

SECTION A:
CONCEPTUAL FRAMEWORK AND PROJECT STRUCTURE

CHAPTER 1: INTRODUCTION

Andrew K Copus
Scottish Agricultural College

Background

European economic history has seen several fundamental shifts in the spatial organisation of economy and society, triggered by radical changes in transport and communications technology and by shifts in the focus of economic activity. Thus a diffuse but localised, predominantly agrarian economy, dependent upon inland waterways, coastal shipping and road transport, gave way (at different times in different parts of the continent) to an economy dependent upon heavy and secondary industry, using canals and later railways for domestic transport, and steamships for global communications. This was associated with the development of Europe's great industrial conurbations at the expense of peripheral regions, which are not only less well endowed with the sort of resources required for heavy industry, but suffered the additional handicap of being distant from the developing "hubs". During the second half of the twentieth century the improvement of road, rail and air transport, and the increasing shift from manufacturing to service activity as the motor of the European economy, have reduced the dominance of the industrial core regions. At the beginning of the twenty-first century many would argue that new transport and communications technology together with structural trends provide potential new opportunities for peripheral regions, and that future historians may identify this as the beginning of a period of fundamental spatial restructuring.

However, for a variety of reasons, not least the need for society to adjust, considerable inertia seems to slow down the process of spatial reorganisation. Within this context, as geographical constraints become (at least potentially) weaker, other "softer" characteristics may tend to determine the response of peripheral regions to new opportunities. For instance the adoption of new forms of economic activity depends to some extent upon the skills, education and adaptability of local entrepreneurs and their workforce (human capital). The diffusion of new ideas and working practices may be dependent to some extent upon the network of linkages (both in terms of transactions and informal contacts) between entrepreneurs and sources of information – such as customers and suppliers in other regions, research and development institutions, or regional development agencies - (business networks). Ease of adjustment may also be affected by the effectiveness of relationships within the local business community (social capital) and by characteristics of the administrative environment (governance).

All the “soft factors” described above have a common characteristic which distinguishes them from “traditional” industrial location factors, such as the cost of raw materials or access to markets. Since both raw material and products are transportable (at a cost), there is a sense in which the impact of these factors varies systematically across space. They are conventionally cheapest and most easily available in the old industrial core areas and most expensive/least accessible in the periphery. By contrast the “soft factors” tend to be much less mobile. Many of them are closely related to historical social and cultural factors, and they are not easily relocated or recreated. Their geography (although not yet fully understood) does not seem to be systematically related to that of the old industrial regions, or to urban hierarchies etc. In this sense they may be described as “aspatial”.

There has already been a considerable shift of focus away from the traditional location factors towards the soft, and aspatial, explanations in both academic and policy communities, as seen in some notable (EU and National) policy initiatives relating to information technologies, and to human/social capital and governance. However, it is nevertheless true to say that the potential role of soft/aspatial regional characteristics in compensating (or exacerbating) for spatial peripherality is as yet imperfectly understood, and requires to be more fully integrated into the rationale and practice of regional policy.

Aim and Objectives

The overarching aim of the AsPIRE project is to develop tools to assess the extent to which aspatial soft factors can compensate for (or exacerbate) the economic development implications of peripheral location, and on this basis to formulate best practice guidelines and policy recommendations.

In pursuit of this general aim, the project has been guided by a number of objectives, which were formulated in the proposal and the technical annex:

- (a) A *review* objective, to analyse existing peripherality indicators and their theoretical basis.
- (b) A *conceptual* objective, to undertake thematic studies to identify a series of hypotheses relating to the nature of soft/aspatial factors and their impact on innovation and economic vitality.

- (c) A *validation* objective, concerned with the development of practical methods to test the hypotheses, in the context of a set of representative case study regions.
- (d) A *measurement* objective, concerned with developing new indicators with standard methodologies, to allow regional agencies to generate comparable assessments of soft/aspatial factors for their regions.
- (e) A *policy* objective, to assess the impact of current and past policy approaches to economic development in peripheral regions.
- (f) A *best practice* objective, to establish examples and guidelines for effective intervention to ameliorate the effects of negative soft factors, and to strengthen positive ones.

Outline of Methodology and Project Structure

The project has a conventional overall structure, beginning with a review of literature, progressing through a case study phase, and ending with analysis and application in terms of best practice, policy recommendations, and the presentation of a set of tools for assessing the strength of aspatial factors within a region. This is illustrated by Figure A1.1.

Throughout these stages a set of themes provided a substructure for the work. These themes were:

- (a) Information Society Technology (IST)
- (b) Business networks and innovation
- (c) Governance
- (d) Social capital
- (e) Tourism

One of the key outcomes of the conceptual phase of the project was the establishment of a set of working hypotheses about the role of each of the above soft/aspatial factors in determining levels of regional economic vitality. These formed the underlying rationale for the case study element of the project.

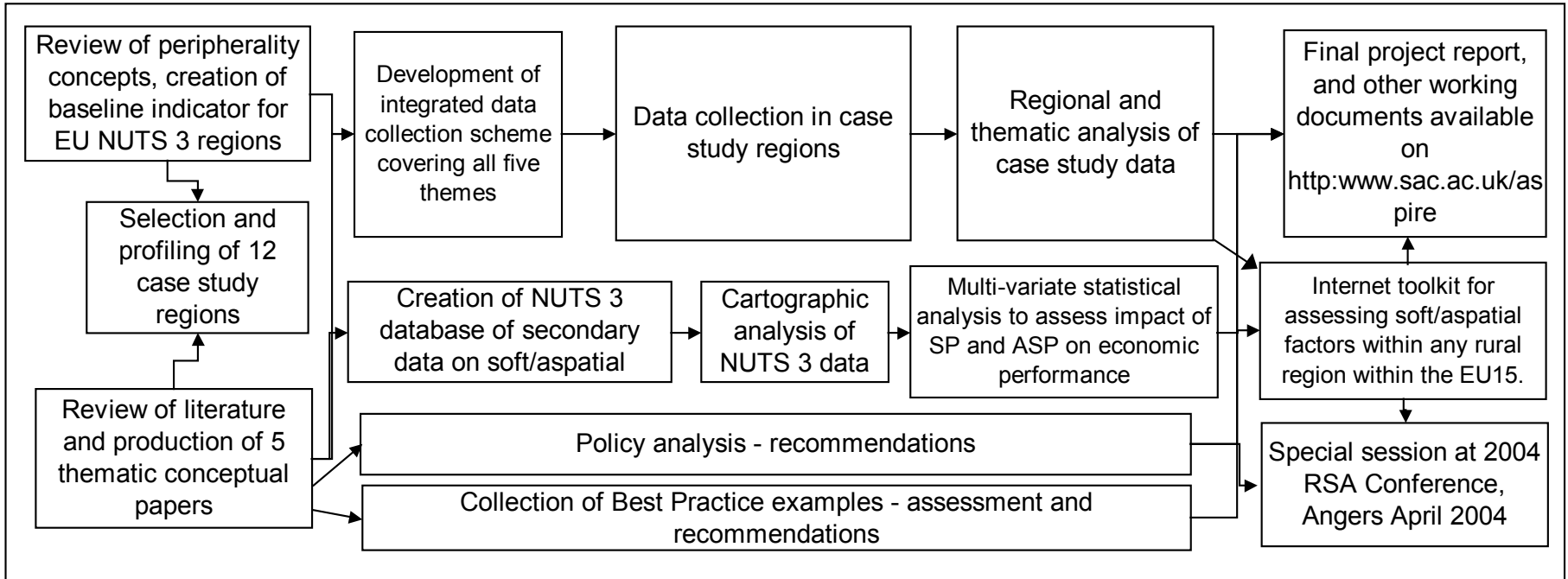


Figure A1.1: Outline of Project Activities

The case studies were designed to be comparative within each project partner's country. Thus in each represented member state two case study regions were chosen, one of which (Region A) was considered to be relatively peripheral but showing a degree of economic vitality which was assumed to be due to positive soft/aspatial factors, the other (Region B) was considered to be relatively accessible but lagging, due to negative local soft factors. The validity of the working hypotheses was then assessed using both quantitative and qualitative techniques, as appropriate. Perhaps unusually, and in an attempt to achieve true comparative analysis, the results for all case study regions were collated, analysed, and reported by theme (as well as in integrated regional reports in the local language).

Information for the best practice and policy analysis elements of the project was collected throughout all phases of the project. The focus of the former was on examples of entrepreneurial activities or regional organisations which seemed to be particularly effective in either overcoming conventional spatial peripherality, or in exploiting or reinforcing local soft factors. The policy analysis both reviewed existing EU policy measures (in terms of their impact upon conventional peripherality, and upon soft/aspatial factors), and studied the perceptions of regional development agents with respect to the efficacy of different types of intervention in ameliorating peripheral disadvantage.

A final element of the project was to assemble a "tool kit" of indicators and assessment procedures which would assist regional policy makers in diagnosing the key issues for their area and designing a policy response. An early contribution to this was the development of a quantitative indicator which measured the peripherality of each NUTS 3 region in the EU15 in terms of travel time from the main centres of economic activity in Europe. Subsequently, a very thorough review of available secondary data relating to the measurement of key soft/aspatial factors was carried out. The resulting database was used to assess the relative strength of the relationship between conventional peripherality and GDP per capita (as a crude proxy for economic vitality), and between the indicators of soft/aspatial factors and GDP per capita. It was also incorporated into a web-based tool which will allow regional development agents to produce a clear profile of their region, benchmarked against all other EU regions, both in terms of spatial peripherality, and in terms of the different soft/aspatial factors. It is hoped that this will prove a useful resource for the regional policy community in future months.

Project Team

The project team consisted of staff from four universities, an agricultural college, and an agricultural/rural development agency. Details are provided in Table 1. Coordination was provided by the Scottish Agricultural College at Aberdeen. The research team represented a variety of disciplinary backgrounds, including geography, planning, and economics. With one exception, each partner assumed primary responsibility for one of the five themes (IST, Business Networks, Social Capital, Governance and Tourism). The University of Valencia took responsibility for Best Practice and Policy Analysis. With the exception of NUI Galway each partner was also responsible for two case study regions (Table 1.1). In addition to the usual management and administrative functions, the co-ordinating partner (Scottish Agricultural College) took responsibility for integrating the various thematic elements of the data collection instruments, and for the structure of the Final Report.

Table 1.1: The AsPIRE Project Partnership

Partner	Key Thematic Responsibility	Case Study Region A	Case Study Region B
SAC – Scottish Agricultural College, Aberdeen	Tourism	Shetland	East Ayrshire (part)
TEAGASC – Rural Economy Research Centre, Dublin	Social Capital	Clare	Wexford
NUI GALWAY, Geography Department, National University of Ireland	Information Society Technology	N/A	N/A
UVEG Geography Department, University of Valencia	Best Practice and Policy Evaluation	L'Alcoià	El Camp de Morvedre
DEUP Department of Economics, University of Patras	Business Networks and Innovation	Evrytania	Achia (part)
IRPUD Institute of Spatial Planning, University of Dortmund	Indicators, quantitative analysis, internet toolkit	Rottal-Inn	Bitburg Prum
SIRRT Seinajoki Institute for Rural Research and Training, University of Helsinki	Governance	Keski Suomi (part)	Satakunta (part)

Coordination was enhanced by the creation at an early stage, and subsequent active development, of a private project web site. This provided efficient transfer of documents and information between partners. Project meetings were held on a regular basis throughout the life of the project.

Dissemination

Many of the projects internal working papers are now available through a public web site at <http://www.sac.ac.uk/AsPIRE>. On completion of the conceptual phase the project team organised a workshop to facilitate peer review of the thematic papers and the proposed research hypotheses. Case study findings were reported to regional development agencies through a series of seminars, one in each case study area. Most project team members have presented papers at various academic conferences during the life of the project. Academic dissemination culminated in a special session at an international conference (Regional Studies Association Angers April 15-16th 2004).

CHAPTER 2: THE ASPIRE CONCEPTUAL FRAMEWORK

Andrew K Copus,
Scottish Agricultural College, and
Klaus Spiekermann,
Spiekermann and Wegener

Introduction: “SP” and “AsP”

The potential for a fundamental and far-reaching spatial reorganisation of economic activity which seems already to have begun to affect Europe’s periphery has already been alluded to in very general terms. The following chapter seeks to provide a more detailed conceptual framework, which will form the foundation for the more detailed thematic results presented in Section B.

The discussion will begin by setting the scene in terms of conventional explanations of core-periphery disparities, based upon the assumption that certain key determinants of economic performance vary systematically across space. For convenience, these traditional peripherality concepts will be referred to as “Spatial Peripherality” abbreviated to “SP”. This approach has often been summarised in terms of quantitative indicators, and this project has generated its own “baseline” SP indicator. It will then be shown that the baseline indicator seems to account for a substantial minority of variation in economic performance at the EU NUTS 3 region level.

The fundamental contention of this project has been that whilst SP continues to have a substantial impact on the economic performance of the European periphery, the basic shift which is taking place means that regional economic trends will be increasingly affected by a range of characteristics which do not vary systematically across space, but which can potentially have the same effect as SP. The final section of this chapter will introduce aspects of these “Aspatial Peripherality” (AsP) processes, and the thematic structure which underlies the AsPIRE project, and Section B of this report.

Conventional Concepts of Peripherality

Accessibility and peripherality are notoriously vague and variable concepts. In 1969 Peter Gould described accessibility as

“...a slippery notion...one of those common terms everyone uses until faced with the problem of defining and measuring it” (Gould 1969, p37).

A few years later the Norwegian sociologist Naustdalslid stated:

“...there is no such thing as a single centre-periphery theory or concept...it is difficult, if not impossible, to extract any common element

from the wide variety of usages of the centre-periphery metaphor...”
(Naustdalslid 1983, p17).

Conventional concepts of peripheral disadvantage generally include a number of elements. These can be roughly classified into three broad groups, causal, contingent and associated (Figure A2.1), (although the boundaries between the second and third are very hard to draw).

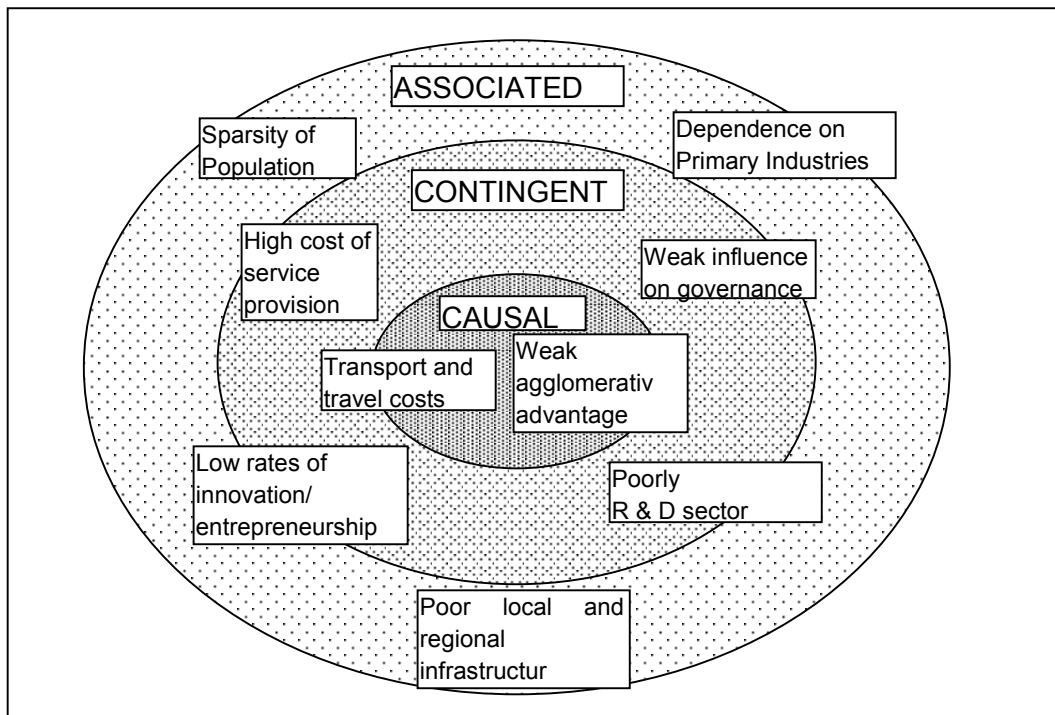


Figure 2.1: The Elements of Conventional Concepts of Peripherality (SP)

There are two causal elements. The first is increased travel and transport cost (expressed either in financial or time penalty terms) resulting from remoteness relative to the main centres of population and economic activity. The second is the absence of agglomerative advantages (external economies of scale, broadly defined) enjoyed by less remote locations. It is perhaps important to stress the interdependence of these two causal elements, the link between proximity and agglomerative advantages of course being transport cost savings. Thus distance impacts upon competitiveness both directly through Weberian locational economies and indirectly as firms are able to derive shared benefits from clustering.

The second group of elements are those which are contingent upon the first, and include for example, the high cost of service provision, and low rates of entrepreneurship and innovation.

The third group of elements is often associated with peripherality, although the causal link is less direct. These include sparsity of population, a dependence on primary industries, poorly developed local and inter-regional infrastructure, poorly developed research and development sector, and a lack of influence in the wider governance arena.

Conventional Explanations of Peripheral Disadvantage

In broad terms two “families” of formalised models have sought to explain the economic/spatial processes which lie behind peripheral disadvantage. The first, mainly coming from the fields of land economy and regional science, seeks to answer the question “How can we account for apparently systematic changes in land value and economic activity with increasing distance from pre-existing urban/industrial centres?” The second, referred to by Krugman (1994) as “high development economics”, addresses the development of spatial disparities in economic activity, with a strong emphasis on the role of agglomerative economies and processes of “cumulative causation”.

(i) The first of these modelling traditions originated in the late eighteenth century with Von Thunen (Hall 1966), but was perhaps in its hey-day in the 1960s and early 1970s, when the basic “bid-rent” principle was developed and applied not only to rural land use (such as in Chisholm 1962) but also within the contexts of urban land use and industrial location by such writers as and Isard (1956), and Alonso (1964), and the empirical analyses of city structure, beginning perhaps with Burgess’ (1925) description of Chicago. Closely related to these models are various dynamic macro-scale land use models (Peet, (1972), Wallerstein (1991), Terlow (1992), and their essential “distance decay” concept underpinned the Newtonian gravity analogy for core-periphery variations in “economic potential” (Keeble 1982, 1988).

What all these “models” have in common is the assertion that type and intensity of economic activity at any given location can be at least partially explained in terms of penalties imposed by distance from a given city or concentration of industry. Most, if not all, of them subsequently discuss various local characteristics, which (in the real

world) caused distortion of simple concentric patterns. However, “the tyranny of distance” remains at the heart of such theories, and the considerable literature of empirical and policy application which they have generated.

(ii) “High development economics” as developed by writers such as Myrdal (1957), Hirschman (1958) and Friedmann (Wight 1983) during the 1950s was distinctive in its emphasis on regional divergence (in terms of levels and growth of economic activity) due to processes of “cumulative causation”. Of central importance in the latter was the role of agglomeration and “external economies of scale”. The latter were mainly seen in terms of what Fujita, *et al* (1999) call “Marshall’s trinity”;

- proximity to suppliers of intermediate inputs and to purchasers of intermediate outputs (ie linkages);
- the benefits of “labour pooling”;
- and the facility for the rapid transfer of information.

However in recent years agglomerative economies have been shown to include a range of less tangible aspects, to which we shall return at the end of this chapter.

In a recent major contribution to the literature Fujita, Krugman and Venables have suggested that the work of Myrdal, Hirschmann and Friedmann during the 1950’s was “heuristic” (Fujita et al 1999), “a sort of muscular pragmatism in grappling with the problem of development” (Krugman 1994). They failed, Krugman argues “to produce buttoned-down, mathematically consistent analysis” which was at that time “increasingly becoming the unique language of discourse of economic analysis” (Ibid). Fujita Krugman and Venables seek to remedy this omission. They demonstrate that the existence of agglomerative processes and “increasing returns” may be modelled with mathematical rigour on the basis of linkages alone, without reference to the other two Marshallian forces. They also show that a reduction in transport costs (both for industrial goods and for agricultural products) will (*ceteris paribus*) tend to accelerate the process of agglomeration. Population growth, they argue will result in further spatial differentiation, with the emergence of an ordered hierarchy of cities, similar to that posited by Central Place Theory.

This brief review of the major formalised models shows that they have generally focussed solely upon the two causal elements (distance costs and lack of agglomerative economies) of the broader concept of peripherality which we began by describing.

Empirical Evidence for the Importance of SP in Regional Economic Development

Keeble et al. (1988) argued that "peripherality is ... synonymous with relative accessibility or inaccessibility to economic activity". Accessibility is the main "product" of a transport system. It determines the locational advantage of an area (i.e. a region, a city or a corridor) relative to all other areas. Areas with better access to the locations of material inputs and markets will, *ceteris paribus*, be more productive, more competitive and hence more successful than more remote and isolated areas (see Linneker, 1997).

Empirical analyse of the relationship between the impact of transport infrastructure patterns of economic development has met with mixed success: There certainly seems to be a clear positive correlation between transport infrastructure endowment (or location within interregional networks), and economic indicators such as GDP per capita (Biehl, 1986, 1991; Keeble et al., 1982, 1988). However, this correlation may merely reflect historical agglomeration processes rather than causal relationships effective today (cf. Bröcker and Peschel, 1988).

Attempts to explain *changes* in economic indicators, i.e. economic growth and decline, by transport investment, have been much less successful. The reason for this failure may be that in countries with an already highly developed transport infrastructure further transport network improvements bring only marginal benefits. The conclusion is that transport improvements have strong impacts on regional development only where they result in removing a *bottleneck* (Blum, 1982; Biehl, 1986, 1991).

While there is uncertainty about the magnitude of the impact of transport infrastructure on spatial development, there is even less agreement on its direction. It is debated whether transport infrastructure improvements contribute to spatial polarisation or decentralisation. Some analysts argue that regional development policies directed at the creation of infrastructure in lagging regions have not succeeded in reducing regional disparities in Europe (Vickerman, 1991a), whereas others point out that it has yet to be ascertained that the reduction of barriers between regions has disadvantaged peripheral regions (Bröcker and Peschel, 1988).

From a theoretical point of view, both effects can occur. A new motorway or high-speed rail connection between a peripheral and a central region, for instance, makes it easier for producers in the peripheral region to market their products in the large cities, however, it may also expose the region to the competition of more advanced products from the centre and so endanger formerly secure regional monopolies (Vickerman, 1991b). While these two effects may partly cancel each other out, one factor unambiguously increases existing differences in welfare. New transport infrastructure tends to be built not between core and periphery but within and between core regions, because this is where transport demand is highest (Vickerman, 1991a). It can therefore be argued that the Trans-European Networks will largely benefit the core regions of Europe.

The relationship between transport infrastructure and spatial development is clearly complex. The presence of successful regions in the European core seems to confirm the theoretical expectation that location matters. However, there are also centrally located regions suffering from industrial decline and high unemployment. On the other side of the spectrum although many of the poorest regions, as theory would predict, are at the periphery, there are also prosperous peripheral regions, especially in the Scandinavian countries.

Conventional (SP) Peripherality Indicators

In recognition of the importance of SP to patterns of regional economic development, a number of quantitative indicators have been published during the last twenty years. These may be classified into three broad types¹;

1. Travel Cost Indicators: These take the form of an average or total travel cost (or time) from each origin (such as a regional centroid) to a fixed set of destinations (usually the largest cities in the area under study).
2. Daily accessibility indicators: These are framed in terms of a count of population which may be accessed within a certain return journey time (generally between 3 and 5 hours) of the origin.
3. Economic potential indicators: These are based upon gravity models, which allocate “economic potential” to a point or region on the basis of its location

¹ For a more detailed theoretical discussion, and a mathematical explanation, see Deliverable 1, Spiekermann, Wegener and Copus, Review of Peripherality Indices and Identification of the Baseline Indicator, downloadable from <http://www.sac.ac.uk/aspire>

relative to all centres of economic activity within the area under study. Each of these destinations contributes economic potential to the origin in proportion to its “economic size” and in inverse proportion to the intervening distance.

The AsPIRE Baseline Indicator

Specification

Within the context of the AsPIRE project there was a requirement for a baseline indicator of conventional peripherality (SP). This would allow the SP characteristics of the Case Study regions to be assessed, and would also help to “calibrate” the multi-variate statistical analysis of the role of SP and AsP (see section C). In developing the baseline indicator the research team sought to combine the best practice observed in the review of existing indicators summarised above with the potential of state of the art geographic information system (GIS) software, and the detailed European database created by IRPUD (Institute for Spatial Planning University of Dortmund).

Methodology

Previous work has shown that multimodal potential accessibility indicators, (i.e. indicators that aggregate over transport modes), have a much higher explanatory power than any accessibility indicator based on a single mode only (Fürst et al., 2000). For that reason, a logsum accessibility potential aggregating over road, rail and air has been defined as AsPIRE Baseline Peripherality Indicator.

The baseline indicator is calculated by developing a pre-existing model (Spiekermann and Wegener, 1996; Wegener et al., 2001). Accessibility has been calculated for the centroids, i.e. the locations of the major cities in the NUTS-3 regions. Population of the destination regions has been disaggregated to 10x10-km raster cells (see Schürmann et al., 1997, Fürst et al., 2000).

The accessibility of region r in year t , $A_r(t)$, is the accessibility of raster cell k of its centroid:

$$A_r(t) = a_k(t)$$

For the calculation of the accessibility of the centroid of the region the potential accessibility of the centroid's raster cell k is the sum of destination population $P_j(t)$ in all 70,000 destination cells j in year t weighted by a negative exponential function of travel time $c_{kj}(t)$ between centroid k and destination cells j . Different β can be used in the potential models for different economic sectors to reflect the differences in travel time sensitivity. For the production functions to be estimated for the agricultural sector and the manufacturing sector a β of 0.007 is used:

$$a_k(t) = \sum_j P_j(t) \exp[-0.007c_{kj}(t)]$$

The travel time impedance $c_{kj}(t)$ is represented by the composite or logsum calculated as:

$$c_{kj}(t) = -\frac{1}{0.03} \ln \sum_{m \in \mathbf{M}_{kj}} \exp[-0.03c_{kjm}(t)]$$

where \mathbf{M}_{kj} are road, rail and air modes available between raster cells k and j .

Results

The AsPIRE Baseline Peripherality Indicator and the National Peripherality Indicator have been calculated for NUTS 3 regions. The indicator values have been standardised to the European Union's average or to the National average. They have been grouped in five classes: central regions that are clearly above average, intermediate regions that are about average and three classes of peripheral regions.

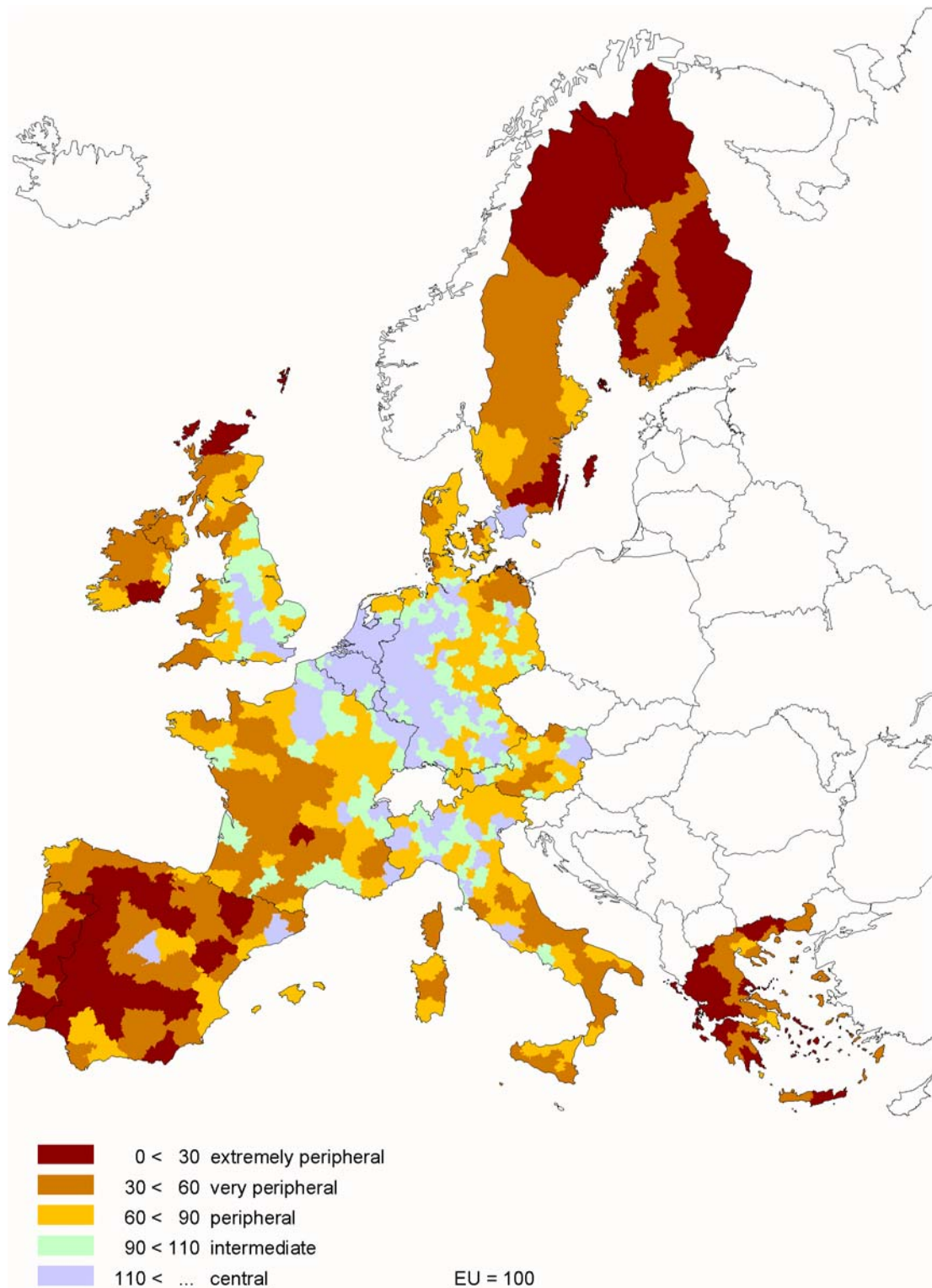


Figure 2.2: AsPIRE Baseline Peripherality Indicator (NUTS 3 regions).

Figure 2.2 presents the AsPIRE Baseline Peripherality Indicator for the territory of the European Union. Not surprising, central regions are located in an arc stretching from Liverpool and London via Paris, Lyon, the Benelux regions, along the Rhine in Germany to Northern Italy. However, some agglomerations in more remote areas such as Madrid, Barcelona, Dublin, Glasgow, Copenhagen, Rome and Naples are also classified as being central or at least intermediate because their international airports improve their accessibility. At the same time, the European periphery begins in regions that might be usually considered to be more central. Thus, several regions in France, - even in northern and eastern parts of the country, - or Germany, - mostly in the New Länder, - are classified as “peripheral”, or even as “very peripheral”, having an accessibility only about half of the European average. With a few exceptions mentioned above, the regions of Portugal, Spain, Ireland, Scotland and Wales, the Nordic countries, Austria, southern Italy and Greece are “very”, or even “extremely peripheral”. As the example of the Iberian peninsula shows, the “extremely peripheral” regions are not necessarily located at the very edge of Europe, some are between larger agglomerations.

SP as an explanation of Regional Disparities in Economic Performance

All the European peripherality indices reviewed above conclude that there is in general terms, a systematic relationship between location (on a core-periphery continuum) and regional economic performance. However, the majority point to cartographic patterns as evidence, and do not do not subject this to quantitative analysis (Table 2.1). Their conclusions regarding the dynamics of these pattern, (whether they tend towards increasing or decreasing disparities) are mixed, perhaps reflecting the different points in the history of the EU at which they were written.

Table 2.1: Statements regarding Spatial Patterns and Dynamics of Regional Economic Performance derived from the major Peripherality Indices

Authors	Spatial disparities	Changing pattern through time
Keeble et al. (1982; 1988)	clear core-periphery pattern	disparities have increased in past periods
Lutter et al. (1993)	existing, but scope depends on destination activities considered	travel time benefits for peripheral regions, daily accessibility increases in central regions
Spiekermann and Wegener (1994, 1996)	clear core-periphery pattern plus clear centre-hinterland disparities in all European countries	increasing disparities induced by TEN
Chatelus and Ulied (1995)	clear core-periphery pattern	decreasing disparities
Gutierrez and Urbano (1995, 1996)	clear core-periphery pattern	decreasing disparities induced by TEN
Copus (1997, 1999)	clear core-periphery pattern	dynamics not considered
Wegener et al. (2001)	different core-periphery patterns for different transport modes	increasing or decreasing disparities is an outcome of the indicator chosen
Schürmann and Talaat (2000)	clear core-periphery pattern for road transport	improvements mainly for EU candidate countries

The AsPIRE baseline indicator provides a sound quantitative basis from which to carry out regression analysis of the relationship between peripherality and economic performance.

GDP per capita is predominantly used as proxy for the welfare of a region and is therefore used in many reports addressing spatial disparities in Europe. However it has the inherent problem of not properly matching income because of commuting. Productivity (GDP per worker) seems to match more closely the production model laying behind this project, and is to be preferred as a proxy for regional economic performance.

Figure 2.3 compares the AsPIRE Baseline Periphery Indicator with GDP per worker for NUTS 3 regions. The graph shows that the relationship between peripherality and GDP per worker could not be described as close. The correlation coefficient r^2 is only about 0.31. However, this is partly a consequence of having such spatial detail. Previous work with the same logsum accessibility indicator for NUTS 2 regions has resulted in a correlation coefficient of $r^2 = 0.47$ (Fürst et al. 2000); however, in this analysis outlier regions such as the Nordic regions and the New German Länder were excluded.

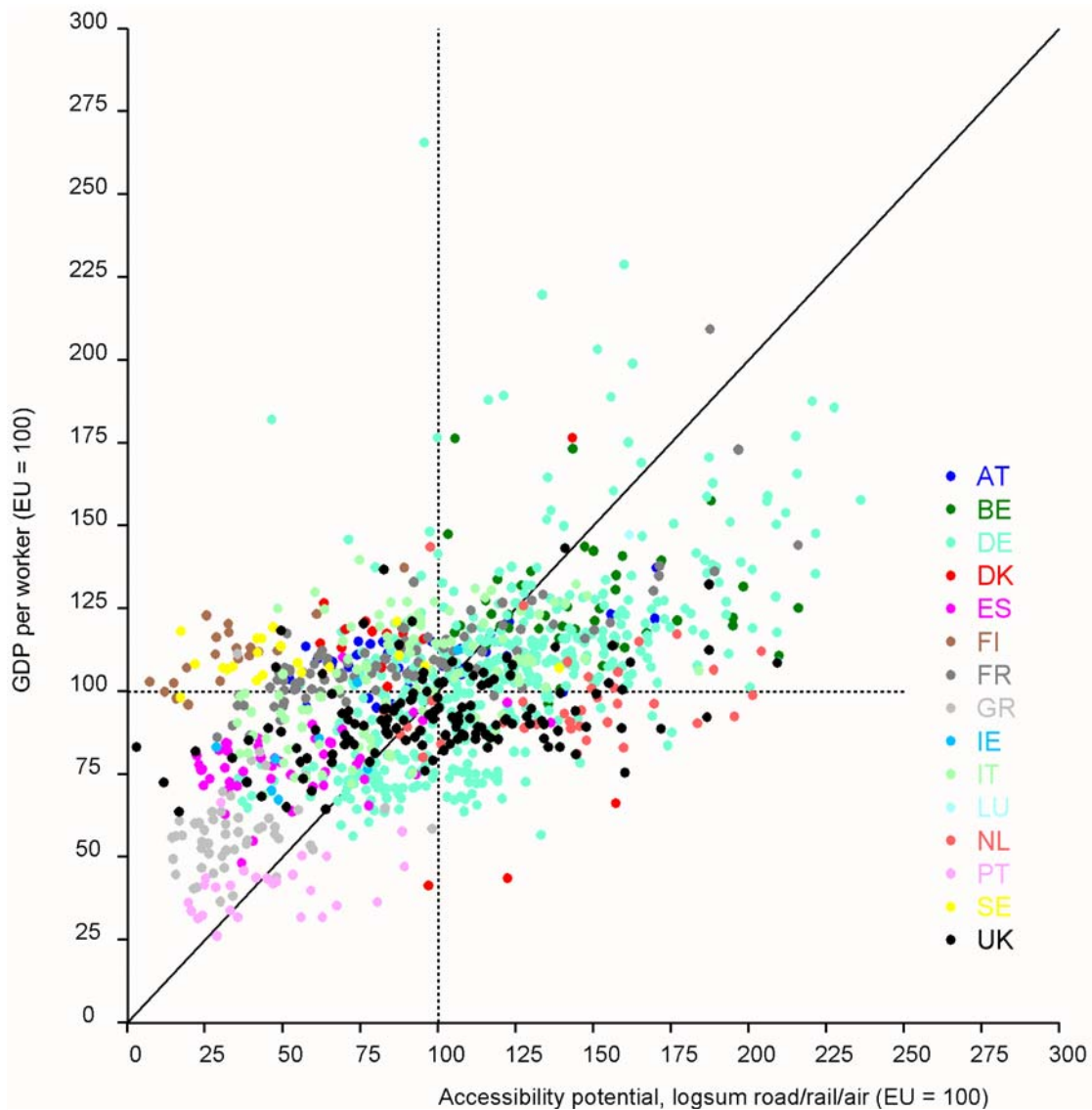


Figure A2.3: AsPIRE Baseline Peripherality Indicator v GDP per worker (NUTS 3

The relatively low correlation of the AsPIRE Baseline Peripherality Indicator with regional GDP per worker suggests that accessibility is only one of several, transport and non-transport, factors determining regional economic performance. More sophisticated, multi-variate analysis of the conventional explanations of regional economic disparities generally involving factors which vary systematically across space (SP factors) is presented in Section C of this report. However the implication of this initial analysis is that SP (as reflected in the baseline indicator), is far from adequate as an explanation of regional disparities across Europe, and thus legitimates the focus of Section B upon the role of various AsP factors.

Diagnosing AsP as a Residual

The baseline indicator and productivity data presented above allows a crude, first attempt to determine in which regions economic performance is most likely to be affected by soft “aspatial” factors. This is achieved through an analysis of the pattern of the residuals of the correlation between accessibility and economic performance. By highlighting their position in the correlation diagram, (i.e. with respect to their residual or distance from the diagonal) it is possible to identify the degree to which each European region conforms to the hypothesis that more accessible regions are economically more successful. The greater the residual, the more important (it is assumed) regional AsP factors are.

Figure 2.4 shows the AsPIRE Baseline Peripherality Indicator combined with GDP per worker. The regions are coloured according to their relative position to the diagonal in the scatter diagram of Figure 4. The following types of regions can be distinguished:

- The regions coloured in red perform economically better than their accessibility would suggest. Of these only some regions have above average accessibility. The largest number of regions in this class, are peripheral regions in Portugal, Spain, southern France, Italy, Ireland, Scotland and in the Nordic countries.
- The regions coloured in blue are economically less successful than their accessibility would suggest. This group mainly includes regions with high and very high accessibility in the centre of Europe. Many regions belong to the economic centres of Europe. Another group are regions with economic problems, among them many old industrial regions in England, northern France, Belgium, the Netherlands and Germany. In these regions, the regional economy is not able to fully utilise the enormous locational potential. The real bottlenecks for their development seem to be non-transport such as over-agglomeration diseconomies in the case of large agglomerations or an outdated economic structure in the case of old industrial cities.

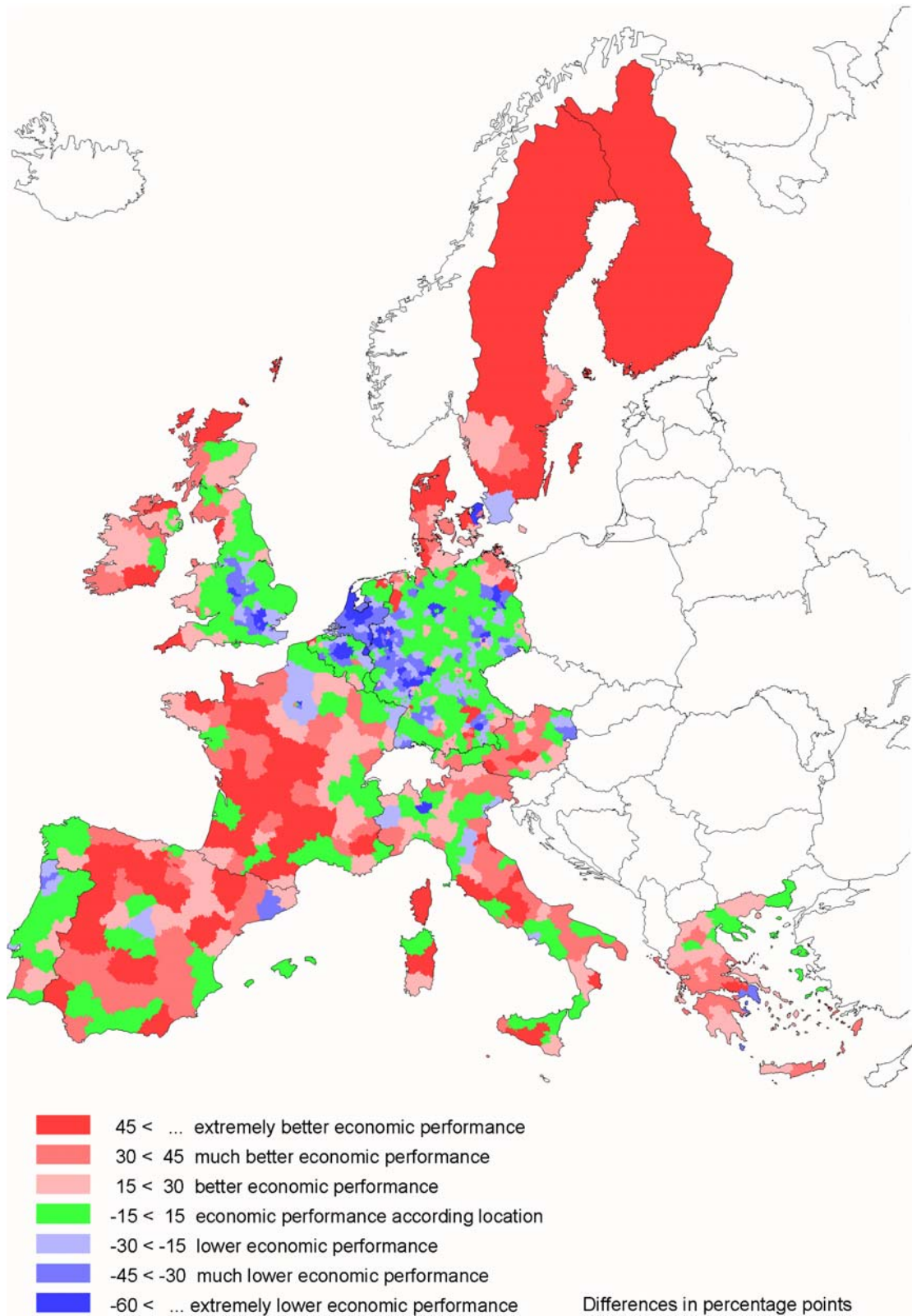


Figure 2.4: Spatial distribution of residuals of AsPIRE Baseline Peripherality Indicator

- The regions in green are located in a buffer zone along the diagonal. They conform to the hypothesis that the higher the accessibility the higher the economic performance and vice versa, i.e. their residuals are small. Such regions do not show a clear spatial pattern as they can be found anywhere in Europe.

The spatial pattern of residuals suggests in general that peripheral regions perform better in economic terms than their location would suggest. And, vice versa, that more central regions have an economic performance that is lower than their location would suggest.

- Nearly all Nordic regions perform economically clearly above expectation from peripheral location.
- Many of the Scottish and Irish regions are about expectation, however, also several regions in those areas perform below expectation.
- In France, most peripheral regions do better than their location would suggest, however, regions near the French major agglomerations do worse than expected.
- In Germany, the peripheral regions in the New Länder do much worse than their location would suggest. The regions are mostly rural regions.
- Southern Europe countries provide a very mixed picture. There are regions in Portugal, Spain, Italy, Greece, but also in Austria performing better, but at the same time, other regions in the same country performing worse or according expectation from their peripheral location.

In general, there seems to be a tendency that rural peripheral areas tend to perform better than location would suggest, whilst urban peripheral areas do worse. Whereas the former seem to have other assets that compensate for lower accessibility, the latter that mostly do not belong to the extremely peripheral areas and in most cases do have good air connections, cannot transfer this in an appropriate economic performance. Exceptions from this observation are the rural peripheral regions in the New German Länder and the agglomerations in the Nordic countries.

A Simple Regional AsP Typology

These results seem to confirm the basic hypothesis of the AsPIRE project; that there are regions that appear to be performing relatively well despite a peripheral location and other regions that seem to be under-performing in relation to their location. The deviation from the expected performance is assumed to be due to the various soft factors which we have collectively denominated “AsP”.

Figure 2.5 is a diagrammatic representation of the AsP concept. The diagonal line represents the level of economic performance which on the assumption of a simple inverse relationship with distance from the economic core regions. The red shaded area represents a relatively peripheral region which, due to various local soft (AsP) characteristics, performs better than might be expected. Within the context of the AsPIRE project these have generally been referred to as “Type A Regions”. The blue shaded area represents a relatively accessible region in which local “soft factors” cause under-performance. These have been termed “Type B Regions”.

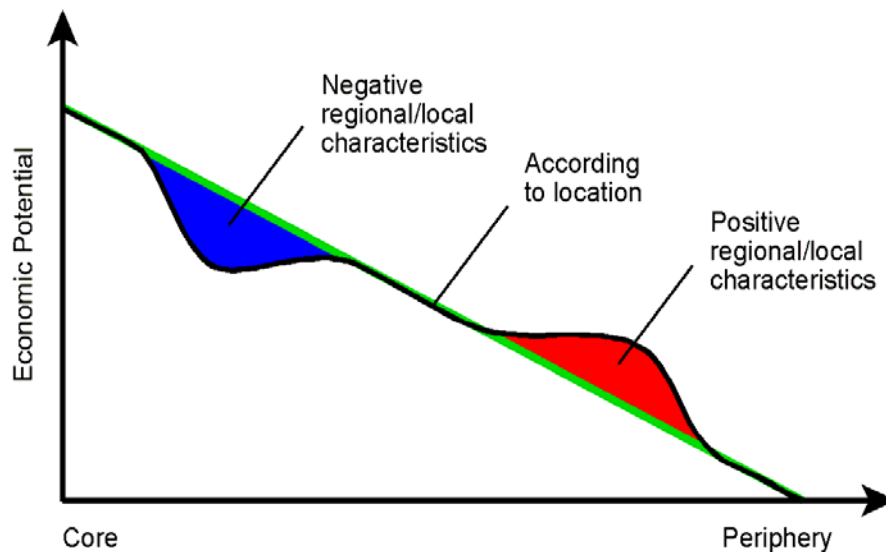


Figure 2.5: Deviations from Expected Regional Economic Performance: A and B Regions

The Increasing Importance of AsP

The two decades which have passed since Keeble produced his first maps of European peripherality have seen a number of changes in the economic environment, some long standing and gradual, others more recent and rapid, some in response to market and technological conditions, others at least partly driven by policy interventions. As argued in the Introduction above, changes in the geographic constraints to many economic activities, and especially the key growth sectors, will increasingly mean that the economic potential of all regions (including those on the “periphery” in spatial terms) are less closely related to location, and increasingly influenced by a variety of “aspatial” characteristics. Many of these are of long-standing importance, but with the gradual reduction in the constraints associated with conventional spatial peripherality their impact will be more clearly seen.

Three developments are particularly relevant to defining concepts of peripherality:

(a) Improvements in transport and communications infrastructure, both through ongoing technological change and through publicly funded improvements in infrastructure (including the Trans European Network (TENs) programme).

(b) Structural changes, notably the continued expansion of the service sector and light manufacturing together with the decline of heavy manufacturing and primary production.

(c) The recent rapid technological change in the field of information society technology (IST) and the rapid growth of E-Commerce

The first two of these have reduced both the absolute cost of remoteness, and the overall importance of distance/travel time costs in relation to other locational considerations. Even in the case of many of the manufacturing industries which are traditionally sensitive to transport costs, infrastructural improvements have reduced their relative role in locational decision making. Transport costs now account for a relatively small percentage of production costs in most modern industries (Vickerman 1991a, PIEDA 1997). Furthermore, there is little or no evidence that transport costs

account for a larger proportion of the value of output in remoter areas (PIEDA 1984, 1997, Chisholm 1987).

However, upgraded transport and communications may, in certain circumstances, have perverse “pump” effects, whereby the removal of the “natural protection” of poor accessibility results in economic activity being siphoned away from the periphery to more accessible areas enjoying various agglomerative advantages (EU Commission 1999, McKinnon 1992, Bachtelor 1996).

The rise of IST and E-Commerce is, for many economic activities anticipated to render location (relative to the “core”) less crucial. In contrast to the incremental shifts resulting from conventional infrastructure improvements, this is seen by many as a radical change, a change in kind rather than degree. The Committee of the Regions, for instance, stressed the importance of these developments in its response to the ESDP; “Advances in communications technologies will ... bring major changes in the siting and nature of economic activity... The ESDP rightly sees ICT as a means of overcoming the adverse impact of geographical remoteness on business start-ups.” (COR 1998) The Conference of Peripheral and Maritime Regions (CPMR) has also noted the opportunities presented by these changes; “The advent of information highways is one of the aspects that has raised greatest hopes in the peripheries. The entry into the century of the immaterial would at last make it possible to do away with disparities linked to geographic distance....” (CPMR 1997) This optimism is, however, quickly qualified by concerns regarding ubiquity of access to the new technology.

Both the limited explanatory power of conventional (spatial) indicators, and the observed economic trends noted above point to the need for a new, broader, more inclusive concept of peripherality, taking account of aspects which, although they do not vary systematically across space (ie they are aspatial), nevertheless have the same effect as (conventional) peripherality.

Viewed in a positive light, some of these aspatial characteristics can provide a viable alternative to the agglomerative advantages which have until now formed the attraction of core areas. Others are associated with links to, and information flows from, global markets and centres of economic activity. These issues should therefore still be discussed within the context of “peripherality”, although because they do not vary systematically across space they are essentially “aspatial”. It therefore seems

appropriate to refer collectively to these constraints under the term “aspatial peripherality” (AsP).

The elements of AsP

The concept of aspatial peripherality is best described by disaggregating it into a number of elements (Figure 2.6). Each of these is already the subject of a separate body of research and academic literature. However a holistic approach is helpful here, stressing the relationships between them and placing them within the context of the wider ongoing changes in the economic environment.

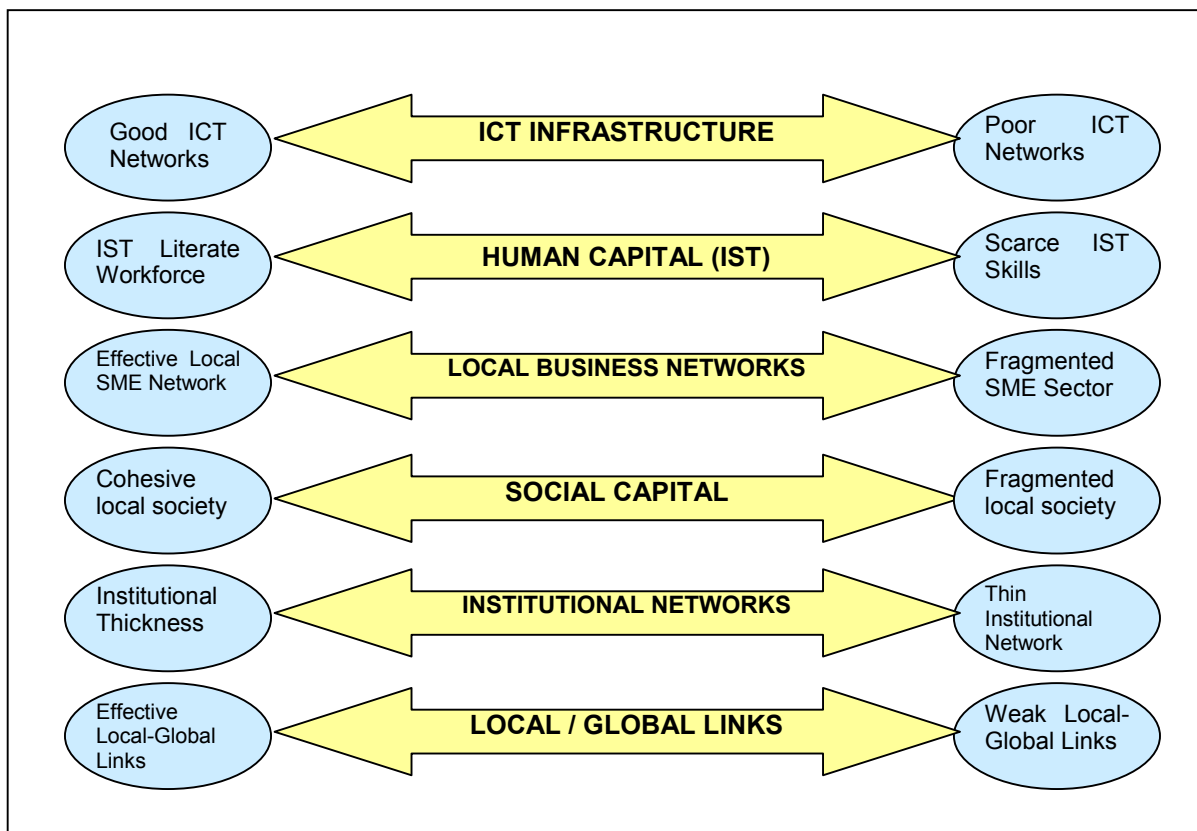


Figure 2.6: Key Elements of Aspatial Peripherality

Such an approach clearly has much in common with that of several (overlapping) existing schools of literature, relating to “industrial districts”, “learning regions”, “milieux innovateur” and “innovation systems”. A discussion of these approaches may be found in this project’s “Integrated Conceptual Framework” document (Copus 2002).

Within the context of the AsPIRE project five of the elements shown in Figure 7 have formed the basis for four thematic work packages;

- (a) IST (including consideration of related human capital),
- (b) Business Networks,
- (c) Social Capital, and
- (d) Governance.

Each of these will be the subject of a more thorough conceptual discussion, supported by the findings of the case study work, in Section B. Each of them are carried through into the Best Practice and Policy Analysis discussions (Section D), and are reflected in the Web-based toolkit for regional diagnosis of AsP (Section C).

Quality of the local IT infrastructure and Related Human Capital

Information and communications technology, and the development of ecommerce has been widely hailed as a means of levelling the playing field of rural/peripheral economic development (see section 1b above). However the review of the literature carried out by Partner 3 NUIGALWAY (see section B1), has shown that the reality is rather more complex. It seems that at present the benefits of Information Society Technology (IST) are more potential than real. There are a range of reasons for this:

- (a) Issues relating to physical infrastructure, both technical (distance decay in ADSL), and economic (the lack of a critical mass of subscribers in rural and peripheral areas, which makes them unattractive to broadband providers).
- (b) A lack of human capacity to develop the radically new business models to exploit the potential of IST.
- (c) Inadequate development of associated business services
- (d) Inadequate policy support

Despite Grimes' justifiable pessimism regarding IST as a sole panacea for the economic development problems of the periphery, it is nevertheless fair to say that a better understanding of the above four aspects of regional IST environments will enable us to discriminate between regions which are likely to be better able to compete, perhaps within particular niche markets, or with an emphasis on quality, or other specific product attributes.

Quality of Local Business Networks

The importance of effective local business networks is highlighted by the literature on regional competitiveness (Porter 1990) and “flexible specialisation”, (Piore and Sable 1984), and on the determinants of local variations in innovation and entrepreneurship (Asheim 1999). These networks are the medium for both business transactions and less tangible “untraded interdependencies” (Storper 1995). Such networks seem to provide an alternative to more conventional agglomerative economies as a stimulus to local development.

Goudis and Skuras (2001), after reviewing the considerable literature on business networks, propose a typology based on the following “dimensions”:

- Network content (what flows through the network; products or services, capital, information/knowledge, or employment).
- Spatial characterisation (patterns of “nodes” and links; vertical/horizontal networks.)
- Network length/size
- Type of links (formal/informal etc)
- Network strength (ie the degree to which the network is a vital or less important aspect of its members business activity).

As regards the benefits of networking, Goudis and Skuras found that the evidence on the relationship between networking and business performance is ambiguous, although it is generally assumed that the relationship is a positive one. Furthermore they developed a series of hypotheses relating to the role of various kinds of business networks in economic development in peripheral areas (see Section B, Chapter 2)

Quality of Social Capital

Commins defines social capital in his review of the literature (Commins and Meredith 2001) as follows:

“... the social capital of a society or community is represented by the nature and extent of its personal networks and institutional relationships, together with the shared values and understandings that facilitate cooperative behaviour and support collective endeavours. The argument is that, other things being equal, societies and communities with higher endowments of social capital will be wealthier, more informed, better governed, and less marked by conflict than those with lower stocks of social capital....”

The ways in which social capital is formed or eroded are at present imperfectly understood, although it is generally accepted that it can strengthen other forms of capital (physical, financial, human etc).

Commins explains the role of social capital in relation to AsP as follows:

“In the AsPIRE project, social capital is introduced in the expectation that it has a contribution to make to economic development and governance. The general proposition is that various forms of collaborative networking – in businesses, civic associations and public agencies – create effective synergies among different interests involved in the economic development of the selected study areas. These manifestations of collective endeavour, it is hypothesised, are important elements in helping to reduce the disadvantages of spatial peripherality.”

Within the context of the AsPIRE project, social capital is viewed as a structural feature (rather than a process or an outcome). This allows evidence of this typically intangible issue to be more easily identified in the empirical phase.

Governance (local institutional structures, networks and processes)

As Lakso and Kahila point out in their review of the literature, (Lakso and Kahila 2001) governance is a focus of a great deal of research activity across a number of disciplines at present. Perhaps because of this it is a term with a rather elastic definition. However, they explain that Governance is a somewhat broader term than “Government”, relating to the network of public, private and third sector actors, and involving structures, activities/interactions and policy outcomes.

For the purpose of identifying focusing the governance theme in relation to the study of AsP, Lakso and Kahila divide it into three sub-themes:

- a) Structures
- b) Processes
- c) Policy Incentives

The first of these is concerned with the way in which institutional structures within a region may enhance or hinder its development potential. They are the aspect of governance which is both most tangible and the most characterised by inertia. The actors within the governance system are characterised by different degrees and types of power (systemic, command, coalition and pre-emptive, Ibid P16), and different degrees of autonomy.

In the second element of governance (process) the focus is not upon what is done (in terms of development policy) but upon how it is done. The concern is with the effectiveness with which all the actors (including the private and third sector) work together to achieve development goals. It is concerned with the nature, quantity and quality of those interactions.

The final element of the governance system relates to forms of intervention or support carried out by the various actors and agencies. Such policies may be formulated at an EU, national or local government level, or be truly “bottom up” community initiatives. Although financial assistance continues to play an important role, incentives are increasingly concerned with “softer” issues, such as human and social capital.

Conclusions

This chapter has presented the conceptual background to the AsPIRE project. It has sought to show that conventional views of the peripherality issue centre upon distance costs and absence of agglomerative advantages as driving forces, upon which a number of forms of disadvantage are contingent, or are associated. These ideas have been formalised into a family of geographical models based upon the concept of “bid rent” and a group of economic theories sometimes described as “high development economics”, and more recently the “New Economic Geography”.

Moving from a conceptual into an empirical environment, the main types of peripherality indicators have been described, and the AsPIRE baseline indicator presented. The latter has shown that although there is a statistically significant inverse relationship between levels of peripherality and economic performance (measured in GDP per worker), there remains a substantial amount of unexplained variation in performance among peripheral regions. It is proposed that this variation may be explained, at least in part, by reference to soft and aspatial characteristics, collectively termed AsP. The chapter concludes by describing the main elements of AsP, and introducing the four themes which underlay the AsPIRE project.

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CHAPTER 3:
CASE STUDY AREA CONTEXT AND DATA COLLECTION ARRANGEMENTS

Marsaili MacLeod and Andrew Copus
Scottish Agricultural College

Rationale for Case Study Area Selection

The choice of case study areas was necessarily addressed very early in the project timetable (at the first co-ordination meeting), in order to allow work on the Case Study Area Profiles (D10) to proceed. The criteria for selection were simple; they should approximate to NUTS 3, and within each member state one region should be perceived as Type A (peripheral but relatively dynamic), and one region should be perceived as Type B (accessible but lagging). Although all partners were able to select regions on this basis after some discussion, both the criteria proved problematic as the project progressed.

The first criterion was derived from the need to be able to extract standard statistical data for the Case Study Area profile. However, the variation between member states in the size and (urban-rural) configuration of NUTS 3 regions created problems of comparability when the project reached the stage of primary data collection. To some extent this issue was addressed by focussing upon sub-regions within NUTS 3 regions (as was the case in Ireland Spain and Finland, and in one of the Scottish regions).

The second criteria proved more problematic when it was appreciated that partner's subjective perception of "dynamic" and "lagging", and even of "peripheral" and "accessible", were not in all cases supported by key secondary indicators. Generally speaking once the case study areas were selected, and time and effort had been invested in case study area profiles, it was necessary to assume that the research partner's perceptions were more reliable than the secondary data, and the case study regions were not changed. However it is probably fair to say that one of the lessons learned during the case study phase of the project was that comparative analysis might have been more conclusive if all the case study regions had been peripheral, (one lagging, one dynamic in each member state). In effect this would have reduced the number of interacting independent variables, and rendered interpretation of results more straightforward.

The twelve case study regions are shown in Figure 3.1.



Figure 3.1: The AsPIRE Case Study Regions

Pen Pictures of the Case Study Regions

Shetland Islands, Scotland (A)

In terms of straight-line distances Shetland is 1,000 kilometres from London, and lies on a latitude of 61° north. It's climate is heavily influenced by the North Atlantic Drift, characterised by persistent winds, cold winters and milder summers. With a total land area of a little over 1247 km², Shetland has a population of 22,700. In recent years the island has been distinguished by positive population trends overall, accompanied by centripetal migration pattern from the outer isles into the "mainland" and the main town of Lerwick (7,280 inhabitants).

The daily ferry service from Lerwick to Aberdeen has a passage time of 12.5 hours. The island is served by daily flights to Aberdeen, Edinburgh, Glasgow, Inverness and Wick. Economically, Shetland is outperforming both similarly peripheral regions in Scotland, and central regions. It has a consistently high GDP per capita, and has one of the lowest unemployment levels in Scotland. Historically, the region was dominated by a dual economy of agriculture and fishing. During the 1970's, however, the sectoral employment balance was modified by the construction of the oil terminal at Sullom Voe. The North Sea oil industry, comprising offshore oil and gas fields, oil terminal activity and associated service industries, now accounts for a small, yet key component, of the Shetland economy. That aside, two of the major growth industries in the last two decades have been niche tourism and aquaculture, principally marine salmon production. The viability of the later has, however, been threatened in recent months.

In historical terms Shetland has closer links to Norway, Sweden and Denmark than it does to either London or Edinburgh. This heritage lives on in the local dialect and in political terms through the islander's coolness towards devolution and nationalism. Shetland has benefited from a greater degree of stability in terms of local government than any other part of Scotland, retaining an autonomous Island Council through reforms in both the late 1970's and early 1990s. The Council has been strengthened in terms of its economic development role through the availability revenues of local taxes upon oil passing through Sullom Voe terminal. It is certain that the area's political and economic historical legacy has contributed to the areas entrepreneurial nature and the ownership of "a very coherent community voice in dealing with the outside world, whether HIE, Scotland, UK or Brussels".

East Ayrshire (Cumnock and Doon Valley), Scotland (B)

The centre of the East Ayrshire area is approximately 40 kilometres from the city of Glasgow, 80 kilometres from Edinburgh, and about 500 kilometres from London. East Ayrshire is relatively accessible to the “Central Belt” of Scotland via the A77, a major trunk road Connecting Ayr and Glasgow, and the A70/A71 and M74. It also has a rail connection, with stations at the main settlements of Cumnock in the South and Kilmarnock in the North offering a relatively fast service into Glasgow.

The total population of East Ayrshire is approximately 125,000, and the average population density is a little under 100 persons per km². The predominantly rural Cumnock and Doon Valley, which is the selected sub-regional focus for AsPIRE, is less populated than the northern part of East Ayrshire, at only 48 persons per km². The former tends to have an older age structure, as a result of the decline of its heavy industrial economic base and sustained out-migration of economically active age groups, whilst the northern area has a more balance age structure associated with the development of more modern industries.

The heavy industries (coal mining, iron and steel and textiles), which were the dominant economic sectors in East Ayrshire’s recent history, have passed through decades of decline. Iron and steel making died out in the first half of the last century, the last coal mine closed in the mid-1970s. All that is left of the textile industry is a few “niche market” specialist companies, associated engineering activities, and some tourism related craft producers. The manufacturing sector, although reduced by 22 percent between 1995 and 1999, still accounts for a fifth of all jobs in East Ayrshire. Although there has been a growth in new economy industries in the northern part of East Ayrshire around Kilmarnock, the Cumnock and Doon Valley area has failed to attract new investment and its business environment displays low levels of innovation.

The long decline in coal mining after the 1950s led to high unemployment. Former mining settlements were replaced with larger developments of public housing, which have in turn become the socially and economically deprived areas of the new century, with low levels of civic activity. The area remains characterised by persistently high unemployment and below average earnings. Regional economic performance reflects these trends, for it has one of the lowest levels of GDP per capita in Scotland.

Keski-Soumi, Finland (A)

Keski-Suomi is located in the middle part of Finland approximately 300 kilometres from the capital of Helsinki. It has a total population of 264,000 inhabitants, though approximately half the population is concentrated in regional centre of Jyväskylä. The regions accessibility to the national capital region is moderate – by road and rail it is some 3.5 hours, and by air 50 minutes. However, products for export have to travel some 200 kilometres to the main ports on the Finnish coast.

Large-scale forestry dominates the rural landscape. This resource is the origin of two important industrial towns in the region, Jämsä and Äänekoski, which have significant clusters of modern wood processing industries. The remaining area is characterised by relatively small communities, rural settlements and sparse population. The attractiveness of its natural environment – its pure lakes, large forest areas and varied hills – means Keski-Suomi has a positive image for attracting residents and visitors alike.

Keski-Suomi's regional economy has traditionally been based on chemical (papermaking) and associated machinery-manufacturing industries for the export market. The latter part of the 1990s has witnessed, however, a new period of economic growth in Keski-Suomi, in electronics and telecommunications, services and energy and environment technology-related sectors. The public sector is also a significant employer, relative to the national average, due to the presence of a multidisciplinary University in the town of Jyväskylä.

Associated with this trend has been population growth due to an influx of students and skilled migrants, concentrated in the Jyväskylä sub-region. The central town itself has developed special expertise in paper manufacturing and machinery, as well as energy production and environmental, information and welfare technology. As such, Jyväskylä is identified as one of the growth centres in Finland. This success contrasts, however, with the more rural northern-most part of the region, which continues to suffer from structural problems in the primary and manufacturing sectors.

Satakunta, Finland (B)

Satakunta is located on the west coast of Finland approximately 240 kilometres from the capital of Helsinki. There are 28 municipalities and five sub-regions in the region which has a population density of 28.1 persons per km². Half of the total population of 237,000 is concentrated in the towns of Pori, the regional centre, and Rauma. The population of Satakunta has been steadily decreasing during the past decade, against the national trend of population growth. The region has a well-established cultural tradition as one of the oldest historical provinces in Finland.

Satakunta's regional economy is based on traditional heavy, capital intensive industries of energy production, metal and machinery manufacturing, agriculture and forestry. This large-scale industry has also promoted the growth of small machinery plants and associated service support industries. Although traditionally conceived as a significant industrial region - Satakunta has 4.7 percent of the nation's total population, but approximately 8 percent of its industrial production – the economic structure is changing. Manufacturing and primary production employment is decreasing, and employment in telecommunications, computing and other business services is increasing.

Satakunta is viewed as a key infrastructure corridor in Finland; the entire region is located near to the sea, in close proximity to well developed ports, and travel time by car to the capital is approximately 2 hours and 15 minutes. On the other hand, the fastest travel time to Brussels is approximately 5 hours and 45 minutes by air. Despite relatively good national accessibility, Satakunta's economic performance is average. It suffers from high unemployment, particularly in the centre town of Pori, and the traditional large-scale metal industry and primary production sectors are no longer drivers of the regional economy. Rural areas within the region are suffering from population decline, and the region has low levels of immigration.

There is a range of education providers in Satakunta, for instance, multidisciplinary regional polytechnics and the sub-units of Technology University of Tampere and University of Turku. However, the region doesn't have its own multi-faculty university, a feature that seems to be one of the key factors behind contemporary regional development success in Finland.

L'Alcoià, Spain (A)

L'Alcoià is located in the south-central inland part of the NUTS II region of Comunidad Valenciana (CV). With a total land area 5397 km², L'Alcoià has a population of 104,601. It has two main urban centres, Alcoi (60,476 inhabitants) and Ibi (21.180 inhabitants), which are also the most important industrial locations. Despite traditionally poor communication infrastructures and a lack of energy and raw materials, this region is one of the earliest industrial areas in CV. As early as the middle of the 18th century, the population engaged in manufacturing overweighed the population engaged in agriculture, partly due to the difficult conditions imposed on the latter by the mountainous terrain and narrow valleys of the area.

The current industrial activity of l'Alcoià, developed from the above-mentioned manufacturing/craft tradition, focuses on the production of home-textiles, toys and plastic objects, and to a lesser extent, metallic industries, machinery and transport material. Although quite diverse, the vast majority of manufacturing activities is labour intensive and with little sophisticated technology.

On the other hand, despite being one of the most dynamic areas in CV, l'Alcoià has always suffered from poor communication infrastructures. During recent years accessibility has improved dramatically, but still Alcoi and Ibi find themselves among the very few centres in CV with more than 20,000 inhabitants that are not connected through dual carriageway/motorway to other regional centres. Thus, the reason for the dynamic performance of the area lies, according to many authors, in the entrepreneurial behaviour of the population and the commercial and manufacturing tradition that has consolidated and modernised until today.

The regional government is aware of the importance of modernisation and the need to introduce new economic sectors, including services. Strengthening the service sector depends mainly on the role that the medium-sized centre of Alcoi could play in relation with the rest of l'Alcoià and the surrounding area.

El Camp de Morvedre, Spain (B)

El Camp de Morvedre covers a flat, coastal area of 271,1 km² and is home to 73,366 inhabitants. Its most important centre, Sagunt (56,836 inhabitants), is located on the coast just 26 kilometres north of Valencia city (capital of the NUTS II region of Comunidad Valenciana). Outwith Sagunt, the region is predominantly agrarian with dispersed settlements of less than 3,000 inhabitants.

Accessibility from the region to the main Spanish economic centres is very high, through motorway and speed train connections to Valencia, and from there, rapid connections to Madrid and Barcelona by air, motorway and speed train, and consequently with all main European cities. In addition it has a harbour which has specialist and complementary tasks to the large harbour in nearby Valencia.

Prior to the 20th century El Camp de Morvedre was an agrarian region. In the early 1900s, the exportation of iron from the mines of Ojos Negros (Teruel), and the subsequent emergence of the iron and steel industry generated the sudden growth of Sagunt and transformed the economic and demographic profile of the region as a result. However, during the first half of the 1980s the iron and steel industry collapsed, and as by far the most important employer in the area, it had a significant affect on the social and economic welfare of the region. Despite public strategies to encourage inward investment, the employment gap which emerged after the severe restructuring of the iron and steel industry, is still to be filled.

Today, Sagunt itself can be considered a regional service centre. Nearly all service sector activities, including branch offices and local offices of regional and central administrations, are concentrated in the town. The development of the service sector in Sagunt has, however, been largely inhibited by the proximity of the Metropolitan Area of Valencia (MAV).

The level of performance of el Camp de Morvedre does not reach the threshold one would expect according to the advantages offered by its location and accessibility conditions. Cheap industrial land, good transport and communication infrastructures, a coastal location in CV, a significant historic and cultural heritage, and a favourable climate are all attractive to potential firms. The region is typified by above average unemployment levels and low household income relative to other rural regions in Spain.

Rottal-Inn, Germany (A)

The county of Rottal-Inn covers an area of 1,281 km² and is situated on the Austrian border in South-eastern Germany. It is part of the state of Bavaria, whose capital Munich is at a distance of approximately 90 minutes car travel time. The *settlement structure* of Rottal-Inn is marked by a total of 2,600 small rural settlements and villages evenly spread over the country's area. Rottal-Inn is therefore known as one of the rural German counties with the most scattered settlement structure.

Its largest towns of about 11,000 inhabitants each are Eggenfelden, Simbach am Inn and Pfarrkirchen, the county's administrative centre. Due to the dispersed settlement structure, Rottal-Inn is characterised by a very dense network of public roads as well as a very high motorisation rate. The county today has a population of 117,000 inhabitants. Its population density of 91 inhabitants per km² is one of the lowest in Bavaria. However, within the last decades the county has experienced a continuous population growth. The number of inhabitants increased from 101,000 in 1960 to 117,000 in 2000. The majority of the study area's population is Catholic, which is also reflected at the political level: the Christian Social Union (CSU) party has held majorities of 60-80 percent over the last 20 years.

With regard to history, Rottal-Inn has for centuries been a farming area. Besides agriculture, which even today plays an important role for the regional economy, the industrial structure of the county is marked by a large number of manufacturing SMEs. Further, the discovery of hot springs in the early 1970s offered the opportunity to establish a new economic branch: the health and spa tourism.

During the last decades, Rottal-Inn has evolved to be one of the most economically successful rural counties in Germany. Despite of its peripheral location at the German-Austrian border and its scarce population density, Rottal-Inn experienced remarkable increases in GDP and occupation during the 1980s and 1990s. In parallel, a constant in-migration and population growth took place (1980-1998: +16.5%). The growth of Rottal-Inn's economy is mainly based on the rapid expansion of the service sector, among them the tourism sector, and relatively small losses in the industrial branches.

Bitburg-Prüm, Germany (B)

The county of Bitburg-Prüm covers an area of 1,627 square kilometres and is located in the west German state of Rhineland-Palatine. The county directly borders Luxembourg and Belgium, but despite its status as a 'border region' it is well positioned: the two nearest agglomerations are within 45 minutes car travel time and the large conurbations along the Rhine river can also be reached within about 90 minutes. The county's largest towns are Bitburg (13,000 inhabitants) and Prüm (6,000 inhabitants) followed by more than 200 little towns and villages.

The landscape of the county is characterised by rugged mountains of up to 700 metres in the north and hilly plains in the south. One third of the county is covered by forests. Steep river valleys cut through the area and (just outside of the county) lead into the picturesque river valley of the Moselle, which is a famous wine-growing region. Bitburg-Prüm today has a population of 96,000 inhabitants. Its population density of 59 inhabitants km² is one of the lowest in west Germany and just above one quarter of the national average. For most of the 19th and 20th century Bitburg-Prüm experienced severe population losses. Only in the 1990s there has been a modest population increase of 5 percent.

Bitburg-Prüm's economy has only recently been improving. For most of the 19th and 20th century the economy of this mountain region was notoriously weak. Therefore the Bitburg-Prüm area has been receiving support from various regional, national and European funding programmes for lagging regions since the end of the 19th century. In the last 20 years agriculture and forestry industries have contracted massively, whilst manufacturing has remained fairly stable. In the 1990s the county's economy, especially its tourism industry, finally expanded. Therefore, in the year 2000 Bitburg-Prüm did not qualify as a seriously lagging region for the first time, which will result in a withdrawal of public funding support. Nevertheless, the region's economy is still at a low level, as its GDP per capita of only 72 per cent of the national average indicates.

Bitburg-Prüm's location is much less peripheral than most other rural areas of Germany. Hence, the county's low economic performance cannot be entirely explained by locational disadvantage.

Evrytania, Greece (A)

The prefecture of Evrytania is part of the Central Greece region, located between 280-320 kilometres northwest of the capital of Athens. Its land area of 1870 km² (1.4% of Greece) is all classified as mountainous, and the region is endowed with excellent natural resources, specifically natural forestry. Almost 25 percent of the areas total population of 32,026 live in the capital town of Karpenisi, while the remainder of the population is dispersed through six large villages and 75 small villages.

Accessibility from the region to Greece's large urban centers is low. It is 4.12 hours from Karpenisi to the capital of Athens, and 4.50 hours from the city of Patras, due to moderate road links, a lack of modern high-speed highways in addition to poor public transport availability. Moreover, even today some villages in Evrytania cannot be accessed by car due to an absence of road infrastructure.

Over the last decade significant economic reform has occurred in this region. Although the areas GDP is below the national average, the actual development of GDP over time reveals a high growth rate. Prior to this period of growth, the region was characterized by high rates of unemployment, labour out-migration and a population decline in the younger age cohorts. In the last decade, development efforts have begun to reverse these migration trends. There has been a gradual development of activities linked to the region's natural resources and other activities related to tourism, such as the successful development of Karpenisi ski-center. The primary sector accounts for 22 percent of all employment, but the majority of employment is in the tertiary sector. Since 1988, there has been a significant restructuring in this sector as the number of tourists to the region has increased, and tourism related enterprises (including agro-tourism) have multiplied.

As far as institutional structures are concerned, Evrytania has benefited from the work of a Development Agency (Evrytania SA), which prior to the launch of LEADER, had already accumulated experience of administering local development projects.

Kalavryta, Greece (B)

Kalavryta is a sub-region, located in the Southeast part of the prefecture of Achaia, in Peloponnesse (a NUTS III region). Kalavryta covers mainly mountainous and sub-mountainous areas. The region is a short distance from important urban centers (Patras and Aigio) within Achaia, and only 89 kilometres from Patras and 190 kilometres from the capital city, Athens. In terms of travel-time, this involves a two-hour train journey to the former, and a three-hour car journey to the latter. A significant proportion of the total population of 187,500 live in the towns of Kalyvryta and Kleitoria while the remainder of the population is dispersed across small villages in the area.

Traditionally, the population of the region was engaged in agriculture, animal breeding, and fishing production. In the last decade, efforts to develop and diversify the economic base of the area have been made in an attempt to reverse the out-migration trend of the region. Key developments include the redistribution and irrigation of land around the Vouraiiko River, and the development of tourism attractions based on natural resources, such as a ski-centre and underground cave exploration attraction. The tourism industry is based on domestic, short-stay trips, from the neighboring large urban centres.

The GDP is, however, significantly below the national average. A decline in the manufacturing sector, and a shrinking agricultural labour force, have caused high levels of unemployment. In the European context, the region has Objective 1 status.

Midwest (Co. Clare), Ireland (A)

The Midwest NUTS III region is located on the west coast of Ireland, and the western periphery of Europe. Encompassing the estuary of the River Shannon, the Midwest has a long coastline with relatively fertile lands in the South and East. Composed of three counties, the region accounts for approximately 12 percent of Ireland's landmass and has a total population of 317,069. For the purposes of the AsPIRE project, a sub-regional focus on County Clare has been adopted.

The Midwest is a relatively diverse entity, encompassing areas of strong urban growth particularly Limerick City (79,000) and the Co. Clare town of Ennis (14,000). However the region also contains rural areas with significant population loss and decline, such as the west Clare seaboard and parts of west Limerick. Though the region is mainly rural, in recent years it has had a continued decline in agricultural employment. Industry has shown considerable growth, with an equivalent increase in services employment, which is forecasted to grow by 15% from 2000 to 2006, representing the strongest performer in job creation.

In common with the national economy the region has enjoyed a recent period of sustained high economic growth. This is reflected in the dramatic fall in unemployment, from a level of 14% in the early 1990's. Agriculture/agri-business, tourism and manufacturing /internationally traded services are the main components of the productive sector in the region. As employment has declined in the agricultural sector so employment has increased in the manufacturing and internationally traded sector which is primarily export orientated.

Growth in this sector has been driven by a strong flow of foreign direct investment mainly sourced in the USA. The region has a long history of attracting Foreign Investment originally associated with Shannon International Airport. The airport has little real significance in terms of inter-regional travel or Ennis – Dublin interaction, as its primary role is as an international stopover point. Laterally, the local development strategy has been to successfully target visitor tourist traffic. The development of Shannon Free Zone as the world's first duty free Industrial location, targeting industries that would use the Airport to move both people and freight is a second important feature of the regional strategy. Both these strategies have been highly successful and continue to have a major impact on the regions economy.

South East (Co. Wexford), Ireland (B)

Composed of counties Wexford (the selected sub-region for AsPIRE), Waterford, Carlow, Kilkenny and Tipperary South Riding, the Southeast region accounts for 12 percent of Ireland's landmass and is located in on the Southeastern seaboard. The Southeast has a population of 391,517 persons, 10.8 percent of Ireland's total and a lower than average population density of 41 persons per km². The region experienced continuous population decline between 1841 – 1961. Since 1961 its population has increased by 22 percent, an increase that is directly comparable with the Midwest.

The population is widely dispersed in a number of relatively autonomous urban centres. Waterford City is the region's administrative capital with a population of 42,540. There are four additional towns with populations greater than 10,000 persons of which Kilkenny Town, Co. Kilkenny is the largest, with a population of 17,726. The two largest agglomerations in Ireland, Dublin, and Cork can be reached by road in approximately 180 and 120 minutes respectively.

The Southeast region is characterised by a low-lying, fertile undulating landscape that is bisected by three relatively large rivers. Mountainous areas to the north and west form natural boundaries with the surrounding regions. This combination of mountains and rivers makes intra and inter-regional transport and communications somewhat difficult, as there are a limited number of primary access routes. Notwithstanding this, local commentators suggest that a pattern of long range commuting has developed in recent years, with those involved in particular economic activities, e.g. construction, travelling to Dublin and Cork on a daily basis indicating that there is a 'backwash' process in effect.

The region's economy was based on agriculture and to a lesser extent, fishing. Restructuring of the Common Agricultural Policy and increasing global competition have led to a decline in farm viability that has exposed the region's overdependence on a single sector of the economy. This economic trend has not been fully mitigated by development of manufacturing and service activities or the growth of the tourist industry. From an industrial economy perspective the Southeast, with good sea access to the continental and UK markets, and good international transportation links, has largely failed to capitalise in its strategic geographic position.

Data Collection Plan

An Integrated Data Collection Scheme (D17) was devised to allow data to be collected relating to the hypotheses generated by each of the six Conceptual Papers (D1-6) and also to support the work by Partner 4 (UVEG) on Best Practice and Policy Evaluation, in a co-ordinated and comparable way in all twelve Case Study Areas. It provides full details of specific objectives, sampling procedures, implementation style and basic analysis for the project's five major data collection instruments:

- (i) A telephone survey of managers of businesses within the case study areas.
- (ii) A face to face survey of the managers of businesses within the case study areas (known as the "Business Survey".)
- (iii) A postal survey of a sub-sample of firms to collect quantitative data on the geography of business linkages (known as the "Spatial Tracking Survey").
- (iv) A set of structured interviews with key staff in development agencies, local government, and third sector organisations within the study areas, (known as the "Institutional Interviews").
- (v) A survey of tourism consumers and "intermediaries".

The Process of development of the questionnaires and interview structures was as follows:

Each thematic leader (IST, Business Networks, Governance, Social Capital, and Tourism) submitted proposals (in the form of draft questions) for inclusion in one or more of these survey instruments.

Two of these instruments relate to a single theme; the telephone survey relates to the IST theme only, whilst the fifth instrument obviously relates only to tourism. These were therefore the sole responsibility of Partners 3 (NUIGALWAY) and 1 (SACE) respectively.

In the case of the Business Survey, the majority of the questions were proposed by Partner 5 (DEUP), and it was appropriate that they co-ordinate the contributions from other partners, and devise the questionnaire.

The Organisational Interviews incorporated substantial contributions on Governance from Partner 7 (SIRRT) and on Social Capital from Partner 2 (TEAGASC), but also included questions on Business Networks from Partner 5 (DEUP), on Tourism from

Partner 1 (SAC) and on IST from Partner 3 (NUIGALWAY). Partner 1 (SACE) was responsible for weaving all these contributions together into a set of interview schedules. Three of these were designed to suit the three main types of organisation which we anticipated encountering in our field work (Public Sector, Third Sector, and Partnerships) and three of which were designed staff specialising in IST, support for small business development, and tourism development.

Each partner (with the exception of Partner 3 NUIGALWAY) then used the consolidated questionnaires and interview schedules to collect data within their two case study regions. This was carried out during the spring and summer of 2002.

The next stage in the data collection process (during autumn and winter of 2002) was to input data into databases, and carry out “basic analysis”, (such as tabulations, simple graphs etc). This was be carried out by each partner for their own case study areas (as D19), and formed the basis of regional reports, and presentations at Regional Seminars (D25). Finally the basic data in each partner’s D19 was transmitted to the Thematic lead partners for further analysis, as the basis for Thematic Reports (D20-24)

The Role of the Case Studies in the AsPIRE Project

Given the “soft” nature of the elements of AsP which make up the four thematic strands of the project it was perhaps inevitable that case study work should be an important component of the project workplan. It was also appropriate that this empirical work should involve both quantitative and qualitative approaches. The function of this activity was to test hypotheses derived from the conceptual review of the four elements of AsP (and the sectoral case study, tourism). The data collection and analysis model described in the preceeding section was intended to provide a basis for truly comparative analysis, between A and B type regions across all six member states. Previous experience with multi-national projects had highlighted the danger of producing separate, parallel national analysis, but with limited comparisons between them. This pitfall has been largely avoided in the present study. However another issue became apparent at an early stage: Much of the information collected, especially the qualitative material was very context dependent. It was not easy for thematic leaders to interpret data collected outside their own member state without some appreciation of the local context. This issue was addressed by the addition, at the first project meeting, of an undertaking to produce regional reports for each case

study region. These were not a contractual obligation, but a response to an identified methodological difficulty. They also provided a useful summary of the local outcome of the research for interested regional development agencies and other bodies. Since these reports were written in the national language of the each case study region, English language summaries were also provided.

Ultimately the purpose of the case study analysis was to assess the validity of the generalisations about AsP which were derived from the literature for the four themes. This provided the more precise and empirically orientated understanding which formed the basis for the selection of the secondary indicators discussed in Section C of this report, and the key questions within the AsP assessment tool designed to elicit local expert knowledge of the less tangible aspects of the regional economic environment (Section D3). It also formed the basis of a recommendation for regular data collection by Eurostat and member states (Deliverable 30).

It is perhaps worth stressing that although the case study work was one of the more time consuming foundational tasks of the project, the subsequent analysis of secondary data carried out by IRPUD (and the AsP diagnostic tool derived from it) is likely to prove a significant practical benefit to regional policy makers and agencies.