

# **A DIVERSIFICATION AND MODERNISATION STRATEGY FOR THE BLACK COUNTRY**

**Final Report**

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# 1 Introduction

## Background

- 1.1 The Black Country Consortium (BCC) has commissioned SQW Limited to assist in the creation of a development framework for the diversification and modernisation of the Black Country economy. The aim of the work is to ensure a shared understanding of the Black Country's priorities in this area, such that BCC partners can guide and contribute to a focused and joined-up implementation of the economic diversification and modernisation agenda over the next five years.
- 1.2 In developing this strategy we have undertaken:
- desk research on the current state of the Black Country economy, drawing on published data from the Black Country Observatory and elsewhere, and information from partners' planning documentation;
  - an analysis of projections for the Black Country economy, using the Cambridge Econometrics/Institute of Employment Research Local Economy Forecasting Model (LEFM), in order to provide a 'baseline' indication of the sub-region's future economic prospects in terms of output and employment;
  - consultations with individual stakeholders to capture their views on the key challenges facing the Black Country and on their preferred approaches towards addressing those challenges;
  - a strategy development workshop involving a wide range of stakeholders, which reviewed our proposed strategic framework and provided inputs as to the key strategic priorities within it;
  - a series of meetings with the project steering group, a debate at a meeting of the Black Country Consortium, and discussions with steering group members, in order to refine this document.
- 1.3 The founding objective for the study was to develop a *strategic framework* to underpin the Black Country's economic diversification and modernisation over the next five years. In the course of doing the work, it was felt that the framework should be carried forward into a *detailed action plan*. However, in the light of the forthcoming work on economic futures to 2033, partners have agreed that actions arising from diversification and modernisation should be integrated with the actions flowing from that futures work.

## Linkages to other work

- 1.4 This work has significant linkages to initiatives and studies already undertaken or underway at regional, sub-regional and local levels, such as the Black Country 30 Year Vision, the Black Country Knowledge Economy Architecture study, the Wolverhampton-Telford Technology Corridor initiative (including the Advanced Engineering cluster study), the two Regeneration Zones, the various Advantage cluster strategies, the GVA Grimley Land and Buildings Study, the economic situation/prospects studies conducted for the local authorities, and the LSC's Strategic Area Reviews. There is also a potential linkage to the work of the English Core Cities group (comprising Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham and Sheffield), which aims to maximise the potential of regional cities as drivers of economic growth.
- 1.5 In particular, there are links with the forthcoming study on Black Country economic futures, which will be taking a 30 year perspective and preparing an action plan for the delivery of this diversification and modernisation strategy. The current study prepares the way for that substantial piece of work, but with a focus on developments over the next five years.
- 1.6 Diversification and modernisation are of course critical issues for the West Midlands as a whole – as well as for the Black Country in particular. The Black Country's diversification and modernisation agenda therefore makes a key contribution towards the delivery of the West Midlands Economic Strategy and Action Plan, throughout which diversification and modernisation are major themes.
- 1.7 Figure 1-1 below summarises the key currently agreed action areas under each of Advantage West Midlands' (Advantage's) four pillars as identified in Delivering Advantage: West Midlands Economic Strategy and Action Plan Update 2004-2010. We have highlighted in bold those action areas that are in our view relevant to and supportive of diversification and modernisation in the Black Country.

Figure 1-1: Key elements of the WM economic strategy and action plan [source: Delivering Advantage: West Midlands Economic Strategy and Action Plan Update 2004-2010]

| <b>Diverse &amp; dynamic business base</b>  | <b>Learning &amp; skilful region</b>   | <b>Conditions for growth</b>   | <b>Regenerated communities</b>  |
|---|--|--|---|
| <b>Clusters</b><br><b>High tech corridors</b><br><b>SME business support</b><br><b>Risk capital</b><br><b>Inward investment</b><br><b>Manufacturing priorities</b><br>Rural diversification<br><b>International trade</b><br><b>Sustainable tourism</b> | <b>FRESA implementation</b><br><b>Skill needs of clusters</b><br><b>ICT skills</b><br><b>Management skills</b><br><b>Innovation skills</b><br><b>Entrepreneurship skills</b> | <b>Transport priorities</b><br><b>ICT infrastructure</b><br><b>Strategic land use</b><br><b>Planning guidance</b><br><b>Housing strategy</b> | <b>Regeneration Zones</b><br>Market towns initiative<br>NHS as employer<br>Engaging communities |

## **Scope and structure of this report**

- 1.8 This report presents SQW's evaluation of economic activity in the Black Country, and a proposed strategic framework.
- 1.9 This report is structured as follows:
- Section 2 summarises key indicators of the current state of the Black Country economy and provides an overview of the economic prospects for the Black Country
  - Section 3 summarises our assessment of the key diversification and modernisation challenges for the Black Country
  - Section 4 presents our proposed strategic framework for addressing those challenges
  - Section 5 proposes a 'dashboard' of headline indicators to be used in monitoring the programme
  - Section 6 presents the next steps towards implementation of the strategy.
  - There are three annexes: annex A provides our current list of key documents that are of particular relevance to this project, annex B presents an analysis of Black Country economic activity in terms of clusters, and annex C provides supporting information in terms of a Standard Industrial Classification (SIC) code breakdown of employment per Advantage cluster.

## 2 An overview of the Black Country's economy

### Current economy

- 2.1 The economic challenges facing the Black Country are widely recognised, and much data is available on the current state of the sub-region's economy, skills and social structures. For the purposes of this report, we avoid repeating much of the standard detailed sub-regional data on the current state of the economy that is readily available elsewhere, and restrict ourselves to a brief summary of the issues highlighted by the key economic indicators given in Table 2-1.

Table 2-1: Key economic indicators for the Black Country

|  | Dudley  | Sandwell | Walsall | Wolv'n  | <b>Black Country</b> | <b>Black Country relative to national (national =100)</b> | West Midlands relative to national (national =100) |
|--|---------|----------|---------|---------|----------------------|---|--|
| Employment (% of working age persons in employment, 2001) <sup>1</sup>           | 77%     | 69%      | 72%     | 69%     | <b>72%</b>           | <b>96</b>   | 100  |
| Claimant count (% of working age population, April 2003) <sup>1</sup>            | 3.2%    | 4.6%     | 3.6%    | 4.7%    | <b>4.0%</b>          | <b>154</b>  | 115  |
| % of employees in manufacturing <sup>2</sup>                                     | 22%     | 32%      | 30%     | 22%     | <b>27%</b>           | <b>180</b>  | 147  |
| Manufacturing GVA per employee (1997) <sup>3</sup>                               | £25,542 | £27,642  | £26,083 | £31,573 | <b>£28,000</b>       | <b>83</b>   | 91   |
| GDP per head <sup>1</sup>  | £10,428 |          | £10,191 |         | <b>£10,321</b>       | <b>80</b>   | 89   |
| Average weekly earnings (2002) <sup>1</sup>                                      | £392    | £402     | £373    | £434    | <b>£400</b>          | <b>86</b>   | 92   |
| % of population reliant on income support (2000) <sup>1</sup>                    | 24 %    | 37 %     | 33 %    | 35 %    | <b>32 %</b>          | <b>134</b>  | 110  |
| New VAT registrations (per 1000 population, 2001) <sup>1</sup>                   | 2.7     | 2.5      | 2.2     | 2.5     | <b>2.5</b>           | <b>83</b>   | 89   |
| Pupils achieving 5+ A*-C GCSE grades (% , 1999-2000) <sup>4</sup>                | 50%     | 35%      | 41%     | 42%     | <b>42%</b>           | <b>87</b>   | 96   |
| Persons of working age qualified to at least NVQ level 4 (% , 2001) <sup>5</sup> | 18 %    | 15 %     | 16 %    | 18 %    | <b>16 %</b>          | <b>69</b>   | 85   |

<sup>1</sup> DTI Regional Competitiveness Indicators

<sup>2</sup> Annual Business Enquiry (2001), published in NOMIS

<sup>3</sup> Annual Business Enquiry (1997), published in Regional Trends 37.

<sup>4</sup> Department for Education and Skills (DFES)

2.2 From this data we make the following observations on the current Black Country economy:

- Whilst the proportion of the working age population that is in employment is close to the regional and national averages, unemployed claimant rates are substantially higher (4.0% for the Black Country versus 3.0% for the West Midlands and 2.6% nationally).
- The historic strengths of the Black Country in manufacturing are reflected in a very high proportion of employees being engaged in this sector (27% for the Black Country versus 22% for the West Midlands and 15% nationally) – with the implication that service sectors are currently underdeveloped relative to the region and the nation.
- Much of the sub-region's employment – in both the manufacturing and service sectors - is in relatively low-skilled, low value-added activities. This results in low productivity (83% of national average), low GDP per head (80% of national average), and low average weekly earnings (86% of national average). A relatively high proportion of the population is in families reliant on income support (32% for the Black Country versus 27% for the West Midlands and 24% nationally).
- The prospects for the sub-region's future are currently limited by low rates of business start-ups (with annual VAT registrations per 1000 population running at 83% of the national average), and relatively low levels of educational attainment (GCSE A\*-C passes at 87% of the national average, and working age population with at least NVQ level 4 qualifications at 69% of the national average).

2.3 Examples of more positive trends can certainly be found – e.g. the one-year survival rate of VAT registered businesses improved by 8.5% in the Black Country between 1993 and 2000, compared to an improvement of just 5.9% nationally. However, it would be fair to say that, in general, the current state of the sub-region's economy is poor relative to the West Midlands and the country, and its relative skills shortage gives cause for concern for the future, as the nation's economy moves towards higher-skilled, knowledge-based industries. The following sub-sections explore the economic prospects for the sub-region in more detail.

### **Methodology for the prospects forecasts**

2.4 In this Section, we present an overview of the prospects for the Black Country economy, based on projections derived from the most recent (2003) data<sup>6</sup> supplied by the Institute of

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<sup>5</sup> Labour Force Survey (2001), published in NOMIS.

<sup>6</sup> Note that there will inevitably be some small discrepancies between the 2003 LEFM projections used in this report and the earlier LEFM projections used in preceding projects (e.g. the Economic Prospects studies for Wolverhampton and Walsall)



Employment Research (IER) at the University of Warwick, using Cambridge Econometrics' Local Economy Forecasting Model (LEFM).

- 2.5 The LEFM projections need to be treated with some caution, as the model essentially assumes that past trends continue. As the IER states in its guidance notes: *“The main aim of generating projections using LEFM is to provide a quantitative benchmark of labour market prospects for the local area concerned. The projections are based on secondary data sources .... They do not incorporate any specific local knowledge or insight and are intended as a starting point for further analysis rather than a projection of what is most likely to happen....Benchmark projections from LEFM assume that, at a detailed sectoral level, companies in the local area maintain past patterns of behaviour and performance relative to the region and the country as a whole.”*
- 2.6 The LEFM defines 49 industry sectors in terms of groupings of Standard Industrial Classification (SIC) codes. For the purposes of understanding the economic prospects for the Black Country, we have obtained LEFM projections for the sub-region in each of the 49 LEFM sectors, and categorised each sector into one of three broad types:
- Expanders: Sectors with projected increasing employment, output (in terms of £ GVA) and productivity (GVA/employee)
  - Adjusters: Those sectors with projected falls in employment, but increasing output and productivity
  - Shrinkers<sup>7</sup>: Those sectors with both a projected reduction in both output and employment.
- 2.7 It is important to recognise that these are types of *sectors*, not descriptions of *firms*. In the Shrinker category, for example, there will be some firms which are actually succeeding in creating growth in terms of both output and employment. Understanding this tension between the sector categories and the firms that they contain is vital in terms of taking this strategy forward.

### **Overall prospects for the Black Country**

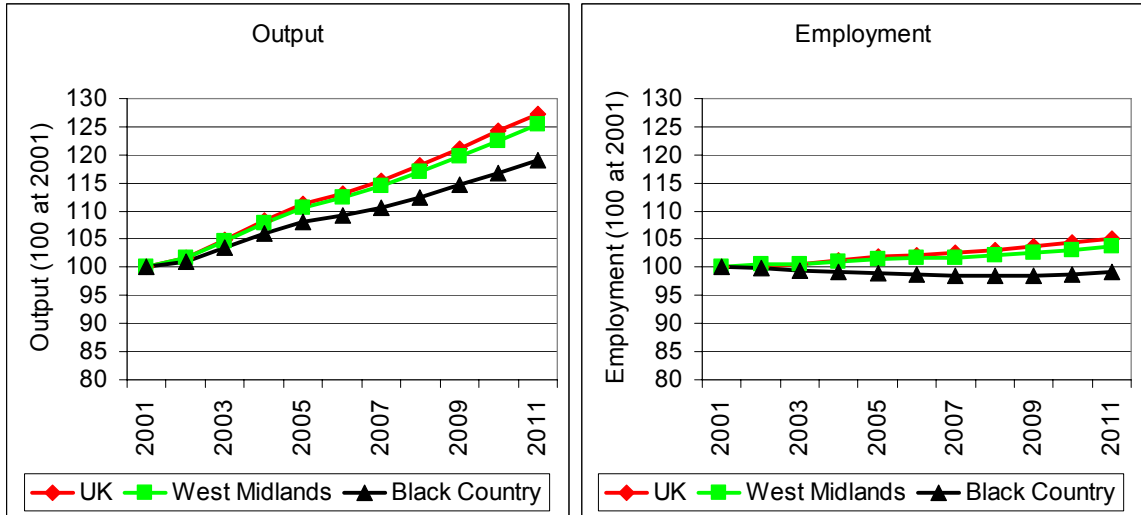
- 2.8 Overall, the LEFM model predicts a 1% fall in overall Black Country employment in the period 2001 to 2011, but a 20% rise in overall output. As shown in Figure 2-1 below, the Black Country is projected to lag behind the West Midlands and the UK in terms of both

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<sup>7</sup> We prefer to use the term ‘shrink’ rather than ‘decline’ as the latter implies an inevitable long term descent into extinction, whereas there is actually potential for some companies in these sectors to ‘re-trench’ into higher value-added niche activities in which they can sustain a competitive and profitable position.

employment and output over that period, although growth in productivity is projected to follow the regional and national trend.

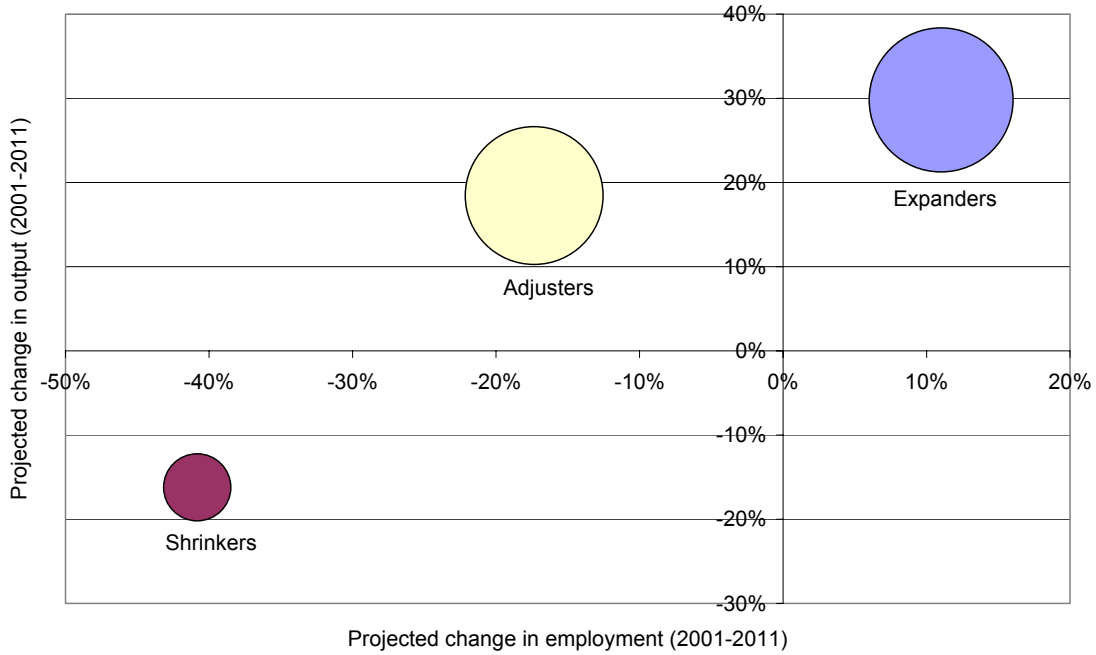
Figure 2-1: Projections for growth in output and employment in the Black Country, West Midlands and UK [source: IER LEFM, 2003. All 2001 figures normalised to 100]



2.9 Figure 2-2 below illustrates the current distribution of Black Country economic output by sector type (Expander, Adjuster, Shrinker), with the size of the bubbles being proportional to 2001 output. This diagram neatly captures a triple challenge facing modernisation and diversification in the Black Country:

- Nurturing growth in expanding industry sectors
- Modernising and increasing productivity to maintain and improve competitiveness in certain important adjusting industries
- Managing shrinkage in some traditional basic industries

Figure 2-2: Distribution of Black Country economy by sector type (size of bubble is proportional to 2001 output) [source: IER LEFM, 2003]



- 2.10 There are very substantial challenges and risks associated with the above economic prospects for the Black Country economy.
- 2.11 Over the period 2001-2011 employment in the Black Country’s adjusting and shrinking industries is projected to contract by over 40,000 jobs. The Black Country’s future prosperity therefore depends on ensuring that its growth sectors – either existing or new ones that emerge - expand sufficiently to create 40,000 or more well-paid jobs over that period.
- 2.12 Major risks associated with this are outlined briefly later in this Section, and the key challenges for the public sector in enabling this growth and diversification are discussed in Section 3. The following sub-sections provide a breakdown of each sector category, in order to understand the potential future shape of the Black Country’s economy in more detail.

## Expanders

- 2.13 There are 17 sectors with a promising future, in terms of projected increase in employment and output, 14 of which are significant in that they are projected to make up at least 0.5% (approx. 2,500 employees) of total Black Country employment in 2011. Insurance has been included, since it has strong projected output and employment growth despite negative productivity growth.
- 2.14 In 2001, these Expander industries employed c. 320,300 people in the Black Country (63% of employment) and produced £5.6 billion or 48% of the Black Country output. Employment in these industries is projected to increase by 11% by 2011, and output is projected to increase over the same period by 30%.
- 2.15 Table 2-2 shows the Expander sectors for the Black Country, in rank order of projected employment in 2011.
- 2.16 In terms of both output and employment, these sectors will be the key drivers for the Black Country economy over the decade if present trends continue, as shown in Table 2-3 which summarises Expanders' share of employment and output in the Black Country in 2001 and 2011. Note the prevalence of service industries amongst these 'Expander' sectors: i.e. the service sector is projected to be an increasingly important driver of the Black Country economy in terms of providing employment.

Table 2-2: Expanding Sectors in the Black Country 2001-2011 [source: IER LEFM, 2003]

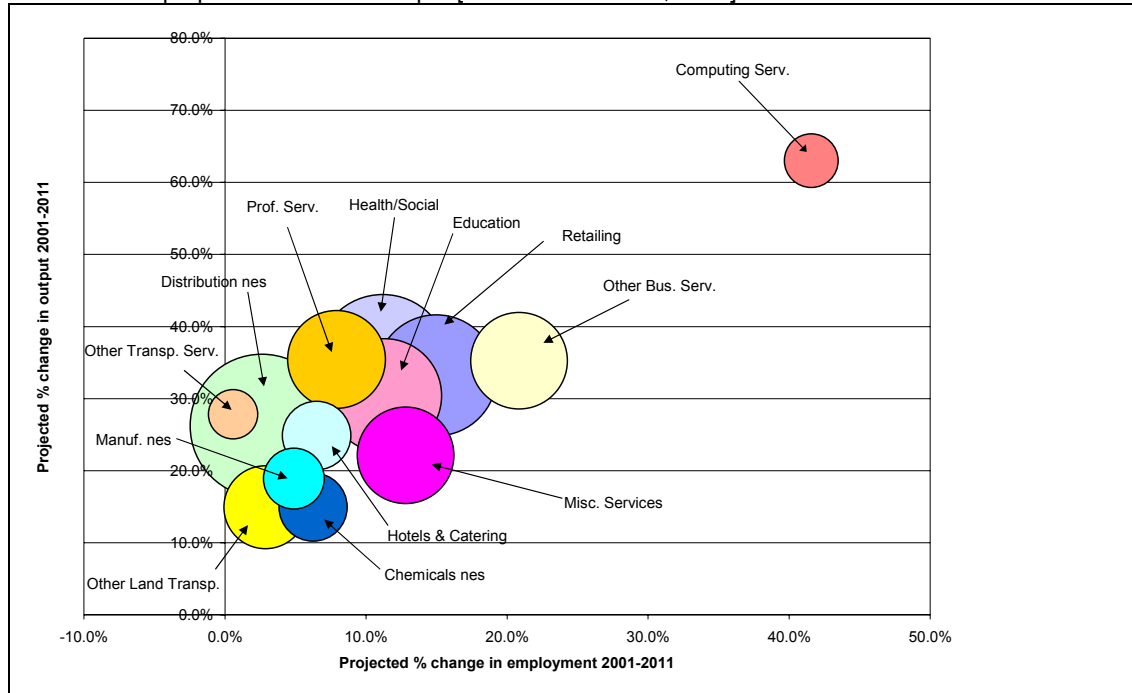
|                               | % Change 2001-2011 |              |                 | Employment (2011) |
|-------------------------------|--------------------|--------------|-----------------|-------------------|
|                               | Employment         | Output       | Output per head |                   |
| Retailing                     | 15.0%              | 33.2%        | 15.9%           | 55,225            |
| Health/Social                 | 11.2%              | 35.2%        | 21.6%           | 52,674            |
| Distribution nes <sup>8</sup> | 2.6%               | 26.2%        | 23.0%           | 49,246            |
| Education                     | 11.3%              | 30.4%        | 17.1%           | 45,019            |
| Other Bus. Serv.              | 20.9%              | 35.3%        | 11.9%           | 44,773            |
| Misc. Services                | 12.8%              | 22.1%        | 8.2%            | 29,823            |
| Hotels & Catering             | 6.5%               | 24.9%        | 17.2%           | 22,995            |
| Other Land Transp.            | 2.9%               | 14.9%        | 11.7%           | 15,836            |
| Prof. Serv.                   | 7.9%               | 35.4%        | 25.5%           | 15,214            |
| Manuf. Nes                    | 4.9%               | 18.9%        | 13.4%           | 9,020             |
| Computing Serv.               | 41.6%              | 63.0%        | 15.1%           | 6,085             |
| Other Transp. Serv.           | 0.6%               | 27.8%        | 27.1%           | 3,839             |
| Chemicals nes                 | 6.2%               | 14.9%        | 8.2%            | 3,630             |
| <i>Insurance</i>              | <i>26.5%</i>       | <i>26.0%</i> | <i>-0.4%</i>    | <i>1,885</i>      |
| <i>Rail Transport</i>         | <i>6.7%</i>        | <i>28.9%</i> | <i>20.8%</i>    | <i>207</i>        |
| <i>Pharmaceuticals</i>        | <i>2.2%</i>        | <i>76.0%</i> | <i>72.2%</i>    | <i>112</i>        |

<sup>8</sup> "nes" = "not elsewhere specified" in the LEFM model

Table 2-3: Expanders' share of Black Country employment and output in 2001 and 2011 [source: IER LEFM, 2003]

|                        | 2001 | Share of BC | 2011 | Share of BC |
|------------------------|------|-------------|------|-------------|
| Output (GVA £ billion) | 5.6  | 48%         | 7.3  | 52%         |
| Employment (000s)      | 320  | 63%         | 356  | 71%         |

Figure 2-3: Projected change in employment and output 2001-2011 for significant 'Expander' industries. Bubble size is proportional to 2001 output [Source: IER LEFM, 2003]



### Adjusting sectors

- 2.17 'Adjusters' are sectors which are expected to be shedding employees, but successful in achieving increased output (and therefore output per head). Relatively high capital investment or innovation will allow these sectors to achieve output growth with fewer people.
- 2.18 Twenty-three of the 49 LEFM sectors fall into this category, and 11 of these will contribute significantly to employment in 2011 (i.e. at least 0.5% of the sub-region's employment).
- 2.19 In 2001, these adjusting industries employed c. 152,600 people in the Black Country (30% of employment) and produced £5.1 billion or 43% of the Black Country output. Employment in these industries is projected to fall by 17% by 2011, whilst output is projected to increase over the same period by 18%.

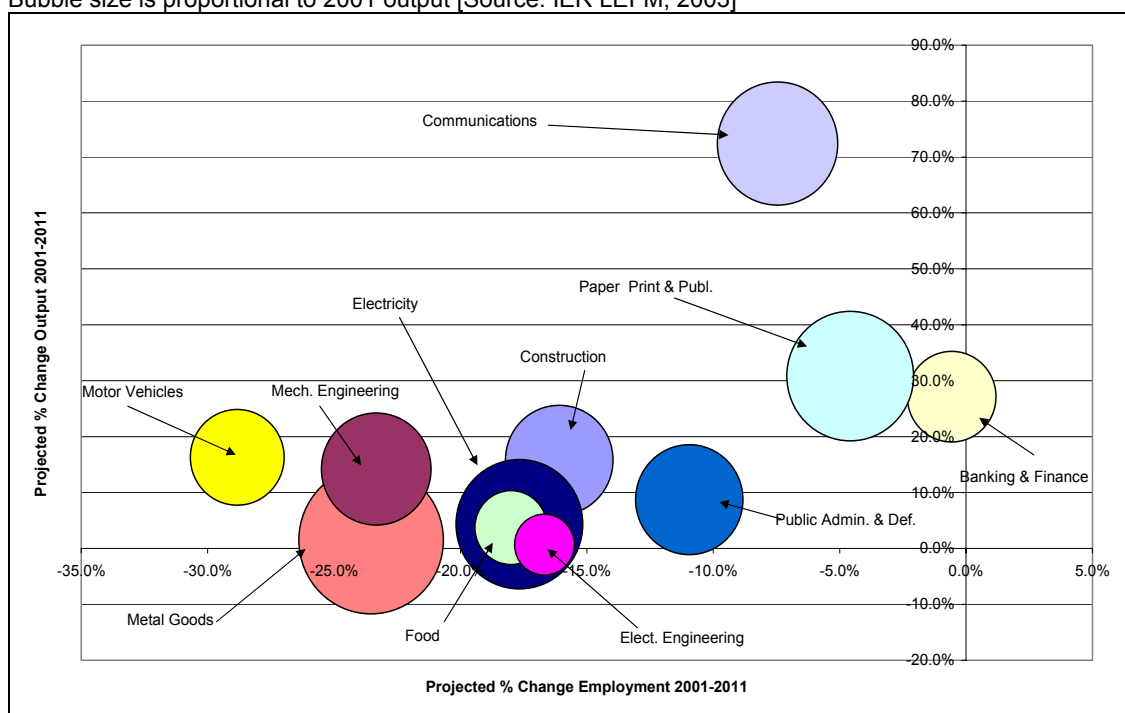
Table 2-4: Adjusting Sectors in the Black Country 2001-2011 [source: IER LEFM, 2003]

|                               | % Change 2001-2011 |        |                 | Employment (2011) |
|-------------------------------|--------------------|--------|-----------------|-------------------|
|                               | Employment         | Output | Output per head |                   |
| Metal Goods                   | -23.5%             | 1.5%   | 32.7%           | 29,932            |
| Construction                  | -16.1%             | 15.8%  | 38.0%           | 23,503            |
| Public Admin. & Def.          | -10.9%             | 8.7%   | 22.0%           | 16,810            |
| Mech. Engineering             | -23.3%             | 14.2%  | 48.9%           | 10,458            |
| Communications                | -7.5%              | 72.4%  | 86.3%           | 7,965             |
| Banking & Finance             | -0.6%              | 27.1%  | 27.9%           | 6,090             |
| Motor Vehicles                | -28.8%             | 16.3%  | 63.3%           | 4,936             |
| Paper, Print & Publ.          | -4.6%              | 30.8%  | 37.1%           | 4,624             |
| Electricity                   | -17.7%             | 4.3%   | 26.7%           | 4,540             |
| Food                          | -18.0%             | 3.7%   | 26.5%           | 4,154             |
| Elect. Engineering            | -16.7%             | 0.6%   | 20.8%           | 3,642             |
| <i>Instruments</i>            | -23.2%             | 20.0%  | 56.2%           | 1,602             |
| <i>Wood &amp; Wood Prods.</i> | -8.9%              | 10.1%  | 20.9%           | 1,457             |
| <i>Oth. Transp. Equip.</i>    | -11.3%             | 28.9%  | 45.4%           | 1,221             |
| <i>Waste Treatment</i>        | -4.9%              | 19.6%  | 25.7%           | 1,092             |
| <i>Gas Supply</i>             | -11.4%             | 23.4%  | 39.3%           | 972               |
| <i>Aerospace</i>              | -41.7%             | 15.8%  | 98.6%           | 767               |
| <i>Other Mining</i>           | -6.4%              | 12.9%  | 20.6%           | 675               |
| <i>Electronics</i>            | -24.1%             | 50.1%  | 97.7%           | 660               |
| <i>Water Supply</i>           | -16.1%             | 14.1%  | 36.0%           | 626               |
| <i>Manuf. Fuels</i>           | -19.6%             | 34.0%  | 66.6%           | 408               |
| <i>Air Transport</i>          | -13.8%             | 40.5%  | 63.0%           | 8                 |
| <i>Water Transport</i>        | -2.4%              | 36.3%  | 39.7%           | 8                 |

Table 2-5: Adjusters' share of Black Country employment and output in 2001 and 2011 [source: IER LEFM, 2003]

|                        | 2001 | Share of BC | 2011 | Share of BC |
|------------------------|------|-------------|------|-------------|
| Output (GVA £ billion) | 5.1  | 44%         | 6.1  | 43%         |
| Employment (000s)      | 153  | 30%         | 126  | 25%         |

Figure 2-4: Projected change in employment and output 2001-2011 for significant adjusting industries. Bubble size is proportional to 2001 output [Source: IER LEFM, 2003]



### Shrinking sectors

- 2.20 A few important traditional Black Country industries are projected to shrink in both employment and output in the period 2001-2011.
- 2.21 In 2001, these shrinking industries employed c. 34,000 people in the Black Country (7% of employment) and produced £1.2 billion or 10% of the Black Country output. Employment in these industries is projected to fall by 41% by 2011, and output is projected to reduce over the same period by 17%.
- 2.22 While Rubbers & Plastics is the largest shrinking industry in terms of employment in 2011, the most significant contractions are predicted to occur in the Basic Metals and Clothing & Leather industries.

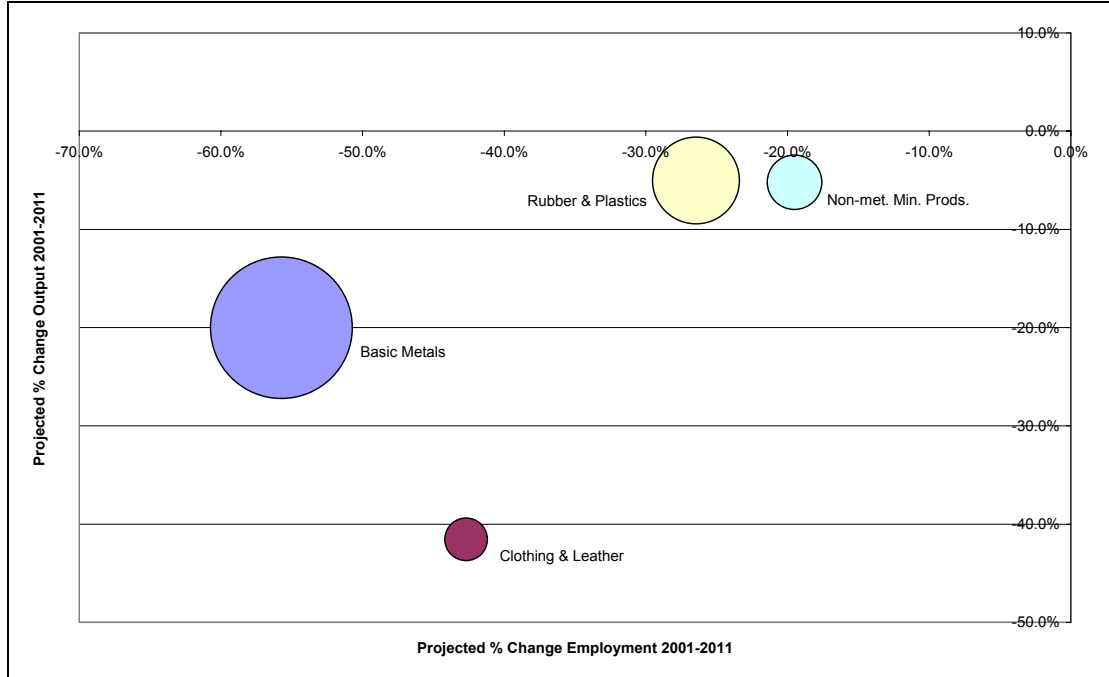
Table 2-6: Shrinking Sectors in the Black Country 2001-2011 [source: IER LEFM, 2003]

|                        | % Change 2001-2011 |        |                 | Employment (2011) |
|------------------------|--------------------|--------|-----------------|-------------------|
|                        | Employment         | Output | Output per head |                   |
| Rubber & Plastics      | -26.5%             | -5.0%  | 29.1%           | 6,825             |
| Basic Metals           | -55.7%             | -20.0% | 80.7%           | 6,467             |
| Non-met. Min. Prods.   | -19.5%             | -5.2%  | 17.8%           | 3,001             |
| Clothing & Leather     | -42.7%             | -41.6% | 2.0%            | 2,714             |
| <i>Agriculture etc</i> | -21.4%             | -2.1%  | 24.6%           | 793               |
| <i>Textiles</i>        | -51.3%             | -26.4% | 51.1%           | 288               |
| <i>Coal etc</i>        | -25.5%             | -28.3% | -3.8%           | 14                |

Table 2-7: Shrinkers' share of Black Country employment and output in 2001 and 2011 [source: IER LEFM, 2003]

|                        | 2001 | Share of BC | 2011 | Share of BC |
|------------------------|------|-------------|------|-------------|
| Output (GVA £ billion) | 1.2  | 10%         | 1.0  | 7%          |
| Employment (000s)      | 34   | 7%          | 20   | 4%          |

Figure 2-5: Projected change in employment and output 2001-2011 for significant shrinking industries. Bubble size is proportional to 2001 output [Source: IER LEFM, 2003]



## Major risk factors

2.23 We repeat that the above analysis is based on LEFM projections, which are in turn based on the assumption that *“at a detailed sectoral level, companies in the local area maintain past patterns of behaviour and performance relative to the region and the country as a whole”*.

2.24 There are a number of major risk factors which could potentially result in the outcome for the Black Country being materially worse than that outlined above. These major risks include:

- major customers (especially in automotive – on which sector the Black Country is particularly dependent) being forced into closure or major downsizing of their UK operations (in favour of operations in lower cost economies);
- major customers accelerating their consolidation of supply chains, to the detriment of players in the Black Country;
- the partners failing to deliver on the structural conditions for growth and diversification, resulting in the growth of expanding sectors being restricted (e.g. by



skills shortages) and the employment declines in adjusting and shrinking sectors being accelerated.

- 2.25 In the following sub-section, we put the LEFM projections into the context of these and other risks, by highlighting the wide range of drivers of economic change that are at work in the Black Country.

### **Drivers of economic change in the Black Country**

- 2.26 As indicated above, the LEFM projections are ‘one-line forecasts’ – a base case scenario; they should not be taken to be the definitive view of what the future will look like.

- 2.27 In practice, of course, there are many uncertainties facing the Black Country economy, and there are numerous feasible future scenarios for the sub-region. The forthcoming work on economic futures for the Black Country will explore such scenarios in detail, with a 30 year perspective.

- 2.28 To provide a connection between the above one-line forecasts and the wider economic future scenarios work, we outline below some key drivers that will be important to the future shape of the Black Country economy over the next five years (which is the time horizon for this study):

- those on which the partners have little or no influence;
- those on which the partners have some influence;
- those on which the partners have substantial influence.

- 2.29 We have chosen this grouping of drivers, in order to distinguish between the factors which the partners should simply take as ‘givens’ to be planned around, areas where focused lobbying would be of value, and areas where there is genuine opportunity for the partners’ budget-limited resources to make a difference.

### ***Drivers on which the partners have little or no influence***

- 2.30 There are certain economic drivers on which partners within the Black Country can realistically have little control. For example, in an increasingly global economy, the partners can have little influence over trends within industries and markets; the inevitability of an ageing population is a UK-wide and indeed European-wide phenomenon; and national policies on the environment are set in response to European and indeed global agreements. Furthermore, the Black Country has little influence on the attractiveness or otherwise of sub-

regions elsewhere in the UK – and in a competitive environment (for skills, jobs, and investment) the Black Country’s development will to an extent be dependent on the degree to which its *relative* position improves.

|                             |   |
|-----------------------------|---|
| Globalisation               | <ul style="list-style-type: none"> <li>• Many key industries are becoming increasingly global – with supply shifting to emerging economies that can provide products/services at lower cost, e.g. to:             <ul style="list-style-type: none"> <li>○ Eastern Europe – e.g. for automotive manufacturing – witness the impact on Goodyear’s operation at Wolverhampton</li> <li>○ China – e.g. for manufacturing of consumer products and high tech goods</li> <li>○ India – e.g. for English language call centres and software development</li> </ul> </li> <li>• The enlargement of the European Union brings relatively low cost economies such as Poland and the Czech Republic into the EU trading block.</li> </ul>   |
| Supply chain consolidation  | <ul style="list-style-type: none"> <li>• Major manufacturers, including automotive OEMs such as Rover, are dramatically consolidating their supply chains, to deal with fewer, larger, more capable suppliers             <ul style="list-style-type: none"> <li>○ Tier 1 suppliers increasingly expected to take on more risk and R&amp;D</li> <li>○ Smaller suppliers risk losing their direct interfaces with OEMs</li> <li>○ There is increasing pressure for reduced costs, higher levels of innovation, greater product variation, and faster time to market.</li> </ul> </li> </ul>  |
| Market developments         | <ul style="list-style-type: none"> <li>• The demand for and supply of products and services will of course continue to evolve through the action of normal market forces.</li> <li>• Generally increasing levels of affluence are leading to people becoming more demanding and discriminating in their consumption of products and services – both from private sector and public sector suppliers.</li> <li>• Established markets will be threatened and new markets created by:             <ul style="list-style-type: none"> <li>○ Disruptive technologies – e.g. nanotechnology, MEMS, OLEDs, grid computing</li> <li>○ Disruptive commercial models – e.g. low-cost airlines, e-commerce, open source software</li> <li>○ Disruptive world events – e.g. war, terrorism</li> </ul> </li> </ul> |
| Increasing connectivity     | <ul style="list-style-type: none"> <li>• The world is becoming more e-enabled.             <ul style="list-style-type: none"> <li>○ c. 50% of UK households now have internet access</li> <li>○ BT is targeting 5 million broadband subscribers by 2006</li> </ul> </li> <li>• ICTs are becoming pervasive, and this is making new demands of us all in the way we live and work</li> <li>• Business customers and consumers will increasingly rely on electronic communications in searching for, qualifying and transacting with their suppliers</li> </ul>   |
| Ageing population           | <ul style="list-style-type: none"> <li>• The Black Country’s population is ageing (proportion aged 60+ is projected to rise from 20.9% in 1996 to 25.1% in 2021)</li> <li>• This will tend to increase the demand for certain services, such as:             <ul style="list-style-type: none"> <li>○ healthcare</li> <li>○ care for the elderly</li> </ul> </li> </ul>   |
| National environment policy | <ul style="list-style-type: none"> <li>• Policies have been put in place to reduce negative environmental impacts, and these will tend to stimulate the market for environmental technologies:             <ul style="list-style-type: none"> <li>○ generate an increasing proportion of UK’s electricity from renewable sources (10% by 2010, 20% by 2020);</li> </ul> </li> </ul>   |

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>○ achieve improved air quality targets (targets now set for 2010);</li> <li>○ increase the proportion of waste that is recycled (e.g. reduce industrial/commercial waste set to landfill to 85% of 1998 levels by 2005; recycle 30% of household waste by 2010)</li> </ul>  |
| Change in attractiveness of other UK locations | <ul style="list-style-type: none"> <li>● The Black Country competes with others within the region and beyond as a place for higher value-added businesses to locate and as a place for skilled people to live and work: <ul style="list-style-type: none"> <li>○ many other parts of the UK are also focusing on sectors/clusters such as Environmental Technologies, Medical Technologies and ICT as strategic growth areas;</li> <li>○ congestion, pollution and house prices will encourage some companies to relocate out of the UK's current/traditional hotspots of economic activity</li> </ul> </li> </ul> |

***Drivers on which the partners have some influence***

2.31 There are other drivers on which partners in the Black Country can realistically have some influence – but by no means full control. For example, marketing activity can have some impact on negative external perceptions of the sub-region; the Black Country should have a substantial voice in the regionalisation agenda within the West Midlands; and lobbying by partners can have some impact on public sector relocation decisions, on public sector procurement policies, on transport issues and on research funding.

|  |  |
|--|--|
| Image of the Black Country                                 | <ul style="list-style-type: none"> <li>● Perceptions within the UK and beyond of the Black Country are mixed.</li> <li>● These perceptions have a marked impact on the location decisions of both businesses and individuals/families.</li> <li>● There is an opportunity to turn around negative perceptions through marketing activity over the next few years, provided this can be founded in genuine positive developments in the physical and economic make-up of the sub-region. <ul style="list-style-type: none"> <li>○ A Black Country image study has recently been commissioned</li> </ul> </li> </ul> |
| Regionalisation  | <ul style="list-style-type: none"> <li>● The potential for regional government brings the prospect of greater freedoms and competitiveness for the region</li> </ul>   |
| Public sector relocations                                  | <ul style="list-style-type: none"> <li>● The Lyons review could lead to substantial relocations of public sector activities out of London and the South East <ul style="list-style-type: none"> <li>○ With its reasonable road and rail links to London, the west Midlands could be a major beneficiary</li> <li>○ Public sector activities can play a major role in the development of associated clusters</li> </ul> </li> </ul>   |
| Public sector acting as a customer                         | <ul style="list-style-type: none"> <li>● There is increasing interest in leveraging public sector demand to the economic benefit of the sub-region's economy, through increased local sourcing of products and services (within procurement/competition regulations) <ul style="list-style-type: none"> <li>○ e.g. New Cross hospital buying medical technologies from local suppliers</li> </ul> </li> </ul>  |
| Changes in transport to, from and within the Black Country | <ul style="list-style-type: none"> <li>● Ease of access to and from the Black Country will continue to be a major factor affecting businesses' location decisions</li> <li>● Transport to and from the Black Country should be eased by developments such as: <ul style="list-style-type: none"> <li>○ The M6 Toll Road</li> </ul> </li> </ul>   |

|             |  |
|-------------|--|
|             | <ul style="list-style-type: none"> <li>○ Increased capacity at Wolverhampton and New Street stations</li> <li>○ Enhanced rail capacity between London and Birmingham</li> <li>● Active Traffic Management on West Midlands motorways could also potentially help to reduce congestion levels</li> <li>● However, continued motorway traffic growth remains a major threat</li> <li>● Transport within the Black Country should be eased by developments such as Metro extensions and improvements in bus network capacity</li> </ul> |
| R&D funding | <ul style="list-style-type: none"> <li>● HEFCE research funding has been, and will continue to be, selective – concentrating funds into departments with the highest RAE ratings <ul style="list-style-type: none"> <li>○ This will make it difficult for UoW to develop a critical mass of research excellence on its own</li> </ul> </li> </ul>  |

**Drivers on which the partners have substantial influence**

2.32 Finally, there is a set of drivers on which the partners have substantial influence or indeed full control. As well as community leadership itself, the quality and/or the availability of education, business support, housing and employment premises, retail/leisure facilities and the public realm are all to an extent determined by the actions of partners within the Black Country.

|                                     |  |
|-------------------------------------|--|
| Quality of public sector leadership | <ul style="list-style-type: none"> <li>● With increasing competition between regions/sub-regions for the higher value activities and skilled people that will be at the heart of the future knowledge economy, much will depend on the quality of civic/sub-regional leadership – both at the political and executive levels – in delivering the conditions for growth.</li> <li>● Those sub-regions with superior vision and capabilities within their leaderships will tend to outperform, other factors being equal.</li> </ul>   |
| Quality of school education         | <ul style="list-style-type: none"> <li>● GCSE attainment levels have been improving faster than the national average rate of improvement over the last few years <ul style="list-style-type: none"> <li>○ Between 1999 and 2002, the proportion of pupils with 5+ A*-C grades has increased by between 4.1 percentage points (Dudley) and 6.3 percentage points (Walsall), vs 3.7 percentage points for England</li> </ul> </li> <li>● However, as yet only Dudley currently matches/exceeds the national average attainment levels.</li> <li>● Continued improvement will be needed, given the importance attributed to the availability of good schools in businesses' location decisions.</li> </ul>  |
| Quality of HE/FE provision          | <ul style="list-style-type: none"> <li>● There have been significant improvements in the quality of the UoW proposition to students <ul style="list-style-type: none"> <li>○ e.g. UoW rose from 111<sup>th</sup> out of 123 to 94<sup>th</sup> in the Sunday Times University League Table last year</li> <li>○ there is an increasingly attractive Wolverhampton evening economy</li> </ul> </li> <li>● Continued improvement will be needed, to make the Black Country an attractive option for highly able students seeking HE</li> <li>● According to the Black Country LSC strategic plan, FE provision in the Black Country is broadly satisfactory with less poor and less excellent provision compared with the rest of the country. <ul style="list-style-type: none"> <li>○ CoVEs established at Sandwell College / City of Wolverhampton College (media) and Stourbridge College (Built Environment)</li> <li>○ Continued improvement will be needed in coordination</li> </ul> </li> </ul> |

|   |  |
|---|--|
|   | between FE colleges and links between FE and HE, as well as in overall FE performance  |
| Support to businesses                                 | <ul style="list-style-type: none"> <li>• High quality and integrated support to indigenous businesses and inward investors will be vital in nurturing and attracting higher value-added activities</li> </ul>  |
| Supply of housing                                     | <ul style="list-style-type: none"> <li>• The ability to attract and retain skilled people to live and work in the Black Country will depend on having the right sort of housing available: <ul style="list-style-type: none"> <li>○ a mixture of quality stock at various price levels</li> <li>○ accommodation for young professionals as well as for families</li> </ul> </li> </ul>   |
| Supply of property/premises for employment            | <ul style="list-style-type: none"> <li>• Currently high levels of derelict land and low levels of readily available land for employment are being addressed by the Regeneration Zone initiatives.</li> </ul>   |
| Quality of retail/leisure facilities and public realm | <ul style="list-style-type: none"> <li>• Developments such as those at Merryhill and Sandwell have had and/or will have a major impact on the attractiveness of the Black Country as a retail destination</li> <li>• Regeneration of the canal-side areas such as Walsall Town Wharf and the Wolverhampton Canal Quarter should provide attractive destinations for both locals and visitors</li> <li>• Continued improvements in the quality of the public realm and retail/leisure facilities will be important in making the Black Country an attractive place for people to live and work</li> </ul> |

2.33 There are varying levels of uncertainty associated with each of the above key drivers, and the complex interactions between the various drivers mean that there are numerous potential future scenarios for the Black Country – beyond the base case scenario described above by the LFM projections. The forthcoming economic futures work will consider various scenarios in some depth.

2.34 It is important for the partners to accept that the future is uncertain and to appreciate that economic drivers interact in complex ways; it is therefore vital for the partners to focus on the factors which they can influence that are likely to have the greatest impact in delivering positive economic change. To this end, the following Section presents our summary of the key challenges facing the partners in progressing the diversification and modernisation agenda.

### **3 Summary of key diversification and modernisation challenges**

3.1 From the above analyses, we conclude that successful diversification and growth of the Black Country's economy will be dependent on:

- nurturing growth industries, which will predominantly be in the service sector;
- modernising and increasing productivity in order to maintain competitiveness in adjusting industries, such as metal goods, construction and mechanical engineering;
- managing shrinkage in certain traditional industries, such as basic metals and leather.

3.2 Standing still is simply not an option. Over the period 2001-2011 employment in the Black Country's adjusting and shrinking industries is projected to contract by over 40,000 jobs. The Black Country's future prosperity therefore depends on ensuring that its growth sectors expand sufficiently to create 40,000 or more well-paid jobs over that period.

3.3 This will be far from easy, and there are some fundamental structural challenges:

- **Fostering hard and soft infrastructures for business development.** Over recent years policy-makers have come to recognise the key role of industry clusters in building and sustaining high performance economies. The West Midlands Economic Strategy recognises the improvements in the region's competitiveness that can come through the development of clusters, and positions the cluster programme as one of its three key delivery mechanisms (the other two being the Regeneration Zones and the High Technology Corridors). Partners in the Black Country will need to strive to put four key conditions for effective cluster development in place:
  - People – building a base of entrepreneurial people with ambitious aspirations, instilling managers with confidence in engaging with new approaches, reducing the isolation sometimes felt by SME managers, ensuring that industries are able to draw on a pool of well-skilled and well-educated people in a flexible labour market, and encouraging positive individual attitudes towards risk-taking.
  - Land, property & infrastructure – ensuring the availability of good quality land and premises, readily accessible by public and private transport, and providing flexible accommodation for small knowledge-based companies within publicly-supported incubator facilities, managed workspaces and innovation centres where appropriate.

- Knowledge – developing a critical mass of knowledge and intellectual capital in certain fields within the sub-region’s HE/FE resources and within research institutions and the companies themselves, to allow the area’s firms increasingly to compete on the basis of innovation and technological content, rather than cost alone.
- Money and external business expertise – ensuring that firms within the sub-region’s clusters are able to access finance for restructuring and growth, and that they have ready access to specialist advisers in the areas of markets, technology, law and finance.
- **Fostering clustering behaviours.** Of equal importance with the above conditions for cluster development is the nurturing of clustering as a *behaviour*. Collaboration activity will be key to this – encouraging people from business, finance, law, academia and the public sector to engage and interact more regularly to their mutual advantage: reducing barriers to growth and change, exposing firms to best practice in their own and other fields, and creating the potential for collaboration on commercial ventures.

3.4 Addressing these cluster development challenges will be vital to securing and maintaining long term economic diversification and modernisation in the Black Country. Specifically, in the context of this sub-region, the particular dimensions which the diversification and modernisation strategy need to focus on are:

- **Addressing the skills problem.** The recent Local Futures work on the Economic Architecture and Business Architecture for the Black Country highlighted a number of major skills-related concerns, with the sub-region’s economy appearing to be very weak in terms of its ‘knowledge intensity’ (as measured by the “K1” to “K4” indicators of the proportion of graduates in the workforce by sector). Furthermore, the skills and qualifications required in many expanding industries are very different to those gained in the Black Country’s traditional industries, and many people who have spent their whole career in manufacturing will find it very difficult to transfer to a service industry if they suddenly find themselves out of work. It will therefore be critical for the Black Country to:
  - ensure that its young people are sufficiently qualified and skilled to take up and/or create jobs in the sub-region’s expanding industries, such that growth is not constrained by a skills shortage;
  - ensure that employees in the sub-region’s more traditional (adjusting or shrinking) industries are upskilled to cope with a shift towards more advanced manufacturing technologies and processes and a more service-oriented environment;

- tackle the issue of basic skills, given that people with little or no literacy/numeracy are less likely to participate in learning and improve their own job-related skills;
  - enhance management skills, in order to ensure that the sub-region's companies have the management capacity to drive forward the very difficult tasks of diversification, modernisation and growth.
- **Creating centres of knowledge excellence.** As the economy migrates towards more knowledge-based business activities, Higher Education and Further Education institutions have a vital dual role to play: in attracting bright people (from within and outside the Black Country) to study in the sub-region in certain subjects (and hopefully to stay on at the end of their studies); and in undertaking leading-edge research in certain fields to the competitive advantage of the sub-region's economy. To capture this, sub-regional partners must consider the most appropriate way to exploit and develop the strengths of the University in engineering, e-learning, creative industries and healthcare; its growing relationship with other regional universities, offering complementary strengths in research; and the nationally recognised strengths of Further Education through the development of Centres of Vocational Excellence, such as the Advanced Technology Centre at Stourbridge College and in Creative Industries at Wolverhampton.
  - **Addressing quality of life issues.** Successful diversification and growth of the Black Country's economy will be dependent on a shift towards higher value-added, higher skilled activities – in both manufacturing and services. However, more highly skilled people tend to be more mobile – if they perceive an area to be poor in terms of the overall quality of life it can offer, then they can and will move to other parts of the country (or in the case of potential incomers, they will prefer to take up job opportunities elsewhere). Quality of life challenges that will be particularly important for Black Country diversification include:
    - Improving the availability of good quality housing stock at low, middle and high end price brackets
    - Improving the availability of good quality school education (which of course links to the skills issues discussed above)
    - Improving the visual appearance of key parts of the sub-region, e.g. in terms of the quality of the public realm (streets, parks, squares, paths, canals etc.), and in reducing areas of derelict land/buildings
    - Improving the quality of transport infrastructure and services within the sub-region and to other parts of the region (especially central Birmingham)
    - Reducing levels of crime – which are typically higher in more deprived areas



- **Addressing business property issues.** The industries expected to expand in employment terms are typically in service sectors, which tend to prefer quality office (or retail) accommodation in areas with a good image and good transport and telecommunications links. It will be important for the Black Country to be able to offer such facilities at competitive prices and flexible terms, to ensure that property availability does not act as a throttle on economic growth and diversification. The GVA Grimley Land and Buildings Study has highlighted a number of current problems in terms of business property in the Black Country, which will need to be addressed if they are not to remain barriers to growth.
- **Supporting and stimulating business start-ups, growth and diversification.** Given the relatively low rates of entrepreneurship in the Black Country and the traditional emphasis on relatively low value-added activities, there is clearly a role for the public sector in encouraging and assisting business start-ups and inward investors, and supporting growth and diversification of established businesses. The scale of the challenges faced by businesses in the Black Country would imply a need for substantial public sector support of the highest quality.

3.5 Recognising the need for hard and soft infrastructures and for better business clustering, we group these challenges into three themes for the purposes of the diversification and modernisation strategy:

- Knowledge, learning and skills
- Infrastructure (including many Quality of Life issues, plus business property)
- Business support

3.6 The following Section outlines our proposed strategic framework for diversifying and modernising the Black Country economy, based on addressing these three challenge themes.

## 4 Strategy

4.1 In this Section we describe the partners' agreed vision, the tough strategic decisions to be made, and the proposed framework for the Black Country's diversification and modernisation strategy.

### **Vision – the intended outcome of this strategy**

4.2 Our proposed intended outcome of the Black Country diversification and modernisation programme is no less than:

*“a thriving, diversified and modernised Black Country economy”*

4.3 We note that the word “thriving” is important here: “diversified and modernised” on its own does not necessarily imply growth – indeed the Black Country becomes more diversified whenever a large manufacturer sheds jobs, in that the concentration of employment in manufacturing reduces !

4.4 The word “diversified” is also important, however, as it reduces the sub-region's exposure to sector-specific downturns in the future. For example, it may be possible to temporarily boost growth by channelling investment into one or two sectors that are currently rapidly growing, only to face a severe downturn in a few years' time if and when those sectors falter (Scotland's experience of micro-electronics manufacture in Silicon Glen is arguably a case in point). It is not necessary, and not desirable, for the sub-region to be *perfectly* diversified (e.g. with a location quotient of 1.0 for each industry sector) – this would imply a lack of critical mass in many industries. However, we suggest that the economy needs to be diversified enough to weather future sector-specific downturns without excessive pain.

4.5 The word “modernised” emphasises that the strategy is not just about supporting growth sectors – it is also concerned with ensuring that businesses in adjusting and shrinking sectors diversify through adopting modern processes and technologies, and through developing new higher value-added products and services.

4.6 We suggest that progress towards this vision could be measured by a combination of three indicators:

- Annual growth in total GVA (relative to that of the West Midlands, England and Europe)

- GDP per head (relative to that of the West Midlands, England and Europe)
- A measure of diversification (relative to that of other sub-regions)<sup>9</sup>

### **The tough strategic decisions**

4.7 In setting a strategy in pursuit of the above Vision, the partners need to make some tough strategic decisions - bearing in mind that they have limited resources - regarding:

- The degree of strategic overhaul – should there be a radical overhaul of all the partners’ activities, or should the emphasis be on managed change in pursuit of a common diversification and modernisation agenda ?
- The approach towards traditional Black Country industries
- The clusters selected for particular focus
- The extent to which resources should be focused on selected clusters
- The types of company to be supported.

4.8 We discuss each of these in turn below.

#### ***Degree of strategic overhaul***

4.9 The partners are already engaged in worthwhile and value-adding activities that contribute positively to the diversification and modernisation of the Black Country. We would certainly not advocate tearing up existing initiatives and plans, and starting from a blank sheet of paper.

4.10 Rather, the key challenge should be to ensure that all partners’ activities in the economic development realm should increasingly align strategically with the challenges outlined in the last Section, such that they are more focused, more joined-up and thereby more effective in delivering the diversification and modernisation agenda. **Our first recommendation, therefore, is for a ‘managed change’ approach rather than ‘radical overhaul’.**

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<sup>9</sup> Note that this comparison should be with other similar sized sub-regions rather than the West Midlands region, or the country, as larger economies will inevitably be more diversified, and it would be inappropriate for the Black Country to aim to be as diversified as the West Midlands or England. One potential indicator is the Hachman index of diversification which measures how diversified a given area is in employment relative to the country as a whole, by taking the inverse of the mean location quotient across all industry sectors.

### **Approach towards traditional Black Country industries**

- 4.11 There is a school of thought that, in order to make a difference, a diversification strategy should focus resources solely on supporting ‘sexy’ growth industries - with ICT, creative industries, medical technologies etc. being much cited – and that traditional industries should be left to sink or swim.
- 4.12 There is an opposing school of thought that the Black Country’s diversification and modernisation agenda should be solely focused on building on the sub-region’s strengths in traditional engineering and craft industries, helping these sectors to modernise and move into higher value-added activities.
- 4.13 We subscribe to neither view. Rather, **we advocate a balanced diversification and modernisation strategy, which recognises the potential for value creation across a wide range of the economy.**
- 4.14 In particular, it is important to emphasise in the framework that the diversification and modernisation strategy is *not* just about supporting service companies in growth sectors (positive output and employment growth) – there is an important job to be done in supporting modernisation and diversification within companies in adjusting sectors (positive output growth, negative employment growth) and even in shrinking sectors (negative output and employment growth), where companies may be looking to ‘re-trench’ into higher value-added niche areas where they can sustain a competitive and profitable position.
- 4.15 Furthermore, we maintain that our proposed clustering approach to business development (rather than the more traditional sector approach) offers the best chances for moving the Black Country’s traditional industries towards sustainable higher value-added positions – as well as for nurturing high-growth industries – by encouraging firms to engage more frequently with their counterparts in related industries and academia to their mutual advantage.

### **The clusters selected for particular focus**

- 4.16 The concepts of ‘clusters’ and ‘clustering’ are useful tools for the policy-maker in fostering the development of related and inter-dependent industries. Given limited resources, a strategy which places a particular focus on certain selected clusters is likely to have more impact than a strategy which does not - albeit, as noted above, that this focus must not mean a complete lack of support for industries not included in these selected clusters.
- 4.17 The cluster approach to development is more than simply providing business support targeted at certain sectors. At the heart of the theory of clusters is that the benefits of interdependence between firms, through shared resource pools or interaction, will feed into competitiveness and growth.

- 4.18 Thus, clustering activity does not simply depend on which product market a firm operates, but how firms operate, which determines whether or not beneficial interdependencies exist. In many cases, groups of firms producing the same type of product in an area, exhibit clustering behaviour in that they share: a proximity to a pool of labour, business services tailored to their product market, and links to local educational institutions or other agencies.
- 4.19 At the regional level Advantage has defined a number of clusters, into which substantial effort is being channelled. Annexes B and C present an analysis of the Black Country's economic activity in each of the ten Advantage clusters. These clusters, as defined according to the documentation we received from Advantage<sup>10</sup>, account for some 60% of employment in the Black Country. At this proportion of economic activity, it will clearly be **important for the partners in the Black Country to contribute appropriately to supporting all of the ten target Advantage clusters** through local implementation of the regional cluster action plans.
- 4.20 However, as the Advantage clusters represent the majority of employment in the Black Country, this provides only limited assistance to the partners in defining the parts of the economy that should be selected for particular focus at sub-regional level.
- 4.21 In selecting clusters for particular focus, the partners are *de facto* determining the industries and clusters which should *not* receive a share of any associated incremental resources. In our individual consultations, the strategy development workshop and the steering group discussions, we have found very little consensus between the partners on this matter. Not only are there divergent views on the relative economic importance of certain clusters, but there are also less obvious issues associated with the selection, such as the strategy's potential impact (or lack of impact) for particular geographic areas within the sub-region, and its impact (or lack of impact) for particular ethnic and/or age groups within the population.
- 4.22 If any of the ten Advantage clusters are to be singled out for particular emphasis by the partners, we recommend that it should be those whose development is both relatively uncertain and relatively significant to the Black Country's overall economic output. These, in our opinion, will be the clusters through which the partners' efforts could potentially have the largest economic impact.
- 4.23 Our mapping of the ten clusters against these parameters – informed by the data on current employment/output levels in each cluster, and by the projections on future industry growth/decline – is shown in Figure 4-1 below. Based on this analysis, we would recommend that the Advantage clusters selected for particular focus by the partners should be:

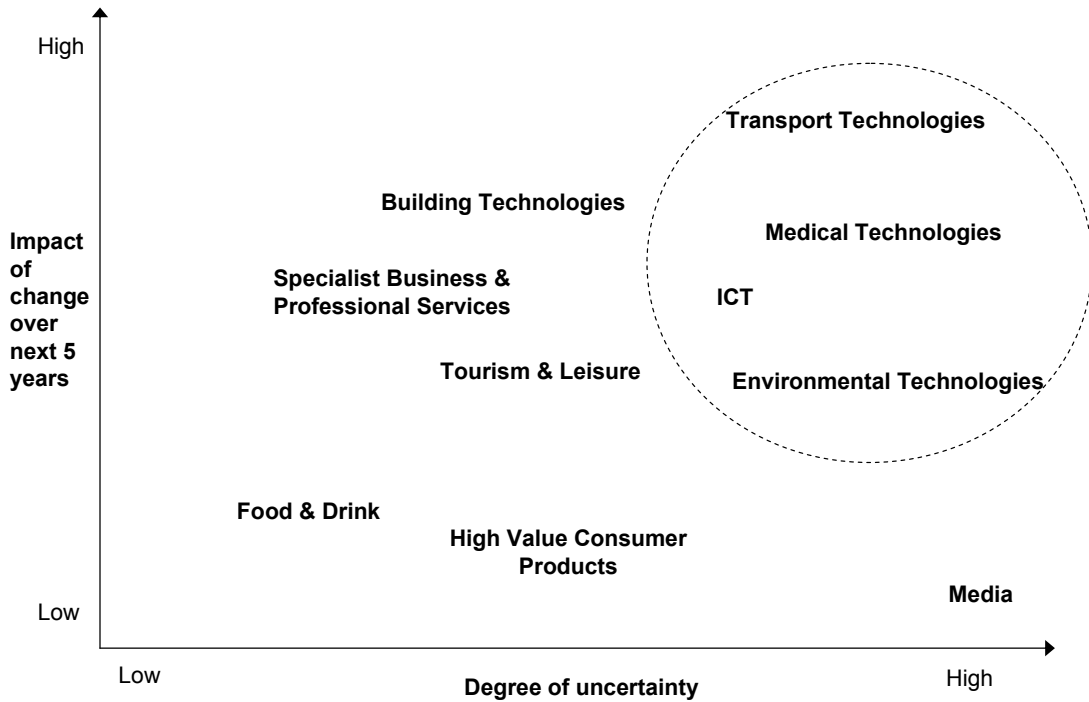
- **Transport Technologies**

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<sup>10</sup> Annex C presents a mapping of the SIC industry sectors included in each of the ten clusters according to Advantage's "SIC Match with Clusters 26.11.02" document.

- **Medical Technologies**
- **ICT**
- **Environmental Technologies.**

Figure 4-1 Advantage clusters mapped by their degree of uncertainty and potential economic impact in the Black Country [source: SQW, 2003]



4.24 However, there are two additional industry groupings which are insufficiently covered by the Advantage clusters, but which have been widely supported as important sub-regional clusters – both by the empirical data and by the views of the partners. Both of these are also of critical importance to the Wolverhampton-Telford Technology Corridor:

- **Advanced Engineering;**
- **Polymers and Plastics.**

4.25 The evidential basis for support of these sub-regional clusters has previously been provided through studies for the Wolverhampton-Telford Technology Corridor, the Action Plan for which is putting a number of important initiatives in place to support the development of these clusters.

4.26 Our analysis of the Black Country’s high point activities has also highlighted the importance of the **Logistics** sector for the sub-region (including distribution and freight). There are

divergent views amongst the partners as to whether this sector should be actively supported. However, we note that:

- the sector currently employs a substantial number of people in the Black Country (3.5% of employment);
- the sector is an important potential source of employment for lower-skilled workers laid off from jobs in adjusting/shrinking manufacturing sectors;
- the sector has a major impact on the quality of the sub-region’s environment – in terms of physical appearance (warehouses etc.) and traffic issues.

4.27 Given these factors, we consider that it is vital for the partners to have a coherent approach towards this important sector, and we recommend that **the partners should develop a coherent strategy for the Logistics sector in the Black Country.**

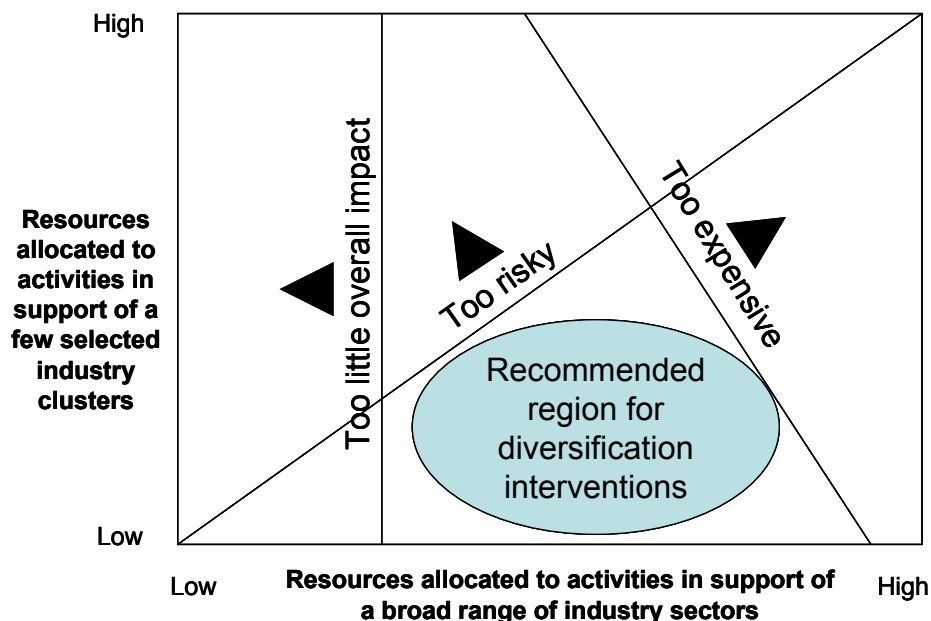
4.28 Further information on current Black Country employment in Advanced Engineering, Plastics & Polymers, and Logistics is provided in Annex B.

***Extent to which resource should be focused on selected clusters***

4.29 Having made a choice of clusters for particular focus, to what extent should the partners’ resources should be focused on these favoured clusters, as opposed to providing support to all industries ?

4.30 To assist us in answering this question, Figure 4-2 below illustrates potential resource allocation choices at a conceptual level.

Figure 4-2 Conceptual illustration of potential resource allocation choices



4.31 The above diagram highlights three potential profiles of resource allocation which we consider to be *inappropriate* for the Black Country's diversification and modernisation strategy:

- At low levels of resource allocated to activities in support of a broad range of industry sectors, there will be too little overall impact on the Black Country economy. No matter how much resource is funnelled towards favoured selected industries, the sub-region's general levels of infrastructure, support services, knowledge and skills would be too low to allow proper development of those selected industries, let alone development of the wider economy beyond those sectors.
- Where the total resource allocated to a few selected clusters outweighs those resources in support of a broad range of sectors, the intervention profile will be too risky. The success or failure of the diversification and modernisation programme becomes very heavily dependent on the ability of the partners to 'pick winners' amongst the sub-region's established or nascent industries. The recent trauma in Silicon Glen (with substantial initial injections of public funds to support the development of a microelectronics manufacturing sector, but then substantial job losses when the ICT sector took a downturn) is arguably an example of the danger inherent in focusing resources too heavily on particular clusters. Whilst a certain degree of risk is both inevitable and desirable in the diversification and modernisation strategy, there is also a level of risk that is inappropriate.
- Finally, of course, the interventions are budget-constrained – there will be a total level of resources which will simply be too expensive.

4.32 This leaves a 'recommended region' where **a substantial level of resource for activities in support of the broad range of industry sectors should be complemented by a certain level of resource reserved for selected clusters.**

4.33 Note, however, that the above diagram illustrates the total resource mix (i.e. including the activities of all partners). However, it is not necessarily appropriate for the resource profile to be identical for all partners. To take a hypothetical example, it could potentially be best for Black Country Chamber & Business Link (BCCBL) activities to be relatively focused on specific industries, but for Learning & Skills Council (LSC) activities to be more broadly-based.



***Types of company to be supported***

4.34 Many of the partners' actions will be to the benefit of all companies (e.g. Basic Skills, improved transport, improved housing). Others, by their nature, benefit only a minority of companies in the Black Country – e.g. BCCBL advice to businesses, and Black Country Investment (BCI) support to inward investors.

4.35 Partners' resources are limited, and there is of course pressure to use them to the very best effect. It is important, therefore, that such 'selective resources' are directed at the right companies.

**4.36 We recommend that the partners' selective resources are directed towards companies which:**

- **are willing to recognise the opportunities and challenges facing them, and**
- **display senior management willingness to embrace change in order to meet those challenges, and**
- **have the potential to sustain a profitable operation in the long term.**

4.37 In other words, the partners should **not** devote any significant amount of their selective resources towards companies that do not fulfil these criteria.

4.38 Furthermore, in order to ensure that the resources are focused towards activities which will have the greatest overall economic impact for the sub-region, we recommend that **the partners should ensure that their selective resources are appropriately balanced between support for companies in expanding, adjusting and shrinking sector types.** A reasonable overall balance, would be in the order of:

- 50% for companies in expanding industry sectors
- 40% for companies in adjusting industry sectors
- 10% for companies in shrinking industry sectors

4.39 We recommend that each of the key delivery agents should identify their total annual expenditure which could be classed as 'selective resources' (i.e. associated with activities which, by their nature, are restricted to benefiting a relatively limited number of companies). We anticipate that these selective resources will represent, for example, a large majority of the budgets of BCCBL, BCI, and the Wolverhampton-Telford Technology Corridor, but a minority of the budgets of the Local Authorities, the Regeneration Zones and the Black Country LSC. Estimates should then be made by each of the partners as to the proportion of these selective resources which is benefiting each sector type (Expanders, Adjusters,

Shrinkers – guided by the breakdowns presented earlier in this report). The above suggested distribution should then be revisited and debated in the light of these estimates, rather than applied mechanistically to future budgets.

### **Strategic framework**

4.40 In developing a framework for the diversification and modernisation strategy, we are guided by three principles. The framework should:

- **be readily understood and easily remembered by all partners.** The more complex the framework, the more likely people are to forget it. Frameworks which are easily remembered tend to last and get used.
- **be robust.** The framework should be flexible enough to respond to change, while providing clear direction.
- **facilitate strategic thinking** by the partners on how each organisation can contribute towards the diversification and modernisation agenda. Partners should be able to readily recognise the parts of a framework where their organisations can contribute most, but the framework should also challenge them to think in new ways about their interactions with target clients and with other partners.

4.41 In the case of the Black Country’s diversification and modernisation strategy, we believe that it will be important for the framework to articulate and capture the major diversification and modernisation **challenges** while also reflecting the wide **spectrum of industries** on which the diversification and modernisation strategy is intended to have an impact.

4.42 We therefore propose a framework based on the three ‘challenge themes’ (knowledge, learning & skills; infrastructure; business support) and three industry sector types (expanding, adjusting, shrinking).

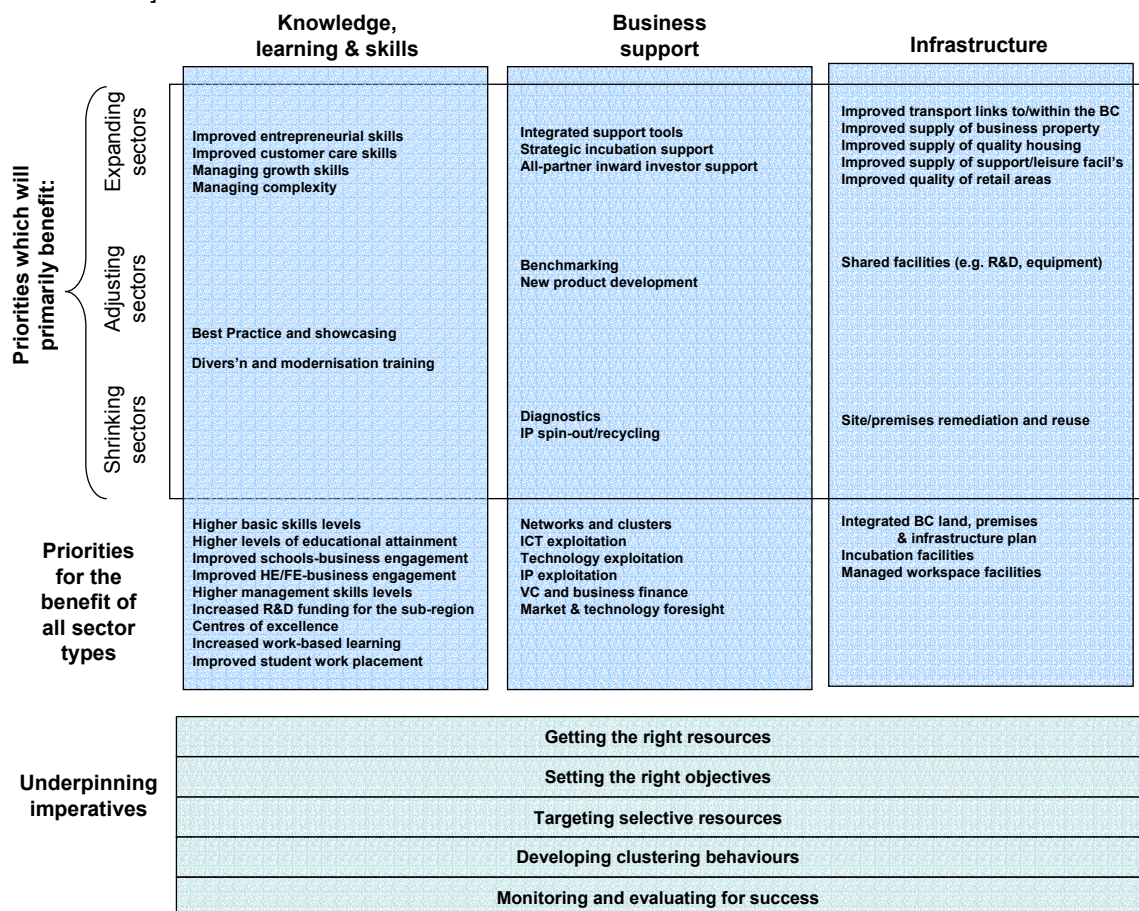
4.43 Many programmes have been initiated and much activity is already underway, as the problems facing the Black Country economy have been long recognised. “But we’re doing all this already” is therefore a potential charge against any such top-level framework. The main issue, in our opinion, is *how* these interventions are being done. We therefore propose the following five underpinning strategic imperatives, which apply collectively to all the partners, as well as all the challenge themes:

- Getting the right resources – ensuring that the Black Country gets an appropriate share of UK, regional and European financial resources, and ensuring that the right human resources are in place to step up to the challenge of delivering the diversification and modernisation agenda

- Setting the right targets – so that achievement of the partners’ targets will have made a meaningful difference to the diversification and modernisation of the Black Country’s economy
- Targeting selective resources – towards the right sort of companies, balanced appropriately between the sector types, and contributing to the target regional and sub-regional clusters
- Developing clustering behaviours – recognising that the cluster concept is about developing the right behaviours as well as about critical mass industrial groupings
- Monitoring and evaluating for success – in order to be able to adjust resources and plans if the partners’ activities are not delivering the required outcome

4.44 The strategy development workshop in July 2003 provided useful input from the partners on fleshing out their priorities under each of the three challenge themes. We have summarised and mapped the resulting complete framework in Figure 4-3 below.

Figure 4-3 Strategic framework for diversification and modernisation in the Black Country [source: SQW, 2003]



### **Shaping partners' future actions**

- 4.45 We do not attempt in this report to provide a detailed action plan for the diversification and modernisation of the Black Country. Such a task would require a comprehensive 'mapping and gapping' of all the hundreds of initiatives already underway in the sub-region (which is beyond the scope of this current piece of work). Furthermore, we would not wish to pre-empt the forthcoming work on economic futures in the Black Country.
- 4.46 However we make the following recommendations under each of the underpinning imperatives, which will play a vital role in shaping the partners' individual action planning.

### ***Getting the right resources***

- 4.47 The partners should:
- lobby regional and UK government for more funds into the Black Country;
  - develop and implement a leadership programme for the partners;
  - develop and implement training for key managers and implementers within the partners.

### ***Setting the right targets***

- 4.48 The partners should:
- agree relevant top level diversification & modernisation indicators and targets for KL&S, infrastructure, and business support (see Section 5 for recommendations as to what these could be), in a single, integrated diversification and modernisation 'dashboard';
  - regularly benchmark the status of BC diversification and modernisation with comparator sub-regions in the UK and elsewhere;
  - collectively review and challenge each partner's proposed key targets for the next financial year (i.e. those that are key to the diversification and modernisation agenda), to ensure that they are sufficiently stretching and specific to make a substantial impact on the sub-region's diversification and modernisation.

### **Targeting selective resources**

4.49 The partners should:

- ensure that selective resources are directed only towards companies which:
  - are willing to recognise the opportunities and challenges facing them, and
  - display senior management willingness to embrace change in order to meet those challenges, and
  - have the potential to sustain a profitable operation in the long term.
- contribute appropriately to supporting all of the ten target Advantage clusters, but in particular the Transport Technologies, Medical Technologies, ICT and Environmental Technologies clusters;
- actively support the development of the Advanced Engineering and Polymers sub-regional clusters;
- develop a coherent strategy for the Logistics sector in the Black Country
- ensure that their selective resources are appropriately balanced between support for companies in expanding, adjusting and shrinking sector types, in the order of:
  - 50% for companies in expanding industry sectors
  - 40% for companies in adjusting industry sectors
  - 10% for companies in shrinking industry sectors

### **Developing clustering behaviours**

4.50 The partners should:

- recognise that clustering behaviours progressively develop and mature, often starting with mini-networks, on to networks, informal clustering and formal clustering, and should direct their support to firms in a way that assists them through this developmental chain;
- recognise that effective clustering frequently requires external facilitation, and actions and initiatives need to be put in place to enable this to be provided;
- recognise that clustering is led by firms for their own benefit, and partners need to allow these behaviours to develop in ways that are right for firms' wants and needs, rather than for public sector partners.

***Monitoring and evaluating for success***

4.51 The partners should:

- collectively review quarterly the diversification and modernisation ‘dashboard’ of headline relevant indicators, as provided by the BC Observatory;
- collectively agree and initiate corrective action if the dashboard indicates shortfalls in any particular area;
- implement a formal programme evaluating the intervention portfolio, in order to understand the impact of interventions on the BC economy, support and strengthen the successful interventions, and stop or modify any failing interventions.

4.52 Proposed dashboard indicators for monitoring and evaluation are set out more fully in the following Section.

## 5 Diversification and modernisation dashboard

- 5.1 From the discussion in previous Sections, it is clear that diversification and modernisation is intricately linked with the overall social and economic development of the sub-region. It will be important for the Black Country's diversification and modernisation programme to have well-defined and considered objectives, with appropriate links to other existing and planned initiatives.
- 5.2 In order for the diversification and modernisation strategy to have maximum impact, we believe that it is important *not* to saddle the partners with a new 'shopping list' of output indicators. There is a real risk with such lists of the partners losing focus on the indicators that matter most by seeking to deliver against a plethora of wide-ranging aims, outputs, and targets.
- 5.3 We feel that the diversification and modernisation programme's intended outputs should focus on the 'vital few' most important areas for progress, in which the public sector can have a direct and substantial impact.
- 5.4 To this end, we propose a 'dashboard' of headline output indicators which have particular relevance for the diversification and modernisation agenda.
- Knowledge, learning and skills.
    - Increase the proportion of 19 year olds at NVQ<sup>11</sup> Level 2 or above
    - Increase the proportion of adults at NVQ Level 3 or above
    - Increase the proportion of adults at NVQ Level 4 or above
    - Increase HE and enterprise spin-out rates
    - Increase average R&D expenditure as a proportion of companies' turnover
  - Infrastructure.
    - Increase the availability of quality housing at low, middle and higher price ranges
    - Reduce the proportion of housing that is 'non-decent'
    - Reduce the hectarage of derelict land/buildings
    - Reduce traffic congestion levels

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<sup>11</sup> Note that these NVQ indicators reflect the success or otherwise of the sub-region in *retaining* higher skilled people, as well as *educating* them.

- Increase the supply of ‘high quality’ employment sites
- Increase the supply of A1, A2, A3 and B1 use class property
- Business support.
  - Increase the annual number of VAT registrations per 1000 population
  - Increase overall business survival rates
  - Increase levels of inward investment from outside the sub-region (including both public sector and private sector)
  - Increase the sub-region’s share of inward investment into the West Midlands

5.5 Finally, we note that these indicators should be used in conjunction with those being tracked under the “Business Architecture” and “Economic Architecture” work, which measure the relative knowledge intensity of the Black Country’s economy.



## **6 Next Steps – onto action**

- 6.1 In this report we have provided an analysis of the current state of the Black Country economy, and presented a ‘baseline’ projection of its economic prospects in terms of output and employment. We have summarised the key challenges facing the sub-region in terms of diversifying and modernising its economy, and we have proposed a strategic framework to align and focus the partners’ activities as they address these challenges, to progress the diversification and modernisation agenda over the next five years.
- 6.2 Each partner organisation needs now to reflect on how it can contribute to delivering this strategy.
- 6.3 The Black Country Consortium is commissioning an economic study to develop a set of long-term economic scenarios to 2033, to assess the strategic spatial implications of these scenarios, and to develop an action plan to deliver the diversification and modernisation strategy in the light of those scenarios.
- 6.4 As the partners engage in the forthcoming action planning phase, we must remember that standing still – in terms of the Black Country’s activities and behaviours - is simply not an option. With 40,000 jobs projected to be shed by the sub-region’s adjusting and shrinking industries by 2011, we must act and take fuller charge of our own economic destiny.

## Annex A: List of core documents

| <b>Publisher</b>                    | <b>Title</b>  | <b>Date</b> |
|-------------------------------------|---|-------------|
| Advantage West Midlands             | West Midlands Performance Baselines                           | Jan-03      |
| Advantage West Midlands             | Agenda for Action - Economic Strategy, Spring 2001            | Spring-01   |
| Advantage West Midlands             | West Midlands Economic Strategy                               | Oct-99      |
| Advantage West Midlands             | International Trade Strategy                                  |             |
| Advantage West Midlands             | Update to Regional Economic Strategy and Agenda for Action    | May-03      |
| BC Observatory                      | Black Country Statistics                                      | 2003        |
| BC Observatory                      | Black Country Baseline  | 2002        |
| BC Small Business Service Ltd.      | Business Mapping Engagement & Research Report                 | Mar-03      |
| Black Country Business Link         | Delivery Plan 2003/04   | Jan-03      |
| Black Country Consortium            | Looking Forward: the Black Country in 2033                    | May-03      |
| Black Country Investment            | An Analysis of Black Country Investment Capacity              | May-01      |
| Black Country Investment            | Investment Strategy for the Black Country                     | May-01      |
| Black Country LSC                   | Labour Market Balance Sheet                                   | Mar-03      |
| Black Country LSC                   | Black Country LSC Strategic Plan 2002-2005                    | 2002        |
| Business Competitiveness Task Group | Business Mapping - South BC & West Birmingham RZ              | Apr-03      |
| DTI                                 | Business Clusters in the UK - A first assessment              | Feb-01      |
| Dudley MBC                          | Economic Situation Report                                     | Feb-03      |
| Dudley MBC                          | Dudley Community Plan   | Jun-00      |
| GVA Grimley                         | Black Country Land & Buildings Study Stage One                | May-03      |
| IER, Warwick University             | IER Projections on Employment, Occupation & Qualifications.   | Feb-03      |
| Learning & Skills Council           | LSC (National) Corporate Plan -04                             | 2002        |
| Local Futures Group                 | The Black Country Business Architecture                       | Mar-03      |
| Local Futures Group                 | The Black Country in Europe                                   | Mar-03      |
| Rover TF (led by Advantage)         | Rover Task Force  | Jun-00      |
| Rover TF (led by Advantage)         | Rover Task Force Technical Report                             | Jun-00      |
| Rover TF (led by Advantage)         | Rover Task Force - High-tech corridors, stage 1 report        | Jan-01      |
| Rover TF (led by Advantage)         | Rover Task Force - 3 high-tech corridors, stage 2 report      | Sep-01      |
| Sandwell MBC                        | The Sandwell Community Plan                                   | Oct-01      |
| SBCWW Regen Zone                    | South BC & West Birm Regen Zone Implementation Plan           | Dec-02      |
| Telford Development Agency          | Telford & Wolverhampton Plastics & Polymers Study (SQW)       | Apr-02      |
| Walsall MBC                         | Local Economic Prospects for Walsall                          | Oct-02      |
| Walsall MBC                         | Walsall Community Plan  |             |
| Walsall MBC                         | A Vision for Walsall  | Apr-03      |
| WM Local Government Association     | Draft Regional Planning Guidance                              | Nov-01      |
| Wolverhampton CC                    | Wolverhampton Community Plan                                  | May-02      |
| Wolverhampton City Council          | Wolverhampton Economic Prospects                              | Jan-01      |
| Wolverhampton Science Park          | A study of the creative media sector in the W-T Tech Corridor | Dec-01      |
| Wolverhampton Strategic Partnership | Economic Regeneration Action Plan 2002-2005                   | Jan-02      |

|   |  |        |
|---|--|--------|
| Wolverhampton-Telford Technology Corridor | Advanced Engineering Cluster – SWOT Analysis (SQW)   | Mar-03 |
| WWSS Regen Zone                           | Future Foundations - WWSS (Wolves, Walsall, Southern Staffs) (aka North Black Country) Regeneration Zone Implementation Plan | Feb-03 |

## **Annex B: Analysis of Black Country clusters**

B.1 In this Section we provide an assessment of Black Country economic activity in terms of Advantage's ten target clusters, analyse the industries in which the Black Country has particular strengths (its 'high point industries'), and assess whether there are any particular clusters of activity at Black Country level which are particularly important for the Black Country's future, but which are not adequately covered by the Advantage clusters.

### **Analysis of economic activity by Advantage cluster**

#### ***The Advantage clusters***

B.2 Advantage West Midlands's Agenda for Action (2001) set out an action plan to deliver the Regional Economic Strategy, via three main delivery mechanisms – Regeneration Zones (of which there are six), High Technology Corridors (of which there are three) and target Clusters (of which there are ten).

B.3 The cluster approach to development is more than simply providing business support targeted at certain sectors. At the heart of the theory of clusters is that the benefits of interdependence between firms, through shared resource pools or interaction, will feed into competitiveness and growth.

B.4 Thus, clustering activity does not simply depend on which product market a firm operates, but how firms operate, which determines whether or not beneficial interdependencies exist. In many cases groups of firms in an area, producing the same type of product, exhibit clustering behaviour in that they share: a proximity to a pool of labour, business services tailored to their product market, and links to local educational institutions or other agencies.

B.5 Advantage's target clusters for the West Midlands region fall into three types:

- Established - where the objective is to assist established clusters to modernise and diversify. These are:
  - Transport Technologies
  - Building Technologies
  - Food and Drink
  - Tourism and Leisure
  - High-Value Consumer Products

- Growing - where the objective is to provide support for developing clusters with growth potential. These are:
  - Specialist Business and Professional Services
  - Information and Communication Technologies
  - Environmental Technologies
- Embryonic - where the objective is to nurture the development of small, embryonic clusters with potential for growth.
  - Media
  - Medical Technologies

B.6 Table B-1 shows Advantage’s description of the important elements of each sector, as per the recent Delivering Advantage document. These definitions are likely to become refined as Advantage works to map the clusters, and develop strategies for each<sup>12</sup>.

**Table B-1: Definition of Advantage clusters [source: Advantage, 2003] .**

| <b>Cluster</b>                                | <b>Advantage description</b>  |
|---|---|
| Transport Technologies                        | Commodity metal and polymer component manufacture, metal processes/treatments, electrical/electronic/mechanical subsystems manufacture, vehicle manufacture.  |
| Building Technologies                         | Commodity materials (cement, timber, etc), commodity manufactured products (tiles, bricks, sanitary ceramics), sub assemblies (fire alarms, other safety, mechanical lifting and handling equipment, electronic sensors), equipment/tooling manufacture/hire, design/professional services, construction services |
| Food and Drink                                | Agricultural commodities supply, primary produce processing, secondary processing. wholesaling distribution, food-processing machinery.   |
| Tourism and Leisure                           | Attractions, accommodation, catering, Public realm management, information services, intermediary services, catering, supplies, leisure goods, presentational arts.   |
| High Value Consumer Products                  | Tableware ceramics, jewellery, crystal glass, leather goods, clothing, carpets.   |
| Specialist Business and Professional Services | Legal, accountancy, market research, management consultancy, general business services, advertising, general research   |
| Information and Communication Technologies    | Hardware manufacture, hardware consultancy, software, database management, associated components, associated wholesale, telecommunications  |
| Environmental Technologies                    | Environmental products, environmental services (utilities) and specialist consultancies, energy production technologies.  |
| Media   | Recorded media manufacture, media production, distribution, content developers, specialist business services, content creators (education community/museums, etc).  |
| Medical Technologies                          | Polymer/metal components, electronics/electromechanical sub assemblies, Medical instrumentation, pharmaceutical production, wholesaling.  |

<sup>12</sup> Indeed, we note that the SIC Match with Clusters document we have recently received from Advantage appears to extend the scope of these clusters substantially – e.g. including hospital activities in Medical Technologies, and including retail in Food & Drink.

- B.7 Note that the definitions of clusters are not all mutually exclusive: some firms may appear in more than one cluster. Indeed there is a case for making a distinction between ‘clusters’ and the activity of ‘clustering’, as a given company may be clustering to a wide range of clusters. In designing cluster-based interventions we must always bear in mind the rich diversity of businesses’ relationships, which cannot be entirely captured within any given simplified cluster model.

***Mapping Black Country economic activity to the Advantage clusters***

- B.8 In our original discussions with Advantage cluster managers, we were given to understand that there are no definitive descriptions of the clusters in terms of Standard Industrial Codes (SICs). However, on further investigation we have found that a ‘best guess’ match of SIC codes to Advantage clusters does exist, and we have recently received this list from Advantage<sup>13</sup>.
- B.9 It should be stressed that SICs can be used to group firms by product market, but are not the perfect tool for the job of defining clusters. Grouping firms by product market, especially if too broadly defined, may miss clustering activity that occurs across product markets. This is exacerbated where SIC codes (defined in 1992) have remained static against rapid changes in industrial structure in certain areas over the last decade. For example, the legal services grouping will not let us identify employment associated with firms in the sector which specialise in environmental regulation law.
- B.10 Nonetheless, it is important for this project to gain an understanding of how Black Country economic activity maps onto the clusters targeted by Advantage for particular assistance, in order to identify the extent to which the regional activities will contribute towards diversification and modernisation of the Black Country economy, and to identify clusters/sub-clusters within the Black Country for particular focus.
- B.11 We have therefore mapped Black Country employment in four-digit SIC codes onto each of the Advantage clusters, as defined by Advantage’s SIC Match with Clusters document. Given that there are over 500 sub-industries at the four-digit SIC level, we consider that our methodology provides sufficient granularity to provide a reasonable – though clearly not perfect - indication of the scale of economic activity in the Black Country in each Advantage cluster.

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<sup>13</sup> Advantage’s “SIC Match with Clusters 26.11.02” document

**Analysis**

- B.12 Annex C presents our findings for each of the ten Advantage clusters, providing 2001 data on Black Country and West Midlands employment in each of the clusters, together with Location Quotients for the Black Country and the West Midlands [source for all Annex C tables is NOMIS<sup>14</sup>]. We have highlighted in italics those SIC sectors for which the Black Country has a LQ>1.0 (i.e. where the concentration of employment in the Black Country is higher than the national average).
- B.13 Note that “C” denotes that the number of firms in the industry is too few to allow employment data to be disclosed at this level. Where such an industry accounts more than 0.2% of the Black Country employment, we have denoted it with an asterisk: “C\*”.
- B.14 Table B-2 below gives the average LQ for the each of the Advantage clusters, together with information on Black Country employment levels and numbers of business units in each cluster<sup>15</sup>.

Table B-2: Location quotients (employment) and employment for the ten Advantage Clusters in the Black Country. (Annual Business Inquiry, formed through aggregation of four-sector SICs)

|   | WM LQ (2001) | BC LQ (2001) | BC Emp (2001) | BC Emp change (1998-2001) | Units (2001) | % change units (1998 - 2001) |
|---|--------------|--------------|---------------|---------------------------|--------------|------------------------------|
| Specialist Business and Professional Services | 0.82         | 0.7          | 52695         | 4.0%                      | 5146         | -1.2%                        |
| Building Technologies                         | 1.12         | 1.41         | 45288         | 2.4%                      | 4289         | 0.4%                         |
| Transport Technologies                        | 1.49         | 1.43         | 41186         | -5.3%                     | 2981         | -1.7%                        |
| Medical Technologies                          | 0.94         | 0.88         | 31350         | 36.5%                     | 976          | -2.6%                        |
| Food and Drink                                | 0.93         | 0.86         | 31249         | 0.7%                      | 2493         | -4.5%                        |
| Tourism and Leisure                           | 0.85         | 0.67         | 28718         | 1.5%                      | 2958         | 3.0%                         |
| High Value Consumer Products                  | 1.08         | 1.19         | 21028         | -2.9%                     | 1880         | -6.6%                        |
| Environmental Technologies                    | 1.24         | 1.31         | 9932          | -21.5%                    | 388          | -6.1%                        |
| Information and Communication Technologies    | 0.83         | 0.46         | 8134          | 37.1%                     | 1268         | 23.8%                        |
| Media   | 0.57         | 0.39         | 1969          | 26.1%                     | 227          | -0.4%                        |
| Totals  | 0.97         | 0.91         | 271549        | 3.4%                      | 22606        | -0.3%                        |

<sup>14</sup> Office of National Statistics’ “National Online Manpower Information Service”

<sup>15</sup> “Units”, rather than firms, are the measures used by the Annual Business Enquiry to approximate what is may be commonly understood as a workplace. Because of the way the data are collected two or more units can be present in the same workplace. For example, a bank may have several branches and offices in a city, each one of these would be counted as a separate data unit. A single workplace can be counted as two data units where there are two distinct business activities at the same site. Each business activity will be coded to a separate SIC code and, therefore, counted as a separate data unit. With size analyses, the size bands refer to the number of employees at each data unit, not to the size of the parent company.

- B.15 It should be noted from the supporting data in Annex C that certain of the Advantage clusters have expanded substantially from the original definitions: for example, Specialist Business and Professional Services is now taken to include SIC 7450: Labour recruitment etc (16,279 employees) and SIC 7470: Industrial cleaning (5,970 employees); and Medical Technologies is now taken to include SIC 8511: Hospital activities (21,621 employees) and SIC 8512: Medical practice activities (2,861 employees). Annex C should be consulted for an understanding of the industry sectors incorporated in each ‘cluster’.
- B.16 Table B-3 provides LQs for each of the four local authority districts in each of the ten clusters.

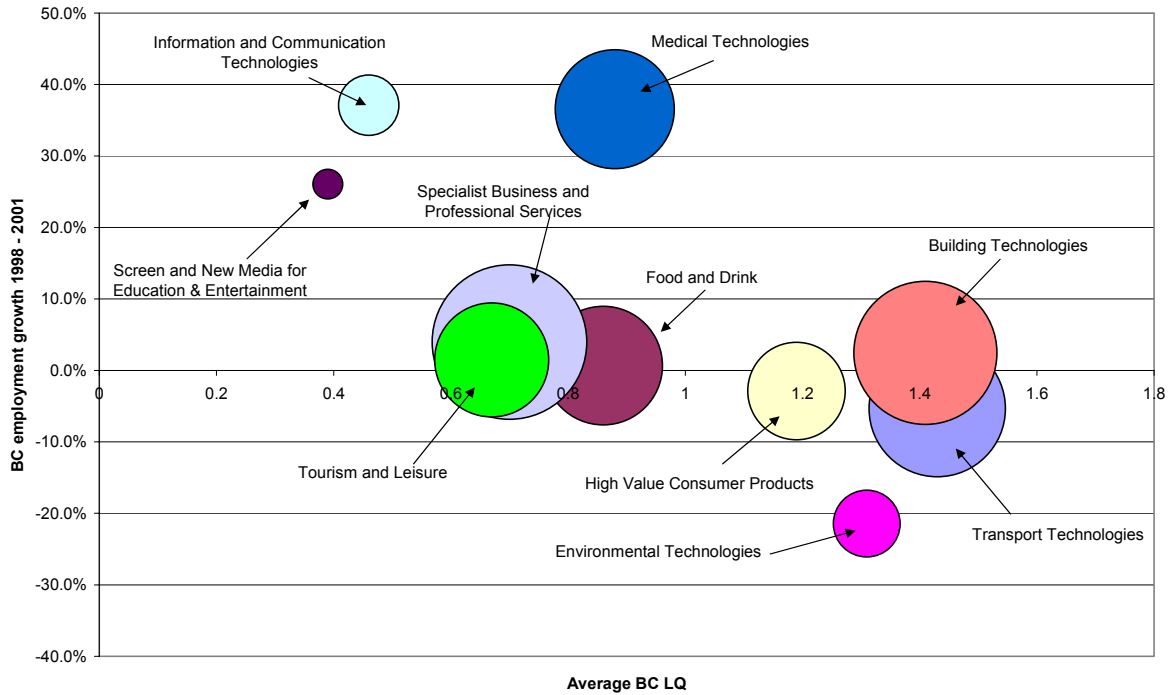
Table B-3: Location quotients (employment) for the Black Country and its four component local authority districts for the ten Advantage Business Clusters [source: Annual Business Inquiry, formed through aggregation of four-sector SICs]

|   | BC<br>LQ<br>(2001) | Dudley<br>LQ<br>(2001) | Sandwell<br>LQ<br>(2001) | Walsall<br>LQ<br>(2001) | Wolv'n<br>LQ<br>(2001) |
|---|--------------------|------------------------|--------------------------|-------------------------|------------------------|
| Specialist Business and Professional Services | 0.7                | 0.75                   | 0.52                     | 0.73                    | <b>0.85</b>            |
| Building Technologies                         | 1.41               | <b>1.56</b>            | 1.38                     | 1.44                    | 1.24                   |
| Transport Technologies                        | 1.43               | 0.9                    | 1.68                     | <b>1.72</b>             | 1.45                   |
| Medical Technologies                          | 0.88               | 0.79                   | 0.84                     | 0.79                    | <b>1.13</b>            |
| Food and Drink                                | 0.86               | 0.78                   | <b>0.97</b>              | 0.83                    | 0.85                   |
| Tourism and Leisure                           | 0.67               | <b>0.77</b>            | 0.58                     | 0.63                    | 0.71                   |
| High Value Consumer Products                  | 1.19               | <b>1.59</b>            | 0.88                     | 1.11                    | 1.18                   |
| Environmental Technologies                    | 1.31               | 0.83                   | <b>1.97</b>              | 1.35                    | 1.06                   |
| Information and Communication Technologies    | 0.46               | <b>0.79</b>            | 0.33                     | 0.37                    | 0.34                   |
| Media   | 0.39               | 0.36                   | 0.3                      | <b>0.65</b>             | 0.29                   |
| Totals  | 0.91               | 0.91                   | 0.87                     | 0.92                    | 0.95                   |

- B.17 Figure B-1 below illustrates the position of each of the ten Advantage clusters in the Black Country, in terms of average LQ, recent employment growth rate, and total current employment.



Figure B-1 Map of Black Country employment by Advantage cluster (size of bubbles is proportional to 2001 employment) [source: Annual Business Inquiry, formed through aggregation of four-sector SICs].



- B.18 Given that, under this latest view of sectors per cluster, the ten Advantage clusters now collectively account for c. 60% of employment in the Black Country, it will clearly be important for the partners in the Black Country to contribute appropriately to supporting **all** of the ten target Advantage clusters through local implementation of the regional cluster action plans.
- B.19 In the following sub-section, we put the Advantage clusters to one side, temporarily, and consider the industry sectors that are particularly strong in the Black Country, with a view to identifying potential clusters/sub-clusters at the sub-regional level that are not well-covered by the Advantage clusters.

### High point industries in the Black Country

- B.20 There are clear benefits in building on the sub-region’s existing strengths in the drive for modernisation and diversification. In this sub-section we consider the Black Country’s “high point” industries – which could potentially form nuclei of dynamic industrial clusters or sub-clusters.
- B.21 We define a “high point” industry as one which has a location quotient of at least 1.25, and which accounts for at least 0.2% of employment in the sub-region.

B.22 The Black Country has 55 high point industries, in terms of four-digit SIC codes. Table B-4 shows these 55 industries, together with the corresponding Advantage cluster (if any) to which they are considered to belong.

Table B-4 "High Point" Industries in the Black Country with corresponding Advantage Business Cluster  
[sources: NOMIS data for 2001, Advantage]

| 4-digit SIC - Description                                   | BC LQ | BC employment | Share of total BC employment | Advantage cluster |
|---|-------|---------------|------------------------------|-------------------|
| 7450 : Labour recruitment etc                               | 1.28  | 16,279        | 3.54%                        | SBP Services      |
| 6024 : Freight transport by road                            | 1.49  | 7,430         | 1.62%                        | Transport Techs   |
| 3430 : Manufacture of parts for motor vehicles              | 4.2   | 6,896         | 1.50%                        | Transport Techs   |
| 5152 : Wholesale of metals and metal ores                   | 11.36 | 5,858         | 1.27%                        | NONE              |
| 6412 : Courier activities                                   | 4.47  | 5,666         | 1.23%                        | NONE              |
| 2840 : Forging, pressing, stamping etc                      | 8.03  | 5,084         | 1.11%                        | NONE              |
| 2852 : General mechanical engineering                       | 2.2   | 4,207         | 0.92%                        | NONE              |
| 9133 : Activit: other membership organis. nec <sup>16</sup> | 1.74  | 4,007         | 0.87%                        | NONE              |
| 2851 : Treatment and coating of metals                      | 7.78  | 3,607         | 0.78%                        | Transport Techs   |
| 7460 : Investigation and security activities                | 1.37  | 3,547         | 0.77%                        | NONE              |
| 4531 : Installation: electrical wires/fittings              | 1.36  | 3,435         | 0.75%                        | Building Techs    |
| 2875 : Manufacture: other metal products nec                | 4.47  | 3,402         | 0.74%                        | NONE              |
| 4533 : Plumbing   | 1.97  | 3,337         | 0.73%                        | Building Techs    |
| 2863 : Manufacture of locks and hinges                      | 16.1  | 3,232         | 0.70%                        | Building Techs    |
| 2751 : Casting of iron                                      | 16.89 | 3,171         | 0.69%                        | Transport Techs   |
| 5170 : Other wholesale                                      | 1.64  | 3,100         | 0.67%                        | NONE              |
| 2811 : Manufacture of metal structures & parts              | 2.95  | 3,037         | 0.66%                        | Building Techs    |
| 7530 : Compulsory social security activities                | 1.58  | 2,899         | 0.63%                        | NONE              |
| 2874 : Manufacture of fasteners etc                         | 11.26 | 2,883         | 0.63%                        | NONE              |
| 2924 : Manufacture: other general machinery nec             | 4.09  | 2,871         | 0.62%                        | NONE              |
| 5154 : Wholesale: hardware, plumbing etc                    | 3.18  | 2,731         | 0.59%                        | Building Techs    |
| 5030 : Sale of motor vehicle parts/accessories              | 1.53  | 2,616         | 0.57%                        | NONE              |
| 3611 : Manufacture of chairs and seats                      | 4.07  | 2,488         | 0.54%                        | High Value CPs    |
| 2511 : Manufacture of rubber tyres and tubes                | 14.43 | 2,426         | 0.53%                        | Transport Techs   |
| 5139 : Non-specialised wholesale of food etc                | 1.9   | 2,404         | 0.52%                        | Food and Drink    |
| 5245 : Retail sale: electrical household goods              | 1.25  | 2,117         | 0.46%                        | NONE              |
| 2524 : Manufacture of other plastic products                | 1.74  | 2,091         | 0.45%                        | NONE              |
| 2862 : Manufacture of tools                                 | 5.03  | 2,040         | 0.44%                        | NONE              |
| 2922 : Manufacture: lifting/handling equipment              | 3.26  | 2,018         | 0.44%                        | NONE              |
| 2722 : Manufacture of steel tubes                           | 10.05 | 1,961         | 0.43%                        | NONE              |
| 3614 : Manufacture of other furniture                       | 2.45  | 1,881         | 0.41%                        | High Value CPs    |

<sup>16</sup> "nec" = "not elsewhere classified" in the SIC code descriptions

|   |       |       |       |                 |
|---|-------|-------|-------|-----------------|
| 4010 : Production/distribution of electricity   | 1.25  | 1,593 | 0.35% | Envir. Techs    |
| 4544 : Painting and glazing                     | 1.44  | 1,549 | 0.34% | Building Techs  |
| 2710 : Manufacture of basic iron/steel etc      | 2.99  | 1,533 | 0.33% | NONE            |
| 2523 : Manufacture of builders' ware of plastic | 1.65  | 1,468 | 0.32% | Building Techs  |
| 3120 : Manufacture: elect. distrib. apparatus   | 1.69  | 1,447 | 0.31% | Envir. Techs    |
| 2940 : Manufacture of machine tools             | 3.43  | 1,387 | 0.30% | NONE            |
| 1824 : Manufacture of other wearing apparel nec | 3.28  | 1,377 | 0.30% | High Value CPs  |
| 7513 : Regulation: more efficient business      | 1.28  | 1,347 | 0.29% | NONE            |
| 2754 : Casting of other non-ferrous metals      | 9.81  | 1,322 | 0.29% | NONE            |
| 3612 : Manufacture: other office/shop furniture | 2.93  | 1,309 | 0.28% | High Value CPs  |
| 2513 : Manufacture of other rubber products     | 2.58  | 1,175 | 0.26% | NONE            |
| 7132 : Renting of construction equipment        | 1.43  | 1,172 | 0.25% | Building Techs  |
| 1822 : Manufacture of other outerwear           | 2.05  | 1,145 | 0.25% | NONE            |
| 1920 : Manufacture of luggage, handbags etc     | 11.99 | 1,131 | 0.25% | High Value CPs  |
| 9120 : Activities of trade unions               | 3.71  | 1,076 | 0.23% | NONE            |
| 2744 : Copper production                        | 12.61 | 1,063 | 0.23% | Building Techs  |
| 2030 : Manufacture: builders' carpentry/joinery | 1.36  | 1,042 | 0.23% | Building Techs  |
| 2812 : Manufacture of builders' carpentry etc   | 3.43  | 1,038 | 0.23% | Building Techs  |
| 3420 : Manufacture of motor vehicles bodies etc | 2.14  | 1,024 | 0.22% | Transport Techs |
| 5263 : Other non-store retail sale              | 1.99  | 1,013 | 0.22% | NONE            |
| 5222 : Retail sale of meat and meat products    | 1.47  | 973   | 0.21% | Food and Drink  |
| 4545 : Other building completion                | 1.66  | 939   | 0.20% | Building Techs  |
| 2830 : Manufacture of steam generators          | 8.69  | 927   | 0.20% | Environ. Techs  |
| 2956 : Manufacture: other special machinery nec | 1.56  | 898   | 0.20% | NONE            |

B.23 Of these 55 Black Country high point industries:

- 12 are in Advantage's Building Technologies cluster
- 6 are in Advantage's Transport Technologies cluster
- 5 are in Advantage's High Value Consumer Products cluster
- 3 are in Advantage's Environmental Technologies cluster
- 2 are in Advantage's Food and Drink cluster
- 1 is in Advantage's Specialist and Business Professional Services cluster
- 26 do not fall under any of the target Advantage clusters

B.24 In the following sub-section we consider potential clusters (beyond the Advantage cluster definitions) which could be built around some of these high point industries.

## **Potential Black Country-specific target clusters**

B.25 From our analysis of the Black Country's high point industries, we suggest three potential sub-regional clusters, which are not sufficiently covered by the Advantage clusters:

- Advanced Engineering
- Plastics and Polymers
- Logistics

B.26 We discuss each of these in turn below.

### ***Advanced Engineering***

B.27 Some of the Black Country's engineering industries are covered by the Advantage Transport Technologies cluster, some are covered by the Building Technologies cluster, and others by the Medical Technologies and Environmental Technologies clusters, but there are also many that are not currently covered by any Advantage cluster.

B.28 In the case of the Black Country, we agree with the Wolverhampton-Telford Technology Corridor (WTTC) partners that there are sufficiently large commonalities between many of the sub-region's engineering activities (in terms of supply chains, markets, labour supply and skills) within a relatively small geographic footprint, to justify considering them as forming a sub-regional cluster in its own right.

B.29 The question then arises as to what could be counted as 'advanced' engineering – i.e. engineering activities that are sustainable in a developed economy (as opposed to being outsourced to lower cost developing economies).

B.30 Our view - derived from post-SWOT consultations on SQW's separate Advanced Engineering cluster study for the WTTC<sup>17</sup> - is that virtually all UK engineering activities are 'advancing', in that companies are being forced to adopt new processes and new technologies in order to survive in the global marketplace: a process of industrial evolution by natural selection.

B.31 For example, at first glance the 'casting of iron' industry sector would not appear to be an 'advanced engineering' industry. However, an analysis of the metalcasting industries in developed economies reveals that best-practice companies are increasingly using the latest advances in materials science, computer-aided design, robotics and other technologies.

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<sup>17</sup> Note that WTTC is taken to include the whole of the Black Country for the purposes of that study

B.32 Table B-5 below indicates the Black Country high point industries which could potentially be considered as part of a wider Advanced Engineering cluster. There are of course numerous other (non high point) engineering activities that could also potentially be included.

Table B-5 Black Country high point industries for potential inclusion in an Advanced Engineering cluster  
[sources: SQW, NOMIS data for 2001, Advantage]

| 4-digit SIC - Description                       | BC LQ | BC employment | Share of total BC employment | Advantage cluster |
|---|-------|---------------|------------------------------|-------------------|
| 3430 : Manufacture of parts for motor vehicles  | 4.2   | 6,896         | 1.50%                        | Transport Techs   |
| 2852 : General mechanical engineering           | 2.2   | 4,207         | 0.92%                        | NONE              |
| 2851 : Treatment and coating of metals          | 7.78  | 3,607         | 0.78%                        | Transport Techs   |
| 2875 : Manufacture: other metal products nec    | 4.47  | 3,402         | 0.74%                        | NONE              |
| 2863 : Manufacture of locks and hinges          | 16.1  | 3,232         | 0.70%                        | Building Techs    |
| 2751 : Casting of iron                          | 16.89 | 3,171         | 0.69%                        | Transport Techs   |
| 2811 : Manufacture of metal structures & parts  | 2.95  | 3,037         | 0.66%                        | Building Techs    |
| 2874 : Manufacture of fasteners etc             | 11.26 | 2,883         | 0.63%                        | NONE              |
| 2924 : Manufacture: other general machinery nec | 4.09  | 2,871         | 0.62%                        | NONE              |
| 2511 : Manufacture of rubber tyres and tubes    | 14.43 | 2,426         | 0.53%                        | Transport Techs   |
| 2524 : Manufacture of other plastic products    | 1.74  | 2,091         | 0.45%                        | NONE              |
| 2862 : Manufacture of tools                     | 5.03  | 2,040         | 0.44%                        | NONE              |
| 2922 : Manufacture: lifting/handling equipment  | 3.26  | 2,018         | 0.44%                        | NONE              |
| 2722 : Manufacture of steel tubes               | 10.05 | 1,961         | 0.43%                        | NONE              |
| 2710 : Manufacture of basic iron/steel etc      | 2.99  | 1,533         | 0.33%                        | NONE              |
| 2523 : Manufacture of builders' ware of plastic | 1.65  | 1,468         | 0.32%                        | Building Techs    |
| 3120 : Manufacture: elect. distrib. apparatus   | 1.69  | 1,447         | 0.31%                        | Envir. Techs      |
| 2940 : Manufacture of machine tools             | 3.43  | 1,387         | 0.30%                        | NONE              |
| 2754 : Casting of other non-ferrous metals      | 9.81  | 1,322         | 0.29%                        | NONE              |
| 2513 : Manufacture of other rubber products     | 2.58  | 1,175         | 0.26%                        | NONE              |
| 2744 : Copper production                        | 12.61 | 1,063         | 0.23%                        | Building Techs    |
| 3420 : Manufacture of motor vehicles bodies etc | 2.14  | 1,024         | 0.22%                        | Transport Techs   |
| 2830 : Manufacture of steam generators          | 8.69  | 927           | 0.20%                        | Envir. Techs      |
| 2956 : Manufacture: other special machinery nec | 1.56  | 898           | 0.20%                        | NONE              |

B.33 We will not consider this cluster in any more depth in this report, as a separate SQW study currently underway for the WTTC is developing a strategic framework for action for the Advanced Engineering cluster.

### Plastics and Polymers

- B.34 The Plastics and Polymers sub-cluster could be considered to be a sub-set of a wider Black Country’s Advanced Engineering cluster. The justification for considering it as a distinct sub-cluster in its own right is that there are particular technologies and skills associated with this group of industries, which are quite different from those used in the metal-based industries.
- B.35 A previous SQW study for the Wolverhampton-Telford Technology Corridor<sup>18</sup>, provided indicative data for the Plastics and Polymers cluster in terms of seven SIC codes. Table B-6 below shows that there are a total of c. 8,000 people in the Black Country employed in these sectors (as of 2001), representing 1.7% of total Black Country employment.

Table B-6 Black Country employment in plastics and polymers industries [sources: SQW, NOMIS data for 2001, Advantage]

| 4-digit SIC – Description                       | BC LQ | BC employment | Share of total BC employment | Advantage cluster |
|---|-------|---------------|------------------------------|-------------------|
| 2511 : Manufacture of rubber tyres and tubes    | 14.43 | 2,426         | 0.53%                        | Transport Techs   |
| 2524 : Manufacture of other plastic products    | 1.74  | 2,091         | 0.45%                        | NONE              |
| 2523 : Manufacture of builders' ware of plastic | 1.65  | 1,468         | 0.32%                        | Building Techs    |
| 2513 : Manufacture of other rubber products     | 2.58  | 1,175         | 0.26%                        | NONE              |
| 2522 : Manufacture of plastic packing goods     | 0.83  | 487           | 0.11%                        | NONE              |
| 2521 : Manufacture of plastic plates/sheets etc | 0.62  | 376           | 0.08%                        | NONE              |
| 2512 : Retreading/rebuilding of rubber tyres    | 0.11  | C             | < 0.01%                      | Transport Techs   |

- B.36 Again, we will not consider this cluster in any more depth in this report, as the previous SQW study undertaken for the WTTC developed a strategic framework for action for the “Polymers and Plastics” sub-cluster.

### Logistics

- B.37 Our analysis of Black Country high point industries identified two logistics-related sectors: freight transport by road (6024) and courier activities (6412). Given the Black Country’s geographic location and its traditional strengths in manufacturing (requiring physical inputs that need to be shipped in, and resulting in physical products that need to be shipped out), it is unsurprising that logistics-related activities are important employers in the sub-region.
- B.38 There are strong commonalities between various logistics industries in terms of labour supply and skills. It should also be noted that there is also increasingly high-tech aspects to the

<sup>18</sup> Telford and Wolverhampton Plastics and Polymer Sector Study, SQW, April 2002

design and management of logistics activities – which could potentially be addressed by some companies within the Black Country’s nascent ICT sector.

- B.39 Table B-7 below shows that there are a total of c. 16,000 people in the Black Country employed in logistics-related sectors (as of 2001), representing 3.5% of total Black Country employment.

Table B-7 Black Country employment in logistics-related industries [sources: SQW, NOMIS data for 2001, Advantage]

| 4-digit SIC – Description                      | BC LQ | BC employment | Share of total BC employment | Advantage cluster |
|--|-------|---------------|------------------------------|-------------------|
| 6024 : Freight transport by road               | 1.49  | 7,430         | 1.62%                        | Transport Techs   |
| 6412 : Courier activities                      | 4.47  | 5,666         | 1.23%                        | NONE              |
| 6312 : Storage and warehousing                 | 1.07  | 1,858         | 0.40%                        | NONE              |
| 6340 : Activities of other transport agencies  | 0.83  | 1,059         | 0.23%                        | NONE              |
| 6010 : Transport via railways                  | 0.29  | C             | <0.10%                       | NONE              |
| 6321 : Other supporting land transport activ.  | 0.23  | C             | <0.05%                       | NONE              |
| 6322 : Other supporting water transport activ. | 0.23  | C             | <0.05%                       | NONE              |
| 6110 : Sea and coastal water transport         | 0.02  | C             | <0.01%                       | NONE              |
| 6120 : Inland water transport                  | 0.28  | C             | <0.01%                       | NONE              |
| 6220 : Non-scheduled air transport             | 0.01  | C             | <0.01%                       | NONE              |
| 6311 : Cargo handling                          | 0.3   | C             | <0.01%                       | NONE              |
| 6323 : Other supporting air transport activ.   | 0     | C             | <0.01%                       | NONE              |
| 6210 : Scheduled air transport                 | 0     | 0             | 0%                           | NONE              |

- B.40 The above table demonstrates the importance of the Logistics cluster to the current economy of the Black Country. On its own, that is not sufficient reason for the public sector to apply additional resources in this area. Indeed we understand that there have been some moves of late to restrict the expansion of logistics related activities in the Black Country – e.g. in discouraging the development of further warehousing facilities.
- B.41 However, the European logistics market large (estimated to be worth EUR710 billion [source: Invest in France Agency, 2003]) and an increasing proportion of the market is being outsourced to specialist logistics sub-contractors.
- B.42 The Black Country’s current strengths in parts of this sector, combined with the potential for such industries to employ relatively low-skilled people shed from other adjusting/shrinking industries, and the increasingly high tech nature of the industry all combine to make this an area worth considering in our view.

- B.43 It should also be noted that the requirement for truck drivers to comply with Working Time Directive legislation by March 2005 has major implications for this sector – and entails both opportunities and threats for the Black Country.



## Annex C: Black Country employment by Advantage cluster

### Transport technologies<sup>19</sup>

| Name  | WM Employment | BC Employment | WM LQ | BC LQ |
|---|---------------|---------------|-------|-------|
| 6024 : Freight transport by road                | 33589         | 7430          | 1.34  | 1.49  |
| 3430 : Manufacture of parts for motor vehicles  | 30585         | 6896          | 3.7   | 4.2   |
| 5010 : Sale of motor vehicles                   | 22959         | 4408          | 1.11  | 1.07  |
| 5020 : Maintenance and repair of motor vehicles | 16948         | 3436          | 1.11  | 1.13  |
| 2751 : Casting of iron                          | 3514          | 3171          | 3.72  | 16.89 |
| 5030 : Sale of motor vehicle parts/accessories  | 13759         | 2616          | 1.6   | 1.53  |
| 6021 : Other scheduled passenger land transport | 10663         | 2438          | 0.82  | 0.94  |
| 3420 : Manufacture of motor vehicles bodies etc | 2533          | 1024          | 1.05  | 2.14  |
| 2914 : Manufacture of bearings, gears etc       | 1889          | 756           | 1.46  | 2.94  |
| 5050 : Retail sale of automotive fuel           | 4648          | 692           | 0.99  | 0.74  |
| 2753 : Casting of light metals                  | 1928          | 686           | 3.9   | 6.98  |
| 6023 : Other passenger land transport           | 2368          | 679           | 1.05  | 1.52  |
| 7110 : Renting of automobiles                   | 2560          | 425           | 0.91  | 0.76  |
| 3150 : Manufacture of lighting equipment etc    | 2150          | 317           | 1.19  | 0.88  |
| 7121 : Renting: other land transport equipment  | 1670          | 218           | 1.58  | 1.04  |
| 6022 : Taxi operation                           | 1678          | 166           | 0.74  | 0.37  |
| 5040 : Sale/maintenance/repair of motorcycles   | 883           | 164           | 0.88  | 0.82  |
| 2742 : Aluminium production                     | 1557          | 122           | 1.5   | 0.59  |
| 3530 : Manufacture of aircraft and spacecraft   | 6002          | C*            | 0.63  | 0.72  |
| 3410 : Manufacture of motor vehicles            | 32123         | C             | 4.03  | 0.06  |
| 3161 : Manuf: elect. equipment for engines nec  | 3574          | C             | 3.46  | 0.81  |
| 3520 : Manufacture: railway/tramway vehicles    | 3538          | C             | 1.99  | 1.11  |
| 2752 : Casting of steel                         | 1171          | C             | 2.53  | 1.07  |
| 8041 : Driving school activities                | 345           | C             | 0.74  | 0.69  |
| 3511 : Building and repairing of ships          | 118           | C             | 0.05  | 0.03  |
| 7122 : Renting of water transport equipment     | 63            | C             | 0.53  | 0.26  |
| 6311 : Cargo handling                           | 50            | C             | 0.07  | 0.3   |
| 2511 : Manufacture of rubber tyres and tubes    | C             | C*            | 4.28  | 14.43 |
| 6010 : Transport via railways                   | C             | C             | 1.38  | 0.29  |
| 3140 : Manufacture of accumulators etc          | C             | C             | 1.34  | 2.02  |

<sup>19</sup> All sources for Annex C tables are Advantage (for SIC match to clusters) and NOMIS (for 2001 employment)

|  |   |   |      |      |
|--|---|---|------|------|
| 2512 : Retreading/rebuilding of rubber tyres         | C | C | 1.33 | 0.11 |
| 3541 : <i>Manufacture of motorcycles</i>             | C | C | 1.78 | 3.83 |
| 3542 : <i>Manufacture of bicycles</i>                | C | C | 2.49 | 6.67 |
| 3550 : <i>Manufacture of transport equipment nec</i> | C | C | 2.39 | 7.7  |
| 6230 : Space transport                               | 0 | 0 | 0    | 0    |

**Building technologies**

| Name  | WM<br>Employment | BC<br>Employment | WM<br>LQ | BC<br>LQ |
|---|------------------|------------------|----------|----------|
| 4521 : General construction of buildings etc              | 40144            | 8393             | 0.87     | 0.91     |
| 4531 : <i>Installation: electrical wires/fittings</i>     | 14359            | 3435             | 1.13     | 1.36     |
| 4533 : <i>Plumbing</i>                                    | 10212            | 3337             | 1.2      | 1.97     |
| 2863 : <i>Manufacture of locks and hinges</i>             | 5519             | 3232             | 5.46     | 16.1     |
| 2811 : <i>Manufacture of metal structures &amp; parts</i> | 8511             | 3037             | 1.64     | 2.95     |
| 5154 : <i>Wholesale: hardware, plumbing etc</i>           | 7972             | 2731             | 1.85     | 3.18     |
| 5246 : <i>Retail sale of hardware/paints/glass</i>        | 8964             | 2084             | 1.03     | 1.21     |
| 5153 : <i>Wholesale: wood, construction materials</i>     | 9192             | 1674             | 1.18     | 1.08     |
| 4544 : <i>Painting and glazing</i>                        | 5556             | 1549             | 1.02     | 1.44     |
| 2523 : <i>Manufacture of builders' ware of plastic</i>    | 6157             | 1468             | 1.38     | 1.65     |
| 4525 : <i>Other constr. involving special trades</i>      | 7200             | 1423             | 1.06     | 1.05     |
| 4523 : <i>Construction of highways, roads etc</i>         | 4435             | 1178             | 0.89     | 1.19     |
| 7132 : <i>Renting of construction equipment</i>           | 3860             | 1172             | 0.94     | 1.43     |
| 2030 : <i>Manufacture: builders' carpentry/joinery</i>    | 4255             | 1042             | 1.1      | 1.36     |
| 2812 : <i>Manufacture of builders' carpentry etc</i>      | 2570             | 1038             | 1.69     | 3.43     |
| 4545 : <i>Other building completion</i>                   | 2989             | 939              | 1.05     | 1.66     |
| 2923 : <i>Manufacture of ventilation equipment etc</i>    | 4611             | 920              | 1.23     | 1.24     |
| 4542 : <i>Joinery installation</i>                        | 4405             | 891              | 0.93     | 0.95     |
| 4522 : <i>Erection of roof covering and frames</i>        | 2672             | 698              | 1.04     | 1.37     |
| 2430 : <i>Manufacture of paints, varnishes etc</i>        | 1925             | 492              | 0.93     | 1.19     |
| 4532 : <i>Insulation work activities</i>                  | 1142             | 402              | 0.97     | 1.72     |
| 4550 : <i>Renting: construction equip. &amp; operator</i> | 1737             | 401              | 0.92     | 1.07     |
| 4534 : <i>Other building installation</i>                 | 1698             | 355              | 0.82     | 0.87     |
| 4543 : <i>Floor and wall covering</i>                     | 1537             | 333              | 1.08     | 1.18     |
| 5162 : <i>Wholesale of construction machinery</i>         | 1491             | 278              | 2.39     | 2.25     |
| 4541 : <i>Plastering</i>                                  | 833              | 236              | 0.86     | 1.23     |
| 4511 : <i>Demolition and wrecking of buildings</i>        | 1317             | 150              | 0.88     | 0.51     |
| 5113 : <i>Agents: sale of timber/building material</i>    | 517              | 106              | 0.91     | 0.93     |
| 2744 : <i>Copper production</i>                           | 1919             | C*               | 4.52     | 12.61    |
| 2661 : <i>Manufacture: concrete for construction</i>      | 2484             | C                | 1.42     | 0.56     |
| 2640 : <i>Manufacture of bricks etc in baked clay</i>     | 1759             | C                | 2.15     | 2.4      |
| 2822 : <i>Manufacture: central heating boilers</i>        | 1427             | C                | 2.36     | 0.84     |
| 2010 : <i>Sawmilling and planing of wood etc</i>          | 1167             | C                | 1.11     | 1.59     |
| 2821 : <i>Manufacture of tanks, reservoirs etc</i>        | 1057             | C                | 2.1      | 3.34     |
| 2630 : <i>Manufacture of ceramic tiles and flags</i>      | 866              | C                | 3.67     | 0.5      |
| 2663 : <i>Manufacture of ready-mixed concrete</i>         | 824              | C                | 1.62     | 0.3      |

|   |     |   |      |      |
|---|-----|---|------|------|
| 2670 : Cutting, shaping and finishing of stone  | 429 | C | 0.74 | 0.66 |
| 4524 : Construction of water projects           | 84  | C | 0.41 | 0.12 |
| 2020 : Manufacture veneer sheets/plywood etc    | C   | C | 0.57 | 0.48 |
| 2622 : Manufacture of ceramic sanitary fixtures | C   | C | 5.06 | 0.65 |
| 2662 : Manufacture: plaster for construction    | C   | C | 0.56 | 0.05 |
| 2664 : <i>Manufacture of mortars</i>            | C   | C | 3.12 | 2.08 |
| 2666 : Manufacture: other concrete/plaster etc  | C   | C | 0.59 | 0.31 |
| 4512 : <i>Test drilling and boring</i>          | C   | C | 0.47 | 1.54 |
| 2124 : Manufacture of wallpaper                 | C   | 0 | 0    | 0    |
| 2611 : Manufacture of flat glass                | C   | 0 | 0.9  | 0    |
| 2651 : Manufacture of cement                    | C   | 0 | 1.85 | 0    |
| 2652 : Manufacture of lime                      | C   | 0 | 0.1  | 0    |
| 2665 : Manufacture of fibre cement              | C   | 0 | 0.52 | 0    |

## Food and drink

| Name   | WM Employment | BC Employment | WM LQ | BC LQ |
|--|---------------|---------------|-------|-------|
| 5211 : Retail: non-specialised food stores etc             | 81165         | 15846         | 0.95  | 0.93  |
| 5139 : <i>Non-specialised wholesale of food etc</i>        | 6685          | 2404          | 1.05  | 1.9   |
| 1581 : <i>Manufacture of bread etc</i>                     | 6418          | 1530          | 0.93  | 1.12  |
| 1513 : <i>Production: meat &amp; poultry meat products</i> | 4443          | 1434          | 0.75  | 1.21  |
| 5224 : <i>Retail sale of bread, cakes etc</i>              | 5281          | 1162          | 1.06  | 1.17  |
| 5222 : <i>Retail sale of meat and meat products</i>        | 4109          | 973           | 1.24  | 1.47  |
| 5132 : <i>Wholesale of meat and meat products</i>          | 2447          | 752           | 1.13  | 1.75  |
| 5225 : Retail sale of alcoholic/other beverages            | 3878          | 678           | 0.99  | 0.87  |
| 5226 : <i>Retail sale of tobacco products</i>              | 2102          | 460           | 1.04  | 1.14  |
| 5221 : <i>Retail sale of fruit and vegetables</i>          | 2411          | 453           | 1.18  | 1.11  |
| 8520 : Veterinary activities                               | 2541          | 353           | 0.97  | 0.68  |
| 5134 : Wholesale of alcoholic/other beverages              | 1460          | 350           | 0.59  | 0.71  |
| 5227 : Other retail sale of food/beverages etc             | 2013          | 284           | 0.52  | 0.37  |
| 5131 : Wholesale of fruit and vegetables                   | 2546          | 147           | 0.95  | 0.27  |
| 0100 : MAFF/DAFF Agricultural data                         | 16553         | -             | 1.05  | -     |
| 1531 : Processing and preserving of potatoes               | C             | C*            | 0.7   | 0.11  |
| 1584 : Manufacture of cocoa; chocolate etc                 | 3930          | C             | 1.6   | 0.25  |
| 1551 : Operation of dairies and cheese making              | 3094          | C             | 1.33  | 0.33  |
| 1596 : <i>Manufacture of beer</i>                          | 2590          | C             | 1.38  | 1.91  |
| 1582 : Manufacture of rusks, biscuits etc                  | 2063          | C             | 0.63  | 0.58  |
| 1511 : <i>Production and preserving of meat</i>            | 2015          | C             | 1.16  | 2.11  |
| 1589 : Manufacture of other food products nec              | 2012          | C             | 0.75  | 0.07  |
| 2931 : Manufacture of agricultural tractors                | 1760          | C             | 4.78  | 0.08  |
| 1533 : Processing/preserving: fruit/veg nec                | 1578          | C             | 0.74  | 0.37  |
| 5166 : Wholesale of agricultural machinery etc             | 1264          | C             | 1.08  | 0.31  |
| 1598 : Production of mineral waters/soft drinks            | 1165          | C             | 0.99  | 0.5   |
| 5133 : Wholesale of dairy produce/eggs/fats etc            | 1143          | C             | 0.73  | 0.26  |
| 2953 : Manufacture of machinery for food etc               | 1120          | C             | 1.14  | 0.43  |
| 2932 : <i>Manufacture: other agric/forest machines</i>     | 1096          | C             | 1.28  | 1.76  |
| 0112 : Growing of vegetables etc                           | 1076          | C             | 0.98  | 0.02  |
| 0141 : Agricultural service activities                     | 1065          | C             | 0.73  | 0.2   |
| 1571 : Manufacture of feeds for farm animals               | 997           | C             | 1.34  | 0.08  |
| 5138 : Wholesale of other food inc. fish etc               | 696           | C             | 0.47  | 0.24  |
| 5136 : <i>Wholesale of sugar/chocolate etc</i>             | 576           | C             | 1.71  | 2.2   |
| 5111 : Agents: sale of agric. raw materials etc            | 473           | C             | 1.36  | 0.07  |
| 0121 : Farming of cattle, dairy farming                    | 401           | C             | 0.92  | 0.02  |

|  |     |   |      |      |
|--|-----|---|------|------|
| 0201 : Forestry and logging                          | 255 | C | 0.25 | 0.02 |
| 0111 : Growing of cereals and other crops nec        | 253 | C | 0.68 | 0.04 |
| 5137 : Wholesale of coffee/tea/cocoa/spices          | 239 | C | 1.21 | 0.1  |
| 0142 : Animal husbandry activities                   | 230 | C | 0.89 | 0.13 |
| 5223 : Retail sale of fish/crustaceans/molluscs      | 223 | C | 0.58 | 0.45 |
| 5117 : Agents: sale of food/beverages/tobacco        | 218 | C | 0.55 | 0.59 |
| 0130 : Growing of crops and farming of animals       | 168 | C | 0.83 | 0.28 |
| 0122 : Farming of sheep/goats/horses/asses etc       | C   | C | 0.28 | 0.53 |
| 1512 : <i>Production and preserving poultry meat</i> | C   | C | 1.28 | 1.96 |
| 1520 : Processing/preserving of fish                 | C   | C | 0.11 | 0    |
| 1552 : Manufacture of ice cream                      | C   | C | 0.44 | 0.36 |
| 1561 : Manufacture of grain mill products            | C   | C | 0.48 | 0.85 |
| 1572 : Manufacture of prepared pet foods             | C   | C | 0.3  | 0.05 |
| 1586 : Processing of tea and coffee                  | C   | C | 0.02 | 0.07 |
| 1587 : Manufacture of condiments & seasonings        | C   | C | 0.9  | 0.32 |
| 1588 : Manufacture of homogenised food etc           | C   | C | 0.4  | 0.28 |
| 5124 : Wholesale of hides, skins and leather         | C   | C | 0.93 | 0.93 |
| 2420 : Manufacture of pesticides etc                 | C   | C | 0.02 | 0.02 |
| 1593 : <i>Manufacture of wines</i>                   | C   | C | 0.36 | 1.72 |
| 1597 : Manufacture of malt                           | C   | C | 4.89 | 0.57 |
| 0202 : Forestry and logging related activities       | 22  | 0 | 0.23 | 0    |
| 0113 : Growing of fruit/nuts/beverage & spices       | C   | 0 | 1.12 | 0    |
| 0123 : Farming of swine                              | C   | 0 | 0.95 | 0    |
| 0124 : Farming of poultry                            | C   | 0 | 0.57 | 0    |
| 0125 : Other farming of animals                      | C   | 0 | 0.1  | 0    |
| 0150 : Hunting/trapping/game propagation             | C   | 0 | 0.92 | 0    |
| 1532 : Manufacture of fruit and vegetable juice      | C   | 0 | 0.4  | 0    |
| 1541 : Manufacture of crude oils and fats            | C   | 0 | 1.28 | 0    |
| 1542 : Manufacture of refined oils and fats          | C   | 0 | 0.2  | 0    |
| 1583 : Manufacture of sugar                          | C   | 0 | 0.55 | 0    |
| 1591 : Manufacture of alcoholic beverages            | C   | 0 | 0.02 | 0    |
| 1594 : Manufacture of cider/other fruit wines        | C   | 0 | 4.06 | 0    |
| 1595 : Manuf: other non-dist. fermen. beverages      | C   | 0 | 2.25 | 0    |
| 2415 : Manufacture: fertilizers                      | C   | 0 | 0.13 | 0    |
| 5125 : Wholesale of unmanufactured tobacco           | C   | 0 | 0.42 | 0    |
| 5135 : Wholesale of tobacco products                 | C   | 0 | 0.22 | 0    |
| 0501 : Fishing                                       | 0   | 0 | 0    | 0    |
| 0502 : Operation of fish hatcheries & farms          | 0   | 0 | 0    | 0    |
| 1543 : Manufacture: margarine/similar fats           | 0   | 0 | 0    | 0    |
| 1562 : Manufacture of starches/starch products       | 0   | 0 | 0    | 0    |

|   |   |   |   |   |
|---|---|---|---|---|
| 1585 : Manufacture of macaroni, noodles etc | 0 | 0 | 0 | 0 |
| 1592 : Production of ethyl alcohol          | 0 | 0 | 0 | 0 |

## Tourism and leisure

| Name  | WM<br>Employment | BC<br>Employment | WM<br>LQ | BC<br>LQ |
|---|------------------|------------------|----------|----------|
| 5540 : Bars   | 53272            | 9125             | 1.1      | 0.95     |
| 5530 : Restaurants                                  | 38715            | 6575             | 0.81     | 0.69     |
| 5552 : Catering                                     | 17447            | 3006             | 0.83     | 0.72     |
| 9262 : Other sporting activities                    | 12184            | 2375             | 0.85     | 0.84     |
| 9271 : <i>Gambling and betting activities</i>       | 7188             | 1848             | 0.9      | 1.17     |
| 5511 : Hotels and motels, with restaurant           | 21574            | 1730             | 0.81     | 0.33     |
| 9261 : Operation of sports arenas and stadiums      | 8222             | 1625             | 0.93     | 0.93     |
| 6330 : Activities of travel agencies etc nec        | 7226             | 1105             | 0.64     | 0.49     |
| 9272 : Other recreational activities nec            | 3868             | 527              | 1.01     | 0.69     |
| 9231 : Artistic and literary creation etc           | 3629             | 308              | 0.57     | 0.25     |
| 9234 : Other entertainment activities nec           | 510              | 71               | 0.49     | 0.34     |
| 9252 : Museum activities etc                        | 2272             | C                | 0.83     | 0.49     |
| 5551 : Canteens                                     | 1777             | C                | 0.67     | 0.24     |
| 9233 : Fair and amusement park activities           | 867              | C                | 1.34     | 0.12     |
| 9232 : Operation of arts facilities                 | 859              | C                | 0.69     | 0.15     |
| 6220 : Non-scheduled air transport                  | 779              | C                | 0.56     | 0.01     |
| 5523 : Other provision of lodgings nec              | 723              | C                | 0.28     | 0.04     |
| 3512 : Building repairing of pleasure boats etc     | 715              | C                | 0.95     | 0.07     |
| 5522 : Camping sites, including caravan sites       | 458              | C                | 0.46     | 0.12     |
| 9304 : Physical well-being activities               | 441              | C                | 0.82     | 0.17     |
| 5512 : <i>Hotels and motels, without restaurant</i> | 321              | C                | 0.72     | 1.82     |
| 9253 : Botanical and zoological gardens etc         | 269              | C                | 0.42     | 0.27     |
| 6110 : Sea and coastal water transport              | 212              | C                | 0.16     | 0.02     |
| 6120 : Inland water transport                       | 87               | C                | 0.53     | 0.28     |
| 6210 : Scheduled air transport                      | 996              | 0                | 0.15     | 0        |
| 5521 : Youth hostels and mountain refuges           | C                | 0                | 0.45     | 0        |



## High value consumer products

| Name   | WM<br>Employment | BC<br>Employment | WM<br>LQ | BC<br>LQ |
|--|------------------|------------------|----------|----------|
| 5242 : Retail sale of clothing                         | 25357            | 4994             | 0.89     | 0.88     |
| 3611 : <i>Manufacture of chairs and seats</i>          | 5214             | 2488             | 1.7      | 4.07     |
| 3614 : <i>Manufacture of other furniture</i>           | 4688             | 1881             | 1.22     | 2.45     |
| 5244 : <i>Retail sale of furniture etc nec</i>         | 7723             | 1736             | 0.91     | 1.03     |
| 1824 : <i>Manufacture of other wearing apparel nec</i> | 2239             | 1377             | 1.06     | 3.28     |
| 3612 : <i>Manufacture: other office/shop furniture</i> | 2672             | 1309             | 1.19     | 2.93     |
| 1920 : <i>Manufacture of luggage, handbags etc</i>     | 1388             | 1131             | 2.92     | 11.99    |
| 5243 : Retail sale of footwear/leather goods           | 5711             | 1103             | 0.98     | 0.96     |
| 5142 : Wholesale of clothing and footwear              | 2419             | 647              | 0.69     | 0.93     |
| 1740 : Manufacture of made-up textile articles         | 2146             | 387              | 0.71     | 0.64     |
| 5144 : <i>Wholesale of china and glassware etc</i>     | 1337             | 386              | 1.32     | 1.91     |
| 2921 : <i>Manufacture of furnaces/furnace burners</i>  | 1543             | 369              | 3.84     | 4.62     |
| 3622 : <i>Manufacture of jewellery nec</i>             | 3274             | 259              | 4.15     | 1.65     |
| 5241 : Retail sale of textiles                         | 1826             | 252              | 1        | 0.7      |
| 5141 : Wholesale of textiles                           | 782              | 214              | 0.55     | 0.76     |
| 5115 : <i>Agents: sale of furniture etc</i>            | 363              | 159              | 1.4      | 3.08     |
| 2621 : Manufacture: ceramic household articles         | 13385            | C                | 8.6      | 0.08     |
| 1751 : Manufacture of carpets and rugs                 | 2643             | C                | 2.78     | 0.08     |
| 1754 : Manufacture of other textiles nec               | 1702             | C                | 1.21     | 0.51     |
| 3613 : <i>Manufacture of other kitchen furniture</i>   | 1052             | C                | 0.78     | 1.08     |
| 1823 : <i>Manufacture of underwear</i>                 | 841              | C                | 0.64     | 1.31     |
| 3650 : <i>Manufacture of games and toys</i>            | 707              | C                | 0.9      | 1.73     |
| 3640 : <i>Manufacture of sports goods</i>              | 667              | C                | 1.31     | 1.65     |
| 2211 : Publishing of books                             | 627              | C                | 0.21     | 0.08     |
| 2223 : Bookbinding and finishing                       | 496              | C                | 0.5      | 0.74     |
| 1730 : Finishing of textiles                           | 476              | C                | 0.47     | 0.06     |
| 2741 : Precious metals production                      | 413              | C                | 3.4      | 0.24     |
| 3661 : Manufacture of imitation jewellery              | 344              | C                | 4.29     | 0.67     |
| 5271 : Repair of boots/shoes etc                       | 247              | C                | 0.85     | 0.95     |
| 1422 : Mining of clays and kaolin                      | 245              | C                | 0.86     | 0.2      |
| 5116 : Agents: sale of textiles, clothing etc          | 244              | C                | 0.51     | 0.59     |
| 1910 : <i>Tanning and dressing of leather</i>          | 170              | C                | 0.64     | 2.6      |
| 5273 : Repair of watches, clocks and jewellery         | 73               | C                | 1.08     | 1.37     |
| 2954 : Manufacture of machinery for textile etc        | C                | C                | 0.64     | 0.32     |
| 5163 : Wholesale: textile industry machinery           | C                | C                | 0.61     | 0.67     |
| 3621 : Striking of coins and medals                    | C                | C                | 1.65     | 0.46     |

|  |   |   |      |      |
|--|---|---|------|------|
| 1723 : Worsted-type weaving                          | C | C | 0.06 | 0.28 |
| 3350 : Manufacture of watches and clocks             | C | C | 2.04 | 0.38 |
| 1711 : Preparation/spinning: cotton-type fibres      | C | C | 0.09 | 0.27 |
| 1721 : Cotton-type weaving                           | C | C | 0.2  | 0.12 |
| 1752 : Manufacture of cord/rope/twine/netting        | C | C | 0.06 | 0.23 |
| 1714 : <i>Preparation/spinning: flax-type fibres</i> | C | C | 2.43 | 6.97 |
| 1717 : Preparation/spinning: other fibres            | C | C | 0.19 | 0.69 |
| 1712 : Preparation/spinning: wool-type fibres        | C | C | 0.93 | 0.06 |
| 1715 : Throwing and preparation of silk              | C | C | 0.01 | 0.08 |
| 2470 : Manufacture of man-made fibres                | C | C | 0.41 | 0.01 |
| 3630 : Manufacture of musical instruments            | C | C | 0.69 | 0.04 |
| 1760 : Manufacture of knitted/crocheted fabrics      | C | C | 0.05 | 0.23 |
| 1771 : Manufacture of knitted/crocheted hosiery      | C | C | 0.14 | 0.06 |
| 1772 : Manufacture: knitted/crocheted pullovers      | C | C | 0.1  | 0.27 |
| 1810 : <i>Manufacture of leather clothes</i>         | C | C | 0.7  | 1.53 |
| 1830 : Dressing and dyeing of fur                    | C | C | 0.11 | 0.56 |
| 1930 : Manufacture of footwear                       | C | C | 0.23 | 0.54 |
| 2613 : <i>Manufacture of hollow glass</i>            | C | C | 0.58 | 2.17 |
| 1725 : Other textile weaving                         | C | 0 | 0.31 | 0    |
| 1716 : Manufacture of sewing threads                 | C | 0 | 0.28 | 0    |
| 1722 : Woollen-type weaving                          | C | 0 | 0.05 | 0    |
| 1724 : Silk-type weaving                             | C | 0 | 0    | 0    |
| 1713 : Preparation/spinning: worsted-type fibre      | 0 | 0 | 0    | 0    |
| 1753 : Manufacture of nonwovens                      | 0 | 0 | 0    | 0    |

**Specialist business and professional services**

| Name  | WM Employment | BC Employment | WM LQ | BC LQ |
|---|---------------|---------------|-------|-------|
| 7450 : Labour recruitment etc                       | 60235         | 16279         | 0.94  | 1.28  |
| 7470 : Industrial cleaning                          | 41959         | 5970          | 1.13  | 0.81  |
| 6512 : Other monetary intermediation                | 35766         | 4921          | 0.82  | 0.57  |
| 7420 : Architectural/engineering activities         | 23105         | 3994          | 0.82  | 0.72  |
| 7460 : <i>Investigation and security activities</i> | 9481          | 3547          | 0.73  | 1.37  |
| 7412 : Accounting/book-keeping activities etc       | 15863         | 2364          | 0.86  | 0.64  |
| 7411 : Legal activities                             | 17085         | 2336          | 0.74  | 0.51  |
| 7484 : Other business activities nec                | 19833         | 2125          | 0.73  | 0.39  |
| 7414 : Business/management consultancy activ.       | 12445         | 1359          | 0.63  | 0.34  |
| 6720 : Activ. auxil. to insur./pension funding      | 9593          | 1212          | 0.78  | 0.5   |
| 7011 : Development and selling of real estate       | 4849          | 861           | 0.71  | 0.63  |
| 7031 : Real estate agencies                         | 6385          | 814           | 0.73  | 0.47  |
| 7481 : Photographic activities                      | 2326          | 810           | 0.75  | 1.31  |
| 7415 : Management activities: holding companies     | 2584          | 683           | 0.94  | 1.24  |
| 6522 : Other credit granting                        | 4174          | 619           | 1.02  | 0.76  |
| 7482 : Packaging activities                         | 2449          | 559           | 1.13  | 1.3   |
| 7032 : Management of real estate                    | 2740          | 465           | 0.66  | 0.56  |
| 6713 : Activ. auxil. to fin. intermediation nec     | 2243          | 433           | 0.49  | 0.47  |
| 7430 : Technical testing and analysis               | 2845          | 424           | 1.06  | 0.79  |
| 7440 : Advertising                                  | 4992          | 414           | 0.6   | 0.25  |
| 6523 : Other financial intermediation nec           | 1534          | 189           | 0.32  | 0.2   |
| 9111 : Activities: business/employers organis.      | 1004          | 141           | 0.86  | 0.61  |
| 6603 : Non-life insurance                           | 6778          | C             | 0.74  | 0.33  |
| 6601 : Life insurance                               | 6132          | C             | 0.59  | 0.46  |
| 7413 : Market research/public opinion polling       | 3726          | C             | 0.9   | 0.06  |
| 7483 : Secretarial and translation activities       | 2456          | C             | 1.22  | 0.24  |
| 9112 : Activities of professional organis.          | 1912          | C             | 1.31  | 0.15  |
| 6712 : Security broking and fund management         | 1695          | C             | 0.31  | 0.35  |
| 6521 : Financial leasing                            | 360           | C             | 0.61  | 0.29  |
| 6711 : Administration of financial markets          | C             | C             | 0.55  | 0.21  |
| 6511 : Central banking                              | 0             | 0             | 0     | 0     |
| 6602 : Pension funding                              | 0             | 0             | 0     | 0     |

## **Information and communication technologies**

| Name  | WM<br>Employment | BC<br>Employment | WM<br>LQ | BC<br>LQ |
|---|------------------|------------------|----------|----------|
| 6420 : Telecommunications                       | 17419            | 2594             | 0.77     | 0.58     |
| 7220 : Software consultancy and supply          | 20691            | 2042             | 0.78     | 0.39     |
| 5164 : Wholesale: office machinery and equip.   | 7090             | 967              | 0.93     | 0.64     |
| 7260 : Other computer related activities        | 6002             | 960              | 0.57     | 0.46     |
| 7230 : Data processing                          | 5713             | 880              | 1.13     | 0.88     |
| 7210 : Hardware consultancy                     | 1463             | 184              | 0.93     | 0.59     |
| 7250 : Maintenance/repair: office machinery etc | 1365             | 93               | 0.78     | 0.27     |
| 7240 : Data base activities                     | 265              | 33               | 0.27     | 0.17     |
| 3220 : Manufacture of TV/radio transmitters etc | 5626             | C                | 1.43     | 0.14     |
| 3002 : Manufacture of computers etc             | 5025             | C                | 1.63     | 0.08     |
| 3210 : Manufacture of electronic valves etc     | 984              | C                | 0.29     | 0.08     |
| 7133 : Renting of office machinery and equip.   | 129              | C                | 0.48     | 0.19     |
| 3001 : Manufacture of office machinery          | C                | C                | 1.37     | 0.94     |

**Environmental technologies**

| Name  | WM Employment | BC Employment | WM LQ | BC LQ |
|---|---------------|---------------|-------|-------|
| 9000 : Sewage and refuse disposal etc                 | 9203          | 1450          | 0.91  | 0.72  |
| 3120 : <i>Manufacture: elect. distrib. apparatus</i>  | 6319          | 1447          | 1.47  | 1.69  |
| 3110 : <i>Manufacture: electric motors/generators</i> | 3727          | 747           | 1.49  | 1.5   |
| 5157 : <i>Wholesale of waste and scrap</i>            | 1464          | 671           | 1.39  | 3.2   |
| 3710 : <i>Recycling of metal waste and scrap</i>      | 1407          | 364           | 2.06  | 2.68  |
| 4010 : <i>Production/distribution of electricity</i>  | 5016          | C             | 0.78  | 1.25  |
| 4020 : <i>Manufacture/distribution of gas</i>         | 4785          | C             | 1.62  | 1.44  |
| 4100 : <i>Collection/purification etc of water</i>    | 4191          | C             | 1.35  | 1.27  |
| 2913 : <i>Manufacture of taps and valves</i>          | 3307          | C             | 2.25  | 1.53  |
| 2911 : <i>Manufacture of engines and turbines</i>     | 2953          | C             | 1.91  | 0.19  |
| 2830 : <i>Manufacture of steam generators</i>         | 1166          | C             | 2.17  | 8.69  |
| 3720 : <i>Recycling of non-metal waste and scrap</i>  | 596           | C             | 1.03  | 1.51  |
| 2623 : <i>Manufacture of ceramic insulators</i>       | C             | C             | 7.06  | 9.87  |
| 4030 : Steam and hot water supply                     | C             | 0             | 1.1   | 0     |

**Media**

| Name  | WM Employment | BC Employment | WM LQ | BC LQ |
|---|---------------|---------------|-------|-------|
| 9231 : Artistic and literary creation etc       | 3629          | 308           | 0.57  | 0.25  |
| 9220 : Radio and television activities          | 3188          | C             | 0.45  | 0.05  |
| 9252 : Museum activities etc                    | 2272          | C             | 0.83  | 0.49  |
| 9213 : Motion picture projection                | 1430          | C             | 0.91  | 0.96  |
| 9211 : Motion picture and video production      | 363           | C             | 0.23  | 0.17  |
| 9240 : News agency activities                   | 159           | C             | 0.17  | 0.2   |
| 9212 : Motion picture and video distribution    | 148           | C             | 0.36  | 0.37  |
| 9212 : Motion picture and video distribution    | 148           | C             | 0.36  | 0.37  |
| 2214 : Publishing of sound recordings           | 70            | C             | 0.27  | 0.09  |
| 2231 : Reproduction of sound recording          | 46            | C             | 0.11  | 0.09  |
| 2232 : Reproduction of video recording          | C             | C             | 0.88  | 0.13  |
| 2233 : Reproduction of computer media           | C             | C             | 0.61  | 0.13  |
| 2465 : Manufacture of prepared unrecorded media | C             | 0             | 1.84  | 0     |

**Medical technologies**

| Name   | WM<br>Employment | BC<br>Employment | WM<br>LQ    | BC<br>LQ     |
|--|------------------|------------------|-------------|--------------|
| 8511 : Hospital activities                             | 117658           | 21621            | 0.98        | 0.91         |
| 8512 : Medical practice activities                     | 14329            | 2861             | 0.89        | 0.9          |
| 8514 : Other human health activities                   | 17070            | 2716             | 1.03        | 0.82         |
| <i>5231 : Dispensing chemists</i>                      | <i>5830</i>      | <i>1352</i>      | <i>1.02</i> | <i>1.19</i>  |
| 8513 : Dental practice activities                      | 4388             | 792              | 0.85        | 0.77         |
| 3310 : Manuf: medical/surgical equipment etc           | 1834             | 511              | 0.67        | 0.94         |
| 5146 : Wholesale of pharmaceutical goods               | 2853             | C                | 0.75        | 0.71         |
| 3340 : Manufacture of optical instruments etc          | 1687             | C                | 1.09        | 0.85         |
| 2442 : Manufacture: pharmaceutical preparations        | 546              | C                | 0.11        | 0.09         |
| <i>5232 : Retail sale of medical/orthopaedic goods</i> | <i>241</i>       | <i>C</i>         | <i>0.71</i> | <i>1.25</i>  |
| <i>3543 : Manufacture of invalid carriages</i>         | <i>C</i>         | <i>C</i>         | <i>3.14</i> | <i>14.57</i> |
| 2441 : Manufacture of pharmaceutical products          | C                | C                | 0.37        | 0.23         |

