

# **Places, Prosperity and Competition**

**A Report for  
Derby City Council &  
South Derbyshire TEC**

**January 1998**

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# 1 Introduction

This report was commissioned in June 1998 by Derby City Council and South Derbyshire TEC, in order to gain new insights into the process of economic development and how economic policy might be focussed. It has become relatively common in economic development to look for growth industries and associated opportunities for inward investment. However this approach may have significant shortcomings. Not only does it suggest that almost everywhere is chasing the same targets, but such a policy also loses sight of other possible ways of creating a successful local economy.

This project looks for more general ways of describing local economies and their similarities and differences. It also identifies how kinds of economies interact with levels of prosperity. Thus we should not only be able to see what kinds of places there are within the UK, but also whether different kinds of places are better off than others. This experimental project has been designed to see whether this is possible and the extent to which it further provides a guide to future policy development.

The next section of the report covers the aims of the study, while the approach we have taken is described in the following section. This is followed by a summary of the findings. A discussion of the data used in the study makes up the next section and this is followed by a detailed account of the results. Here we have not only presented the findings in general but also concentrated on the position of Derby and the Districts of South Derbyshire TEC. Finally, implications for policy are given in the concluding section.

## 2 Aims

The key aim of the analysis in this study was to discover whether groups of Local Authority Districts can be identified which have common patterns of activity. If such groups can be discovered they then provide a way of describing and comparing local economies – a classification system. Once the groups have been identified, it is then possible to examine the extent to which they differ from each in terms of indicators of prosperity. For example, it may prove to be the case that one particular group appears to be more successful than others. We can also examine the degree of similarity of different places within any particular group. The members of any group are more similar to each other than to those places outside the group. One interpretation of this is that members of groups are more likely to compete with each other - for inward investment for example. Comparison with similar places also provides a mechanism for benchmarking performance and indeed for making comparisons with other places over time.

Changes in the characteristics of local economies over time can be measured by forming groups in a similar way but using data from some years earlier. This should show up any significant trends in economic development and for any given area may be especially important as a way of monitoring the effects of a policy initiative.

One of the key objectives of the study is to understand the position of Derby and the other LADs in the Derbyshire area, to compare their performance or prosperity. We also want to find likely competitors i.e. those areas that are very similar to Derby. Any changes to Derby's position over time will be examined. It will also be of interest to compare Derby and the other places in the group of “Ten Cities,” namely Nottingham, Leicester, Stoke-on-Trent, Bristol, Plymouth, Southampton, Portsmouth, Cardiff and Swansea.

### **3 Approach**

The task of forming groups or clusters is well known in applied statistics; it usually goes by the name of cluster analysis. An essential part of this study has been the use of a technique called fuzzy clustering rather than standard methods of cluster analysis.

The aim of any clustering exercise is to form groups of areas so that the areas within any one group have similar characteristics but the typical characteristics of each of the groups are sufficiently different from those of the others. The characteristics of the groups represent the typical patterns shown by the local areas. These patterns provide a way of understanding or describing the economic properties of areas. For example, we identified several clusters, two of which could naturally be described as 'industrial' and 'commercial' respectively. It then made sense to describe an area in these terms, i.e. as being 'industrial' or perhaps largely 'commercial'.

In standard methods of clustering each area is allocated unequivocally to a single group. This procedure has a significant drawback as there is no way of distinguishing between those on the margin of any particular group from those in the centre. We might well wish to be able to look at areas that were primarily 'industrial' but had a significant 'commercial' component as well as those which were just as industrial but which had a significant component of another cluster, perhaps 'public'.

Fuzzy clustering offers a way around this drawback. It combines the ideas of standard clustering methods and fuzzy logic. Instead of forcing each area into a single cluster, it is given some degree of membership of every one of the clusters. In this way, an area can have some aspect of each of the clusters. An LAD that was mostly 'industrial' but also 'commercial' might have a degree of membership of 70 percent of the industrial cluster and 30 percent membership of the commercial cluster. This is not only a natural extension of the usual clustering techniques but also turns out to be a very powerful way of understanding patterns of local economies.

## 4 Summary of findings

The study covered the 403 LADs in England and Wales. Ideally it would have included the whole of the UK, however some of the data that we needed to include was not readily available for Scotland. After considering a wide range of indicators of economic and social conditions, we carried out a fuzzy cluster analysis that gave a description of LADs along two aspects or dimensions. One dealt with the pattern of employment in different sectors and the other covered the size or nature of an area.

The analysis is based on data from the 1993 Census of Employment. This is the most recent full census available and at the time that this exercise was started there were some substantial problems with detailed data for later years. Though these have largely been resolved from a publication standpoint, we have preferred to stick to the comprehensive dataset for this initial analysis. We also conducted a similar analysis using data from the 1983 employment census in order to track shifts in economic patterns over the recent past. Other detailed population and commuting data was taken from the 1991 and 1981 Census of Population.

One interesting result is that there is little significant difference between the clusters in terms of incomes and unemployment. That is to say, in each of the clusters there is a range of success or prosperity from good to bad. While the average incomes of the LADs in the commercial cluster are slightly higher than those of the others, the difference is not marked and in each case, it is possible to find individual examples of both high and low incomes in each of the clusters. This appears to fly in the face of the notion that ‘high value added’ jobs make for a successful local economy. It suggests that there are other ways of being successful apart from that of pursuing the service sector route. Building on existing areas of success may be more fruitful and be no less effective in generating high incomes and low unemployment.

Using the two aspects of employment patterns and area type, we were able to place the Derbyshire LADs and identify comparable areas. The positions of the “Ten Cities” were also compared with Derby.

The Derbyshire LADs cover a range of employment patterns and area types. The performance of the areas in terms of levels of income and unemployment rates is also quite varied. Derby does not always compare very favourably with the “Ten Cities” but a more useful comparison can be made with other areas that are much more similar to Derby. Although it does not appear to be as successful as many of these places, it does suggest that there is scope for Derby to improve its standing.

These results are given in more detail in what follows. Firstly the data available for the study is discussed. The next few sections deal with the fuzzy cluster analysis, the two aspects of employment patterns and area type and how these aspects relate to one another. The position of Derby and the Derbyshire LADs is then described; and comparable areas and the cities in the “Ten Cities” initiative are dealt with. Lastly, developments since 1983 are examined.

The appendix contains tables of some of the results discussed in the following sections.

## 5 The data used in the study

A wide range of data was considered in the study. This included straightforward economic and demographic data. It also covered aspects of quality of life and the nature of the area such as its size and distance from major centres.

The employment census provides information on unemployment and employment for each of the LADs in England and Wales. The data dealing with employment is broken down in to as many as 58 different categories ranging from primary industry to the service sector. The census also covers population in some detail, it gives the number of people in each area by sex and age bands.

Information about where people work and their travel patterns to work is available in painstaking detail. In order to describe the nature of an area we were interested in the number of people who work outside the LAD they live in as opposed to working locally. This data was not easily available for Scotland and therefore we restricted our attention to England and Wales. Although it would be preferable to include Scotland, we do not believe the results of the study would be significantly altered.

We also collected data on the distance and the travel time from each area to the nearest major centre. For LADs in the south-east, London is obviously the nearest major centre; Newcastle would play the same role for areas in the north-east. As another measure of the nature of an area, we included in the study the number of restaurants in the 1998 Good Food Guide. (Although this might have proved to be a good proxy for economic activity or prospects, it added little to our analysis and so was later excluded.)

All the data described above is readily available on a consistent basis for the LADs in England and Wales. Unfortunately this is not the case for many other variables that could form part of the analysis, the most important of these is income data. Reliable data on incomes is available at the level of the counties. We have used unemployment rates to approximate the distribution of income among the LADs in each county. This process gives a satisfactory picture of the relative prosperity of different areas and is therefore sufficient for our purposes.

There are other characteristics that might be important but they tend to be provided on a variety of different geographies or were not easily collected. These include the provision of health care, housing or crime rates. There may be a further problem too in that we run the risk of a form of circularity. For example, crime may well be caused by low levels of income. If we were to use crime rates when grouping areas and then use those groups to understand prosperity or the lack of it, we could have effectively included the thing we are trying to measure.

We hope to look further at some of these aspects in later developments of this work.

# 6 The Results

## 6.1 Clusters based on employment and area type

The available data can be divided into three categories. The first deals with employment and the mix of employment in different sorts of industries. The second concerns the type of area, such as its size and aspects of quality of life - for example travel times and the number of people who commute to work. The third category is measures of the success of a local economy namely unemployment and incomes.

We have used the first two categories to form two separate groups of clusters, i.e. one group of clusters based on employment and a second group of clusters dealing with the type of the LADs. Each LAD then has its own unique pattern of membership of both the employment clusters and the area type clusters. The degrees of membership allow us to describe and compare areas.

Unemployment and income which make up the third category of the data, are not used to form the clusters, instead they are the indicators we use to measure prosperity or success.

## 6.2 The employment clusters

The employment clusters are concerned with the sort of jobs or industries in a particular area and how industries might vary from place to place.

The census details employment in a very large number of categories from fishing to quarrying, financial intermediation to the manufacture of medical equipment. This is far too much information to be useful, to come up with something more practical the categories need to be combined into larger sectors. There are standard ways of aggregating the categories based on their function, for example anything to do with paper and printing are combined into one sector and both can also be considered to be part of manufacturing. However, this takes no account of where these industries might be located, nor does it recognise different industries that are related and often found in the same place.

Rather than imposing such a standard classification, we obtained a much better description of employment patterns using sectors based on those categories that were most often located in the same place. These sectors better reflect the way industries are arranged than a system based on more theoretical considerations about links between different sorts of jobs.

We obtained nine sectors of employment. Only the four most important of these figured in the cluster analysis, the other sectors did not add anything to our ability to distinguish between LADs.

The largest of the sectors we've called selling. (These labels may not seem to be the most obvious and this is quite deliberate. Some of the more natural names have been kept for the clusters rather than the variables that determine them.). The selling sector includes retailing and a few other categories such as real estate and estate agencies.

The tax-paid sector is the next to largest. It comprises chiefly education, health and social services and public administration.

Three sectors based on manufacturing and related industries were identified. The largest of them, labelled heavy industry, includes construction, petroleum refining, metals and several other categories. (The other two industrial sectors, one called light industry and the other based largely on motor cars, do not play a part in the cluster analysis.)

The fourth of the sectors we have dubbed intelligent. It covers mainly computer services, office machinery manufacturing, other business services and research.

The remaining sectors are financial, (insurance, financial intermediation, banking and post) country, (agriculture, water, forestry and hotels among others) light industry, (radio and television, recycling, textiles etc) a sector consisting mostly of the motor vehicle and related industries (for example electrical machinery and car sales) and lastly a sector that can only be described as miscellaneous. These sectors are quite a bit less important than the first four, the country and financial sectors partially excepted.

Now we come to the clusters of LADs based on employment patterns. We identified four clusters, namely commercial, public, industrial and mixed. They are based on the proportions of employment in the most important sectors. Areas in the commercial cluster are characterised by a high proportion of jobs in the selling sector and in the intelligent sector. Typical examples of commercial places are Newbury and Croydon.

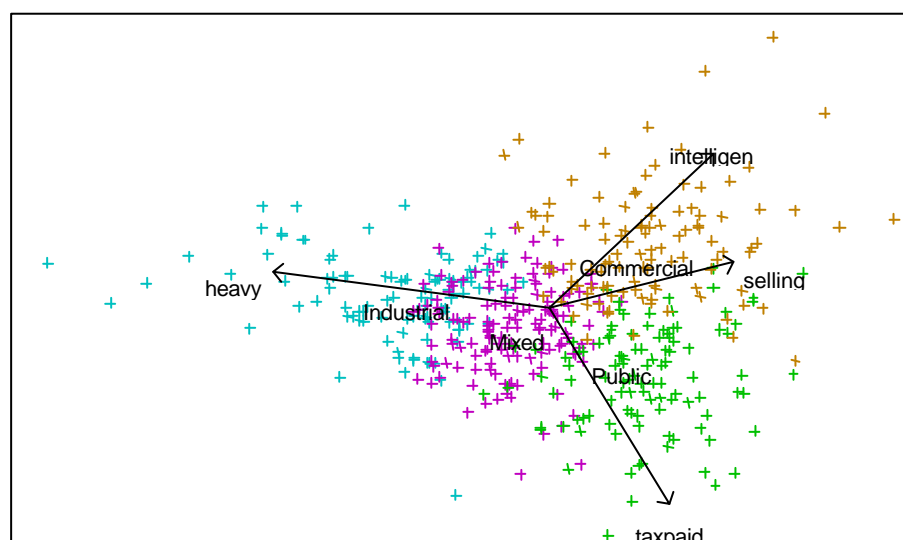
The public cluster consists of LADs with much higher than average proportion of employment in the taxpaid sector. Chichester and Liverpool are good examples of places in the public cluster.

Areas in the industrial cluster, as the name suggests, are typified by jobs in the industrial sector. In addition, this cluster is especially low on employment in the selling sector. The Derbyshire Dales and Stoke-on-Trent are areas that are typical of the industrial cluster.

The final cluster has a very slightly higher than average number of people in the industrial sector but also has a moderate number of jobs in the taxpaid sector and so has been called mixed. Examples of areas in the mixed cluster are Cheltenham and East Yorkshire.

The clusters are shown in figure 1 below.

**Figure 6.1: The employment clusters.**



Each LAD is represented by a mark on the figure, coloured according to the cluster it belongs to. The sectors of employment used to form the clusters are indicated by the arrows in the figure. For example, it is clear that the industrial cluster is characterised by jobs in the heavy industry sector, just as the public sector has a large proportion of jobs in the taxpaid sector. The commercial cluster is a

mixture of both the intelligent and selling sectors. The position of the mixed cluster, i.e. somewhere between the commercial and public clusters on the one hand and the industrial cluster on the other is also made clear by the figure.

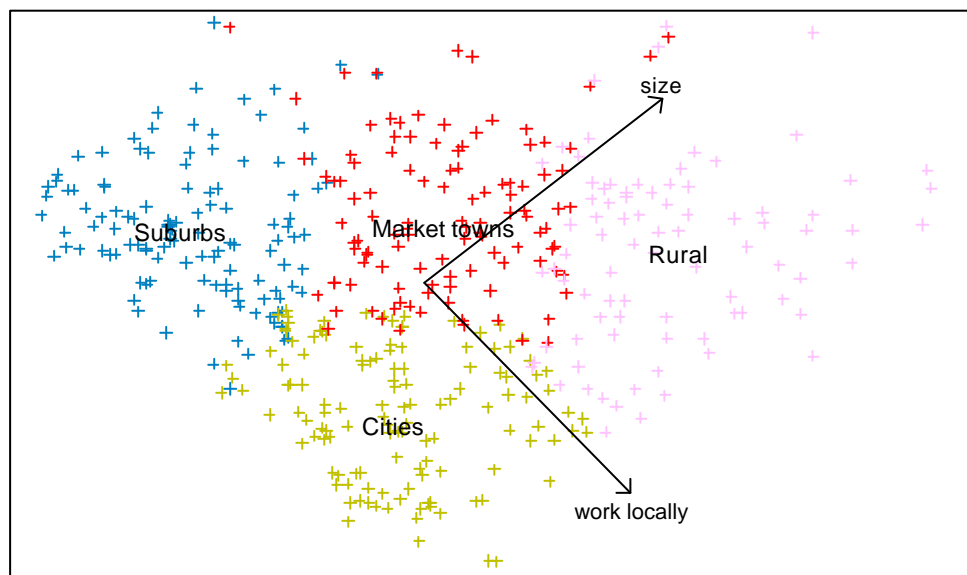
Any LAD can be described in terms of the employment clusters by giving its degree of membership of each cluster. For example, Derby is 41 percent in the industrial cluster and 37 percent in the mixed cluster with the remaining 20 percent evenly divided between the commercial and public clusters. In figure 1 above, Derby appears as a blue mark since it has a higher degree of membership of the industrial cluster than any other. (All the LADs are treated in the same way.) The vast majority of areas are a similar sort of mixture of all four clusters.

### 6.3 The area type clusters

The clusters describing the types of the areas are much more straightforward than the employment clusters. Only two of the factors we considered turned out to be useful in the analysis - the area covered by the LAD and the proportion of those people in employment who work in the LAD rather than travelling elsewhere to work.

Again, four clusters were found namely cities, suburbs, market towns and rural areas. The size of an LAD, measured by its area, marks the difference between cities and suburbs on the one hand and market towns and rural areas on the other. Suburbs are distinguished from cities by having very high proportions of people travelling to work outside the area. By comparison with rural areas, market towns are smaller in size and have a moderate number who commute to work. The clusters are shown in figure 2.

Figure 6.2: The Area Type Clusters



Hartlepool and Manchester are good examples of cities, Macclesfield and Horsham are typical market towns. Areas that are typical of the rural cluster are North Norfolk and Salisbury, while Knowsley and Hounslow are examples of suburbs.

This now completes the picture. Between them, the two aspects of a local economy, the type of the area and the pattern of employment, give a full description of its characteristics. The way these characteristics may have developed over time is dealt with in the next section.

## 6.4 Change over time

The data used to form the area type and employment clusters is available for 1983 for employment and 1981 for population. This enables us to carry out exactly the same cluster analysis with the earlier data. Comparing the results of this exercise with the clusters derived from the 1993 data will point out any significant changes over the recent past.

There is no difference to speak of in the data for the area type clusters. Obviously the size of the LADs is unchanged but it was a bit of a surprise that the proportions of people commuting to work were virtually identical. Therefore the clusters of the area type are the same for 1983 as for 1993.

There are some more important differences in the employment clusters, the largest of which is that the intelligent sector was quite a bit smaller in 1983. Much of this can be traced to the growth of computer services. Despite this change, the cluster analysis again identifies four clusters whose characteristics are very similar to those obtained with the 1993 data. Therefore it is natural to give the clusters the same names, i.e. commercial, public, industrial and mixed.

The smaller intelligent sector is reflected by the proportion of jobs in the sector in areas typical of the commercial cluster. The proportion is 9.5 percent in 1983 and 16.5 percent ten years later. However, relative to the total number of jobs in the sector this does not amount to a very large change. In 1983 just over a quarter of LADs had a higher proportion of jobs in the same sector. Ten years later, the same figure was 15 percent of LADs. In other words, although the sector has grown by nearly 50 percent, the relative position of this sector in the clustering is little unchanged.

Since the employment clusters for 1983 and 1993 can be regarded as the same, to measure changes over time we look at the degrees of membership of the clusters. As an example, we could argue that Derby has become more industrial because its membership of the industrial cluster has grown to 41 percent in 1993 from just 15 percent ten years earlier. In 1983 Derby's membership of the mixed cluster was 70 percent.

## 6.5 Employment and area type clusters

Although they describe quite different aspects of an LAD there are some significant relationships between the area type and employment clusters. It is not surprising that a large number of the areas in the public employment cluster are also cities in terms of the area type clusters. In a similar way, very nearly half of the LADs in the commercial cluster fall into the suburbs cluster and only a tiny fraction of them are rural areas.

The number of areas in each of the sixteen pairs of clusters are given in the table below. The total number in each cluster is also shown.

	<b>Cities</b>	<b>Suburbs</b>	<b>Market towns</b>	<b>Rural</b>	<b>(total)</b>
<b>Commercial</b>	21	53	22	5	101
<b>Public</b>	41	19	17	18	95
<b>Industrial</b>	26	20	33	15	94
<b>Mixed</b>	28	20	28	37	113
<b>(total)</b>	116	112	100	75	

The areas in the industrial cluster are divided quite evenly between all four area type clusters, slightly more are found among the market towns. There are relatively few of them that fall into the rural areas cluster but a significant number in both cities and suburbs.

Areas that are predominantly mixed in terms of the employment clusters are also quite evenly spread among the area types, slightly more than average lie in rural areas. Looked at from the other dimension, i.e. from the point of view of the area types clustering, the concentration of rural areas in the mixed employment cluster is much stronger. In other words, many of the rural areas follow the mixed employment pattern while the mixed employment areas are evenly divided among suburbs, cities, market towns and rural areas.

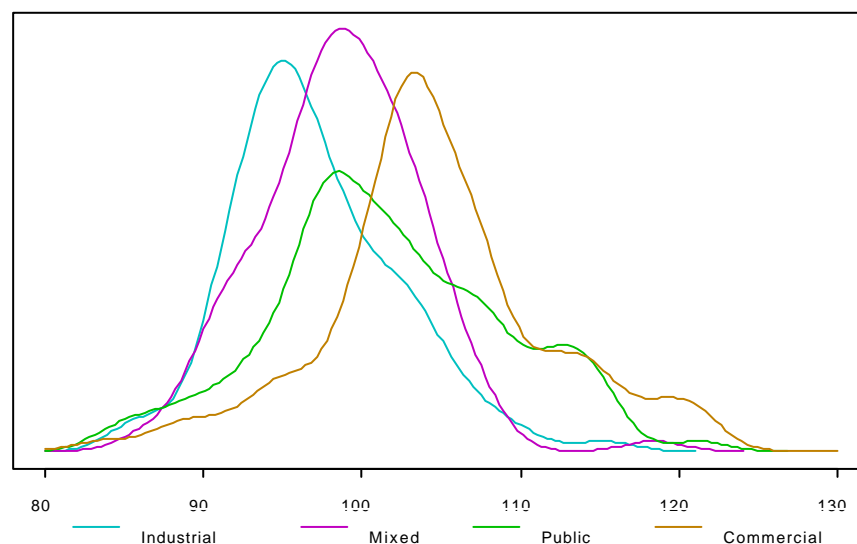
## 6.6 Measures of success and employment patterns and area types

We might expect some of the clusters to be more prosperous than others, however somewhat to our surprise there is very little evidence of this. The strongest contrast occurs when we examine income by the employment clusters. On average income is slightly higher in areas in the commercial cluster and slightly lower in those in the industrial cluster. Incomes in the mixed and public clusters are virtually identical to the average for England and Wales. Within all of the clusters there is quite a degree of variation so that there are industrial areas with high incomes and commercial areas with low incomes.

The range of incomes over the employment clusters is shown in figure 3. It shows the distribution of income as a curve of the corresponding colour for each cluster. The height of the curve reflects the size of the cluster. (To be more accurate, the size of the cluster is equal to the area under the curve once the vertical axis is given appropriate units.) The spread or width of the curve from left to right shows the range of incomes.

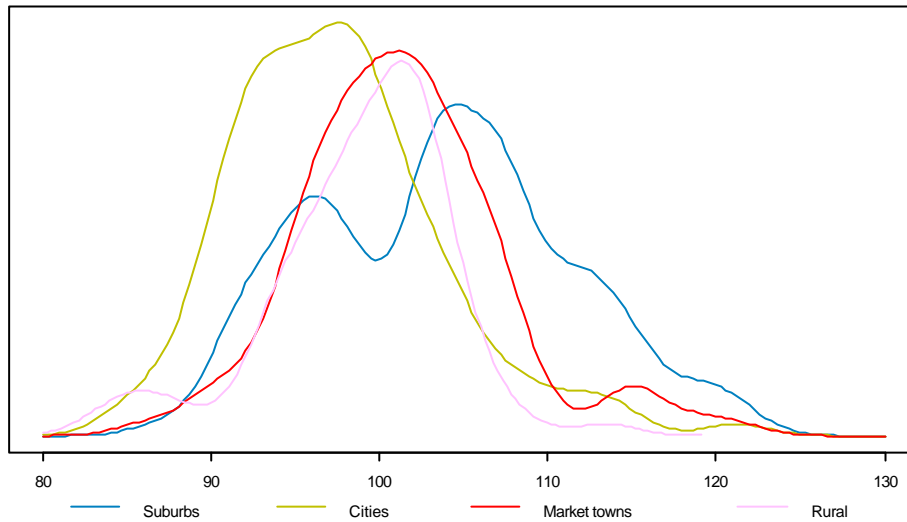
The level of incomes has been scaled to give an index, the average value of the index is 100. The mixed employment cluster, shown by the purple curve is the largest of the clusters. Incomes in this cluster are evenly spread around the average value of 100. The public cluster, shown in green, is smaller than the mixed cluster and so the green curve is lower. It is also more spread out which indicates a greater range of incomes in this cluster.

**Figure 6.3: Distribution of the income index for the employment clusters.**



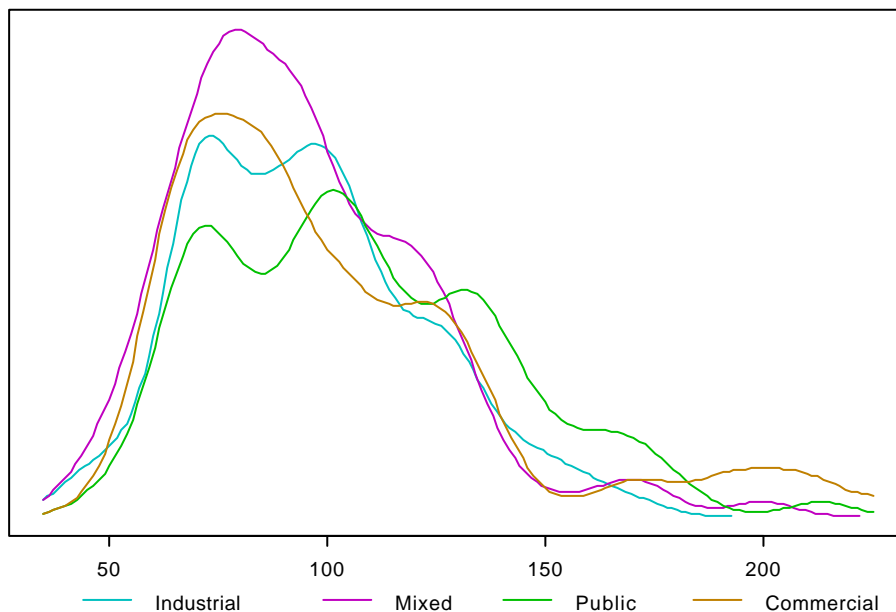
There are some differences in income between the area types but less than between the employment clusters. The distribution of incomes in the area type clusters is shown in figure 4. Areas in the suburb cluster have incomes that are a little higher than average but the difference is only marginal. Areas with the low incomes are a bit more common in the cities cluster but just as with the employment clusters, there is a lot of variation within clusters for area type.

**6.4: Distribution of the income index for the area type clusters.**



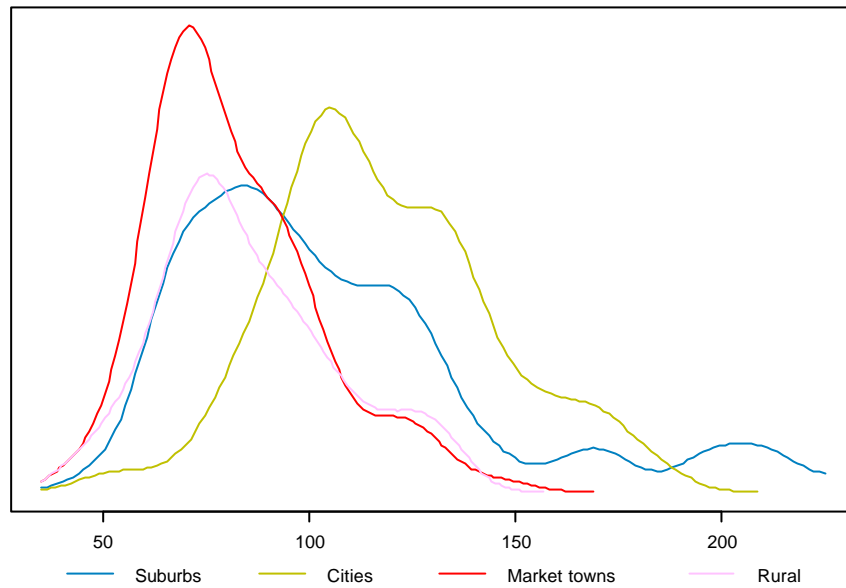
It is worth noting that unemployment rates are virtually identical in all four of the employment clusters. Similarly, among the area types only the cities show any deviation from the average behaviour, they have slightly higher rates of unemployment. The distributions of unemployment are shown in figures 0ii and 0iv. The unemployment rate has also been scaled so that the average value across England and Wales is 100.

**6.5: Distribution of the unemployment index for the employment clusters.**





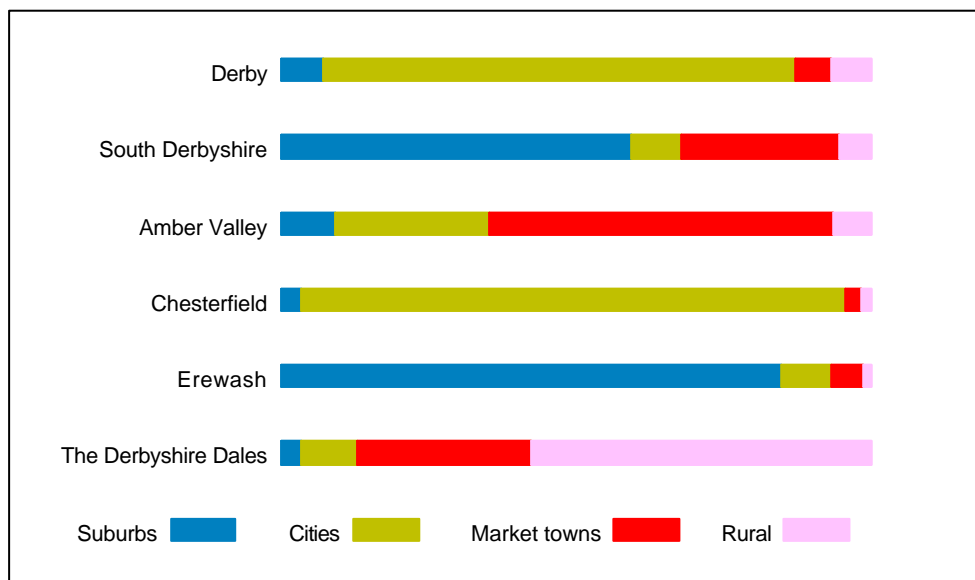
**Figure 6.6: Distribution of the unemployment index for the area type clusters.**



## 6.7 Derby and the Derbyshire LADs

The area types of the LADs in Derbyshire are shown in the following figure. The length of the bar of the corresponding colour indicates the degree of membership.

**Figure 7: Derbyshire LADs’ degrees of membership of the area type clusters – 1983 and 1993.**

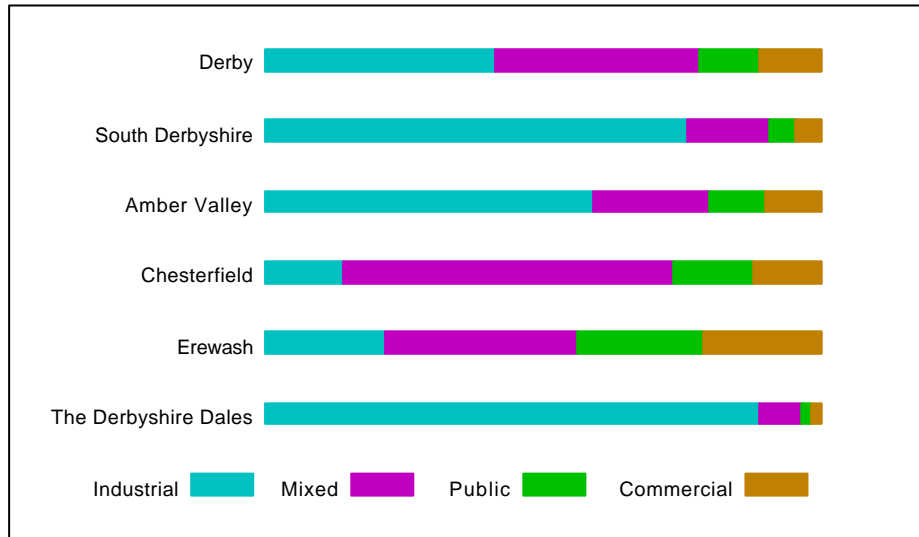


Derby and Chesterfield are among the cities, Erewash is a typical suburb while Amber Valley is predominately a market town.

A table of the degrees of membership is also given in the appendix, see table A1.

Turning to the employment clusters, Derby lies predominantly in the industrial and mixed clusters. This is largely true of the other areas in Derbyshire though many are far closer to the industrial cluster. An exception is Erewash which has much higher degree of membership of both the commercial and public clusters. This is shown in figure 8.

**Figure 6.8: Derbyshire LADs' degrees of membership of the employment clusters in 1993.**

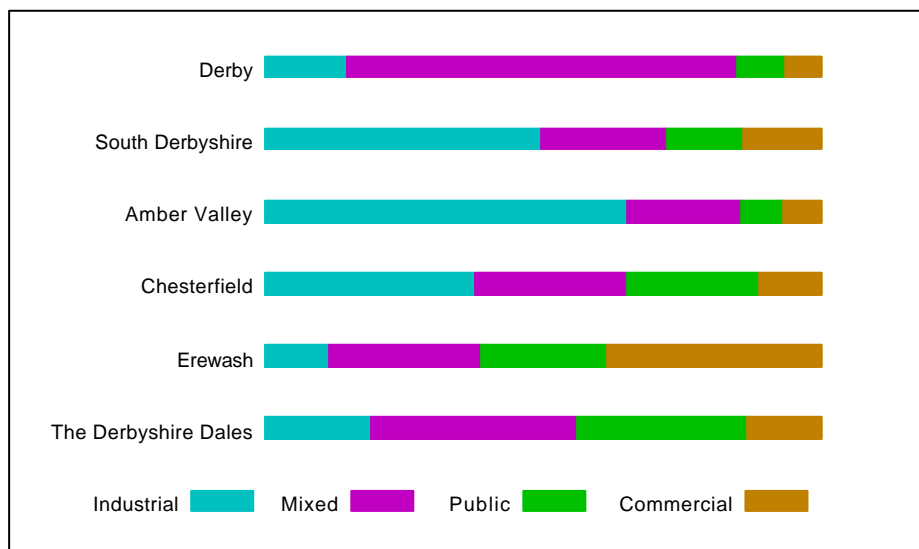


The figure shows that South Derbyshire and The Derbyshire Dales are very clearly in the industrial cluster. It is worth noting that The Derbyshire Dales is one of the few areas that falls into the rural area type cluster and the industrial employment cluster.

A table of the degrees of membership is also given in the appendix, see table A3.

Some of the Derbyshire LADs have changed their characteristics since 1983. Compare the next figure with figure 8 above.

**Figure 6.9: Derbyshire LADs' degrees of membership of the employment clusters in 1983.**



The most obvious overall change is that many of the areas have become more industrial since 1983, in particular South Derbyshire and The Derbyshire Dales. Previously membership of the public and commercial clusters was larger. The only real exception to this seems to be Chesterfield. It has moved from being a largely industrial area to one that is much more mixed. However, Derby is also something of an exception to this trend. In 1983 it was overwhelmingly in the mixed cluster and has since then moved much closer to the industrial pattern.

Unemployment and income figures for Derbyshire are shown in table 6.3 below. They are in the form of an index where the England and Wales average is equal to 100.

Derby	111	92
South Derbyshire	62	96
Amber Valley	63	96
Chesterfield	113	92
Erewash	89	94
Derbyshire Dales	66	96

On this scale an unemployment index of 50 would represent an unemployment rate of half the national average. To give an idea of the range of unemployment, half the LADs have an unemployment index between 68 and 107; a quarter of LADs have an index of more than 107 and a quarter less than 68. The income index varies much less than unemployment, the corresponding figures for incomes are 96 and 104. This difference is not surprising, it is quite possible for the unemployment rate in one area to be as little as half or as much as twice that of another area but this is not the case for incomes.

Derbyshire's performance on unemployment is relatively good, most of the areas have unemployment rates well below average. This is not true of Derby or Chesterfield. On the other hand, incomes are clearly lower than average.

The picture has changed since 1983. Table 4 shows the corresponding figures for ten years earlier.

Derby	120	96
South Derbyshire	59	101
Amber Valley	70	100
Chesterfield	112	96
Erewash	90	98
The Derbyshire Dales	54	101

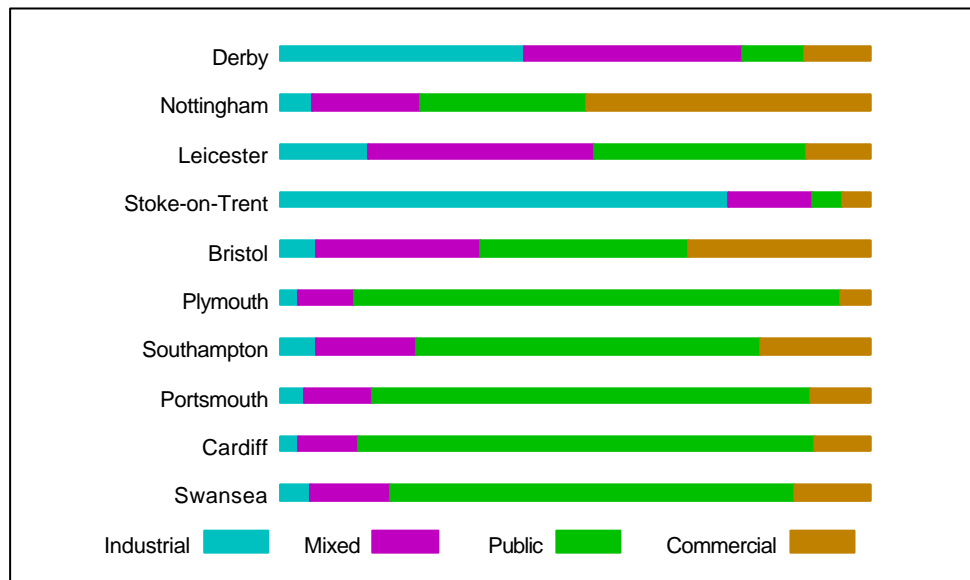
In 1983 the range of the unemployment index was slightly different, for the middle 50 percent of areas it fell between 60 and 112; the range of the incomes index was unchanged.

In general unemployment rates were higher in 1983 but incomes were slightly better than in 1993 compared with the average values in England and Wales. This might suggest that the need to provide jobs has resulted in the introduction of employment patterns at lower relative wages. Indeed it might be the case that this is what market forces imply. Places with high unemployment are those where wage rates are likely to fall – this will attract new jobs over time but at lower incomes.

## 6.8 Derby and the “Ten Cities”

We might naturally compare Derby with the other cities covered by the “Ten Cities” initiative. They are all overwhelmingly in the cities area type cluster but their membership of the employment clusters is much more varied, see figure 10. (See also table A4 in the appendix for the degrees of membership.)

**Figure 6.10: Employment clusters for the “Ten Cities”.**



Many of the ten have a large public component, especially the last five. Nottingham and to a lesser extent Bristol, has strong membership of commercial cluster. Derby tends to stand apart from the other cities. It is a more industrial area than all of the other cities except Stoke-on-Trent and along with Leicester, has more in common with the mixed pattern of employment than any of the other cities.

None of the cities has an enviable unemployment rate though the level of incomes is close to the national average, see table 6.5.

Derby	111	92
Nottingham	156	89
Leicester	136	90
Stoke-on-Trent	96	96
Bristol	133	98
Plymouth	118	99
Southampton	126	98
Portsmouth	119	98
Cardiff	112	97
Swansea	102	85

Interestingly, the two cities whose performance is significantly worse than Derby are the nearby Nottingham and Leicester. This applies to both unemployment and incomes and suggests that these cities should not be seen as the close competitors they are often thought to be. Incomes and unemployment for the “Ten Cities” in 1983 are shown in table 6.6.

	<b>Unemployment</b>	<b>Incomes</b>
Derby	120	96
Nottingham	145	91
Leicester	140	89
Stoke-on-Trent	124	91
Bristol	119	98
Plymouth	103	101
Southampton	103	94
Portsmouth	95	95
Cardiff	126	101
Swansea	134	82

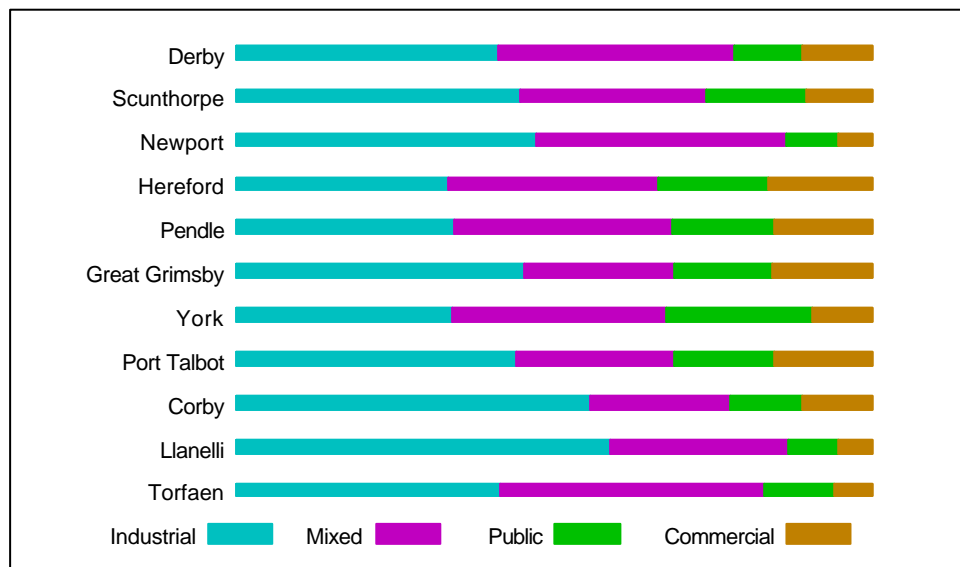
Few of the cities have improved their standing since 1983 and the position of several is clearly worse.

### **6.9 Derby and the most similar areas**

By taking account of the degrees of membership of the employment and area type clusters we can find those LADs most similar to any individual LAD. For this report we have looked only at Derby, but the exercise could also be carried out for the other LADs looked at here. In order of similarity, the ten areas closest to Derby in terms of their employment and area type characteristics are Scunthorpe, Newport, Hereford, Pendle, Great Grimsby, York, Port Talbot, Corby, Llanelli and Torfaen.

These places are all cities but there is some variation from the employment pattern of Derby. Figure 11 shows the membership of the employment clusters.

**Figure 11. Employment clusters for the 10 areas most similar to Derby**



	<b>Industrial</b>	<b>Mixed</b>	<b>Public</b>	<b>Commercial</b>
Derby	41	37	11	11
Scunthorpe	45	29	16	10
Newport	47	39	6	5
Hereford	33	33	17	16
Pendle	34	34	16	15
Great Grimsby	45	24	15	16
York	34	34	23	9
Port Talbot	44	25	16	15
Corby	56	22	11	11
Llanelli	59	28	8	6
Torfaen	41	42	11	6

The next two tables give the unemployment and incomes indices for these areas for 1993 and for ten years previously.

	<b>Unemployment</b>	<b>Incomes</b>
Derby	111	92
Scunthorpe	114	96
Newport	119	106
Hereford	102	102
Pendle	76	98
Great Grimsby	128	95
York	89	99
Port Talbot	79	86
Corby	118	93
Llanelli	85	86
Torfaen	102	108

	<b>Unemployment</b>	<b>Incomes</b>
Derby	120	96
Scunthorpe	170	87
Newport	138	110
Hereford	103	94
Pendle	106	101
Great Grimsby	133	90
York	82	94
Port Talbot	151	81
Corby	184	87
Llanelli	112	84
Torfaen	121	112

In general relative unemployment rates have fallen for these areas, and in some cases there have been quite dramatic improvements - for example, Corby, Port Talbot and Scunthorpe. In most areas there has also been at least a slight increase in relative incomes. However this is not the case for Derby. Although at first sight this is not very encouraging, the fact that similar places have improved their

standing over the last ten to fifteen years suggests that Derby may be able to mimic their success. It would be well worth studying policies or initiatives undertaken in some of these areas. It is particularly interesting that the most similar places have seen improvements in both their unemployment and income performance, suggesting that it is possible to achieve both at once and that falling unemployment need not be bought at the expense of lower incomes.

## 7 Conclusion

The results of this study provide a great deal of valuable information about local economies and their relative performance. The two aspects of a local economy described here as their employment pattern and the type of the area not only give a picture of the range of LADs in England and Wales but also offer a novel and powerful way of thinking about economic activity and measures of successful performance.

The two aspects of an area give a way of comparing the nature and success of Derby and several other related areas. The LADs in Derbyshire turn out to quite different, they range from industrial cities to areas that are far more mixed in their pattern of employment. The performance of these areas is also quite varied.

Derby can also be compared with the “Ten Cities”. Measured against them, Derby does not appear to have done very well over the recent past but this comparison is not necessarily very appropriate. When looked at in terms of the employment and area type clusters, Derby only has limited amounts in common with these cities.

A more meaningful comparison can be made by finding the LADs with patterns of membership of the clusters that are most similar to Derby. By comparison with these areas Derby has done less well on average. In particular it is noteworthy that it has made less progress than either Corby or Scunthorpe, both places which have seen major redundancy problems in the last decade or so. It would be interesting to look in more detail at the policy options that have prevailed – or indeed the differences that follow from ‘throwing money at a problem’. It might be unkind to suggest that had Derby suffered a major closure, it would now be in a better position relative to its ‘nearest neighbours’. In 1983, Derby had lower unemployment and higher incomes than the average of this group: in 1993, it had higher unemployment and lower incomes.

# Appendix

<b>Table A1: Derbyshire LADs' degrees of membership of the area type clusters – 1983 and 1993.</b>				
	<b>Suburbs</b>	<b>Cities</b>	<b>Market Towns</b>	<b>Rural</b>
Derby	7	80	6	7
South Derbyshire	59	9	27	5
Amber Valley	9	26	58	6
Chesterfield	3	92	3	2
Erewash	85	8	6	1
The Derbyshire Dales	3	9	30	57

*NB The figures represent percentages, the rows of the table should add up to 100.*

<b>Table A2: Derbyshire LADs' degrees of membership of the employment clusters in 1993.</b>				
	<b>Industrial</b>	<b>Mixed</b>	<b>Public</b>	<b>Commercial</b>
Derby	41	37	11	11
South Derbyshire	76	15	5	4
Amber Valley	59	21	10	10
Chesterfield	14	59	14	12
Erewash	22	35	23	21
The Derbyshire Dales	89	8	2	2

*NB The figures represent percentages, the rows of the table should add up to 100.*

<b>Table A3: Derbyshire LADs' degrees of membership of the employment clusters in 1983</b>				
	<b>Industrial</b>	<b>Mixed</b>	<b>Public</b>	<b>Commercial</b>
Derby	15	70	9	6
South Derbyshire	50	23	14	14
Amber Valley	65	20	8	7
Chesterfield	38	28	24	11
Erewash	11	27	23	38
The Derbyshire Dales	19	37	31	13

<b>Table A4: Degrees of membership of the employment clusters for the "Ten cities".</b>				
	<b>Industrial</b>	<b>Mixed</b>	<b>Public</b>	<b>Commercial</b>
Derby	41	37	11	11
Nottingham	5	18	28	48
Leicester	15	39	36	11
Stoke-on-Trent	76	14	5	5
Bristol	6	28	35	31
Plymouth	3	10	83	5
Southampton	6	17	58	19
Portsmouth	4	11	74	10
Cardiff	3	10	78	10
Swansea	5	14	69	13