that could be considered to be medium sized with over 10,000 workers. All other industrial centres are of a much smaller size. All urban centres were based around an industrial sector, amounting to at least 40% of the employed population in 1992.

Half of the ten more industrialised centres in Alba are mono-industrial dependent upon a single large firm and its spillover industries for their continued prosperity and employment. Aiud was dependent upon a single

metallurgical company, Ocna Mures dependent upon the 'Clorosodical' combined works company, Abrud on the copper processes from Rosia Poieni, Cugir on the mechanical company and Zlatna on non-ferrous metals. With the exception of the copper processes, all of these companies were subjected to severe contractions in the demand for their products so causing production and employment levels to fall considerably. The extent of this dependence can be shown in Table 7.6 where the proportion of labour employed in industry and the tertiary sector compares against the strong primary sector at judet level.

Table 7.9: Active Population Structures in the Mono-Industrial Centres of Alba

Town	Total Active Population	Active Population (%)	% Active Pop. Employed in Industry	% Active Pop. Employed in Agriculture	% Active Pop. Employed in Services
Abrud	3152	46.7	51.3	3.1	45.6
Aiud	15,232	47.8	52.2	6.4	41.4
Cugir	16,584	52.2	72.3	2.5	25.2
Ocna Mures	6629	40.7	54.3	3.8	41.9
Zlatna	3775	40.2	66.1	3.7	30.2

Source: Population and Dwellings Census (National Commission for Statistics, 1992).

One of the significant changes that have taken place during the transition process is the change in ownership patterns in Alba. The Small Medium Enterprise sector (SME) established with private capital has been a growth sector in Alba and Romania as a whole, albeit from a very low initial base (see Table 7.7). From 1991 to 1995 the number of companies increased four and a half fold, the number of employees increased over five fold. Not only this, but the number of firms directly involved in industrial production has increased considerably as have the number of firms established with foreign capital.

Table 7.10: Private Enterprise (1991-1995)

	Number of Firms	Number of Employees	Total Business Turnover (000lei)	Number of Industrial Units	Number of Firms Est. with Foreign Capital
1991	1373	4650	6,721,026	171	42
1992	2698	10,766	25,442,496	291	115
1993	3867	14,092	91,907,439	446	195
1994	3524	22,445	264,470,158	715	289
1995	6235	25,163	474,452,190	788	313

Source: The Chamber of Commerce and Industry – Alba Judet (1996).

Vaslui Judet

The judet of Vaslui is located in the western part of the country at the border with the Republic of Moldova. In terms of size, Vaslui is a medium sized judet both in terms of surface and population covering an area of 5318 sq.km. with a population of almost 465,000 (2% of the total population). However, its urban population is less than the national average – 43.9% against 54.7% - and is concentrated in 4 urban centres; Vaslui (administrative capital), Barlad, Husi and Negresti). Using 1995 GDP data, the per capita GDP of Vaslui was US\$3280 and was ranked 37th. This is considerably less than the national average at US\$4130 (Bucharest had the highest GDP per capita at US\$5150 – 57% higher than that of Vaslui). The contribution of Vaslui to national GDP was 1.6%, compared to its share of the population at 2%.

Vaslui has one of the lowest levels of economic development in Romania. Using the ranks established by Ramboll Consulting Ltd (1996a,c), for both 1990 and 1994, it was ranked as having the third lowest level of 'general development'. Vaslui is representative of the Moldavian region as a whole (a region long associated with severe development issues) and other judets as part of the poor six (Botoşani, Calarasi, Giurgiu, Ialomita and Teleorman) that experience similar low levels of development and have the worst rankings for all classifications in the index used for comparison.

One of the more significant weaknesses that Vaslui has inherited from the socialist era is a fragile, inefficient agricultural sector, an industry over reliant on inter-regional imported raw materials and a limited regional market. Consequently, the economic structure has proved to be very vulnerable to the economic and institutional changes and less adaptable than that of many other judets. Despite having a primarily rural economy, the productivity of the agricultural sector in Vaslui is very low. There are a number of factors behind this and while the geography and quality of the land are contributory factors, the low levels of agricultural mechanisation are a significant source of these inefficiencies. With a high rate of subsistence activity – the productivity

levels of this judet are consistently below the national level (RDA, 1995b). The combination of these factors leads to poor agricultural incomes and therefore low rates of accumulation limiting further investment and the creation of a more productive economic base.

The sector is further hindered by the absence of local food industries to manufacture the agricultural output and difficult access to food markets due to poor levels of infrastructure of both communication and information³. With Vaslui dependent upon the primary sector for its economic base, the backwardness of this sector is a potential obstruction for both short and long term socio-economic development of the judet.

The industrial sector of Vaslui is polarised in a similar fashion to the rest of the country, with almost all activity located within four urban centres, and more specifically in the principal cities of Vaslui and Barlad. Vaslui city only became an important industrial area after the regional reorganisation of 1968 in order to create an employment base to generate further economic growth for both the judet and its administrative capital. Focusing on the metallurgy sector, chemicals and textiles, the familiar development path of large central industries was followed with 5 industries dominating the capital's economic activity with almost 10,000 employees in 1994. Up until 1968 Barlad was the principal heavy industrial centre dominated by metallurgy and engineering, and by the 'Bearings Company' which employed 8500 employees in 1994 (22% of total employees in 1994). This over-reliance on a few firms is a significant factor for the decline of the Vasluian (judet) industrial sector.

The principle branches are metallurgy, machines and equipment, textiles, food and beverages, wood working and furniture (NCS, 1995). This is one of the primary factors in the relative decline of Vaslui's industrial sector for the process of transition hit these sectors particularly hard. Whereas the industrial

³ Adequate market information e.g. demand, price fluctuations etc. is a requirement if the agricultural sector and the farmers within it are able to efficiently operate within the free market system and for the sector's further development.

sector as a whole fell by 40% between 1990-1994, branches like the metallurgy sector, machine building and the textile industry – those sectors important to Vasluian industry – declined by more than 50%.

The decline of the secondary sector occurred alongside a significant increase of labour occupied in the primary sector. This return migration to the rural areas acts as a temporary adsorption of urban unemployment. The effects of transition have been particularly acute on the Vasluian industrial sector. The actual size of the sector is small compared to both the national average and other judets with a similar socio-economic profile (see Table 7.8). Industrial output fell by more than 50% over a 4 year period to 14,200 lei per person – only 42% of national levels (from 59% while its contribution to national industrial output in 1994 was less than 1% (NCS, 1995). Furthermore, although the proportion of the industrially employed was comparable to national figures, industrial output was some way below the national level implying the existence of significant inefficiencies within the Vasluian industrial sector.

Table 7.11: Industrial Performance (1990-1994)

	Industrial Output (000s lei/inhabitant)		Employees		
			Industry 1994		Total
	1990	1994	1990=100%	% of total employees	1990=100%
Bacau	64.9	40.7	80.9	50.5	78.5
Botoşani	22.3	9.8	65.9	39.5	72.3
Galaţi	71.3	39.4	94.6	43.0	83.4
Iaşi	40.3	19.7	71.2	40.5	80.0
Neamt	44.9	24.4	72.7	52.2	74.0
Suceava	30.2	17.0	65.2	42.7	77.0
Vaslui	30.8	14.2	63.3	43.4	71.4
Vrancea	34.5	18.1	67.7	36.7	71.2
Romania	52.6	33.9	77.2	44.4	78.9

Source: Romanian Statistical Yearbook, National Commission for Statistics (1991&1995).

It is apparent that Vaslui faces more severe structural problems than many of its neighbouring judets that have a stronger and more diverse industrial structure, e.g. Bacau, Galaţi and Neamt. While all suffered significant contraction of their industrial base, the extent of the decline was less profound,

only Botoşani's industrial sector experienced similar (or often worse) decline. The industrial sector of Vaslui is less diverse and so more vulnerable to exogenous shocks, a scenario worsened by its dependence upon inter-judet imported raw materials and export markets with 30% of total industrial production sold on the regional export market (RDA, 1995b; UNDP, 1997).

The discussion has highlighted the fact that Vaslui, as a judet, can be considered a region with generalised development problems. All sectors in the economy are suffering from low levels of development compared to national averages with poor future prospects (UNDP, 1997). However, while these inter-judet disparities are transparent, even within a depressed judet there exists intra-judet disparities between both urban and rural areas and between different neighbourhood areas.

The disparities between the urban and rural areas are the result of the relationship between industry and agriculture, and the period of forced industrialisation and urbanisation that has been a feature of the Romanian economy over the past 50 years. With the concentration of resources to industry and urban areas, the rural localities of Vaslui were largely neglected and so failed to undergo any significant development during the whole post-war era (GOPA Consultants, 1996). Those rural areas that performed the best were those close to urban areas with direct access to main lines of communication (generally to the south).

This rural stasis contrasts with the change implemented in urban areas – but these areas are far from secure. Particularly pressing are industrial decline and high unemployment. In 1993, the rate of unemployment in urban areas was over 30%, reaching 60% in Husi and Negresti, fragile economies in a fragile judet – but important economic poles with sizeable populations.

Vaslui is an interesting case in point. It is a judet that has suffered from a lack of resources leading to low levels of economic development and activity. However, this is not a new phenomenon, the judet is one of historical low

development and was a characteristic reinforced by the socialist direction of investment funds to the more developed growth regions that were more likely to promote national growth. Its relatively low levels of secondary and tertiary activity have stagnated under the free market as factors flow to areas of higher return – once again those areas of higher development.

7.8 Conclusion

This chapter has applied a number of empirical techniques to the available data in relation to regional development in Romania to determine whether the spatial economy has become more equal, i.e. convergent – or whether the transition process has led to a widening of disparities, i.e. increasing divergence. The analysis has mainly adopted a comparative approach through the use of a comparative index, the use of shift-share analysis and Lorenz curves.

The analysis has been somewhat inconclusive but has tended to confirm a tendency towards divergence with a continuation of the changes emerging from the period of socialist economics to the transition to the market economy. These findings are similar to those found by Buckwalter (1995) in an analysis of Bulgarian transition. The patterns of development from the immediate post-war period to 1995 have remained basically the same with economic activity polarised in specific urban agglomerations while the periphery has shown consistently low levels of comparable development. It would appear that taking the information presented in chapter seven with that in chapter six and comparing it to that in chapter four that the core periphery nature of regional development in Romania has been maintained under different resource allocation systems.

Chapter 8:

Conclusion

8.1 Introduction and Themes

This chapter draws together the main arguments presented in this thesis. The first section of this chapter is an overview where the main themes of the thesis are elaborated. In section 8.2 the aims and objectives are revisited. Section 8.3 presents some of the limitations of this work and areas that may warrant further work. Section 8.4 presents the recent policy initiatives that have been implemented in Romania as a response to their regional development concerns while 8.5 provides some concluding comments.

The central aim of this research has been to determine whether a change from a planned to a market economy has significantly influenced the spatial distribution of economic activity. To this end, the thesis has adopted a mainly mesoeconomic approach that focuses on the influence of real variables, in particular industrial change, and their impact on regional development.

A number of regional models have been drawn upon in order to provide an effective analysis of regional economic performance. Of particular importance to this study are the theories of cumulative causation and growth poles, augmented by an emphasis on agglomeration theory, and their application to the Romanian spatial economy.

One of the central messages that emerges from this work has been the importance of national and regional industrial structure to overall economic performance. This theme was developed further in Chapters 3 and 5 when looking in detail at national patterns of development from 1945-95 emphasising the importance of the industrialisation process while highlighting the fundamental weakness of the national economy, weaknesses that were further accentuated by the transition process.

Through their investigation of national economic change, Chapters 3 and 5 laid the foundations for the subsequent analysis of the regional economies. Chapter 3 examined the post-war Romanian economy 1945-90, within a framework of socialist economic planning and the prioritisation of national industrial development, while Chapter 5 extended this analysis through a critical examination of national economic performance under a market based system post 1990. The identification of sectoral priorities and general economic decline had significant implications for the performance of the regional economies under both the socialist and market model.

Chapters 4 and 6 built upon the analysis of national economic performance through an investigation of regional development patterns under both the socialist and more market based economies. Drawing on the theoretical discussions contained in Chapter 2, regional economic change is discussed firstly in the context of socialist planning, where factors were allocated from the centre as part of a wider national plan; and secondly under the competitive market economy where resources are free to move to those areas of highest returns.

While it may be assumed that the transition of the socialist economy to the market model may involve a fundamental shift of national and regional priorities, what has actually emerged is that both systems prioritised national growth over regional concerns through the focus on economic efficiency at the expense of equity considerations. This economic strategy further contributed to the concentration and polarisation of economic activity in specifically identified urban-industrial agglomerations. More importantly, economic growth and development within Romania has long been based upon existing patterns of development, i.e. previously developed regional centres. In light of these constant trends, no significant change has occurred in the distribution of regional economic activity – the present market based system, similar to the socialist model, should be seen from the perspective of the persistence of historical patterns of development.

An analysis of the regional economies and their response to the challenges posed by the transition process is undertaken in Chapter 6. Findings from Chapter 4 were confirmed, i.e. regional activity is highly polarised and the differential growth rates between judets are largely related to their industrial structure. It is the least industrialised or the mono-industrial judets which now face the most severe impact of economic change while the more developed judets are better equipped to handle restructuring and readjustment (Bachtler et al, 2000a). This implies that although the general patterns of spatial activity are likely to remain fairly stable – the ‘winners’ will continue to be ‘winners’ while the ‘losers’ will continue to be ‘losers’ - the extent of inter-judet disparities may widen as more developed areas adapt to the competitive economy.

To test more formally whether regional economic development has become increasingly divergent or convergent a number of empirical tests were used in Chapter 7. These show that under the market system there is evidence of an increasing concentration of economic activity and the process can be said to be one of mild divergence (Bachtler and Downs, 1999). There is no evidence of regional economic convergence, thereby we are not able to accept the neo-classical model and its associated assumptions based on general equilibrium where economic growth diffuses across the spatial economy and is not constrained within specific centres of development.

The findings from the analysis contained within Chapter 7 support the cumulative causation model advocated by Myrdal (1957) that places the regional economy within a disequilibrium framework where uneven development may be perpetuated and even accentuated. An interesting point is that during the period of study there was no significant evidence of what Myrdal termed ‘spread’ effects, instead economic activity has been of a ‘backwash’ (polarised) nature. However, these ‘spread’ effects may appear over a longer time period, further supporting Myrdal’s model, but to date technological diffusion has been slow.

8.2 Aims and Objectives of the Study

As stated in Chapter 1, the central aim of this thesis has been to determine whether a change from a planned to a market economy has significantly influenced the distribution of spatial economic development. While the spatial economy has remained fairly stable in relation to the patterns of development and disparities, the introduction of the market economy has been found to be marginally divergent. The economies of the less developed regions have continued to stagnate while the better-developed regions, through their relatively strong industrial base and diversified structure, are better suited to the challenges posed by the process of industrial restructuring.

A theme of this thesis is the influence of the 'historical effect'. Economies, be they national or regional, have long memories and the process of economic evolution, once set in motion, is very difficult to change. Therefore, the regional development patterns of development, that were initially put in place at the start of the twentieth century, have continued right up to the present day. This process has been reinforced by the development strategies of both the socialist and free market economies and has led to the polarisation of economic activity and the hegemonic influence of a small number of urban-industrial agglomerations.

In its analysis of these trends, this PhD thesis contributes to the analysis of the Romanian economy and its response to both the socialist planning and market based system. Further to this, not only does this contribute to the understanding of the processes that underpin post-war Romanian regional economic development, but it is also a consideration of the relevance of cumulative causation theory and the inert response of spatial economies to resource allocation.

8.3 Limitations to Present Study and Future Work

This work has largely adopted a political economy framework where the influences upon the Romanian spatial economy, and the changes that have occurred, have been viewed from a realistic and pragmatic perspective. A range of methodologies has been used to take account of the subject's associated data limitations.

Nevertheless, other methodologies may have been adopted. This work may well have taken a more axiomatic approach, or a fuller empirical approach. While an axiomatic approach would have offered a thorough analysis of the theoretical model, it would have told us very little about their application and relevance to the Romanian regional economy. While a time series econometric model would have ideally contributed to the analysis, such extended empirical analysis was not possible due to significant data limitations that are a recognised problem in any study of CEE economies.

It is accepted that a greater insight into post-war regional development would have been gained if the existing data could have been compared to data prior to 1990. However, data prior to 1989 was collated under a different political and economic system to that of post-1990 data and therefore the two data sets are inconsistent with each other.

It is further acknowledged that extending the period of study would have enabled the analysis of regional change to consider more recent data. Nevertheless, a longer data set was rejected as the primary focus of this thesis is an examination of issues affecting regional development up to 1995. It is a study of the regional economy subject to both the influences of the socialist economic system and the pressures of the initial transition period – and not a study of the entire transition period per se. As such it only represents a snapshot of the Romanian economy over one particular point in time. The transition process has been underway for over a decade now and it would certainly be a useful exercise to extend the period of study up to the present

day to include more recent data to determine the emergence of new regional development patterns. Also, if, and when, more data becomes available it may be worthwhile to apply more sophisticated econometric techniques, e.g. co-integration analysis

While comparative analysis was undertaken, it could have been extended to include a developed country on which to benchmark the Romanian spatial economy against. Alternatively, the case study approach could have been deepened through the examination of the individual performance of more than two judets. Furthermore, much of the focus has been on the national and regional performance of the industrial sector due to its central role in the wider economy. This analysis could have been extended to include a more detailed analysis of the service sector and its development under the capitalist system. However, while the identification of these limitations are very interesting and would have been useful exercises to undertake, they would in reality be part of a different thesis that adopts a different analytical framework.

8.4 Recent Policy Initiatives

The post-socialist transformation process that started over 10 years ago has involved a number of fundamental economic reforms e.g. macro-economic stabilisation, privatisation, structural reform, liberalisation and internationalisation (Bachtler et al, 2000b). However, unlike many of the more progressive economies of Central and Eastern Europe, the transition process in Romania has fluctuated between a gradual approach and 'shock-therapy' which has delayed both the speed of reforms and contributed to its low growth performance (IMF, 2001). Nevertheless, there are now signs that the recent concerted approach to economic development with its focus on privatisation, economic reform and stabilisation has started to produce more favourable results (Ianos, 2000, IMF, 2001).

Structural reforms were the principal consideration and with the need to address the immediate challenges of macro and microeconomic reform,

industrial restructuring, unemployment and the re-establishment of external economic relations, it was only to be expected that regional concerns were considered to be of secondary importance. Regional policy considerations were largely ignored on the basis that they may obstruct economic recovery and growth (Drevet, 2000).

Now with the first stage of the transition process completed through the introduction of market reforms and the liberalisation of the economy, regional concerns have become increasingly important. This is reflected by a joint approach to regional development policy by the Romanian Government and European Commission that culminated in large-scale regional surveys and the publication of a Green Paper (1997) that outlined the principles, institutional framework and instruments of a subsequent policy.

The Green Paper argued that an effective regional development policy would be difficult due to the large number of judets contained within Romania's present territorial structure. Accordingly, for the purpose of regional development policy, eight macro-regions were created that combine areas that share common profiles. Within these macro-regions, Regional Development Agencies (RDA) co-ordinate a decentralised and integrated approach to economic and social development. At the national level a Regional Development Board has been established to co-ordinate regional development policy with sectoral policy interests of government departments.

Nevertheless, the dilemma of the present economic strategy remains a familiar one. With a limited resource base, to what extent should factors be directed to less-developed regions at the expense of national growth, or to support the 'regional champions' despite the risk of further intensifying disparities. The role of regional development and policy in Romania must be placed within the context of the limited resource base and institutional capacity. The priority is, as it always has been, the promotion of national growth and this implies a staged response to the need for regional development policy (Ianos, 2000).

8.5 Concluding Remarks

This thesis is a contribution to the continued re-emergence of the regional economics discipline that has in no small part been attributed to the work of Venables and Krugman through their new economic geography perspectives. Much of their work has been concerned with the modelling of regional development and its application to Western European economies and EU enlargement. A central theme to emerge from their research is the importance of agglomeration. By applying this concept to a medium developed CEE country, that is undergoing transition from a centrally planned economy to a market economy, the opportunity is available to analyse regional economic development under different resource allocative mechanisms.

This work not only contributes to an understanding of the processes that have shaped the Romanian regional economy, but may also be seen as a framework for policy analysis. In light of the present priority that regional development policies are receiving from both the Romanian Government and the EU, their response and success can be gauged by the extent to which the acute problems highlighted in this work have been addressed.

However, the patterns of regional activity highlighted in this thesis are likely to continue in the immediate future through developed urban centres consolidating their economic and social position while peripheral rural areas and mono-industrial regions face continued hardship. In the absence of significant levels of external investment or endogenous growth, the obstacles to their further development will be difficult to overcome. Therefore, in the short to medium term, the present patterns of spatial development highlighted during the course of this study are likely to remain.

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APPENDICES

Sector Analysis

1990: Working Population

	Primary	Secondary	Tertiary
Alba	29.7	44.8	25.5
Arad	32.9	37.9	29.2
Arges	26.0	47.4	26.6
Bacau	26.6	47.5	25.9
Bihor	33.3	39.4	27.3
Bistrita-Nasaud	38.6	36.3	25.1
Botosani	46.4	33.0	20.6
Braila	30.6	41.7	27.7
Brasov	12.1	58.4	29.5
Buzau	40.1	38.0	21.9
Calarasi	45.3	31.2	23.4
Caras-Severin	28.2	43.6	28.3
Cluj	23.8	45.3	31.0
Constanta	23.4	35.2	41.4
Covasna	27.6	45.7	26.7
Dambovita	34.4	45.4	20.2
Doj	38.4	35.7	25.9
Galati	27.9	42.6	29.5
Giurgiu	49.7	26.4	24.0
Gorj	27.5	46.9	25.6
Harghita	28.0	47.8	24.1
Hunedoara	17.3	54.4	28.2
Ialomita	49.0	25.0	25.9
Iasi	30.5	40.2	29.4
Maramures	33.8	41.7	24.6
Mehedinti	39.5	35.9	24.6
Mures	28.0	44.6	27.4
Neamt	34.0	44.5	21.5
Olt	43.8	35.2	21.0
Prahova	17.3	55.6	27.1
Salaj	39.8	37.4	22.7
Satu-Mare	37.2	38.7	24.1
Sibiu	17.2	55.4	27.5
Suceava	38.2	39.6	22.3
Teleorman	43.2	33.9	22.9
Timis	27.6	41.6	30.8
Tulcea	38.8	34.7	26.5
Valcea	34.9	38.8	26.2
Vaslui	41.9	38.4	19.6
Vrancea	43.9	32.9	23.3
Bucharest Municipality	3.8	51.4	44.8
Romania	16.8	21.0	13.5

Sector Analysis

	1994: Working Population		
	Primary	Secondary	Tertiary
Alba	37.3	37.9	24.8
Arad	38.4	29.6	32.0
Arges	32.0	43.3	24.7
Bacau	32.4	40.0	27.6
Bihor	39.9	30.2	29.9
Bistrita-Nasaud	47.9	27.8	24.3
Botosani	58.6	21.5	19.9
Braila	38.5	36.1	25.4
Brasov	20.4	51.1	28.5
Buzau	49.4	26.3	24.3
Calarasi	59.9	20.9	19.2
Caras-Severin	36.3	36.9	26.8
Cluj	29.6	35.8	34.6
Constanta	31.1	27.3	41.6
Covasna	36.8	39.1	24.1
Dambovita	40.2	35.6	24.2
Dolj	47.9	26.9	25.2
Galati	36.1	36.6	27.3
Giurgiu	62.4	17.4	20.2
Gorj	34.6	44.1	21.3
Harghita	37.7	38.3	24.0
Hunedoara	22.4	49.3	28.2
Ialomita	60.1	16.1	23.8
Iasi	42.1	28.0	29.9
Maramures	43.5	32.5	24.0
Mehedinti	48.2	27.0	24.8
Mures	37.5	33.3	29.2
Neamt	47.8	32.4	19.8
Olt	55.3	25.3	19.5
Prahova	23.5	49.1	27.4
Salaj	45.3	30.9	23.8
Satu-Mare	47.8	28.4	23.8
Sibiu	23.2	46.1	30.6
Suceava	48.8	25.0	26.1
Teleorman	61.5	21.5	16.9
Timis	33.4	30.3	36.4
Tulcea	48.5	24.6	27.0
Valcea	44.3	31.7	24.0
Vaslui	54.9	25.1	20.1
Vrancea	56.6	21.4	22.0
Bucharest Municipality	5.1	44.8	50.0
Romania	21.5	16.5	13.2

Sector Analysis

% Change 1990-1994

	Primary	Secondary	Tertiary
Alba	25.6	-15.4	-2.7
Arad	16.7	-21.9	9.6
Arges	23.1	-8.6	-7.1
Bacau	21.8	-15.8	6.6
Bihor	19.8	-23.4	9.5
Bistrita-Nasaud	24.1	-23.4	-3.2
Botosani	26.3	-34.8	-3.4
Braila	25.8	-13.4	-8.3
Brasov	68.6	-12.5	-3.4
Buzau	23.2	-30.8	11.0
Calarasi	32.2	-33.0	-17.9
Caras-Severin	28.7	-15.4	-5.3
Cluj	24.4	-21.0	11.6
Constanta	32.9	-22.4	0.5
Covasna	33.3	-14.4	-9.7
Dambovita	16.9	-21.6	19.8
Dolj	24.7	-24.6	-2.7
Galati	29.4	-14.1	-7.5
Giurgiu	25.6	-34.1	-15.8
Gorj	25.8	-6.0	-16.8
Harghita	34.6	-19.9	-0.4
Hunedoara	29.5	-9.4	0.0
Ialomita	22.7	-35.6	-8.1
Iasi	38.0	-30.3	1.7
Maramures	28.7	-22.1	-2.4
Mehedinti	22.0	-24.8	0.8
Mures	33.9	-25.3	6.6
Neamt	40.6	-27.2	-7.9
Olt	26.3	-28.1	-7.1
Prahova	35.8	-11.7	1.1
Salaj	13.8	-17.4	4.8
Satu-Mare	28.5	-26.6	-1.2
Sibiu	34.9	-16.8	11.3
Suceava	27.7	-36.9	17.0
Teleorman	42.4	-36.6	-26.2
Timis	21.0	-27.2	18.2
Tulcea	25.0	-29.1	1.9
Valcea	26.9	-18.3	-8.4
Vaslui	31.0	-34.6	2.6
Vrancea	28.9	-35.0	-5.6
Bucharest Municipality	34.2	-12.8	11.6
Romania	28.3	-21.2	-2.2

General Development Index 1990-1994*

	Rank 1990	Rank 1994	Index 1990	Index 1994	Rank 1990 - Rank 1994
Alba	28	27	55.9	53.9	-1
Arad	31	33	57.7	60.5	2
Arges	34	32	60.2	60.0	-2
Bacau	16	17	46.6	46.2	1
Bihor	27	28	55.9	55.3	1
Bistrita-Nasaud	11	13	43.0	43.1	2
Botosani	1	2	27.4	31.3	1
Braila	30	34	56.4	61.3	4
Brasov	38	38	71.2	71.3	0
Buzau	14	15	45.0	44.5	1
Calarasi	5	4	35.8	34.8	-1
Caras-Severin	26	22	53.4	51.0	-4
Cluj	39	39	72.0	72.7	0
Constanta	33	35	59.6	61.6	2
Covasna	29	29	56.2	56.5	0
Dambovita	10	14	42.5	44.1	4
Dolj	21	23	50.2	51.2	2
Galati	23	24	50.9	51.8	1
Giurgiu	2	1	29.7	31.0	-1
Gorj	24	25	52.2	51.8	1
Harghita	25	26	52.4	52.0	1
Hunedoara	35	31	60.4	59.6	-4
Ialomita	4	7	34.8	38.6	3
Iasi	20	18	48.7	47.5	-2
Maramures	18	19	47.7	47.6	1
Mehedinti	17	12	47.2	42.5	-5
Mures	36	36	62.3	65.8	0
Neamt	9	9	41.3	42.0	0
Olt	13	11	44.9	42.2	-2
Prahova	32	30	59.4	57.0	-2
Salaj	12	10	43.2	42.1	-2
Satu-Mare	19	20	48.5	47.6	1
Sibiu	37	37	69.2	68.7	0
Suceava	7	6	39.4	37.6	-1
Teleorman	6	5	36.1	35.3	-1
Timis	40	40	73.5	73.0	0
Tulcea	15	16	46.3	46.0	1
Valcea	22	21	50.3	49.4	-1
Vaslui	3	3	32.3	32.4	0
Vrancea	8	8	40.4	39.3	0
Bucharest Municipality					
Romania					

* General Development Index calculated by Ramboll Consultancy using the 5 indicators; Economy, Infrastructure, Resources, Demography and Urbanisation

Economic Development Index 1990-1994*

	Rank 1990	Rank 1994	Econ 1990	Econ 1994	Indust 199	Indust 199	Employ 1990	Employ 1994
Alba	26	22	51.4	50.3	46.2	19.9	345.0	298.7
Arad	22	19	49.1	45.3	40.4	18.1	345.9	271.7
Arges	38	37	71.4	73.0	85.2	55.1	373.2	319.2
Bacau	27	27	55.3	55.6	64.9	40.7	319.0	255.8
Bihor	21	25	48.9	53.1	43.1	29.6	336.9	280.9
Bistrita-Nasaud	8	7	37.6	35.8	37.2	18.3	274.4	206.8
Botosani	1	2	24.6	26.4	22.3	9.8	226.7	175.2
Braila	28	29	56.1	57.7	51.6	31.8	362.6	303.6
Brasov	40	38	79.7	75.3	81.0	41.3	443.0	387.4
Buzau	14	11	41.8	41.0	42.0	22.1	290.2	227.1
Calarasi	11	9	40.4	38.7	32.6	20.7	307.6	216.8
Caras-Severin	25	17	50.7	4.2	37.0	14.3	365.5	278.3
Cluj	29	33	58.1	62.7	48.5	33.7	385.3	330.1
Constanta	31	34	63.4	65.2	48.8	39.3	421.4	326.4
Covasna	24	21	50.4	47.8	43.8	22.8	344.8	270.4
Dambovita	23	24	49.9	51.7	53.2	35.0	314.8	250.7
Dolj	18	10	44.5	39.4	40.2	17.6	313.8	233.2
Galati	30	31	60.9	59.8	71.3	39.4	339.8	289.3
Giurgiu	2	1	26.0	24.5	20.0	7.7	243.1	170.1
Gorj	37	39	70.7	76.2	72.4	54.1	404.4	344.3
Harghita	19	20	47.2	45.7	38.7	17.4	337.0	276.5
Hunedoara	35	35	66.0	66.1	55.1	30.9	420.9	363.7
Ialomita	7	18	36.9	44.6	35.5	26.3	274.5	235.7
Iasi	16	15	42.6	42.3	40.3	19.7	300.7	245.3
Maramures	9	12	39.8	41.3	31.8	16.6	305.2	250.1
Mehedinti	10	4	39.9	34.8	30.1	14.1	310.5	215.1
Mures	33	30	65.5	59.7	81.2	40.3	343.4	284.8
Neamt	17	16	44.3	42.6	44.9	24.4	299.2	229.3
Olt	15	26	42.5	55.4	47.8	53.2	278.9	207.3
Prahova	39	40	79.5	79.6	100.7	63.7	385.7	331.7
Salaj	13	14	41.1	42.0	42.1	22.9	284.7	230.7
Satu-Mare	12	13	40.8	41.7	36.5	19.0	298.5	243.5
Sibiu	36	32	68.6	61.9	70.3	34.7	396.0	321.1
Suceava	5	8	36.3	37.3	30.2	17.0	285.9	221.6
Teleorman	3	6	30.8	35.8	30.2	21.4	247.4	194.8
Timis	34	36	65.6	70.4	58.9	50.4	407.6	319.5
Tulcea	32	28	63.7	57.6	75.3	48.1	347.9	241.4
Valcea	20	23	48.7	51.2	47.7	32.6	322.0	256.3
Vaslui	4	3	32.6	31.7	30.8	14.2	258.2	194.0
Vrancea	6	5	36.5	34.8	34.5	18.1	274.7	200.4
Bucharest Municipality					67.5	42.5	488.3	407.8
Romania					52.6	33.9	349.1	283.2

* Economic Development Index (Econ) calculated by the standardisation of the 2 components; Indust and Employ.
Indust: Relative indicator measuring the industrial production in thousand lei per inhabitants in comparable prices (1990).
Employ: Relative indicator measuring the number of employees per 1000 inhabitants.

Infrastructure Development Index 1990-1994*

	Rank 1990	Rank 1994	Infra 1990	Infra 1994	Educ 1990	Educ 1994	Health 1990	Health 1994	Water 1990	Water 1994
Alba	32	31	61.9	59.2	15.2	12.2	482.8	611.5	83.6	99.6
Arad	17	27	45.6	55.4	18.4	13.4	436.9	612.6	85.4	128.2
Arges	37	32	66.3	59.8	16.8	13.8	515.4	618.1	192.0	173.5
Bacau	10	11	38.9	39.2	17.6	14.4	673.2	935.6	112.5	103.8
Bihar	31	36	61.1	64.2	16.3	12.8	496.3	550.0	133.2	144.9
Bistrita-Nasaud	33	29	62.2	57.9	15.8	13.2	588.8	768.2	154.0	162.3
Botosani	4	9	31.3	38.6	17.2	13.5	742.3	939.8	66.9	67.1
Braila	18	35	47.3	63.8	18.7	14.7	585.4	740.9	172.2	253.1
Brasov	19	25	47.4	54.3	19.8	15.4	518.2	557.5	177.8	177.6
Buzau	13	6	41.7	37.3	16.8	14.4	632.5	902.3	89.2	88.5
Calarasi	3	1	29.7	26.6	18.4	16.1	65.1	1017.1	80.1	80.2
Caras-Severin	29	24	57.5	53.8	16.3	13.3	507.4	671.6	114.8	123.5
Cluj	40	40	90.1	89.8	15.9	13.0	342.1	294.2	180.7	197.4
Constanta	25	28	53.4	55.6	19.7	16.4	569.3	592.7	231.3	223.3
Covasna	30	33	58.2	59.8	16.4	12.1	482.4	739.5	111.5	123.4
Dambovita	7	16	36.3	41.3	17.5	15.2	575.2	816.5	63.6	130.0
Doj	22	30	51.4	59.0	17.2	13.4	483.7	434.6	103.1	97.3
Galati	14	15	41.9	40.6	19.3	16.4	713.1	750.3	194.5	153.5
Giurgiu	5	3	35.1	32.1	17.8	15.5	575.9	856.4	67.5	87.8
Gorj	27	8	54.3	38.4	16.1	14.3	529.0	717.0	99.6	66.8
Harghita	23	34	52.7	63.1	16.9	12.1	627.4	717.2	153.6	140.6
Hunedoara	24	20	52.7	47.8	20.0	16.1	501.8	598.7	209.3	166.1
Ialomita	6	4	36.2	32.3	18.1	15.5	623.0	995.0	100.0	99.5
Iasi	36	37	66.3	71.5	16.8	14.3	414.6	383.3	136.2	190.8
Maramures	21	23	49.8	52.8	16.4	13.5	636.2	749.6	120.3	138.6
Mehedinti	26	19	53.5	47.6	16.0	13.5	586.3	746.6	108.4	103.6
Mures	38	38	68.3	72.9	16.5	12.0	437.4	484.3	150.4	147.0
Neamt	12	14	40.7	40.2	17.3	14.4	647.0	885.4	104.2	106.3
Olt	35	12	64.0	39.4	17.1	14.7	591.3	796.4	218.1	99.9
Prahova	8	7	37.8	37.5	19.0	15.6	579.3	808.7	123.7	117.8
Salaj	20	18	48.6	46.5	15.9	13.0	670.0	850.3	100.0	86.9
Satu-Mare	9	21	38.9	47.9	17.5	13.2	699.6	824.8	114.6	105.3
Sibiu	28	26	55.2	55.0	16.8	14.4	525.2	503.3	128.5	133.8
Suceava	15	13	41.9	39.9	17.5	13.8	634.2	925.0	115.6	85.5
Teleorman	11	5	39.9	34.8	16.6	14.2	647.1	895.9	73.4	62.1
Timis	39	39	80.4	78.9	16.8	13.1	350.7	348.2	168.5	169.8
Tulcea	2	10	28.5	39.1	19.2	14.6	779.8	1150.9	124.2	127.1
Valcea	34	22	63.8	50.3	15.6	14.2	497.7	659.1	118.1	134.9
Vaslui	1	2	26.8	30.7	18.0	14.6	818.6	1306.6	82.3	77.8
Vrancea	16	17	42.7	45.1	16.5	14.0	691.3	723.4	97.3	104.0
Bucharest Municipality					20.9	16.8	351.3	242.9	235.5	219.8
Romania					17.6	14.3	514.4	543.4	142.0	140.8

* Infrastructure Development Index (Infra) calculated by the standardisation of the 3 components; Educ, Health and Water.
Educ: Relative indicator measuring the number of pupils in high school per 1 teacher.
Health: Relative indicator measuring the number of inhabitants per 1 physician.
Water: Relative indicator measuring the consumption of drinkable water per inhabitant per day

Household Resources Development Index 1990-1994*

	Rank 1990	Rank 1994	HReso 199	HReso 199	Car 1990	Car 1994	Phone 1990	Phone 1994	TV 1990	TV 1994
Alba	23	20	49.1	47.9	51.7	75.9	81.0	95.6	133.5	162.6
Arad	36	35	72.5	69.5	68.1	96.6	113.1	133.0	187.7	216.0
Arges	28	30	57.0	57.4	69.5	117.0	81.8	98.8	143.0	167.1
Bacau	24	24	50.8	50.1	34.2	64.2	105.9	128.1	140.8	150.5
Bihor	3	31	62.8	59.0	55.5	85.5	98.1	117.1	176.8	188.5
Bistrita-Nasaud	3	5.0	30.0	35.0	34.7	65.0	55.8	78.1	94.0	123.7
Botosani	1	1	25.6	27.2	17.8	34.5	54.9	69.3	100.8	123.9
Braila	26	26	53.5	51.4	38.6	62.9	82.8	96.8	176.0	194.1
Brasov	39	36	75.0	71.3	72.1	105.1	115.6	132.6	190.4	217.0
Buzau	22	22	49.0	49.6	45.5	73.6	85.6	103.3	137.4	165.9
Calarasi	7	6	36.8	35.9	26.8	40.4	59.1	74.4	138.6	159.1
Caras-Severin	25	21	51.7	49.6	61.2	93.4	76.9	93.5	135.6	155.4
Cluj	37	37	73.9	72.5	73.5	121.7	124.4	136.8	171.9	201.4
Constanta	34	34	63.3	68.1	48.7	84.7	112.6	145.1	172.9	207.4
Covasna	31	32	60.6	60.0	61.7	89.5	86.3	108.2	169.6	199.9
Dambovita	18	18	45.6	43.7	52.1	72.0	67.2	79.3	131.4	162.4
Doj	29	28	57.1	54.2	63.0	90.7	83.1	103.5	153.2	172.3
Galati	21	25	47.5	50.7	39.9	83.9	88.7	107.7	135.6	155.7
Giurgiu	11	9	40.8	38.9	44.7	76.0	49.6	69.0	140.7	143.4
Gorj	10	7	39.6	36.9	44.8	63.2	59.3	72.1	122.5	142.8
Harghita	20	23	47.1	50.0	48.7	87.8	76.1	86.9	133.8	171.5
Hunedoara	30	29	57.8	56.7	57.8	79.6	82.1	100.9	166.5	200.3
Ialomita	13	15	41.9	42.5	30.6	49.6	69.1	86.9	146.0	170.9
Iasi	9	12	39.4	41.3	27.1	41.6	88.0	107.4	115.7	149.9
Maramures	16	17	42.9	43.1	40.3	67.9	89.2	108.5	110.3	130.4
Mehedinti	17	11	43.4	39.5	52.1	81.5	66.9	75.6	120.5	133.4
Mures	32	38	62.4	75.9	56.2	145.5	108.3	135.2	161.0	198.1
Neamt	12	16	41.4	42.6	29.3	50.6	72.4	91.1	141.7	165.7
Olt	6	4	36.2	33.2	41.8	62.5	53.2	59.6	117.2	137.6
Prahova	35	33	69.3	65.3	68.7	94.3	104.2	123.9	180.9	205.7
Salaj	19	19	45.7	46.9	40.5	65.9	75.4	99.8	141.2	162.9
Satu-Mare	27	27	56.3	53.6	50.0	85.4	91.7	110.5	160.5	166.5
Sibiu	38	40	74.2	79.1	76.7	123.6	126.5	162.8	165.3	205.8
Suceava	4	3	32.6	32.2	28.5	49.8	63.1	76.3	109.1	126.9
Teleorman	5	8	34.7	37.9	33.7	56.6	50.6	64.3	126.4	163.9
Timis	40	39	80.8	79.0	77.2	134.5	112.2	131.3	216.5	228.9
Tulcea	15	13	42.9	41.7	35.0	54.1	65.4	86.7	148.4	162.3
Valcea	14	14	42.4	42.4	45.6	69.6	66.4	77.3	126.6	160.2
Vaslui	2	2	28.3	29.2	19.2	29.2	48.8	68.1	119.6	141.8
Vrancea	8	10	38.3	39.0	38.0	61.6	61.7	84.2	124.0	142.5
Bucharest Municipality					109.6	136.8	251.8	274.6	249.2	243.1
Romania					54.5	85.5	101.6	121.0	157.1	178.3

* Household Resources Development Index (HReso) calculated by the standardisation of the 3 components; Car, Phone and TV.
Car: Relative indicator measuring the number of private cars per 1000 inhabitants.
Phone: Relative indicator measuring the number of private telephone subscriptions per 1000 inhabitants.
TV: Relative indicator measuring the number of private TV subscriptions per 1000

Socio-Demographics Development Index 1990-1994*

	Rank 1990	Rank 1994	Demo 1990	Demo 1994	Infant 1990	Infant 1994	In-Mig 1990	In-Mig 1994	OutMig 199	Out-Mig 199
Alba	32	27	59.7	55.0	18.7	18.6	3.9	2.8	7.2	5.3
Arad	35	40	66.1	78.7	27.4	17.2	11.0	6.9	2.6	3.1
Arges	34	31	62.6	62.5	21.1	18.6	3.5	3.1	3.4	3.3
Bacau	6	8	37.6	35.2	32.4	28.7	3.8	4.3	7.4	5.8
Bihor	29	23	56.8	50.7	25.8	25.1	3.9	3.0	2.8	2.3
Bistrita-Nasaud	19	24.0	49.2	51.1	25.0	20.9	3.6	3.5	7.3	5.6
Botosani	1	1	17.3	25.7	38.3	30.6	3.2	5.8	12.7	9.0
Braila	25	32	54.3	63.5	25.7	20.2	5.0	5.3	5.2	4.0
Brasov	38	37	71.6	73.7	22.7	16.9	11.4	7.1	3.9	5.0
Buzau	23	26	52.5	54.4	22.3	20.0	3.1	4.1	7.4	5.7
Calarasi	5	6	33.8	34.4	33.1	28.3	4.5	5.1	9.5	7.2
Caras-Severin	15	21	46.3	49.0	31.1	24.2	8.5	6.3	7.9	6.8
Cluj	37	35	67.7	66.6	18.7	17.3	4.7	3.4	3.6	3.2
Constanta	7	11	40.5	40.5	42.7	32.2	11.5	7.8	3.9	5.3
Covasna	27	30	55.9	60.7	24.9	18.3	4.6	3.5	4.7	4.4
Dambovita	20	28	50.6	55.3	25.9	21.3	2.6	3.4	5.0	3.9
Dolj	17	25	46.9	52.8	29.9	23.1	3.5	3.8	4.4	3.8
Galati	10	17	42.4	45.2	32.0	25.6	4.6	4.3	6.0	4.9
Giurgiu	2	4	18.9	31.9	41.2	28.5	3.6	4.5	9.9	7.2
Gorj	26	34	55.3	65.8	24.9	18.9	6.4	6.1	6.5	5.2
Harghita	36	29	67.1	55.4	15.4	20.1	3.5	3.3	5.7	4.7
Hunedoara	14	19	45.8	46.6	30.5	26.7	10.0	7.6	10.0	7.0
Ialomita	3	5	19.3	33.1	41.6	32.6	4.9	7.5	10.4	7.0
Iasi	13	3	43.6	31.0	28.0	31.4	3.7	4.8	7.9	5.8
Maramures	21	18	51.2	46.3	23.4	22.0	2.8	2.6	6.9	5.5
Mehedinti	24	12	52.6	41.9	25.6	28.1	5.6	5.6	6.7	5.5
Mures	33	26	62.0	68.1	20.5	17.7	4.2	4.1	4.7	3.1
Nearmt	8	16	41.0	45.0	29.4	25.1	3.6	5.0	8.1	6.1
Olt	11	15	2.9	44.6	29.0	24.6	4.1	5.3	7.7	6.8
Prahova	28	22	56.2	49.3	24.9	24.3	3.2	2.8	3.4	3.0
Safaj	9	7	41.2	34.7	28.6	28.1	3.0	3.9	8.0	6.0
Satu-Mare	30	20	58.8	48.5	22.7	24.4	2.9	2.7	3.6	3.1
Sibiu	40	39	76.2	74.9	17.3	17.2	8.8	6.2	3.8	3.5
Suceava	22	14	52.2	44.4	23.7	24.9	3.1	3.5	6.4	4.9
Teleorman	12	9	43.1	35.8	27.0	27.4	3.0	3.8	8.3	6.1
Timis	39	38	76.0	73.7	26.4	21.8	16.9	9.5	3.1	4.0
Tulcea	18	13	47.4	42.3	26.1	25.7	4.4	4.8	8.0	6.2
Valcea	31	33	58.9	64.8	19.9	16.8	4.1	4.6	6.8	5.4
Vaslui	4	2	32.3	27.0	29.3	29.0	4.0	5.5	13.0	9.5
Vrancea	16	10	46.4	40.1	25.4	25.0	3.6	4.8	8.5	7.5
Bucharest Municipality					24.6	22.0	9.9	6.5	1.9	3.8
Romania					26.9	23.6	5.8	4.9	5.8	4.9

* Socio-Demographic Development Index (Demo) calculated by the standardisation of the 3 componenets; Infant, InMig and OutMig.

Infant: Relative indicator measuring the infant mortality rate (no. of deaths under 1 years old per 1000 live births).

InMig: Relative indicator measuring migration from other judets per 1000 inhabitants.

OutMig: Relative indicator measuring migration to other judets per 1000 inhabitants.

Urbanisation Development Index 1990-1994*

	Rank 1990	Rank 1994	Urban 199	Urban 199	UrbPop 1990	UrbPop 1994	Pop 1990	Pop 1994
Alba	31	31	57.3	57.3	55.3	55.7	427268	408457
Arad	29	27	55.2	53.3	53.4	52.3	498968	482144
Arges	17	19	43.9	47.2	43.4	47.1	682415	679868
Bacau	23	24	50.5	51.1	49.2	50.4	754644	742901
Bihor	22	22	49.8	49.5	48.6	49.1	661039	633629
Bistrita-Nasaud	5	5.0	36.1	35.5	36.5	37.2	332691	328786
Botosani	7	9	37.9	38.6	38.1	39.8	489145	462370
Braila	36	35	70.7	70.0	67.1	6.4	404542	391923
Brasov	40	40	82.3	81.8	77.4	76.5	665306	642764
Buzau	14	12	39.8	40.2	39.8	41.1	530642	515202
Calarasi	9	10	38.3	38.7	38.4	39.9	343926	336657
Caras-Severin	32	32	60.7	58.3	58.3	56.5	394792	370058
Cluj	35	36	70.4	71.8	66.9	68.0	737582	727033
Constanta	38	38	77.4	78.6	73.1	73.8	738921	747441
Covasna	30	29	55.8	54.0	53.9	52.9	23366	232951
Dambovita	2	2	30.2	28.7	31.3	31.4	571145	558518
Dolj	24	23	51.1	50.6	49.8	50.0	777294	758895
Galati	33	33	61.6	62.5	59.1	60.1	652524	642983
Giurgiu	1	1	27.7	27.4	29.0	30.3	319634	305661
Gorj	15	15	41.1	41.8	40.9	42.5	387209	397927
Harghita	20	17	48.1	45.7	47.1	45.8	362014	347145
Hunedoara	39	39	79.7	81.0	75.1	75.8	558028	547180
Ialomita	13	14	39.7	40.6	39.7	41.5	309623	305454
Iasi	25	25	51.8	51.3	50.4	50.6	818422	815368
Maramures	28	30	54.7	54.4	53.0	53.2	565610	539718
Mehedinti	18	20	46.6	48.8	45.8	48.4	330115	330017
Mures	26	26	53.3	52.6	51.7	51.6	627286	607355
Neamt	11	11	39.1	39.9	39.1	40.9	603005	584364
Olt	10	8	38.9	38.4	39.0	39.6	539299	520871
Prahova	27	28	54.1	53.4	52.4	52.3	879425	874219
Salaj	12	13	39.3	40.4	39.3	41.3	274695	264448
Satu-Mare	19	18	47.5	46.4	46.6	46.4	419741	398401
Sibiu	37	37	71.0	72.4	68.1	68.5	491630	448474
Suceava	4	4	33.9	34.1	34.5	35.9	712247	708571
Teleorman	3	3	32.2	32.1	33.0	34.3	506040	477527
Timis	34	34	64.9	63.1	62.0	60.6	689901	691797
Tulcea	21	21	49.0	49.3	47.9	48.8	272166	269311
Valcea	7	7	37.9	38.2	38.1	39.5	438506	436989
Vaslui	16	16	41.6	43.5	41.4	43.9	483793	463832
Vrancea	8	6	38.0	37.5	38.2	38.8	403034	394257
Bucharest Municipality					89.7	89	2316087	2339156
Romania					54.3	54.7	23206720	22730622

* Urbanisation Development Index (Urban) calculated by normalising the basic indicator.
UrbPop: Relative indicator measuring the infant mortality rate (no. of deaths under 1 years old per 1000 live births).
InMig: Relative indicator measuring migration from other judets per 1000 inhabitants.

Judet	Area (sq. km.)	Demographic Data			
		Pop. 1948	Density 1948 (sq. km.)	Pop. 1956	Density 1956 (sq. km.)
Alba	6242	361062	57.9	370800	59.5
Arad	7754	476207	62.2	475620	62.2
Arges	6826	448964	66	483741	71.1
Bacau	6621	414996	62.8	507937	76.9
Bihor	7544	536323	71.2	574488	76.2
Bistrita-Nasaud	5355	233650	44	255789	48.2
Botosani	4986	385236	77.6	428050	86.2
Braila	4766	271251	57.4	297276	62.9
Brasov	5363	300836	56.2	373941	69.9
Buzau	6103	430225	70.9	465829	76.7
Calarasi	5088	287722	56.7	318573	62.8
Caras-Severin	8520	302254	35.5	327787	38.5
Cluj	6674	520073	78.2	580344	87.3
Constanta	7071	311062	44.1	369940	52.4
Covasna	3710	157166	42.4	172509	46.6
Dambovita	4054	409272	101.4	438985	108.8
Dolj	7414	615301	83	642028	86.6
Galati	4466	341797	77.2	396138	89.5
Giurgiu	3526	313793	89.4	325045	92.6
Gorj	5602	280524	49.7	293031	51.9
Harghita	6639	258495	39.1	273964	41.4
Hunedoara	7063	306955	43.8	381902	54.4
Ialomita	4453	244750	55	274655	61.7
Iasi	5476	431586	78.9	516635	94.5
Maramures	6304	321287	51.7	367114	59.1
Mehedinti	4933	304788	62.2	304091	62.1
Mures	6714	461403	68.9	513261	76.7
Neamt	5896	357348	60.7	419949	71.3
Olt	5498	442442	80.3	458982	83.3
Prahova	4716	557776	118.8	623817	132.9
Salaj	3864	262580	68.2	271989	70.6
Satu-Mare	4418	312762	71	337351	76.6
Sibiu	5432	335116	61.8	372687	68.7
Suceava	8553	439751	51.4	507674	59.3
Teleorman	5790	487394	84.6	510488	88.6
Timis	8697	588936	67.8	568881	65.4
Tulcea	8499	192228	22.8	223719	26.5
Valcea	5765	344917	65.1	401626	75.8
Vaslui	5318	341590	59.9	362356	63.5
Vrancea	4857	290183	59.7	326532	67.1
Bucharest Municipality	1821	1192713	655.3	1373926	754.9
Total	238391	15872624	66.8	17489450	73.6

Judet	Pop. 1966	Demographic Data		Density 1977
		Density 1966	Pop. 1977	
		(sq. km.)	(sq. km.)	
Alba	382786	61.4	409634	65.7
Arad	481248	62.9	512020	66.9
Arges	529833	77.9	631918	92.9
Bacau	598321	90.6	667791	101.1
Bihor	586460	77.8	633094	84
Bistrita-Nasaud	269954	50.9	286628	54
Botosani	452406	91.1	451217	90
Braila	339954	72	377954	80
Brasov	442692	82.7	582863	108.9
Buzau	480951	79.2	508424	83.7
Calarasi	337261	66.5	338807	66.8
Caras-Severin	358726	42.2	385577	45.3
Cluj	629746	94.7	715507	107.6
Constanta	465752	66	608817	86.3
Covasna	176858	47.7	199017	53.7
Dambovita	453241	112.3	527620	130.7
Dolj	691116	93.2	750328	101.2
Galati	474279	107.2	581561	131.4
Giurgiu	320120	91.2	327494	93.3
Gorj	298382	52.9	348521	61.8
Harghita	282392	42.7	326310	49.4
Hunedoara	474602	67.6	514436	73.3
Ialomita	291373	65.5	295965	66.5
Iasi	619027	113.2	729243	133.3
Maramures	427645	68.8	492860	79.3
Mehedinti	310021	63.3	322371	65.8
Mures	561598	83.9	605345	90.4
Neamt	470206	79.8	532096	90.3
Olt	476513	86.5	518804	94.2
Prahova	701057	149.4	817168	174.1
Salaj	263103	68.3	264569	68.7
Satu-Mare	359393	81.6	393840	89.4
Sibiu	414756	76.5	481645	88.8
Suceava	572781	67	633899	74.1
Teleorman	416222	89.6	518943	90.1
Timis	607596	69.9	696884	80.2
Tulcea	236709	28.1	254531	30.2
Valcea	431555	81.5	437251	88.2
Vaslui	368779	64.6	414241	72.6
Vrancea	351292	72.2	369740	76
Bucharest Municipality	1596457	877.2	2094977	1151.1
Total	19103163	80.4	21559910	90.8

Judet	Pop. 1992	Density 1992 (sq. km.)	Demographic Data			
			Urban	% Urban Pop.	Rural	Total
Alba	414227	66.5	227316	55.7	181141	408457
Arad	487370	63.7	252072	52.3	230072	482144
Arges	680574	100.1	320045	47.1	359823	679868
Bacau	736078	113.4	374747	50.4	368154	742901
Bihor	634093	84.2	310944	49.1	322685	633629
Bistrita-Nasaud	327238	61.7	122296	37.2	206490	328786
Botosani	458904	92.4	183880	39.8	278490	462370
Braila	392069	83	260335	66.4	131588	391923
Brasov	642513	120.1	491551	76.5	151213	642764
Buzau	516307	85	211934	41.1	303268	515202
Calarasi	338844	44.2	209254	56.5	160804	370058
Caras-Severin	375794	66.8	134178	39.9	202479	336657
Cluj	735077	110.5	494534	68.0	232499	727033
Constanta	748044	106	551281	73.8	196160	747441
Covasna	232592	62.8	123183	52.9	109768	232951
Dambovita	559874	138.7	175433	31.4	383085	558518
Dolj	761074	102.7	379575	50.0	379320	758895
Galati	639853	144.6	386355	60.1	256628	642983
Giurgiu	313084	89.2	92688	30.3	212973	305661
Gorj	400100	70.9	169102	42.5	228825	397927
Harghita	347637	52.6	159130	45.8	188015	347145
Hunedoara	547993	78.1	414674	75.8	132506	547180
Ialomila	304008	68.3	126662	41.5	178792	305454
Iasi	806778	147.5	412353	50.6	403015	815368
Maramures	538534	86.7	287056	53.2	252662	539718
Mehedinti	332091	67.8	159866	48.4	170151	330017
Mures	607298	90.7	313649	51.6	293706	607355
Neamt	577619	98.1	239000	40.9	345364	584364
Olt	520966	94.6	206344	39.6	314437	520781
Prahova	873229	186	457408	52.3	416811	874219
Salaj	266308	69.2	109296	41.3	155152	264448
Satu-Mare	400158	90.8	185006	46.4	213395	398401
Sibiu	452820	83.5	307383	68.5	141091	448474
Suceava	700799	81.9	254730	35.9	453841	708571
Teleorman	482281	83.7	163688	34.3	313839	477527
Timis	700292	80.6	419241	60.6	272556	691797
Tulcea	270197	32.1	131523	48.8	137788	269311
Valcea	457799	86.4	172493	39.5	284496	436989
Vaslui	436298	76.5	203788	43.9	260044	463832
Vrancea	392651	80.7	153166	38.8	241091	394257
Bucharest Municipality	2350984	1291.7	2080363	88.9	258793	2339156
Total	22760449	95.8	12427612	54.7	10303010	22730622

Judet	Registered Firms 1994		
	Number	Per 1000 Population	Per 1000 Urban Pop.
Alba	7487	18.3	32.9
Arad	13377	27.7	53.1
Arges	14131	20.8	44.2
Bacau	12358	16.6	33.0
Bihor	17929	28.3	57.7
Bistrita-Nasaud	5835	17.7	47.7
Botosani	6215	13.4	33.8
Braila	8076	20.6	31.0
Brasov	17535	27.3	35.7
Buzau	10521	20.4	49.6
Calarasi	6099	16.5	29.1
Caras-Severin	6792	20.2	50.6
Cluj	21535	29.6	43.5
Constanta	24123	32.3	43.8
Covasna	4685	20.1	38.0
Dambovita	8307	14.9	47.4
Dolj	16179	21.3	42.6
Galati	14115	22.0	36.5
Giurgiu	4969	16.3	53.6
Gorj	7585	19.1	44.9
Harghita	6468	18.6	40.6
Hunedoara	10992	20.1	26.5
Ialomita	5618	18.4	44.4
Iasi	14454	17.7	35.1
Maramures	13499	25.0	47.0
Mehedinti	7215	21.9	45.1
Mures	12589	20.7	40.1
Neamt	12421	21.3	52.0
Olt	8589	16.5	41.6
Prahova	16148	18.5	35.3
Salaj	3840	14.5	35.1
Satu-Mare	9337	23.4	50.5
Sibiu	10260	22.9	33.4
Suceava	14298	20.2	56.1
Teleorman	7168	15.0	43.8
Timis	19240	27.8	45.9
Tulcea	5660	21.0	43.0
Valcea	8470	19.4	49.1
Vaslui	5798	12.5	28.5
Vrancea	6083	15.4	39.7
Bucharest Municipality	118280	50.6	56.9
Total	13275	0.6	1.1

Judet

Average Number of Employees (thousands)

	1950	1970	1980	1985	1988	1989
Alba	28.6	93.3	138.2	142.9	145.1	147.6
Arad	72	129.6	173.4	176.7	177.1	177.5
Arges	48.6	148.4	221.6	233.4	242.7	248.9
Bacau	73.4	140	201.9	217.1	220.8	228.9
Bihor	65.3	150.8	209	219.7	224.1	226.2
Bistrita-Nasaud	15.3	39.8	74.3	83.2	86.8	88.1
Botosani	18.4	48.6	91.8	98.9	99.7	102.1
Braila	35.5	95	135.3	139.8	139.7	143.9
Brasov	88.4	210.6	296.1	299.4	296.1	300.8
Buzau	28.6	76.9	136.7	143.9	146.2	148.1
Calarasi	26.4	66.6	91.8	105.1	109.5	109.6
Caras-Severin	56.7	106	143.9	148.6	150.9	152.3
Cluj	86.8	199.5	269.2	273.5	247.7	279.1
Constanta	69.6	183.4	273.3	285.1	299.1	308.3
Covasna	19.3	41.6	70.4	77.4	81.7	83.1
Dambovita	36	93.6	162.7	168.6	171.2	174.9
Dolj	43	148	215.3	229.2	226.6	230.6
Galati	47.4	140.4	196.7	210.7	209.5	215.1
Giurgiu	16.3	46.2	66.5	79.7	80.8	83.2
Gorj	15.6	69.5	117	142.5	153.9	154.9
Harghita	30.1	75.2	114.1	117.9	119.6	121.6
Hunedoara	64.5	167.3	206.3	223.8	229.5	237.2
Ialomita	20.5	65.9	79.9	81.4	82.7	85.4
Iasi	43.1	134	210.6	221.5	223.6	231.3
Maramures	37.8	102.7	154	160.1	164.5	167.8
Mehedinti	27.5	62.7	83.6	97	99.9	100.2
Mures	49.6	145.8	200.4	206.2	212.8	216.1
Neamt	56.8	94.1	153.4	158.3	164.6	167.3
Olt	16.6	70.8	126.8	141	143.6	146.1
Prahova	93.6	232.5	313.2	326.1	332.5	337.4
Salaj	11.3	34.4	64	71.3	74.3	75.3
Satu-Mare	24.1	75.8	114.2	122	125.3	126.7
Sibiu	66.1	145.9	196	198.8	201.8	204
Suceava	53.1	123.9	170.8	178.5	185.3	192.1
Teleorman	23.5	67.3	115.9	116.9	117.6	119.7
Timis	106.6	203	283.9	283.4	287.5	288.4
Tulcea	21.8	52.6	86.1	91.4	95.4	95.5
Valcea	19.3	56.3	100.1	110.2	115.7	119.5
Vaslui	24.2	74.4	109.4	123.1	127.4	130.3
Vrancea	19.1	58.9	85.6	94.1	102	104.7
Bucharest Municipality	422.6	837.4	1086.6	1062.9	1100.8	1127.3
Total	2123	5108.7	7340	7661.3	7842.6	7997.1

Judet	Number of Unemployed			
	(end) 1992	(end) 1993	(end) 1994	(end) 1995
Alba	12383	17244	17082	13867
Arad	13834	21208	23126	11781
Arges	23392	31639	32841	23943
Bacau	32022	41046	38291	33632
Bihor	25205	25961	23961	17040
Bistrita-Nasaud	26621	34007	30558	22681
Botosani	24813	38025	42380	36306
Braila	24826	20145	18473	18378
Brasov	16195	21404	24108	19840
Buzau	35170	39789	38747	30380
Calarasi	11168	12551	18352	11876
Caras-Severin	20600	21193	10086	16374
Cluj	32885	29773	38789	37411
Constanta	23676	36755	33856	29276
Covasna	8451	11196	9743	7029
Dambovita	15714	25898	29950	25335
Doj	41731	57421	55670	43489
Galati	29931	30873	39623	34998
Giurgiu	10951	19066	12950	11234
Gorj	5963	8673	8555	8031
Harghita	15451	21382	18597	18316
Hunedoara	20365	23094	29949	34423
Ialomita	12063	15163	14692	11387
Iasi	42369	47323	66159	49939
Maramures	18953	21570	23762	17845
Mehedinti	10622	14900	11736	8949
Mures	21151	27421	38885	37087
Neamt	37976	52054	51052	49321
Olt	21880	28544	29261	19331
Prahova	23818	34316	43461	37793
Salaj	13743	16335	14710	12350
Satu-Mare	17560	17568	16193	11992
Sibiu	16662	21373	26749	19311
Suceava	36237	41032	47256	38395
Teleorman	15653	21594	23128	21695
Timis	16239	25303	25460	13409
Tulcea	20309	20471	20530	13788
Valcea	32470	54278	58764	30115
Vaslui	18139	25595	30850	34572
Vrancea	21053	24781	19925	16197
Bucharest Municipality	60775	70341	65665	52016
Total	929019	1164705	1223925	998432

Judet

Rate of Unemployment %

	(end) 1992 %	(end) 1993 %	(end) 1994 %	(end) 1995 %
Alba	5.9	8.2	8.1	6.8
Arad	5.9	9.1	10.1	5.1
Arges	6.7	9.1	9.6	7.3
Bacau	9.9	12.4	11.9	10.5
Bihor	7.5	7.6	7.3	6
Bistrita-Nasaud	17.8	20.9	19.3	15.3
Botosani	11.6	16.3	18.5	17.2
Braila	13.2	11	9.9	10.8
Brasov	4.9	6.7	7.3	6.7
Buzau	13.6	14.6	15.2	13.4
Calarasi	7.2	7.9	7	8.8
Caras-Severin	12.2	12.8	10.4	9.9
Cluj	8.3	7.5	9.7	9.4
Constanta	6.4	9.7	9.2	8.7
Covasna	7.9	9.6	9.1	7
Dambovita	5.7	9.1	11	10.1
Dolj	11.2	14.6	14.3	12.6
Galati	9.9	10.1	12.8	11.7
Giurgiu	8.6	14.4	10.2	9.8
Gorj	2.8	4.2	3.9	3.9
Harghita	9.1	12.1	10.5	10.8
Hunedoara	7.3	8.3	10.3	12
Ialomita	8.8	10.4	10.5	8.6
Iasi	11.1	11.5	16.1	12.7
Maramures	7.1	8.2	9.2	7.2
Mehedinti	7.1	10.1	7.7	6.2
Mures	7.3	9.6	12.6	12.5
Neamt	13.2	17.6	17.3	17.3
Olt	9	11.7	12	8.5
Prahova	5.9	7.9	10	9
Salaj	10.9	12.6	11.6	10.3
Satu-Mare	8.9	9.3	8.4	6.5
Sibiu	7.6	9.9	12.6	9.6
Suceava	10.7	12.2	13.5	11.9
Teleorman	7.6	9.3	10	10
Timis	4.5	7.1	7.2	4
Tulcea	16.3	16.8	16.4	11
Valcea	14.9	22.9	24.1	14.8
Vaslui	8.4	11.7	13.2	15.2
Vrancea	11.3	12.8	10.5	8.3
Bucharest Municipality	4.9	6	5.7	5.1
Total	8.4	10.4	10.9	9.5