

FOREWORD



As Chairman of the Government's Clusters Policy Steering Group, I welcome this report by Trends Business Research "Business Clusters In the UK - A First Assessment". It is the first time a study of this type has been conducted and its primary purpose is to help the regional development agencies carry out the important work they are doing on clusters.

When I was asked to lead the Government's review of clusters activity it was clear that the work of the regional development agencies could be greatly helped if they had more information on clusters in their areas, and that this information could most efficiently be produced by a national study. At that time our understanding of clusters and their relevance to the UK's economy was patchy. We needed a systematically produced map of cluster related activity across the UK derived from a single methodology. Trends' report helps us to make a step forward in terms of providing a basic source of information as well as a better understanding of the nature of clusters.

The report is only a snapshot in time, and because of weaknesses in the public sources of data it is difficult to provide firm evidence on embryonic clusters. I am sure, however, it will stimulate further, more detailed analysis by the regional development agencies and other key agencies involved in regional economic development. The regional development agencies have already contributed a great deal to the development of clusters and a companion document sets out briefly how they are taking forward their work

A handwritten signature in black ink, appearing to read 'Sainsbury' followed by a stylized flourish.

LORD SAINSBURY OF TURVILLE

EXECUTIVE SUMMARY AND INTRODUCTION

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INTRODUCTION

The Government's 1998 Competitiveness White Paper "Our Competitive Future: Building the Knowledge Driven Economy" highlighted the fact that business development is often strongest when firms cluster together, creating a critical mass of growth, collaboration, competition and opportunities for investment and knowledge sharing. The White Paper committed the Government to further investigation of the concept.

In November 1999, Lord Sainsbury announced two initiatives in pursuance of that commitment. The first was the establishment of a Cluster Policy Steering Group drawing together government, the RDAs, academia, local government, the private sector and other cluster experts to identify barriers to the growth and development of clusters and develop appropriate policy solutions¹. The second was a research project to map existing cluster activity in the UK. This is the report of that project, undertaken by a consortium led by Trends Business Research.

The report is made up of three volumes. The first contains the UK cluster map and the main findings of the research; the second consists of analyses of each of the UK regions; the third contains annexes which cover the theoretical background, the methodology and discussion of the UK's globally competitive industries (those with an export share greater than the UK average).

BACKGROUND

The idea that national economic success depends, in part, on the development of localised concentrations of industrial specialisation can be traced back more than one hundred years to Alfred Marshall. He argued that Britain's economic growth and leadership during the 19th century was founded on the development of several examples of localised industries. More recently, authors have updated Marshall's concept of industrial localisation. In particular, Michael Porter's identification of contemporary local agglomerations, based on a large-scale empirical analysis of the internationally competitive industries for several countries, has been especially influential. His term 'industrial cluster' has become the standard concept in this field².

Porter's definition has guided this research. He defined industrial clusters as "*Geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also co-operate*".

Methodologies have been developed for the research designed to enable a *systematic, national* picture of cluster activity to be identified. The approach has included detailed discussions in each UK region and with others such as the industry directorates within DTI.

SCALE AND SIGNIFICANCE ACROSS THE UK

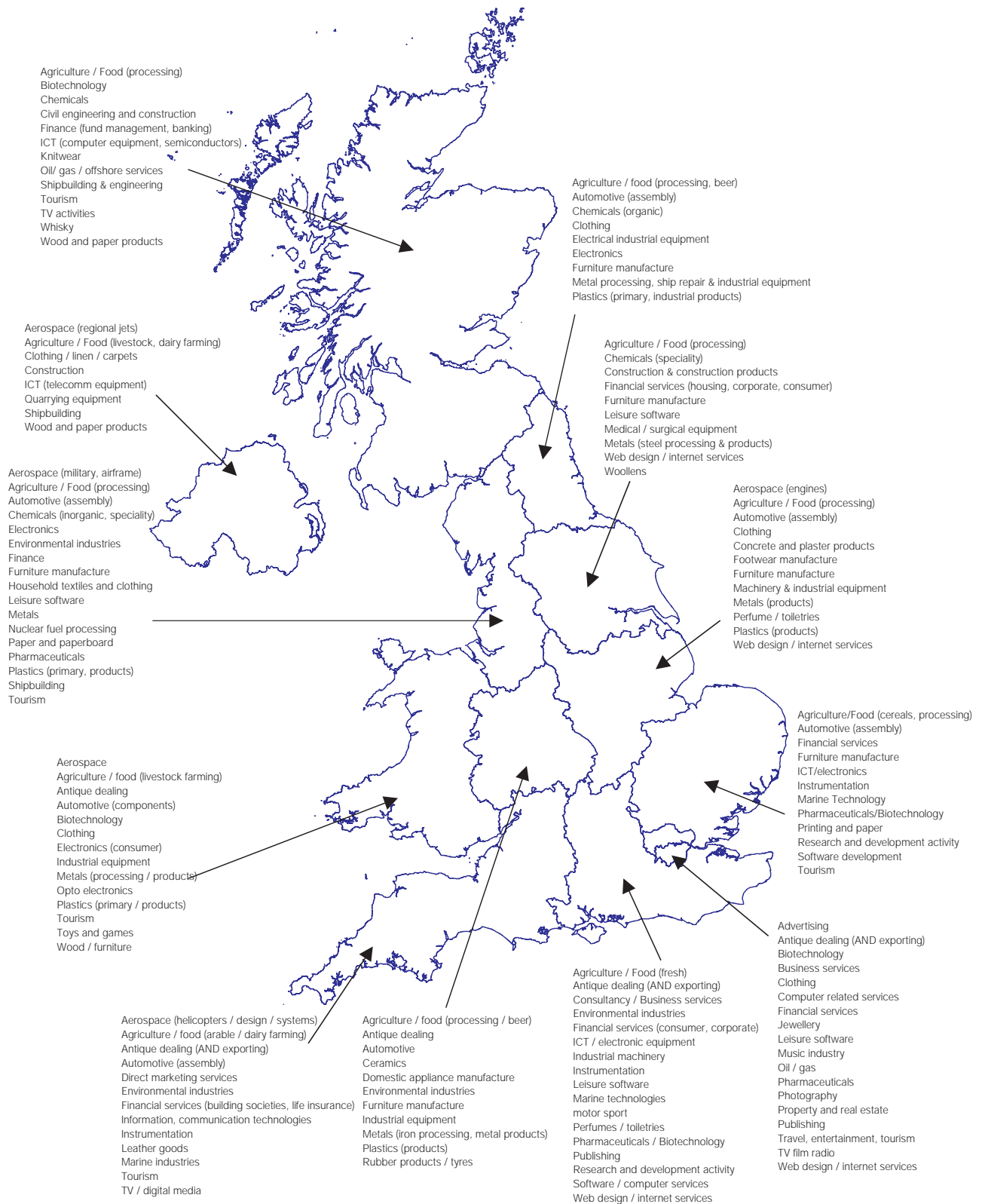
In identifying clusters across the UK the questions of scale and significance have been central to the analysis. The research attempts to identify clusters in terms of *comparative* scale (i.e. the size of a cluster in relation to the relevant sector(s) nationally); and *significance* (i.e. the size of the cluster in relation to the regional economy in which it is located).

Thus a 'cluster' in a particular sector or group of interrelated sectors may be deemed significant at the regional level - for example in terms of its share of regional employment - but in national terms is not significant (because it represents a small proportion of national employment). This raises the issue of 'national clusters' and 'regional clusters'. A national cluster - i.e. one that is identifiable in national terms will have one or more significant regional localisations; but some regional clusters - i.e. those important in local terms, need not be clusters from a national point of view. Further, there may be small local concentrations that are not significant in scale terms but which local agencies may wish to develop for strategic or other reasons.

¹ Minutes of the Group's meetings are available on the DTI's website (www.dti.gov.uk/clusters).

² The term 'business cluster' is used interchangeably with 'industrial cluster' in this research.

Figure 2
Cluster Map



THE CLUSTERS

The research, based largely on data up to September 1999, has identified a total of 154 “clusters” (shown on the map). This represents between 8 and 18 per UK region. The industries making up the clusters have been grouped in terms of inter-relatedness. Where possible, institutional and other linkages have been identified, in particular those link-ages between clusters and higher education institutions.

However, this does not imply that all linkages are functioning or being exploited in ways that enhance the performance of the constituent industries. For this reason, the map is very much a “first assessment”. Many of the listed examples will, on closer examination, tend more towards concentrations of industries rather than clusters. The map represents a starting point for more detailed analysis, which should include further testing for the presence of - or potential for - the linkages and knowledge flows that would be expected to be found in a fully functioning Porter-type cluster.

The clusters identified include both manufacturing and service industries, and cover a very wide range of sectors and technologies, including agriculture and food processing, metals, automotive, ICT, biotechnology, financial services, tourism and Internet services.

REGIONAL DIFFERENCES

There are a relatively large number of clusters in London and the South East, which may reflect the size of the economies. However, in general, the clusters in the smaller regions are less deep, with the size of the region typically impacting on cluster depth and not the number of clusters. A key question for the smaller regions is whether to encourage fewer but deeper clusters or to broaden the industrial base.

As a generalisation, the clusters in the North of the UK tend to be manufacturing-based (for example, automotive, textiles and metals) and those in the South more service-based (for example, software, business services and R&D).

Regional policy dilemmas may arise from the strengths of some clusters. For example, the south and east of the country is clearly an attractive location for software and R&D. These activities contribute greatly to the UK's competitive profile. From the perspective of other

regions, there might be a wish to have more knowledge-intensive activities co-located with manufacturing activity, for example, the software and research-intensive aerospace clusters in the South West, North West and East Midlands. The challenge is to improve the performance of these clusters without weakening the software and R&D clusters in the South East.

However, it is important to note that the more traditional manufacturing based clusters that appear predominantly in the north may often be using new or high technology processes. Further, many of the clusters in the south such as financial services and the creative industries deal in products that are hundreds of years old.

There are a number of “unique” clusters, which are found in only one region or area. These include nuclear fuel processing in the North West, motor sport in the South East of the country and ceramics in the West Midlands.

A number of clusters appear in several regions, such as financial services, aerospace, ICT and furniture manufacture. Although these clusters have the same name they are in practice very different. They have different core industries and the strengths of the linkages and interdependencies also vary. They are also different in size and depth. For example, the textiles and clothing clusters across the country vary in size from 11,000 people in Wales to 80,000 people in North West. The Wales cluster consists of 11 industries, the North West cluster consists of 30. Cluster size is one of several important variables that are not apparent from the map.

A number of clusters also cross regional boundaries. Motor sport is one example in the south east of the country, marine industries along the south coast is another.

SIGNIFICANCE OF CLUSTERS WITHIN REGIONS

The proportion of a region's employment accounted for by the clusters, ranges from 43 per cent in London to 15 per cent in the North West. The low proportion of employment covered in some regions may not be indicative of weakness. For example, the North West figure is low because its clusters are relatively small employers and capital-intensive. This may mean that, even though these clusters may be increasingly competitive, this may not be reflected in significant job growth. The complexion of the clusters across regions and their significance for regional economic development are issues highlighted by the research.

CLUSTER STAGES AND DYNAMIC

Clusters are classified according to their stage of development (for example, embryonic, established); depth (based on the mix and range of industries present in the cluster); employment dynamic (based on employment growth) and significance (for example, international or regional, based on regional discussion, analysis of the UK's globally competitive industries and judgement).

Analysis of employment growth suggests that for most of the regions, cluster job creation performance is no better than the regional average and in some cases significantly worse. Exceptions to this include London, the South East and Eastern regions where overall cluster job creation performance is significantly better than the regional average.

The research suggests that the deepest clusters, or those with the most industries and institutional and other linkages, often perform the best.

Examples of clusters that are established, deep, growing and international are concentrated in London and the South East. These include finance and business services, clothing, travel/entertainment/tourism, advertising and the music industry in London, and pharmaceuticals/biotechnology, R&D, and software/computer services in the South East. Of these, the strongest UK cluster is financial services in London.

However, there are examples of clusters like this in other regions including ICT/electronics in Eastern, antique dealing in the South West, aerospace and perfume/toiletries in the East Midlands, automotive in the West Midlands and tourism in Scotland.

DECLINING CLUSTERS

There are also a number of clusters where employment is declining. Mostly, these clusters are also described as mature and shallow. They include shipbuilding in Northern Ireland, agriculture in Wales and clothing in the North East.

The ceramics cluster in West Midlands is an example of a deep and globally competitive cluster which is losing employment and perceived to be in decline. There are also clusters which are losing those linkages that have traditionally created cluster strength. Examples are footwear in East Midlands and agriculture/food in Yorkshire and Humberside.

EMBRYONIC CLUSTERS

Embryonic clusters, include opto-electronics in Wales, TV/digital media in the South West, biotechnology in Scotland and Wales, and creative industries in several regions.

THE CLUSTER CONCEPT AND THE MAP

As a result of the breadth of the cluster concept and the inclusive approach taken for the map, the clusters identified in the study need to be examined in more detail to determine their true nature. The detailed regional analyses are designed as a significant starting point for this process.

The study may also have missed some clusters which are very vibrant at the local level because they are too new or too small to show up in the national data.

THE UK GLOBALLY COMPETITIVE INDUSTRIES

The identification of several countries' globally competitive industries was Michael Porter's starting point for the current renewed interest in the cluster concept.

The proportion of world exports that originate from the UK is 5.08 per cent. If the British share exceeds this, the product is competitive - or at least more competitive than average. Other measures have also been considered and an input/output model of the UK economy has been constructed to identify linkages between products and industries (see Annex 3).

The league table of performance is dominated by services, notably financial service industries and products. Four of the top five performing industries are financial services (and the fifth is legal services, which as far as exports are concerned is closely linked). Education features primarily because of 'invisible' export earnings from overseas students at British colleges and schools.

Where possible, the findings from this part of the research have been incorporated into the classification of the identified clusters.

STRUCTURE OF THE REPORT

In the remainder of Volume 1, we summarise in Chapter 1 the approach and methodology employed, and present in Chapter 2 the main findings of the research. Chapter 3 discusses individual clusters, regional distributions and some of the national policy implications. In Volume 2, we present additional detail on each of the main UK regions and territories. Volume 3 of the report contains four technical annexes. Annex 1 reviews the theoretical background to cluster research. Annex 2 details the methods used to analyse the regional structure and arrive at the cluster map. Annex 3 describes research underpinning this report which looks beyond the regional structure of the economy to the international performance of related industries, and to the structure of links between industries. Annex 4 outlines the methods used to analyse international competitiveness, and inter-industry relationships, and describes the methods used to create two special input-output tables for assessing industry linkages.