

Working Paper 40

London's creative workforce: 2009 update

By **Alan Freeman**



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For more information about this publication, please contact:

GLA Economics

telephone 020 7983 4922

email glaeconomics@london.gov.uk

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Foreword

London is known around the world for its uniquely rich cultural and creative sector. As well as being home to many of the world's most significant museums, galleries and heritage sites, the city has seen a rapid growth in commercial creative industries and is a global hub for innovation. Some of the world's most successful creative businesses are located in London and contribute to the UK economy.

Much of London's success in the creative industries stems from its historic role as a global economic hub. Since the seventeenth century, London has been a site of exchange bringing together buyers and sellers, investors and entrepreneurs; whether the market was for linen and silk, tea and sugar or manufactured goods. London performs a similar role for the world's creative industries today, contributing to the UK's economy not only because of the number and quality of its writers, artists, musicians, designers and other artistic talent, but also because of all the professionals and intermediaries, such as publishers, exhibitors, commissioners, distributors, financiers, brokers and agents. It is as much through their skills, management expertise and entrepreneurial drive that London's creative industries retain their competitive edge, developing products and services that are consumed across the world. London's emergence as a global financial centre in the last two decades has also led to a substantial growth in creative services, such as design and advertising, which provide support to major clients.

Whilst we can clearly see the abundance of creative activity in London, it is harder to measure its direct impact on London's economy. This is partly because the 'creative industries' are highly diverse; from major commercial musicals in the West End, to small graphic design businesses in east London, to the globally renowned film and media cluster in Soho. 'Creative professionals' include those working in creative businesses but also those working in non-creative sectors, or who are self-employed alongside holding other jobs. The creative industries also have a complex relationship to public investment; for example, professionals trained in subsidised theatre will go on to make commercially successful films. Likewise, plays developed 'off west end' will turn a major profit in a commercial theatre. There is much rhetoric about London's 'creativity' but policy-makers need a clear understanding of how this sector works and the factors that shape its success.

This GLA Economics paper is the fourth report on London's creative industries and attempts to capture this complex landscape. It uses the most robust official data to measure all the jobs relating to the creative industries and is intended to provide a valuable resource for London policy makers.

The first report, *Creativity: London's Core Business*, appeared at the end of a major expansion of 1995-2001 during which London's creative industries grew faster than any other sector except financial services. This report takes the story up to 2008, where the official data ends. Therefore, it cannot tell us a great deal about how London's creative industries are responding to the general economic recession. Nevertheless, the vigorous economic growth shown for the sector after its recovery from the previous contraction, particularly from 2006 onwards, suggests that, when economic conditions improve, London's creative sector will

retain its strong position, and continue to generate significant employment, export earnings and wealth for London.

The Mayor has expressed a particular concern for the benefits of economic growth to be spread across London. For this reason, the Mayor established the Outer London Commission in 2009, to explore opportunities for economic development in the outer London boroughs. In line with this, this paper provides more detailed information than ever before on the creative industries at borough level. This is something we know boroughs welcome and will find valuable for their own planning. It is hoped that this data will help to inform policy-making and investment for the creative industries at regional and local level, and ultimately ensure that more Londoners can benefit from the dynamism of this complex sector.

Munira Mirza

Mayoral Advisor on Arts and Culture

Executive summary

This is our third update to *Creativity: London's Core Business* (GLA 2002), a comprehensive survey of employment and production by London's creative workforce.

It confirms that London and its surrounds remain the dominant focus for the UK's creative industries. Thirty-two per cent of the creative workforce is located in London, and over 58 per cent in the Greater South East. The nine DCMS (Department for Culture, Media and Sport) creative industries remain a strong and dynamic component of London's economy, accounting for nearly one London job in every twelve. Together with creative workers outside these industries, they account for more than one London job in every six.

Our 2007 report noted that 'since peaking in 2001, total creative employment fell for three successive years before turning up in 2005'. This gave rise to a concern that the creative industries were vulnerable to cyclic fluctuations in the economy. It also created grounds for a second and distinct concern: that the rising trend of creative industry employment and output shown in the late 1990s could be coming to an end.

This report confirms our finding that the decline in creative workforce jobs, which began in 2001, came to an end in 2004. It also shows that both employment and output had by 2007 risen above their 2001 peak, suggesting that though cyclic fluctuations may cause serious interruptions, there is an underlying growth trend.

A growing body of research focuses on the role of a pool of creative talent in attracting employers to a city. London's offer is exceptional – but what are its strengths and weaknesses? This update contains a special section on the characteristics of London's creative workforce. The report shows how it contributes to sectors like finance and manufacturing outside the creative industries, studies its gender and ethnic composition, and takes a look at its patterns of part-time and self-employed working.

What lies behind the concentration of creative industries in London? Do creative firms form clusters and if so, which ones and where? A second special section, using new data supplied to the GLA by the Office for National Statistics (ONS), pinpoints which creative industries concentrate in London and where they locate. It provides detailed and robust information on the creative economy of London's Local Authorities, and contains a preliminary analysis of the possible reasons for their pattern of location.

In line with a policy of continuous improvement, the data has been updated and revised and its statistical reliability has been improved. This update also contains new figures for the Gross Value Added (GVA, output) of London's creative industries, which supersede the widely-cited figures published in *Creativity: London's Core Business*.

Creative Industry statistics are often jargon-filled and hard to follow: this report, which includes a glossary, introduces a consistent terminology for talking about creative jobs.

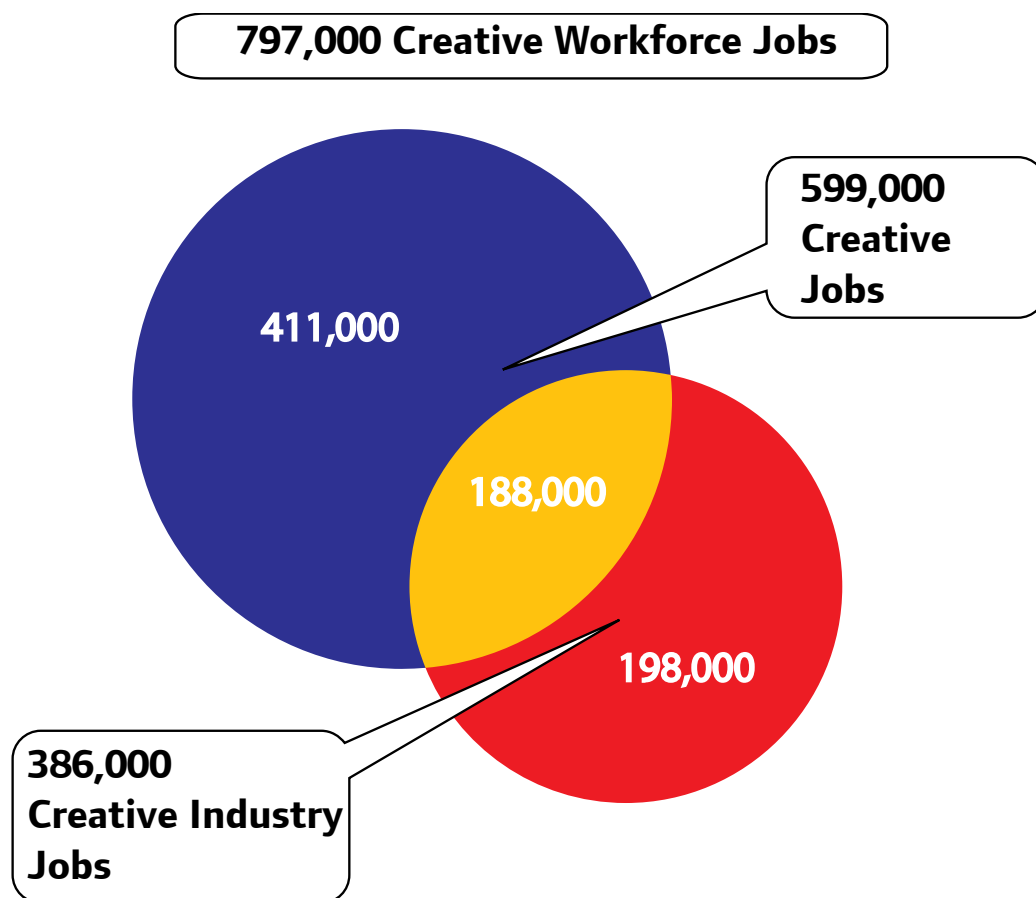
1 Introduction¹

In October 2002, GLA Economics published *Creativity: London's Core Business*, a report on creative employment and output in London. Two updates, in 2004 and 2007, were supplemented in 2008 by the LDA's *London: a Cultural Audit* (LDA 2008), comparing London's cultural offer with Paris, New York, Tokyo and Shanghai. This is GLA Economics' third update on the cultural and creative industries, focussing on the creative workforce, the location of the creative industries, and the output of these industries.

This report makes use of an entirely new dataset, provided by the Office for National Statistics (ONS), giving detailed information at borough and sub-borough level on the location of London's creative industry firms and jobs. It also provides new estimates of their output, commissioned from Experian Business Strategies (EBS). The data, which is in the public domain, can be obtained from GLA Economics².

1.1 What is the creative workforce?

Chart 1: London's creative workforce in 2007



Source: ABI, LFS and GLA Economics. See Box 1 for details.

¹ We would like to acknowledge the comments and help of Jen Beaumont, Neil Berry, Andy Botterill, Jo Burns, Tom Campbell, Ellen Collins, Jane Dawson, Juan Mateos-Garcia, Paul Owens, Sarah Selwood, and Louise Venn.

² glaeconomics@london.gov.uk

Nine creative industries or sectors are defined by the Department of Culture, Media and Sport (DCMS) in its *2001 Mapping Document* (DCMS 2001). These are Advertising; Architecture; Arts and Antiques; Fashion; Film and Video; Leisure Software; Music and the Visual and Performing Arts³; Publishing; and Radio and Television⁴. It additionally defines ten creative occupations, nine of which have the same names as the nine sectors just described. DCMS defines a tenth occupation 'crafts' (see for example Chart 6) which has no corresponding industry sector⁵. Creative Workforce Jobs, as measured in this report, are thus made up of two components which overlap:

- 'Creative Industry Jobs' – jobs in an industry classified as creative. These are the sum of creative industry employee jobs and creative industry self-employed jobs. There are 386,000 of them.
- 'Creative Jobs' – held by artists, performers, craft workers and so on – whose occupation is classified as creative. There are 599,000 of these, of which 411,000 are outside the creative industries.

188,000 creative industry jobs are also creative jobs. These are only counted once, so London has $386,000 + 411,000 = 797,000$ creative workforce jobs⁶.

There are thus creative jobs both inside, and outside, the creative industries. An example of the second would be a publications manager who works for a bank in the City. The bank is not counted as part of a creative industry, but publishing is a creative job, so it is counted as creative. Similarly, there are both creative and non-creative jobs within the creative industries themselves⁷.

Because these definitions provide data on both enterprises and the workforce itself, the data provide considerably more information than the industrial employment data associated with standard industrial sectors like Finance and Business Services, Manufacturing, or Transport and Communications. Higgs and Cunningham (2007)⁸ coined the phrase 'Trident classification' to describe the particular combination of occupational and industrial information this data provides. It allows us to study the workforce, the industries in which it works, and the relation between the two.

³ For brevity, we use 'Music and Performance' in place of 'Music and the Visual and Performing Arts' in this report.

⁴ The most comprehensive source for these SOC and SIC codes, which were not published in the original mapping document, is DCMS (2007).

⁵ The additional DCMS category of 'design' is not listed separately, because of the statistical difficulties associated with capturing it precisely.

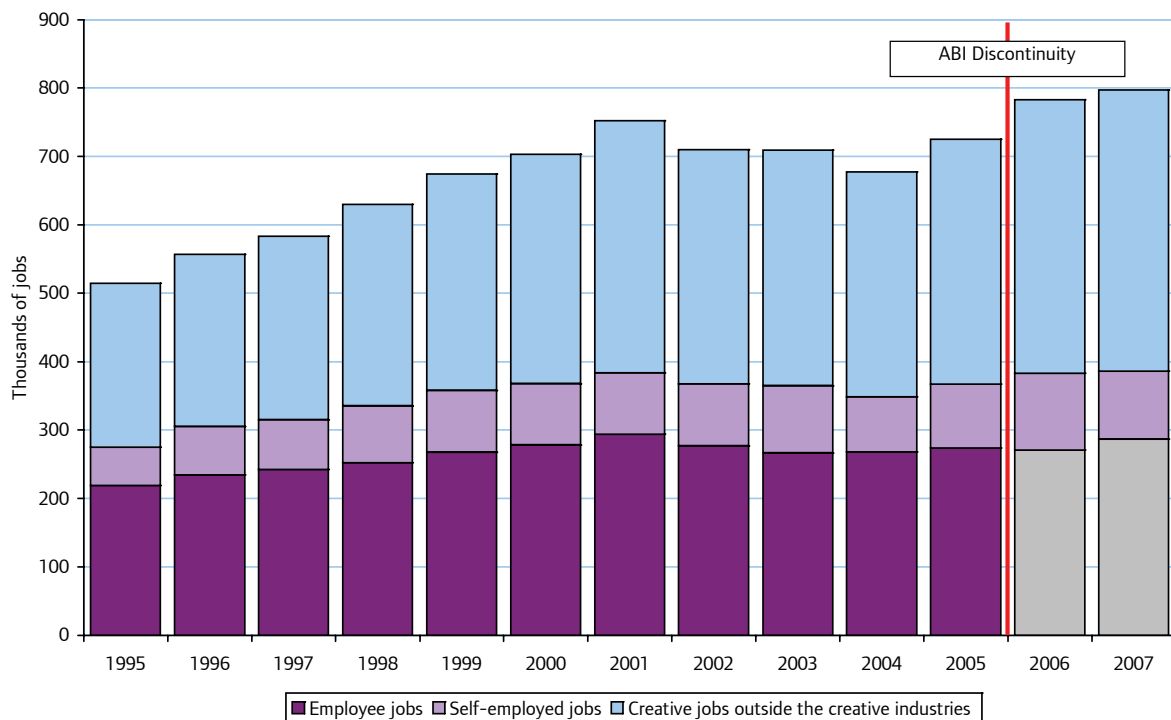
⁶ These terms all describe 'workforce jobs' rather than 'persons in employment': one person may do more than one job. Terms like 'creative industry employees' may be used as abbreviations for the more cumbersome 'creative industry employee jobs'. The strict meaning should be borne in mind.

⁷ The figure of 198,000 for non-creative jobs in the creative industries, given in Chart 1, is supplied to illustrate the calculation and, strictly speaking, arises from subtracting two figures that are derived from sources not fully compatible – the LFS and the ABI (see Box 1). Elsewhere in the report where creative and non-creative jobs are compared – for example in section 2 – the LFS is the sole source referred to.

⁸ See also Higgs, Cunningham and Bakhshi (2008).

1.2 Creative workforce jobs

Chart 2: Creative workforce jobs in London



Source: ABI, LFS, GLA Economics. See Box 1 for details.

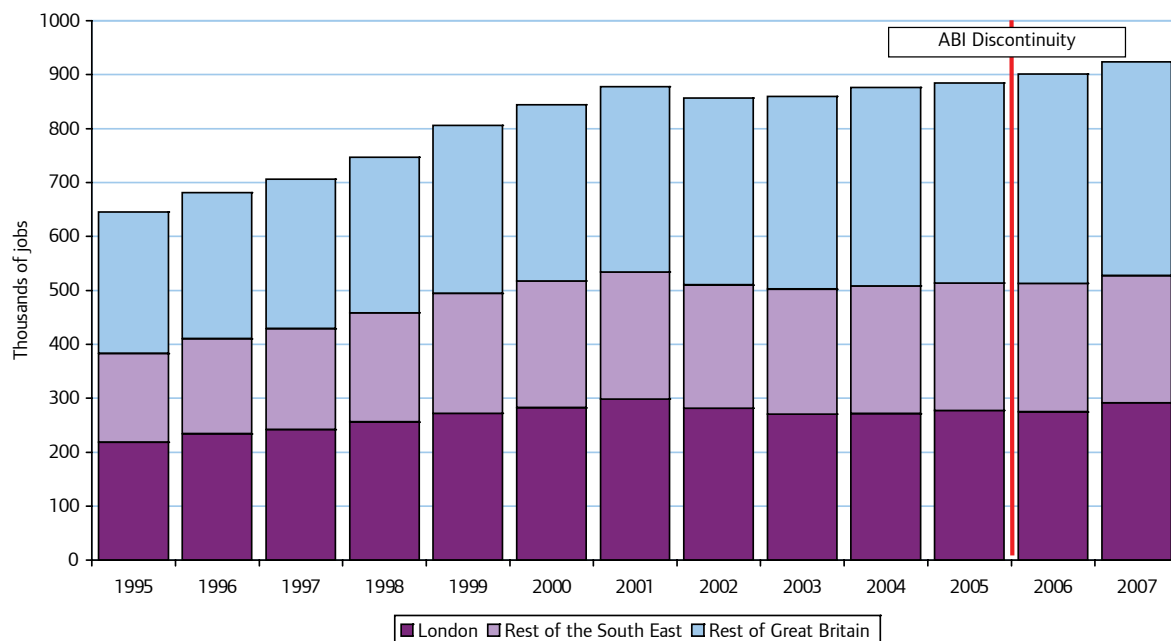
Chart 2 shows how creative workforce jobs in London have evolved between 1995 and 2007. As the chart indicates, there is a discontinuity between 2005 and 2006, when the ONS improved its procedures for estimating employee jobs. Therefore, some caution is required: the advice given by ONS is that data from the last two years in this series are not comparable with data from previous years. This is discussed, and an assessment is made of what can be inferred from the statistics, in Box 2 and Appendix 1.

Chart 3 provides an overall regional picture, showing how creative industry employee jobs have changed in three major parts of the UK: London, the Rest of the South East (ROSE) and the rest of Great Britain⁹. Both creative self-employed jobs, and creative jobs outside the creative industries, are omitted to maximise comparability.

These data confirm our finding, in the *2007 Update*, that 'the balance of evidence is therefore that the decline in London's creative industries seen between 2001 and 2004 is a direct result of the slowdown seen in London's private sector, and especially London's Finance and Business Services sector, during the early 2000s.' They also shed light on two further questions posed in the *2007 Update*:

⁹ In this report, the 'Rest of the South-East' refers to the Government Office Regions immediately adjacent to Greater London, that is the East and South-East Regions. The 'rest of Great Britain' refers to the remaining Government Office Regions. It does not include Northern Ireland. Where we refer to the 'Greater South East', this means London, plus the Rest of the South East.

- (a) Did London's creative Industries recover from the downturn of 2001–2004?
- (b) Where are creative industries concentrated, broadly, in Great Britain?

Chart 3: Creative employee jobs in London, the South East and Great Britain

Source: ABI, GLA Economics. See Box 1 for details.

The data suggest that growth resumed after 2004. There were 797,000 creative workforce jobs by 2007, the last year for which we have complete data. The largest pre-discontinuity total recorded was 752,000, in 2001. The UK picture provides further evidence of a continuing upward trend. As Chart 3 shows¹⁰, UK creative industry employee jobs had already risen above their 2001 peak by 2005 and rose thereafter in each successive year, with an average annual growth rate of 2.4 per cent.

However, in 2006, ONS changed the basis on which ABI employee jobs are estimated. This improved the quality of the data but renders comparison with previous years difficult (see Box 2); it cannot conclusively be inferred from these data alone that creative workforce jobs rose between 2005 and 2006 as the graph suggests. Appendix 1 assesses the further evidence that growth did in fact resume and continued from 2004 until at least 2008, and suggests that it is reasonable to conclude that creative workforce jobs have now risen above their previous peak.

¹⁰ As previously, we have calculated UK creative industry figures using assumptions derived from London conditions, for comparison purposes. As explained in the *2007 Update*, our estimates are not identical to DCMS's, but are close enough that the two sets of data do not lead to conflicting conclusions. See Appendix 1.

As Chart 3 shows, a small expansion in the creative workforce in the rest of Great Britain has not dented the dominant position of the Greater South East, which employs 58 per cent of this workforce – with 32 per cent in London – compared with 60 per cent in 1995.

Box 1: Sources of data

This report uses three data sources, all supplied by the ONS:

- The Annual Business Inquiry (ABI) is a survey of UK employers giving estimates of employee jobs. These are sometimes called payroll jobs. The Annual Employment Survey (AES), the ABI's precursor, gives the same data before 1998. In this report 'ABI' refers to both. These data were downloaded between May and November 2009 from the Nomis site¹¹.
- The Labour Force Survey (LFS) is a survey of households, yielding information about employment and self-employment. Estimates of employee jobs can be derived from it but are only used where the ABI does not provide the relevant information, as with gender or occupation. The LFS also provides estimates of self-employed jobs. The LFS is now part of the Annual Population Survey (APS); for brevity, we use 'LFS' to refer to both sources. The LFS source used in this report is annual LFS/APS microdata, reweighted, supplied between January and November 2009 by the Essex data Archive.
- The Interdepartmental Business Data Register (IDBR) is a large database constructed from information supplied by employers submitting tax returns. It provides data on employee jobs, and also on firm counts. Data from this source were supplied to us directly by the ONS regional data service.

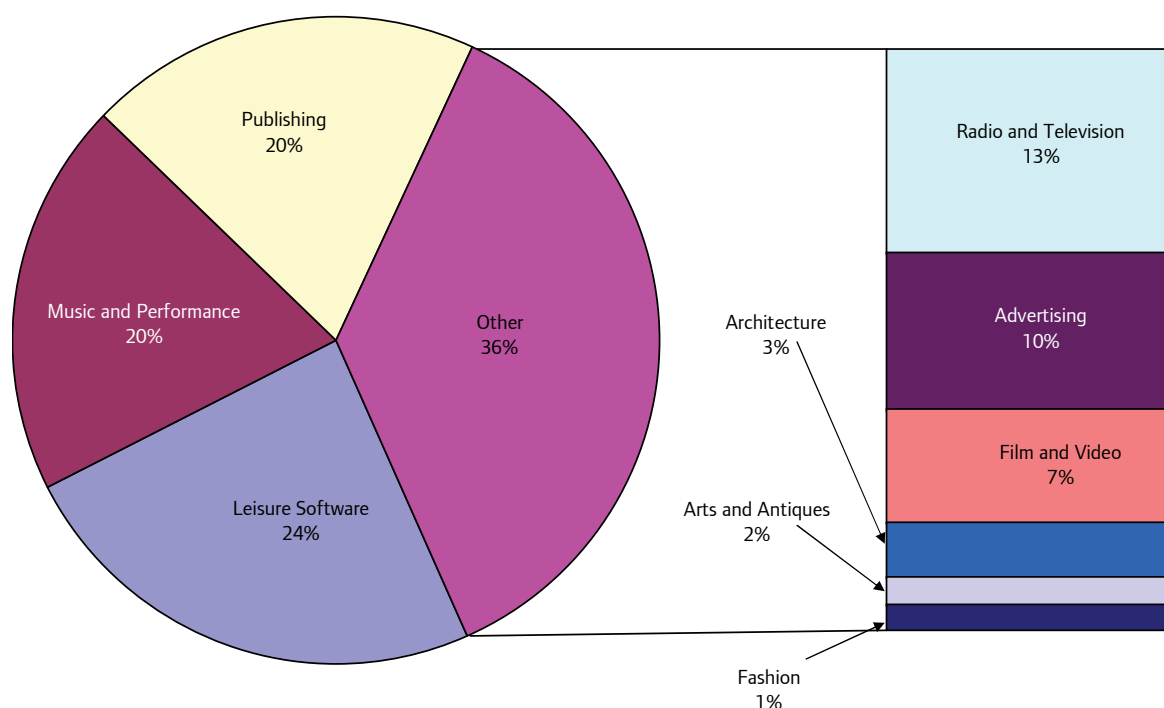
There is a discrepancy between LFS and ABI estimates of employee jobs, particularly for London. This report uses the ABI where possible. However, some information – for example occupation or gender – can only be obtained from the LFS.

The IDBR provides a much larger statistical sample than the ABI but data drawn directly from it has yet to be reconciled with that from other sources. Like the ABI, it is subject to strict controls on disclosure. For this report, ONS have supplied us with a disclosure-controlled dataset giving detailed information about employment and firm counts in London's localities. We also used IDBR data to estimate weightings or coefficients to estimate creative job numbers from raw ABI data (see Appendix 1).

Turning to the relative weight of the DCMS sectors in London's creative economy, Chart 4 shows the share of creative industry jobs in each of the nine DCMS 'sectors'. The three largest, accounting for 64 per cent of creative employment between them, are Publishing, Leisure Software, and Music and Performance. Three medium sectors – Radio and Television, Advertising, and Film and Video – account for 30 per cent, and the final three – Architecture, Arts and Antiques, and Fashion – account for 6 per cent¹².

¹¹ www.nomisweb.co.uk

¹² Fashion is significantly underestimated because of the requirement for compatibility with DCMS estimates.

Chart 4: Creative industry jobs in 2007

Source: ABI, LFS and GLA Economics. See Box 1 for details.

Box 2: The discontinuity in ABI employee job estimates

In 2006 the ONS introduced a number of methodological improvements to the ABI. As a result, data from 2006 and later are not strictly comparable with previous years. ONS estimates that the ABI figure for employee jobs in 2006 was between 150,000 and 350,000 less than it would have been, if the methodology had not changed. GLA Economics estimates that the equivalent discontinuity in London is likely to be between 24,000 and 52,000 jobs. Though the discontinuity tends to understate employee jobs, its effects differ from sector to sector and so it cannot be assumed that every estimate derived from the 2006 ABI is lower than it would have been otherwise.

Appendix 1 further investigates the evidence for a rising trend in creative workforce jobs, by comparing estimates derived from the ABI, the IDBR and the LFS/APS. A full study of the impact of the discontinuity on London employment estimates was published in GLA Economics' *London's Economic Outlook* (Spring 2008).

2 London's creative jobs

London's workforce is one of the most important assets driving the location of industries, particularly influencing why, and whether, they come to London. It is widely believed that the availability of a skilled and creative workforce is a major factor influencing the growth, and location decisions, not only of the creative industries but a wide range of other industries, particularly those that operate globally such as finance¹³.

Box 3: Why use the DCMS method?

As before, this report employs a standard methodology developed by DCMS, which we refer to as the DCMS mapping (DCMS 2001, 2007), to estimate creative activity in London. This standard is broadly in line with international standards developed by UNESCO and by European coordinating bodies.

Using a nationally and internationally recognised standard has two advantages. Creative activity in London can be compared with other regions, cities and countries. Moreover, within the limits of the ABI discontinuity it can be compared over time.

Experimental standards

One outcome of the DCMS's Creative Economy Programme was a new classification proposed by Frontier Economics (2007). Like the DCMS Evidence Toolkit (DET) which preceded it, this classification sought to identify components of a creative value chain, leading from primary creative activities such as song writing, to the dissemination of the results, for example sales of compact discs.

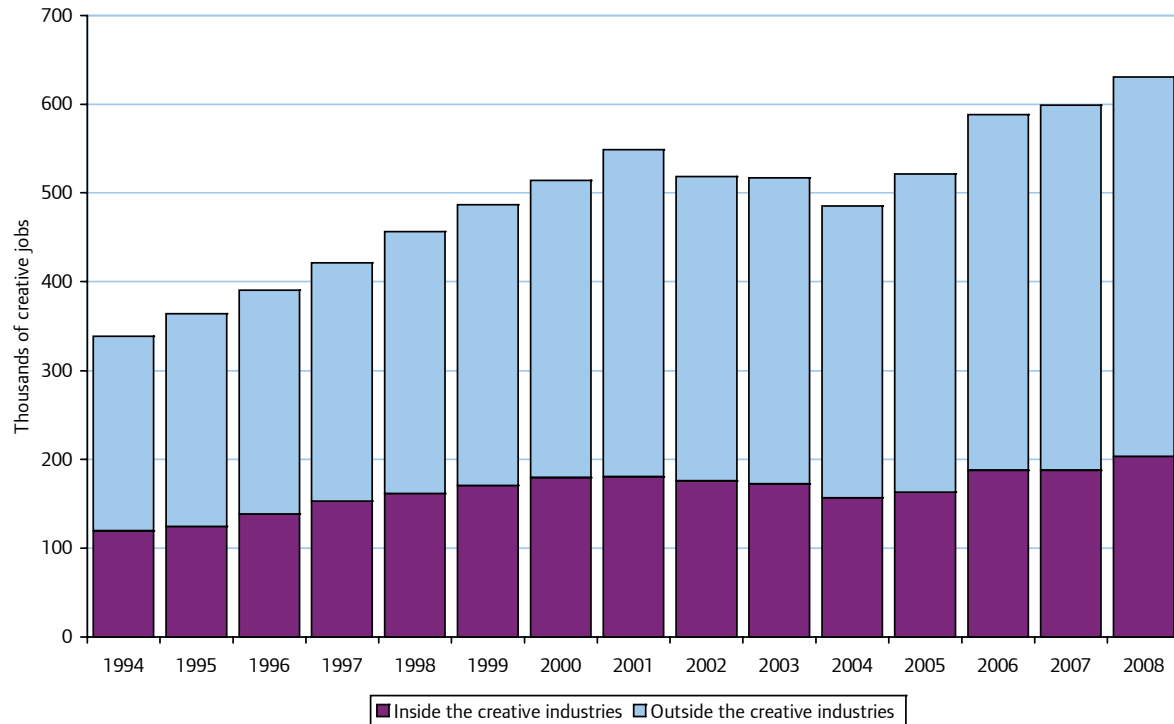
Although they introduce potentially useful methodological innovations, neither the DET nor the Frontier Economics classifications have been adopted widely. GLA Economics, in a submission made to the ONS in August 2009, argued that new standards should not be adopted at the cost of comparability over space and time. Instead, we argue, both standards should be maintained until the experimental standard has secured definitive and widespread adoption.

The literature on the creative industries also pays much attention to the transmission of ideas by the workforce. As De Propris et al (2009) note, in a recent study commissioned by NESTA on which this report draws extensively,

The most relevant benefits associated with creative localisation include [a] pooled specialised labour market, which is particularly relevant for those creative industries where activities are organised in self-contained projects with bespoke teams who work together for a limited period of time (Pratt 2006)...talent is often accessed through

¹³ The idea that a creative workforce is a strong determinant of city performance was popularised by Richard Florida (2004). Clifton (2007, 2008) studies the factors that influence locational concentrations. The relation between creative workforce and industry location is touched on in Higgs and Cunningham (2007) and in Higgs, Cunningham and Bakhshi (2008) and is also discussed in Knell and Oakley (2007) and in De Propris, L. et al (2009), which contains a detailed literature review assessing the literature on clustering and agglomeration in the creative industries. See also Towse (2007).

project-based short contracts and freelancing, and managed by so-called creative entrepreneurs or managers (Sedita 2008) ... Managers of creative projects are thus able to find the skills they need easily, and creative professionals enjoy higher levels of job stability as a result (Florida 2002).

Chart 5: Creative jobs in London

Source: LFS, GLA Economics. See Box 1 for details.

There is evidence, presented in the next section of this report, that at least some of the creative industries tend to concentrate¹⁴. The scale of concentration, in which enterprises are often located streets or even short blocks away from each other, or in creative 'quarters', strongly suggests a clustering effect – concentration caused by interconnection. Access to a labour pool, and the capacity for the labour force from different enterprises to interact on a daily basis, may constitute this interconnection, acting as an operative factor in the success of the individual enterprise, and in the spread of ideas. At this time we are only at the beginning of the discovery process, but some basic facts can be determined.

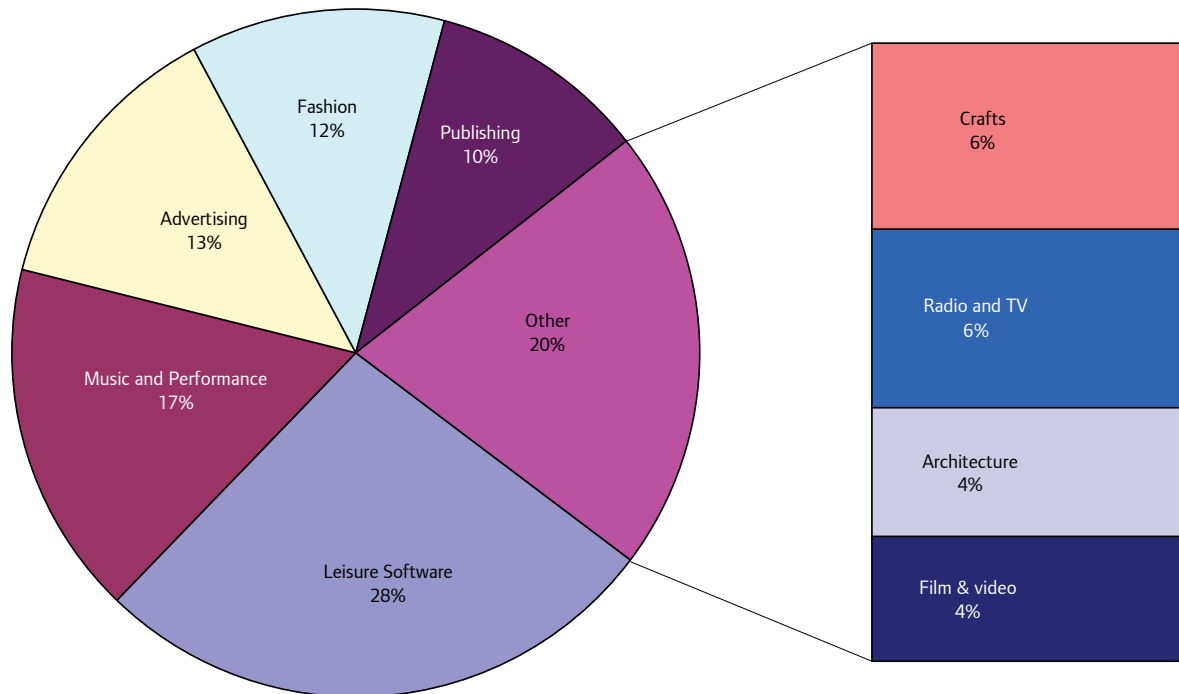
Chart 5 shows the number of creative jobs in London between 1994 and 2008, the last year for which data is available¹⁵. It shows that workers in creative occupations were hard hit by the downturn experienced by London in the early 2000s. By 2004, 485,000 of them were in employment, a fall of 75,000 from the 2001 peak. However, they recovered strongly after 2004 and by 2007, there were more creative jobs in London than ever before, at 599,000 –

¹⁴ For discussions on clustering and agglomeration in the creative industries, see for example Lazzeretti et al (2008), Evans (2009a,b), Pratt (2006).

¹⁵ The LFS is the sole data source for the data in this section. For this reason, figures for employee jobs are not comparable with those elsewhere in this report, and should not be used for any other purpose.

more than one in eight of all London's jobs. This data, which is not subject to the discontinuity of the ABI data, is further evidence of a rising trend of creative workforce jobs.

Chart 6: Composition of London's creative jobs in 2007



Source: LFS and GLA Economics. See Box 1 for details.

Chart 6 shows the proportion of London's creative jobs in each occupational category. As mentioned, an additional category – Crafts – appears because DCMS does not allocate any industries to this sector, but does recognize craft work as a distinct occupation.

2.1 Creative Intensity

Creative workers do not only count in the creative industries. They are a resource for many London businesses outside the creative industries. In 2007, 411,000 of London's creative jobs were actually outside the creative industries.

It is therefore important to know which industries do actually employ creative workers. This information is also useful since it gives us an idea where creative workers may expect to find employment. Creative workers typically have skills which many industries draw on and, indeed, the pool of creative talents to be found in large global cities is widely considered one of the factors that attract modern service industries to locate there, and at least part of the reason for their higher productivity. We now consider these issues in more detail.

Our last two reports studied this using a factor we termed *creative intensity* – the proportion of an industry's workforce which is specialised in, and carries out, creative work. Over 45 per cent of creative industry jobs in London are also creative jobs. For comparison, the average for London's industries as a whole is 9.4 per cent.

Table 1 shows the number of creative jobs in each of the creative industries¹⁶, and compares it to the total jobs in these industries – the creative intensity of the industry. Table 2 shows the same information for the main industrial sectors in the standard classification.

Table 1: Creative industry jobs in 2008^a

| | Jobs in this Industry^b | Creative jobs in this industry | Creative Intensity (proportion of jobs that are creative) |
|----------------------------------|--|---------------------------------------|--|
| Arts and Antiques ^c | (*) | (*) | (*) |
| Architecture | 14,000 | 6,000 | 42% |
| Fashion ^c | (*) | (*) | 42% |
| Leisure Software | 90,000 | 41,000 | 45% |
| Publishing | 78,000 | 39,000 | 50% |
| Advertising | 43,000 | 25,000 | 58% |
| Radio and Television | 46,000 | 27,000 | 59% |
| Film and Video | 17,000 | 11,000 | 67% |
| Music and Performance | 77,000 | 52,000 | 68% |
| Total Creative Industries | 374,000 | 203,000 | 54% |

Source: LFS/APS and GLA Economics. See Box 1 for details.

a Since only LFS data are used in this table, figures are from 2008, the last year for which LFS data are available.

b All job totals in this table are calculated from the LFS for comparability. The 'Jobs in this industry' figure therefore differs from the equivalent ABI figure used elsewhere in this report, and should not be used outside of this context.

c Arts and Antiques, and Fashion are omitted for reasons of disclosure.

The creative workforce is clearly a specialised resource, on which the creative industries draw heavily. Over two-thirds of the jobs in Music and Performance, for example, are creative – compared with 2 per cent in Public Administration, 3 per cent in Distribution and 4 per cent in Transport. All the creative industries for which robust intensity data is available (that is, all except Arts and Antiques) make more intensive use of creative workers than Manufacturing, the second highest non-creative source of creative jobs in absolute terms.

Nevertheless, industries other than the creative industries do make substantial use of London's creative workforce. 17 per cent of Manufacturing jobs, and 11 per cent of Banking, Finance and Insurance jobs, are creative.

¹⁶ As noted in section 1.1, in this report the term 'creative job' is a shorthand for 'a job that is not classified as a creative occupation'. Therefore, the term 'non-creative job' carries no implication that it calls for no creative ability, only that it is not at present classified as creative. Existing classifications do not necessarily capture all the distinctions that the creative industries themselves make. Thus a stage lighting technician may well need to be more creative in interpreting the specifications of a stage designer, than, for example, an electrician on a housing development interpreting an architect's plan. See Freeman (2008) for further discussion.

This has two important implications. First, it suggests that since these industries use a creative workforce, this may be an important determinant of whether they choose to work in London.

Table 2: Creative jobs in selected industries outside the creative industries in 2008

| | Jobs in this Industry^a | Creative jobs in this industry | Creative Intensity |
|---|--|---------------------------------------|---------------------------|
| Public Admin, Education and Health | 1,006,000 | 20,000 | 2% |
| Distribution, Hotels and Restaurants ^b | 593,000 | 17,000 | 3% |
| Transport, Storage and Communication | 313,000 | 13,000 | 4% |
| Construction | 266,000 | 21,000 | 8% |
| Banking, Finance and Insurance | 1,181,000 | 133,000 | 11% |
| Manufacturing ^b | 297,000 | 50,000 | 17% |
| All industries excluding creative | 4,207,000 | 427,000 | 10% |

Source: LFS/APS and GLA Economics calculations. See Box 1 for details.

a All job totals in this table are calculated from the LFS for comparability. The 'jobs in this industry' figure therefore differs from the equivalent ABI figure published elsewhere, and should not be used outside of this context.

b For those sectors containing creative industries, such as manufacturing, data refers only to the non-creative industries within this sectors.

Second, it means that creative qualifications and experience – for example, degrees in creative subjects – do not just equip employees to work in cultural or related industries. In fact, as Table 2 shows, the largest single employer of creative workers is the Banking and Finance sector, which contains 133,000 creative jobs but does not contain any part of any creative industry.

London's creative industries may well function as a strategic core for its creative workforce, employing an especially high proportion of creative workers. This creative workforce is, however, a resource for a wider layer of industries. It is important, therefore, to study its composition and working conditions.

2.2 Self-employment and part-time working in the creative industries

Part-time, temporary and self-employment are all patterns of work thought to be associated with the creative industries. How does this affect its workforce?

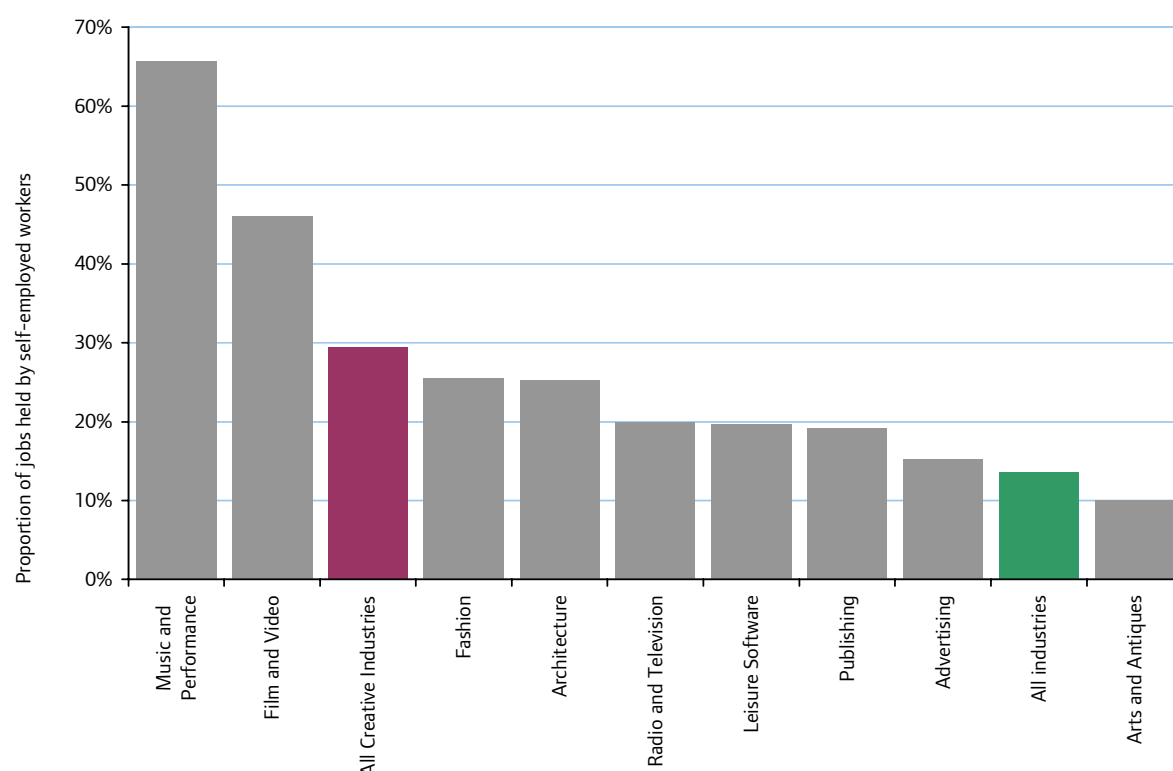
The incidence of part-time and self-employment work patterns in the creative industries are thought to have two effects, and further research is required to identify the extent and impact of both. On the one hand, there are widespread concerns that part-time working and self-employed status provide a weak social safety net and poor work security¹⁷. On the other hand, if part-time and self-employed work patterns are associated with greater labour mobility, then this mobility of the workforce, moving rapidly from one industry to the other

¹⁷ See McDowell and Christopherson (2009), ILO (2003), Fudge and Owens (2007).

and from one enterprise to the other, is argued to be a dynamic factor that can lead to the rapid absorption of new ideas¹⁸. What does the evidence show?

As Chart 7 shows, the proportion of self-employed jobs in every creative industry except Arts and Antiques is greater than London's all-industries average. However, the same is not true of part-time working where, with the exception of Music and Performance, and Arts and Antiques, the proportion of part-time jobs is lower in the creative industries than London's average¹⁹.

Chart 7: Proportion of creative industry jobs that are self-employed in London, average 2005-2008



Average 2005-2008

Source: LFS, GLA Economics. See Box 1 for details.

Care is needed when looking at individual sectors. Low sample size creates problems of statistical reliability. To improve on reliability in this report, we have noted that the overall variability in the creative industries as a whole is relatively small over time, when compared with the differences between individual sectors. We have therefore taken an average between 2005 and 2008 to estimate part-time working and self-employment, and also to calculate the ethnic and gender composition of the workforce²⁰. More detailed comments have been provided in Appendix 1.

¹⁸ See Frontier Economics (2007).

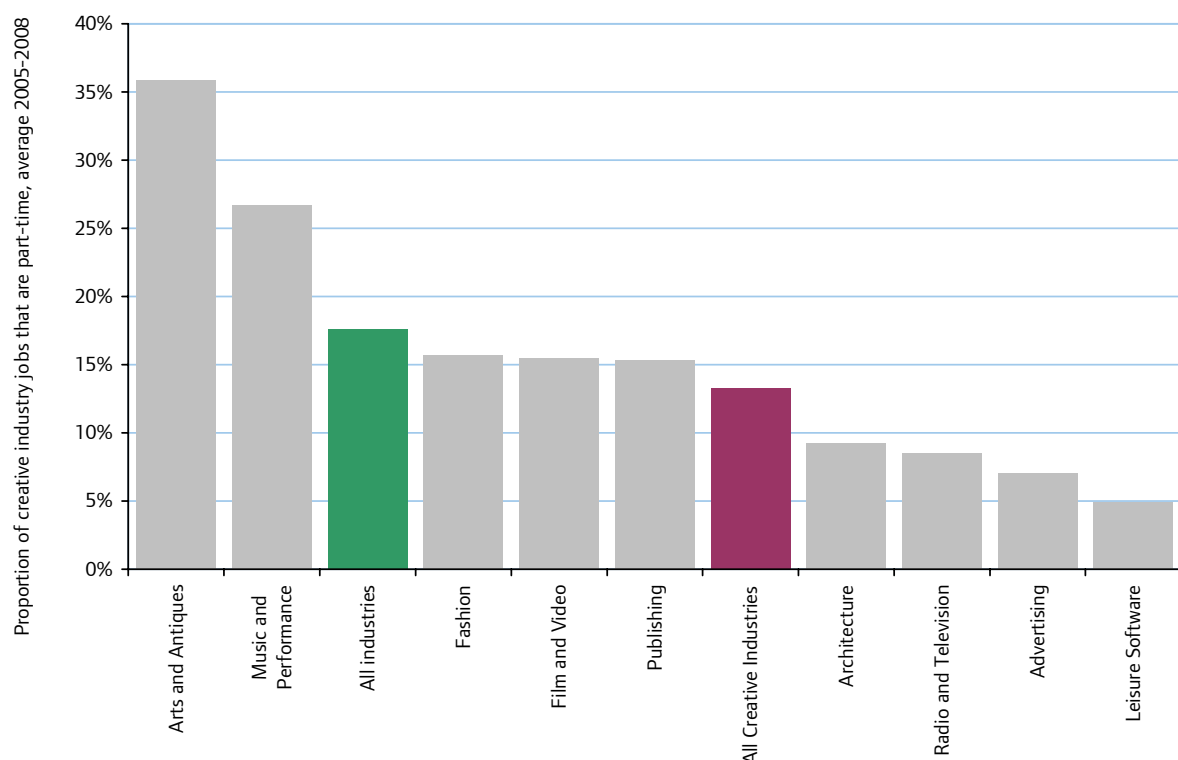
¹⁹ The LFS is also the sole data source for this section of the report.

²⁰ LFS data are available up to 2008. At the time of publication, the most recent ABI data were for 2007.

Chart 7 shows that the pattern is far from uniform. In Music and Performance, nearly two-thirds of the workforce is self-employed, whilst in Advertising, the proportion is only 15 per cent. However, at nearly 30 per cent, the proportion of the self-employed in the creative industries is double that for London's workforce as a whole.

The pattern of part-time working is different (see Chart 8). Arts and Antiques, in which self-employment is the lowest, exhibits the highest proportion of part-time jobs at 36 per cent. Music and Performance, at 27 per cent, is the only other creative industry whose proportion of part-time jobs is higher than London's average.

Chart 8: Proportion of creative industry jobs that are part time in London, average 2005-2008



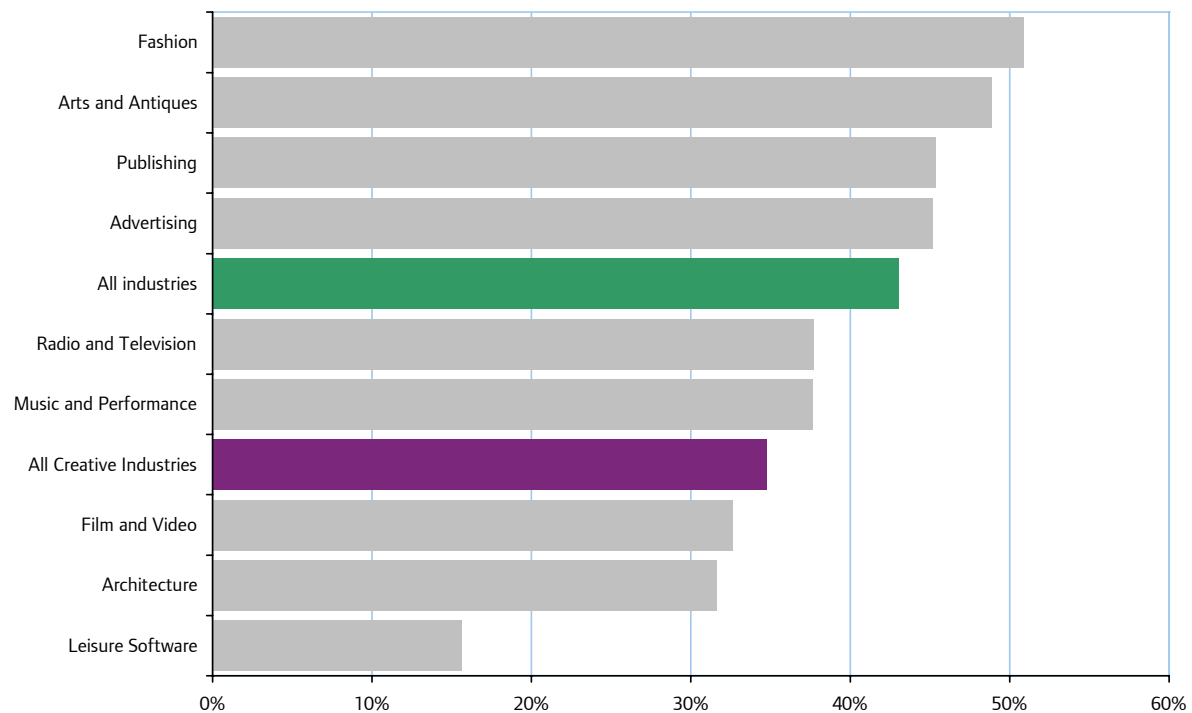
Source: LFS, GLA Economics. See Box 1 for details.

2.3 Gender, ethnicity and creative employment

In successive reports, we have noted the low proportion of jobs held by women and of Black, Asian and Minority Ethnic (BAME)²¹ in the creative industries²². This has not improved.

²¹ Employees are classified as Black, Asian or Minority Ethnic (BAME) if, in the LFS, they define their ethnicity as other than White British.

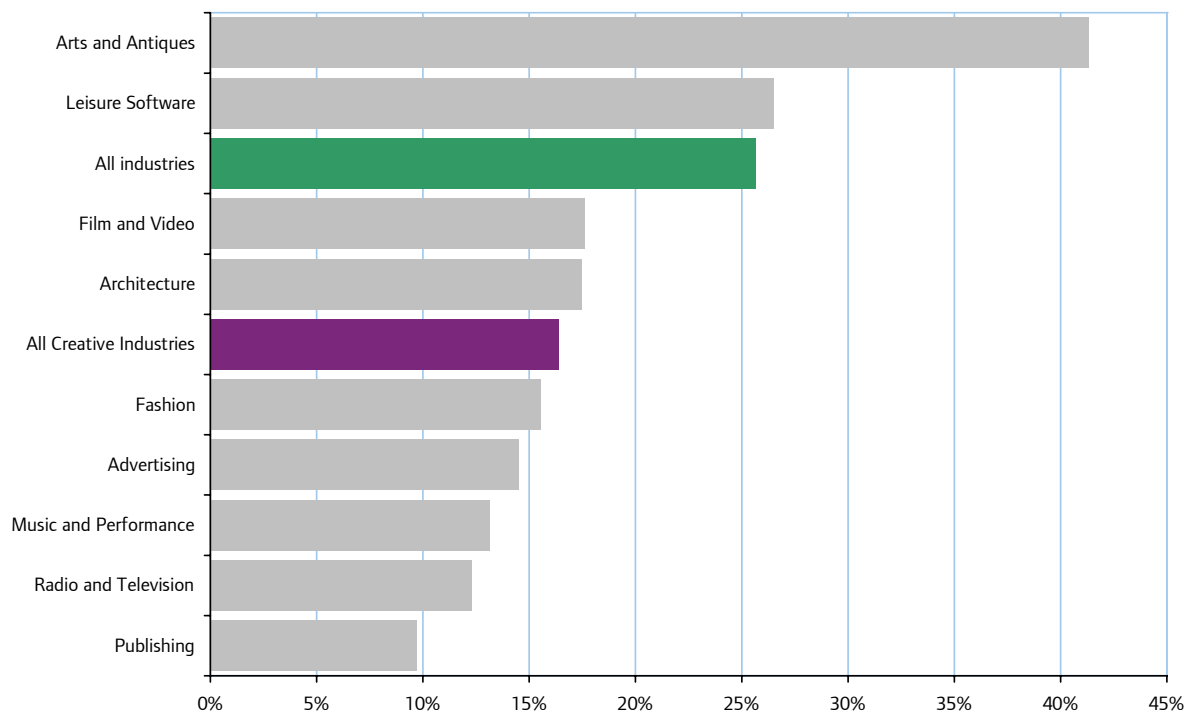
²² As in the previous section, for reasons of sample size the figures in most of this section are four-year averages, between 2004 and 2007. See also GLA (2004).

Chart 9: Female employment in the creative industries in London, average 2005-2008

Source: LFS, GLA Economics. See Box 1 for details.

All but two of the nine DCMS sectors employ proportionately less BAME workers than London's industries as a whole, and five employ proportionately less women. In three DCMS sectors the proportion of BAME workers is less than half that in London's workforce as a whole, namely Radio and TV, Music and Performance, and Publishing. In Leisure Software, the proportion of women workers is less than half that in London's workforce as a whole (see Charts 9 and 10).

Chart 10: Black, Asian and Minority Ethnic creative employment in London, average 2005-2008



Source: LFS, GLA Economics. See Box 1 for details.

Part time working and self-employment are strongly gender-related, but slightly less so than in industry as a whole, as Table 3 shows.

Table 3: Proportion of workforce that works part time, by gender

| | All Industries | Creative Industries |
|--------|----------------|---------------------|
| Female | 31% | 24% |
| Male | 10% | 9% |

Average 2005-2008

Source: LFS, GLA Economics calculations

The proportion of women who are self-employed, at 27 per cent, is marginally less than the proportion of men at 31 per cent. We have not reported the details separately.

Is the situation improving? In order to gain some information about trends, we have also calculated, in Table 4, the proportions of jobs held by women and BAME workers in 2004 and in 2007 in the creative industries as a whole²³. There is no evidence of any significant improvement.

²³ The sample size is sufficiently large, for the creative industries as a whole, to draw robust conclusions for a single year.

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Table 4: Women and BAME workers in 2004 and 2007

| | 2004 | 2007 |
|---|------|------|
| Women in the creative industries | 37% | 35% |
| Women in all industries | 43% | 43% |
| BAME workers in the creative industries | 14% | 16% |
| BAME workers in all industries | 23% | 26% |

Source: LFS, GLA Economics. See Box 1 for details.

3 Where are the creative industries located?

Location is a vital source of information about the drivers of industry success. A significant body of evidence shows that location is a major factor in the profitability of an industry, confirmed by a recent GLA Economics Working Paper, (GLA 2006). The productivity advantages accruing to industries that locate in London is a widely recognised factor in its recent growth and world pre-eminence as a centre for Finance and Business Services.

Creativity: London's Core Business noted that the majority of Great Britain's creative industry jobs are to be found in the Greater South East, a third of this total being in London. It will contribute both to our knowledge of the creative industries, and the source of London's centrality and growth, if we can identify the reasons for this concentration more exactly.

In this section, using new data from the ONS, we look at the local patterns of creative industry location in London. In particular, we consider in more depth the patterns of creative industry location within London itself. If we can identify what draws particular creative industries to particular parts of the capital, we can identify what draws them to London itself. In addition, we can inform local and regional strategy by identifying those particular parts of London that the creative industries appear to find the most attractive.

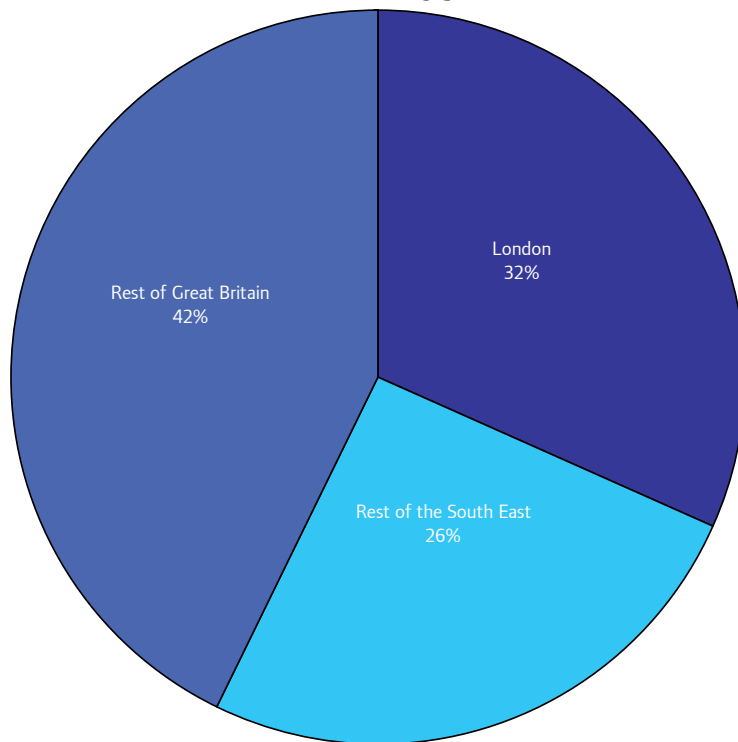
By connecting this data to further information on the geographical locations and travel patterns of the creative workforce, we may also in future gain further insights.

3.1 Context: the UK pattern

Charts 11 and 12 illustrate the dominance of London and the South East in the location of UK creative industries. Although, as noted, there is some evidence of relative growth outside these areas – the proportion of UK creative industry jobs in the Greater South East having fallen from 62 to 58 per cent since 2000 – it remains the case that London's share in UK creative industry jobs is more than twice its share in UK jobs as a whole.

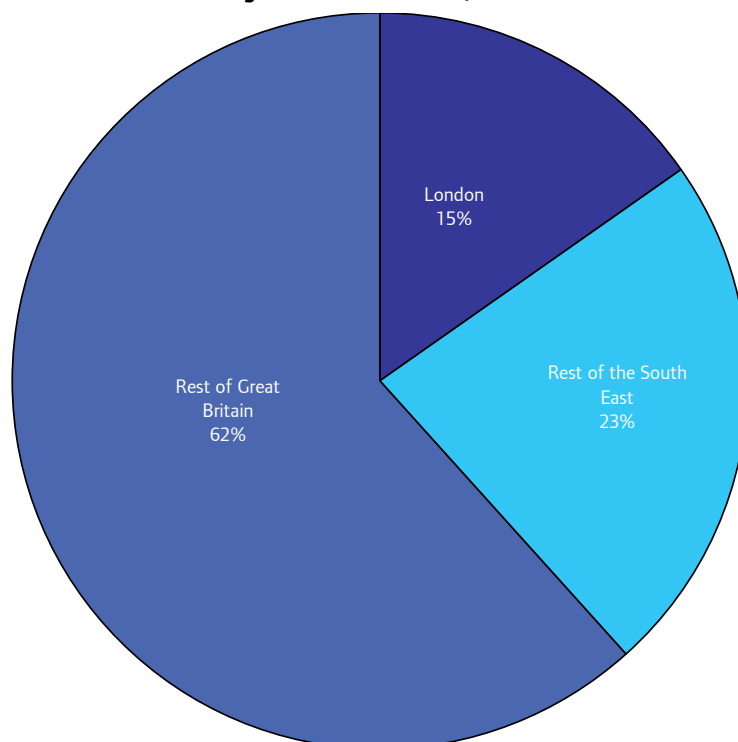
This shows that jobs tend to concentrate in London and the Rest of the South East – to locate there preferentially, in comparison with other parts of the UK. It does not in itself necessarily prove that these jobs agglomerate (locate particularly close to each other) or cluster – which, in this report, we interpret as agglomeration accompanied by interconnection. Agglomeration, clustering, and concentration, although all related to each other, are often loosely used in the literature, and indeed, the definitions used often conflict. In what follows, we will distinguish between them as specified above.

Chart 11: Where creative industry jobs are located, 2007



Source: ABI, LFS, GLA Economics. See Box 1 for details.

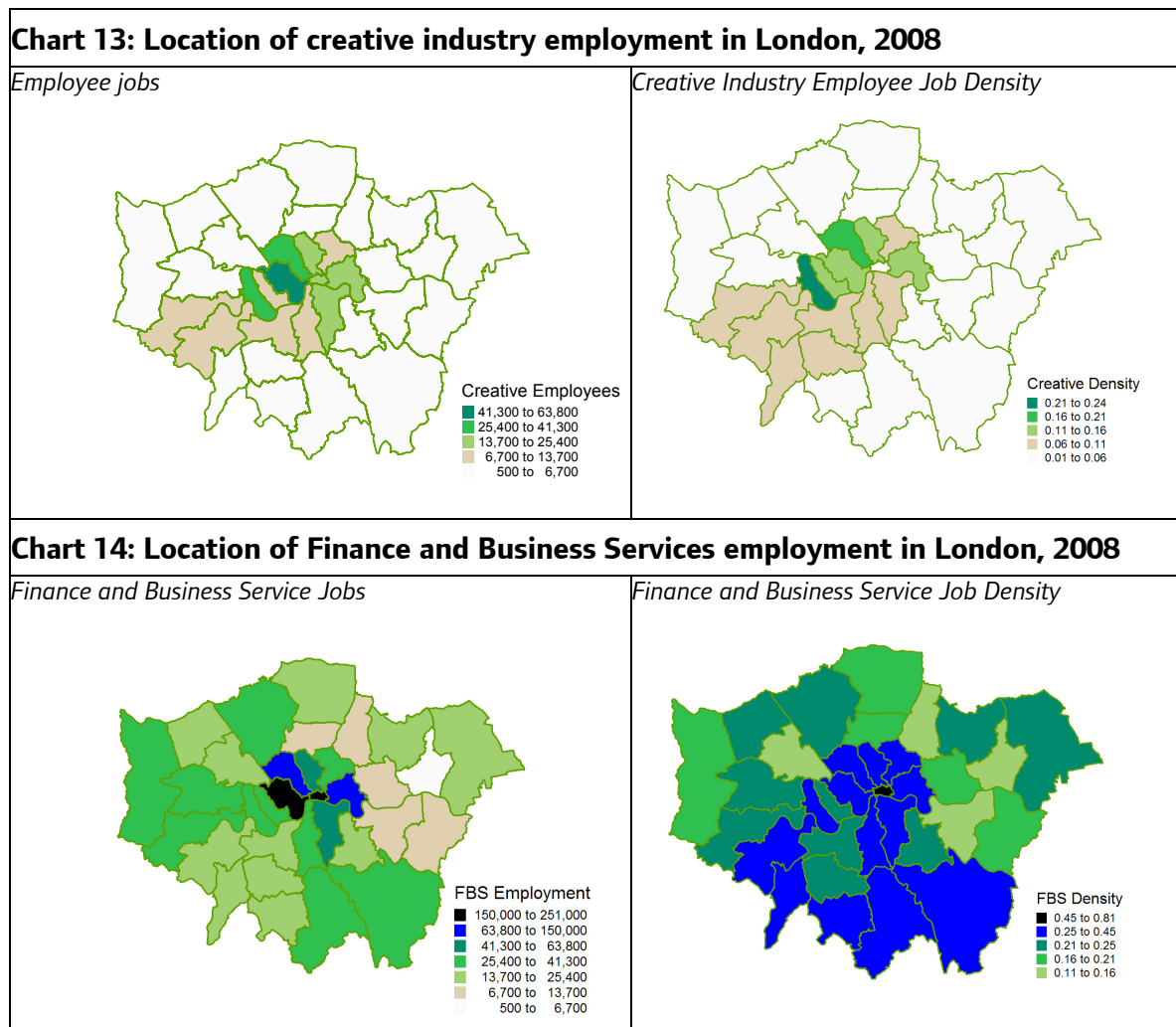
Chart 12: Where all jobs are located, 2007



Source: ABI, LFS, GLA Economics. See Box 1 for details.

3.2 London's boroughs and the creative industries²⁴

In the 2007 update, we found that not only do the UK's creative industries tend to concentrate in London and the South East, but that they have a distinct pattern of location within London itself. Where are London's creative industries to be found, and where are they gaining or losing jobs? We begin with the borough picture; the following section looks at location tendencies in more detail by focussing on micro-areas. Charts 13 and 14 illustrate this, also comparing the location of creative industry employee jobs with those of jobs in Finance and Business Services (FBS), which are used in this report as a benchmark comparator of concentration. These charts exhibit those boroughs in which a particularly high number of employee jobs are to be found, and then those in which a particularly high density (proportion of total jobs) are to be found. The high-density areas can be thought of as those which specialise in the creative industries. Density is in this respect a measure of concentration.



Source: IDBR, GLA Economics. See Box 1 for details.
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²⁴ The source for all data in this section is the IDBR, and therefore report only on employee jobs. For borough employment counts, this is the only source available and these data should therefore be used at borough and lower level in preference to the data in section 1. However, they should not be used outside this context and for creative employment in London as a whole, the data in section 1 are to be preferred.

It is also a measure of concentration in another sense: it compares the industry in question with a baseline consisting of all industries in London. If an industry were randomly located, we would expect it to be located in the same way as industry as a whole. If it is denser in one particular place than its average across London, then this is an indication that it is concentrated in that place. If the places in which it is concentrated are particularly close together – that is to say, if it is more probable that we will find a dense district immediately next to, or close to, another dense district, this provides evidence of agglomeration. There are statistical methods of testing for agglomeration (for example, spatial autocorrelation or geographically weighted spatial regression) but these are beyond the scope of this paper²⁵.

The data for these sections of the paper, as mentioned in the introduction, comes from a new dataset provided by ONS, giving much more detail than previously available about the precise location of creative industry enterprise and jobs. This serves two purposes: it provides information about the pattern of creative industry location in London as a whole, and it also provides borough and other local authorities, for the first time, with a detailed picture of the creative industries in their area which they can take into account in formulating Local Strategic Partnerships (LSPs) and Economic Impact Assessments (EIAs). Tables 5 and 6 give the number of creative industry firms and employees in each DCMS sector and each London Local Authority.

²⁵ See for example Anselin et al (2008).

Table 5: Number of creative industry firms in each London borough, 2008

| Borough | Advertising | Architecture | Arts and Antiques | Fashion | Film and Video | Leisure Software | Music and Performance | Publishing | Radio and TV | Total |
|------------------------|--------------------|---------------------|--------------------------|----------------|-----------------------|-------------------------|------------------------------|-------------------|---------------------|--------------|
| Barking and Dagenham | 10 | 10 | 20 | 15 | 5 | 100 | 20 | 10 | 5 | 195 |
| Barnet | 130 | 65 | 100 | 165 | 75 | 870 | 540 | 110 | 80 | 2135 |
| Bexley | 35 | 20 | 30 | 40 | 15 | 280 | 55 | 20 | 10 | 505 |
| Brent | 80 | 35 | 50 | 135 | 110 | 550 | 370 | 55 | 115 | 1500 |
| Bromley | 90 | 40 | 85 | 95 | 55 | 635 | 235 | 60 | 40 | 1335 |
| Camden | 390 | 235 | 170 | 320 | 285 | 845 | 1535 | 310 | 315 | 4405 |
| City of London | 85 | 35 | 45 | 40 | 20 | 490 | 85 | 85 | 15 | 900 |
| Croydon | 75 | 50 | 70 | 75 | 30 | 650 | 225 | 65 | 20 | 1260 |
| Ealing | 90 | 50 | 60 | 130 | 130 | 800 | 440 | 75 | 170 | 1945 |
| Enfield | 55 | 25 | 40 | 110 | 35 | 425 | 180 | 35 | 15 | 920 |
| Greenwich | 50 | 20 | 35 | 65 | 35 | 370 | 175 | 35 | 40 | 825 |
| Hackney | 135 | 155 | 50 | 380 | 175 | 415 | 635 | 130 | 125 | 2200 |
| Hammersmith and Fulham | 165 | 100 | 105 | 220 | 135 | 560 | 710 | 155 | 205 | 2355 |
| Haringey | 65 | 40 | 40 | 215 | 95 | 355 | 605 | 75 | 115 | 1605 |
| Harrow | 60 | 40 | 45 | 50 | 30 | 695 | 155 | 40 | 20 | 1135 |
| Havering | 20 | 20 | 30 | 35 | 15 | 220 | 55 | 20 | 5 | 420 |
| Hillingdon | 50 | 15 | 50 | 50 | 40 | 550 | 135 | 30 | 25 | 945 |
| Hounslow | 85 | 25 | 45 | 65 | 55 | 715 | 320 | 55 | 100 | 1465 |
| Islington | 215 | 230 | 95 | 305 | 170 | 700 | 770 | 255 | 200 | 2940 |
| Kensington and Chelsea | 155 | 135 | 285 | 340 | 160 | 360 | 975 | 160 | 105 | 2675 |
| Kingston upon Thames | 75 | 30 | 50 | 90 | 40 | 570 | 195 | 65 | 30 | 1145 |
| Lambeth | 125 | 85 | 55 | 200 | 130 | 630 | 635 | 120 | 185 | 2165 |
| Lewisham | 60 | 25 | 45 | 80 | 35 | 430 | 320 | 40 | 45 | 1080 |
| Merton | 65 | 50 | 40 | 85 | 45 | 545 | 220 | 55 | 30 | 1135 |
| Newham | 15 | 20 | 20 | 75 | 15 | 250 | 65 | 10 | 10 | 480 |
| Redbridge | 50 | 20 | 45 | 65 | 25 | 490 | 95 | 20 | 20 | 830 |
| Richmond upon Thames | 175 | 105 | 80 | 165 | 115 | 860 | 675 | 105 | 155 | 2435 |
| Southwark | 160 | 170 | 60 | 260 | 105 | 670 | 600 | 145 | 110 | 2280 |
| Sutton | 45 | 25 | 25 | 35 | 10 | 325 | 85 | 40 | 15 | 605 |
| Tower Hamlets | 90 | 70 | 50 | 260 | 85 | 825 | 335 | 110 | 65 | 1890 |
| Waltham Forest | 35 | 15 | 25 | 90 | 35 | 290 | 160 | 35 | 20 | 705 |
| Wandsworth | 185 | 115 | 85 | 255 | 130 | 910 | 765 | 145 | 180 | 2770 |
| Westminster | 735 | 260 | 530 | 495 | 560 | 1225 | 2195 | 450 | 505 | 6955 |

Source: IDBR, ONS. See Box 1 for details.

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Considering first the absolute job numbers, the creative industries do not exhibit the extremely intense concentration within a single Local Authority displayed by Finance and Business Services. However, they are concentrated in a quite small number of Local Authorities. Three of these (Westminster, Camden and Hammersmith) contain 40 per cent of all creative industry jobs. For comparison, 40 per cent of FBS jobs are found in Westminster and the City alone. Eighty per cent of creative industry jobs are found in 13 contiguous Local Authorities, whilst 80 per cent of FBS jobs are to be found in 14 more widely-dispersed Local Authorities. Finally, it should be noted that the City of London, with 4 per cent, is only the seventh largest provider of creative industry jobs²⁶.

²⁶ As noted earlier, it is however a major employer of creative workers – who for the most part work outside the creative industries.

Table 6: Number of creative industry employee jobs in each London borough, 2008

| Borough | Advertising | Architecture | Arts and Antiques | Fashion | Film and Video | Leisure Software | Music and Performance | Publishing | Radio and TV | Total |
|------------------------|--------------------|---------------------|--------------------------|----------------|-----------------------|-------------------------|------------------------------|-------------------|---------------------|--------------|
| Barking and Dagenham | 34 | (#) | 112 | 37 | (#) | 160 | 91 | (#) | (#) | 518 |
| Barnet | 1368 | 151 | 217 | 413 | 273 | 1877 | 825 | 645 | 245 | 6014 |
| Bexley | 121 | 143 | 72 | 71 | 31 | 634 | 401 | 249 | 29 | 1751 |
| Brent | 161 | 286 | 162 | 368 | 605 | 1299 | 672 | 371 | 663 | 4587 |
| Bromley | 190 | 204 | 228 | 222 | 123 | 1247 | 490 | 297 | 43 | 3044 |
| Camden | 6557 | 2771 | 720 | 1750 | 2003 | 7583 | 4892 | 8874 | 6115 | 41265 |
| City of London | 1072 | 660 | 186 | 221 | 51 | 7196 | 1085 | 3019 | 224 | 13714 |
| Croydon | 252 | 143 | 257 | 181 | 182 | 2025 | 478 | 1232 | 42 | 4792 |
| Ealing | 225 | 94 | 169 | 319 | 624 | 1938 | 830 | 486 | 1363 | 6048 |
| Enfield | 233 | 74 | 121 | 542 | 235 | 1037 | 401 | 332 | 46 | 3021 |
| Greenwich | 98 | 54 | 126 | 138 | 151 | 590 | 404 | 107 | 46 | 1714 |
| Hackney | 781 | 675 | 181 | 1377 | 422 | 1240 | 1371 | 1156 | 295 | 7498 |
| Hammersmith and Fulham | 2166 | 980 | 317 | 588 | 1562 | 3156 | 1770 | 3625 | 11248 | 25412 |
| Haringey | 96 | 75 | 132 | 744 | 258 | 515 | 908 | 193 | 172 | 3093 |
| Harrow | 240 | 358 | 110 | 119 | 121 | 1777 | 256 | 364 | 176 | 3521 |
| Havering | 38 | (#) | 82 | 55 | (#) | 488 | 305 | (#) | (#) | 1221 |
| Hillingdon | 406 | 39 | 1702 | 205 | 279 | 3069 | 365 | 202 | 424 | 6691 |
| Hounslow | 1129 | 89 | 1308 | 250 | 458 | 2747 | 729 | 169 | 4832 | 11711 |
| Islington | 1700 | 2256 | 522 | 1231 | 817 | 4209 | 2461 | 7056 | 883 | 21135 |
| Kensington and Chelsea | 1018 | 1314 | 899 | 1121 | 547 | 1079 | 2974 | 3755 | 611 | 13318 |
| Kingston upon Thames | 692 | 134 | 137 | 324 | 124 | 2194 | 286 | 795 | 53 | 4739 |
| Lambeth | 502 | 376 | 149 | 579 | 510 | 5286 | 2328 | 1045 | 1812 | 12587 |
| Lewisham | 123 | 74 | 109 | 144 | 50 | 664 | 468 | 109 | 66 | 1807 |
| Merton | 355 | 150 | 148 | 262 | 145 | 1954 | 711 | 197 | 47 | 3969 |
| Newham | 38 | 34 | 321 | 196 | 109 | 603 | 204 | 87 | 18 | 1610 |
| Redbridge | 160 | 70 | 183 | 166 | 74 | 691 | 152 | 232 | 21 | 1749 |
| Richmond upon Thames | 945 | 430 | 197 | 349 | 286 | 2022 | 1298 | 1013 | 389 | 6929 |
| Southwark | 984 | 1632 | 144 | 779 | 603 | 2907 | 1771 | 5591 | 493 | 14904 |
| Sutton | 90 | 60 | 66 | 55 | 68 | 804 | 179 | 1546 | 21 | 2889 |
| Tower Hamlets | 1029 | 315 | 193 | 819 | 244 | 3301 | 633 | 10267 | 260 | 17061 |
| Waltham Forest | 327 | 34 | 67 | 222 | 73 | 475 | 231 | 209 | 24 | 1662 |
| Wandsworth | 619 | 1304 | 270 | 543 | 274 | 2451 | 1560 | 391 | 320 | 7732 |
| Westminster | 12222 | 2795 | 2040 | 2557 | 5611 | 11085 | 10962 | 8987 | 7530 | 63789 |

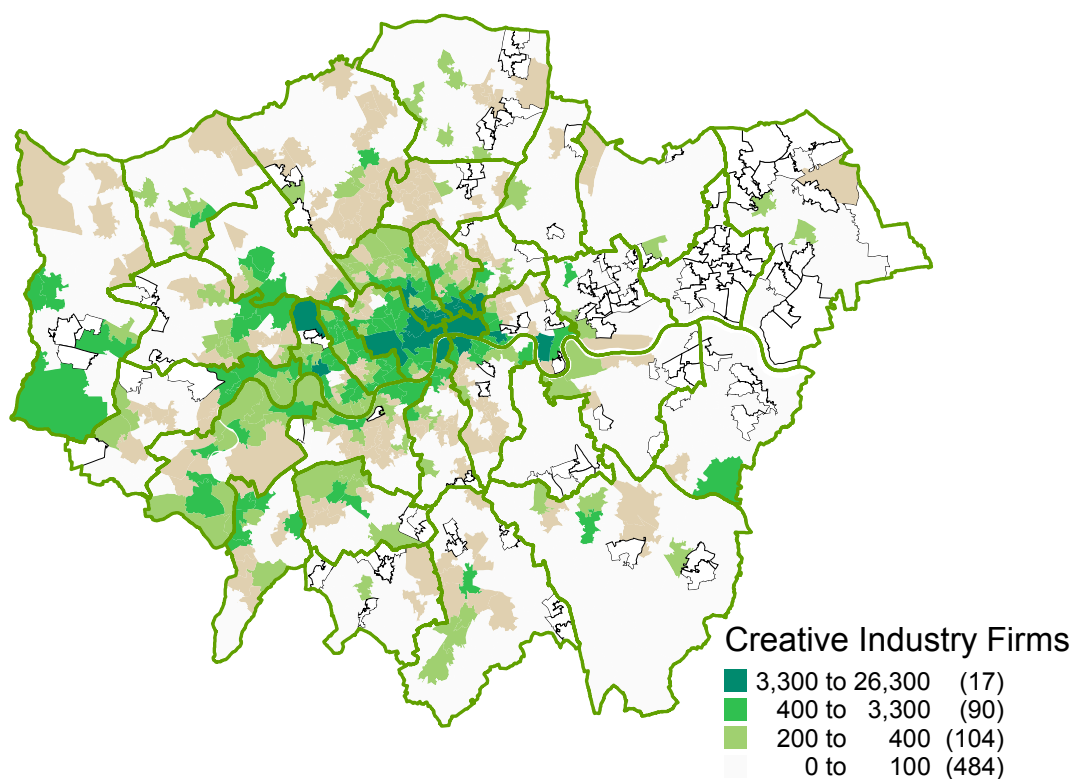
(#) information not available due to disclosure restrictions
Source: IDBR, ONS. See Box 1 for details.

This evidence supports the thesis that the creative industries tend to concentrate. Outside the city, FBS jobs are found in significant numbers in most boroughs. Creative industry jobs, in contrast, are to be found in comparable numbers only in relatively few boroughs.

Both sets of charts illustrate a further feature of creative industry location is that it does not simply follow the pattern of FBS or general industry location, but has a quite distinctive pattern of its own. The pattern of location is characteristically a 'South-West Stripe' stretching from Islington in the Inner North down through Camden, Westminster, Kensington and Fulham out to the Outer London boroughs of Kingston, Richmond and Hounslow.

3.3 Micro-level geography

Chart 15: Creative industry firm locations for London's Medium Super Output Areas



Source: IDBR, GLA Economics. See Box 1 for details.
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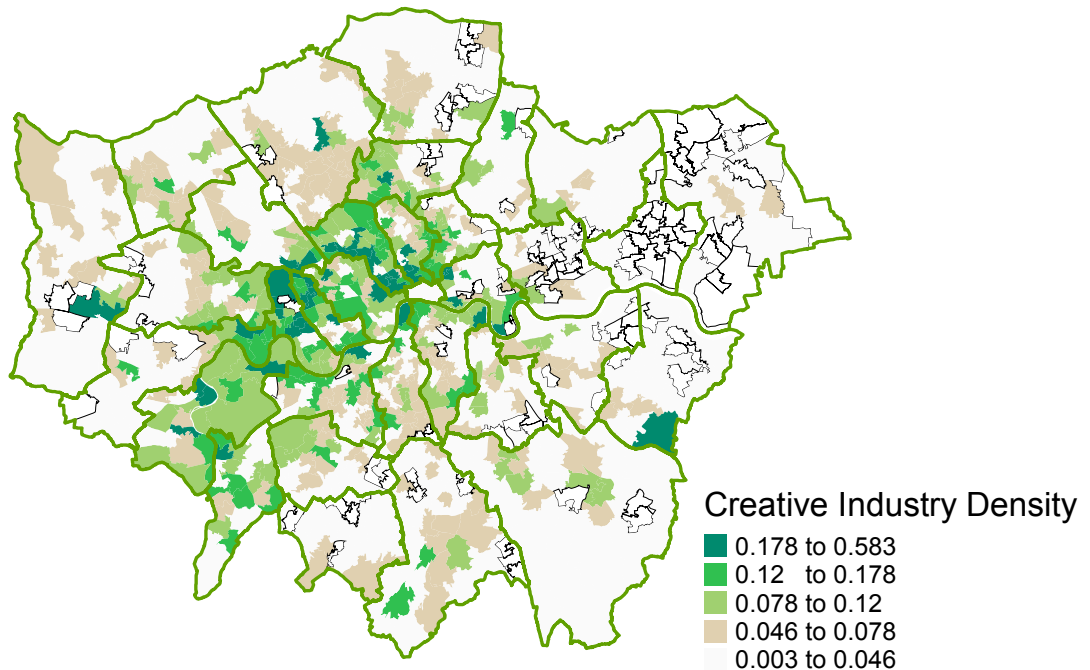
When we change spatial level to the 'Medium Super Output Areas'²⁷ for which ONS has provided data to the GLA and to the National Endowment for Science, Technology and the Arts (NESTA) (de Propriis et al 2009), we obtain more insight into the local character of much creative industry location as well as its overall pattern. We can also study more closely the relation between creative industry density and the location of creative industry firms, which the IDBR also provides. Chart 15 shows the location of creative industry firms, and Chart 16 the density of creative employment, as defined in the previous section.

²⁷ Super Output Areas are the geographical building blocks of the ONS's system of local territorial indicators. They are selected as far as possible so that they have comparable populations and remain more stable in time than electoral units. Medium Super Output Areas are comparable in size with electoral wards. See ONS (2009).

As explained in the previous section, density serves as a measure of concentration and also, to the extent that dense districts are close together, of agglomeration.

The two charts clearly illustrate the 'South West Stripe' and show the dense clusters in the City Fringe and to the South-West of the main centre of concentration in London's West End.

Chart 16: Density of creative industry employee jobs in London



Source: IDBR, GLA Economics. See Box 1 for details.
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Before moving to consider these patterns of location in more detail, it is useful to review, briefly, some of the industrial theories that seek to account for them.

3.4 Urban agglomeration: why it matters

One of the problems with a purely regional analysis – often used to study concentrations of manufacturing industries – is that the scale of creative industry concentration – as with most service industries – is considerably more local than traditional industry. For those creative industries that form clusters, as with financial intermediation, agglomerations are frequently found not merely in the same region but in the same quarter or even the same street. The Square Mile, London's Theatre District, and other concentrations such as Advertising's 'Golden Mile', New York's Greenwich Village or new London 'arts clusters' in locations such as Shoreditch where crafts, performers, design houses, high-end print and architectural services nestle side-by-side, indicate that at, in at least certain types of industry, enterprises indeed seek to be within walking distance of each other²⁸.

²⁸ This suggests a further reason for hypothesising that the workforce and its interconnections plays a role in location decisions.

One way of looking into this is to consider the urbanisation of the creative industries – their tendency to concentrate in built-up areas. De Propris et al (2009) decided to follow their regional analysis with an analysis based on Travel to Work Areas (TTWAs), which are centres of urban concentration. At this spatial level, a different picture emerges which is not captured by large, regional datasets.

Actually, as assessed by a growing number of studies on creative industry 'clusters' or quarters, an even more local spatial level than TTWAs is relevant. In fact creative industries, as other researchers have noted, form clusters in numbers of urban centres, not merely in particular areas within regions but indeed, within particular areas inside each city. This indicates the importance of micro, local-level data in studying creative industry location. It suggests that if we really want to get to the bottom of the factors driving creative industry location, we need to study data at this spatial level.

We are then not merely studying concentration, or locational preference, but agglomeration – exceptionally high concentrations of industries within small spatial areas. To assess whether this implies clustering we need to consider the additional factor of *interconnectedness* – whether these agglomerations arise purely from the shared common benefits of factors such as the workforce or transport links, or whether they arise from some form of connection between enterprises which provides a competitive advantage to those that locate close together, arising purely from their position in the division of labour.

A bank, for example, will seek to locate in the City not just because it is quite central, but because there are a lot of other banks there, and it will therefore readily find clients, suppliers, and partners to hand. An alternative example would be *co-location* – if, for example, an advertising company seeks to locate close to its financial clients. In this report, the term 'clusters' refers to agglomerations arising from externalities of specialisation.

The direction of causation is important to clarify. It may be, for example, that creative firms are attracted to London, or have a tendency to prosper in London, and that their choice of location within London is more or less accidental – we might call this an 'anywhere in London where it works for me' decision. But it may in fact be that London's industry clusters are actually the reason for these firms being there at all, and consequently without the driving forces behind these clusters, firms would look for other cities.

Historically, within the creative industries, clusters of both types have existed. One of the driving forces behind the rise of Hollywood was the simple availability of reliable and cheap daylight (see Hutter 2007). Los Angeles's natural advantages thus dominated over any pre-existing agglomeration, which 'grew out of' Southern California's natural attractions. Once the cluster was established, path-dependent factors set in. The 'Western' genre was established, for example, taking advantage of South-West USA's spectacular geography to create a mythical history out of which a stream of box-office successes could be spun. Disney established California as the world centre of the new art of animation. A complex mix of readily-available studios, actors, and all the 'little people' of movie production meant that this cluster as such continued to be a 'must-be' location of choice long after its initial natural

advantages had been eroded by artificial lighting, Spaghetti Westerns – shot in Italy – and a new breed of Global Movie Star.

At the opposite end of the scale Milan's fashion dominance arose from the outset from a specific cluster: historical development and the 'Benetton phenomenon' produced an interlinked network of specialised textile providers and finishers within reach of Milan, which matched the thirst of high-end designers for short runs of cloth to very exacting specifications. A cluster of this nature, in a notoriously mobile global industry that seems to exhibit few intrinsic city preferences, once established become an entrenched factor of attraction in its own right.

Thus in studying the factors influencing creative industry agglomerations, it is important to begin with no particular preconception but to study the actual nature, interconnection and historical evolution of each specific industry and each specific city. Location microdata is a vital tool in this analysis.

The fact that an industry agglomerates provides evidence that the preferred location confers a competitive advantage, although it cannot establish what gives rise to this competitive advantage, which can have a variety of causes.

3.5 Describing and accounting for industrial clusters

Alfred Marshall (1923:284) wrote that in industrial districts there is an 'industrial atmosphere' where 'knowledge and information are in the air' (Belussi and Caldari 2008). De Propriis and Hypponen (2008) define creative clusters as:

places which bring together 'a community of creative people' who share an interest in novelty... catalysing place[s] where people, relationships, ideas and talents can spark each other... a thick, open and ever changing network of inter-personal exchanges that nurture individuals' uniqueness and identity.

Chesbrough (2003) first devised the term 'open innovation' to refer to systems in which innovation takes place as a result of the relations between, rather than within, enterprises. 'Open innovation is a paradigm', he writes 'that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology'.

Three basic accounts of urban concentration are currently attracting attention. Though these are seen as contrary hypotheses about the causes of agglomeration and its relation to innovation, there is no reason that a number of causes should not operate together, or that they might apply with differing importance depending on the industry.

There is a considerable literature, and a divergence of views, on the actual contrast between 'Marshallian' accounts and others. For de Propriis et al (2009), Marshallian accounts stress agglomeration externalities arising from, and related to, specialisation. Clusters of similar industries will, according to this view, locate close to each other because of shared common resources, markets, or other factors which are common to the specialised industries. In contrast

Jacobs (1969)²⁹ stressed the importance of urbanisation as such, pointing out that industries with no particular relation to each other may clump in particular places because of general advantages such as transport, infrastructure, and so on. A further dimension is that of inter-industrial connections of various types, sometimes known as linkages. Connections of this type were stressed by Michael Porter (1990), who applies the term 'cluster' to describe:

Geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries, and associated institutions (for example universities, standards agencies, and trade associations) in particular fields that compete but also co-operate.

As De Propriis et al (2009) explain:

Clusters can encompass systems of socio-economic and informal relations across firms and specialised local institutions (Saxenian 1996), underpinned by communities of people working and living in the same place (Lange et al, 2008).

In other accounts, such as Beaudry and Schiffauerova (2009) or van der Panne and van Beer (2006), Marshall and Jacobs are counterposed on account of their different emphasis on the drivers of competitiveness for co-located firms. Marshall (of which Porter is portrayed as an extension highlighting the role of institutions) would argue that externalities are caused by specialisation, while Jacobs claims that they are a consequence of diversity. In the first case, firms are better able to share knowledge and resources, while in the second, knowledge exchanges between diverse sectors increases flexibility and the chance of novel combinations. These two different accounts are relevant at different levels of geographical analysis – Jacobs talks about cities as a whole, inside which one would expect to find more highly localised 'Marshallian clusters'³⁰.

3.6 London's creative clusters

The full picture, however, requires us to recognise that the creative industries are not homogeneous. Some of them have a much more developed tendency to cluster than others.

We begin with the most commonly used indicator of an industries tendency to concentrate, or locate preferentially. This is its *location quotient* (LQ)³¹. For employment in the creative industries in London, for example, this is obtained by dividing the 'London' percentage in Chart 11 by that in Chart 12. Thirty-two divided by 15 gives a location quotient of 2.12, which can be interpreted as meaning that, all other things being equal, a creative job is twice as likely to locate in London as elsewhere. A location quotient of more than 1 thus shows the industry is more likely to locate in a region than would be expected if its distribution was purely random. Conversely a location quotient of less than one shows it is less likely to locate in that region.

²⁹ See also Beaudry and Schiffauerova (2009).

³⁰ We are indebted to Juan Mateos-Garcia for his help with this section and the information in this paragraph.

³¹ Location quotients can be applied either to employment, or to firms. Each of these measures is used at different points within this section, because of the availability of data. Although some care is needed not to make direct comparisons between the two different LQs, the overall qualitative conclusions from either measure are the same.

Table 7: Location quotients for UK creative firm count by creative sector and region

| Industry | North East | North West | Yorkshire & The Humber | East Midlands | West Midlands | East | London | South East | South West | Wales | Scotland | England and Wales | Great Britain |
|--|------------|------------|------------------------|---------------|---------------|------|--------|------------|------------|-------|----------|-------------------|---------------|
| Advertising | 0.69 | 1.18 | 0.74 | 0.72 | 0.76 | 0.91 | 1.77 | 1.06 | 0.8 | 0.42 | 0.55 | 1.03 | 1 |
| Architecture | 1.39 | 1.07 | 0.86 | 0.93 | 0.97 | 1.04 | 0.81 | 1.06 | 0.96 | 0.75 | 1.42 | 0.97 | 1 |
| Arts and Antiques | 1.09 | 1.05 | 1.09 | 0.98 | 1.03 | 0.97 | 0.82 | 0.95 | 1.15 | 1.1 | 1.08 | 0.99 | 1 |
| Designer Fashion | 0.64 | 1.15 | 0.77 | 2.73 | 0.98 | 0.55 | 1.73 | 0.39 | 0.55 | 0.48 | 0.76 | 1.02 | 1 |
| Video, Film and Photography | 0.55 | 0.57 | 0.56 | 0.49 | 0.5 | 0.71 | 2.68 | 0.94 | 0.77 | 0.55 | 0.69 | 1.02 | 1 |
| Music and the Visual and Performing Arts | 0.55 | 0.62 | 0.59 | 0.59 | 0.55 | 0.82 | 2.36 | 1 | 0.88 | 0.73 | 0.6 | 1.03 | 1 |
| Publishing | 0.51 | 0.62 | 0.65 | 0.7 | 0.66 | 1.06 | 1.82 | 1.13 | 1.07 | 0.64 | 0.75 | 1.02 | 1 |
| Software, Computer Games and Electronic Publishing | 0.71 | 0.97 | 0.64 | 0.73 | 0.81 | 1.09 | 1.31 | 1.41 | 0.87 | 0.52 | 0.75 | 1.02 | 1 |
| Radio and TV | 0.38 | 0.53 | 0.36 | 0.3 | 0.43 | 0.56 | 3.05 | 0.9 | 0.74 | 0.96 | 0.56 | 1.03 | 1 |
| Total Creative Industries | 0.91 | 0.94 | 0.79 | 0.82 | 0.84 | 0.97 | 1.37 | 1.09 | 0.95 | 0.75 | 0.94 | 1 | 1 |
| Whole Economy exc. Agri. & Prim. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Source: JCIS/ABI (2007)

De Propriis et al (2009) have calculated location quotients for numbers of creative companies for all major British regions, shown in Table 7, based on enterprise counts from the IDBR. The centrality of London and the South East is confirmed by this table. Thus London and the South East are the only regions with an LQ greater than one for the creative industries as a whole. Moreover, London has the highest LQ for every single creative industry except Arts and Antiques, Architecture, Fashion and Leisure Software. The first three are the smallest creative sectors identified above and in the case of Leisure Software, the highest LQ is in the South East with London's LQ being the next highest. London is the second highest LQ for Fashion. The only really comparable regional centres of creative industry location are Scotland and the North-East's architecture clusters and the East Midlands fashion cluster³².

3.7 Measuring geographical concentration

One way to formalise the 'intuitive feel' conveyed by maps is to study one or more recognised standard indices of concentration. The simplest index of concentration simply compares quantiles of employees, or firms, with the number of boroughs (or other units) containing them. This is in effect what we did by showing how many boroughs contain the first 20 per cent, the next 20 per cent, and so on. It is the idea lying behind the Gini index,

³² Even these concentrations may in fact be an outcome of the classification rather than the sector itself. Scotland's strength in architecture is concentrated in Aberdeen, which suggests that the classification is capturing some sectors more closely connected with Marine Engineering. And the concentration of fashion in the East Midlands may reflect the role of textiles in this region than any specialisation at the 'high end' of the textile and clothing markets generally considered to typify Designer Fashion.

which although associated with measures of poverty can also be used as an indicator of geographical concentration³³.

Table 8: Hirfindahl-Hirschmann index of geographical concentration at borough level, 2008

| | Financial Intermediation | Financial and Business Services | Creative Industries |
|----------------------------------|---------------------------------|--|----------------------------|
| All boroughs | 15.17% | 1.71% | 1.69% |
| Without the City | 1.80% | 0.49% | 1.63% |
| Without the City and Westminster | 2.00% | 0.33% | 2.05% |

Source: IDBR, ONS and GLA Economics. See Box 1 and text of this section for details.

A more widely recognised, and sensitive, measure is the Hirfindahl-Hirschmann index of geographical concentration. This compares the geographical concentration of the specific industry with that of jobs as a whole. Thus, an industry distributed randomly – in the same proportion, in each district, as jobs as a whole – would have an HH index of 0. An industry entirely contained in a single district would have an HH index of 1 (100%). The HH index is usually much smaller. It is defined (for a given industry) as

$$HH = \sum_i (s_i - x_i)^2$$

where

s_i = share of district i in all London jobs

x_i = share of district i in London jobs in this industry

Table 8 compares this index for three industries: Financial Intermediation, Financial Intermediation together with Business Services (FBS) and the Creative Industries. The first point to emerge is that financial intermediation as such greatly exceeds the concentration of both the creative industries, and its 'penumbra' FBS. The 15 per cent HH index for Financial Intermediation is probably the most exceptional in the UK and may be regarded as a kind of benchmark for other concentration measures.

³³ Krugman (1991) proposes the Gini index as a measure of geographical concentration. Pratt (1997) applies location coefficients to the cultural industries in the UK. For a broader discussion of measures of concentration including the important Ellison-Glaeser measure, see these and Spiezia (2009).

Table 9: Hirfindahl-Hirschmann indices of geographical concentration at MSOA level

| | Hirfindahl-Hirschmann Coefficient |
|----------------------------------|-----------------------------------|
| Film and Video | 19.7% |
| Financial Intermediation | 14.2% |
| Arts and Antiques | 9.9% |
| Radio and Television | 6.5% |
| Utilities | 5.7% |
| Advertising | 4.9% |
| Publishing | 4.2% |
| Architecture | 3.1% |
| Transport | 2.4% |
| Fashion | 2.1% |
| FBS | 1.6% |
| Music and Performance | 1.5% |
| Public Administration | 1.4% |
| Health and Social Services | 1.1% |
| Construction | 1.0% |
| Manufacturing | 0.7% |
| Other Services | 0.7% |
| Education | 0.7% |
| Total Creative Industries | 0.7% |
| Wholesale and Retail | 0.6% |
| Leisure Software | 0.4% |
| Hotels and Restaurants | 0.4% |
| Business Services | 0.3% |

Source: IDBR, ONS and GLA Economics. See Box 1 for details.

At a more local level, patterns of concentration emerge that do not necessarily manifest themselves at borough level. This is because clustering can be quite localised, occurring not merely in adjacent boroughs but in adjacent localities and even streets. Table 9 gives Hirfindahl-Hirschmann coefficients at the MSOA spatial level for individual creative industries and, for comparison, some of the standard ONS industries.

The relation that appears to emerge is that there are notable clusters of some individual creative industries, at a local spatial level, although the creative industries as a whole are more dispersed than many standard industrial sectors. Indeed, the creative industries as a whole are less concentrated than nine of the twelve principal industrial ONS sections.

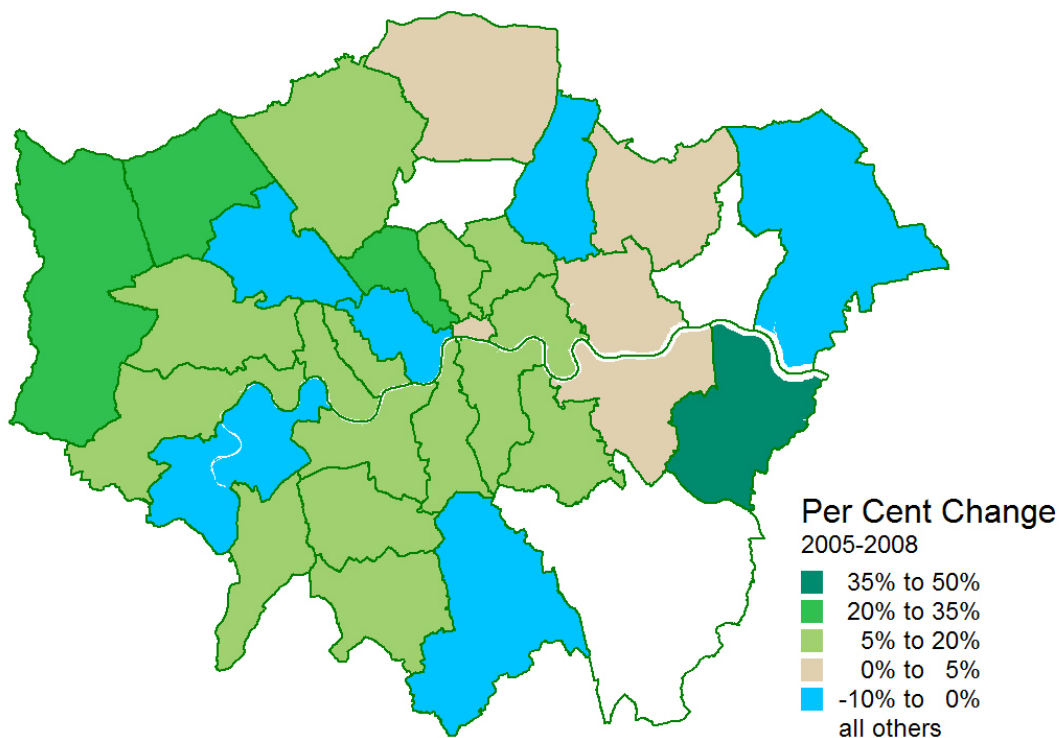
This suggests that the close concentrations to be observed in, for example, Film and Video, arise because the producers of this particular output tend to locate close to each other rather than because they locate closer to other creative industries.

To put it another way, whilst Film and Video makers certainly tend to locate close to other Film and Video makers, largely because of the intensely-centralised cluster in West London, we have not established that Film and Video makers necessarily choose to locate side-by-side with Advertisers or even, say, Radio and TV. This does not rule out that co-location may occur, but further research would be required to establish it.

Finally, it could be argued that the geographical evidence suggests a co-locational relation between the creative industries and FBS. As Chart 13 and Table 6 show, 60% of creative industry jobs are found in boroughs in or adjacent to the City of London. Possible causes were examined in our 2007 update, which also examined the strong linkages between 'Business-to-Business' creative industries (advertising, architecture and software) and FBS, which is one of their largest clients.

3.8 Patterns of change

Chart 17: Change in creative industry employee jobs in London between 2005 and 2008 – per cent



*Source: IDBR, ONS and GLA Economics. See Box 1 for details.
Crown Copyright*

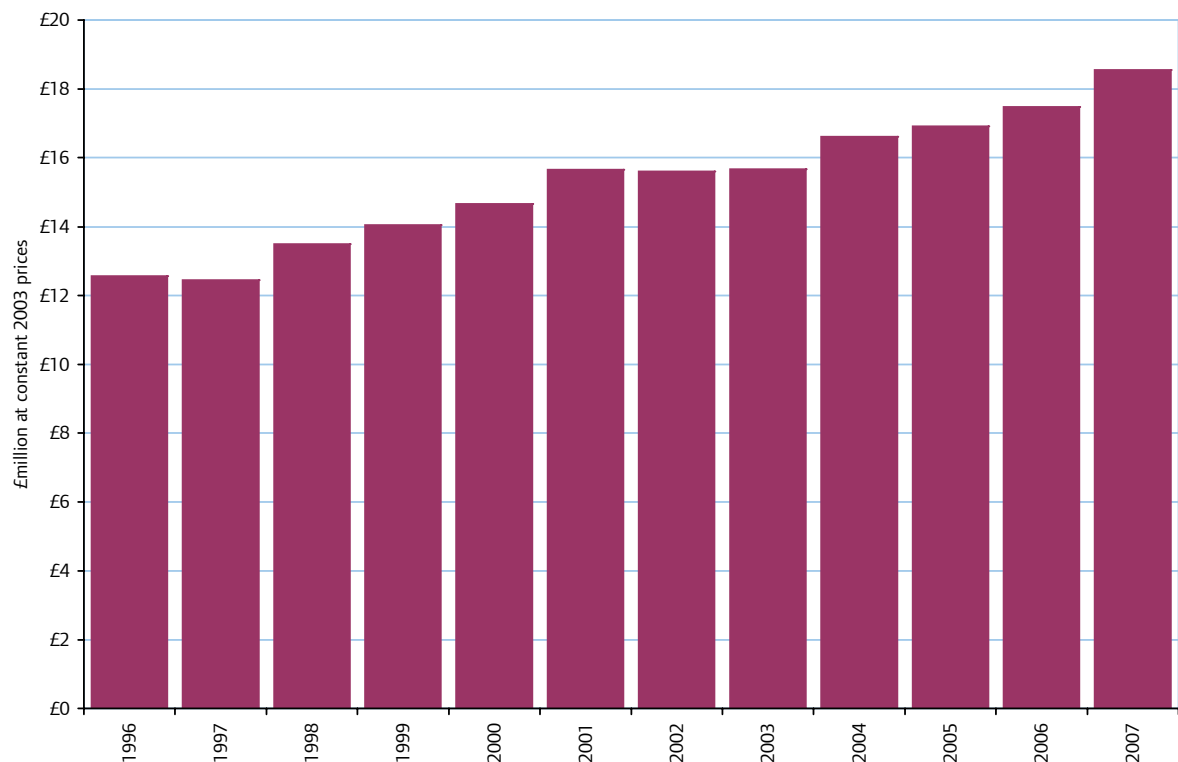
One further merit of microgeographical data is that, being available for more than one year, it is possible to calculate which areas are losing, and which are gaining, creative industry jobs. Chart 17 illustrates the patterns of change that have occurred between 2005 and 2008, the two years for which the GLA has so far obtained detailed microgeographical data. It suggests that there is however some creative industry growth – starting from a lower base – in Outer London boroughs such as Enfield, for example, which have not hitherto been home to a

significant creative industry presence. The greatest growth in absolute numbers took place in the boroughs immediately surrounding or near Westminster, notably Islington, Camden, Kensington, Hammersmith and Fulham and Lewisham, all of which gained more than 2,000 jobs.

Westminster itself appears to have been losing creative industry jobs. Both these tendencies perhaps draw attention to yet another factor influencing creative industry location, namely office rents. Their concentration may well be, at least in part, the outcome of some kind of dynamic balance between pressure to be near the city centre, and the search for rents lower than those in the premium locations. This is certainly upheld by the density Charts 13 and 16, which show significant concentrations in very small areas – with as much as 50 per cent of their industries being creative – located in the areas surrounding, and to the West of, the City and Westminster.

3.9 Output

Chart 18: GVA of London's creative industries 1996-2007



Source: Experian Business Strategies and GLA Economics

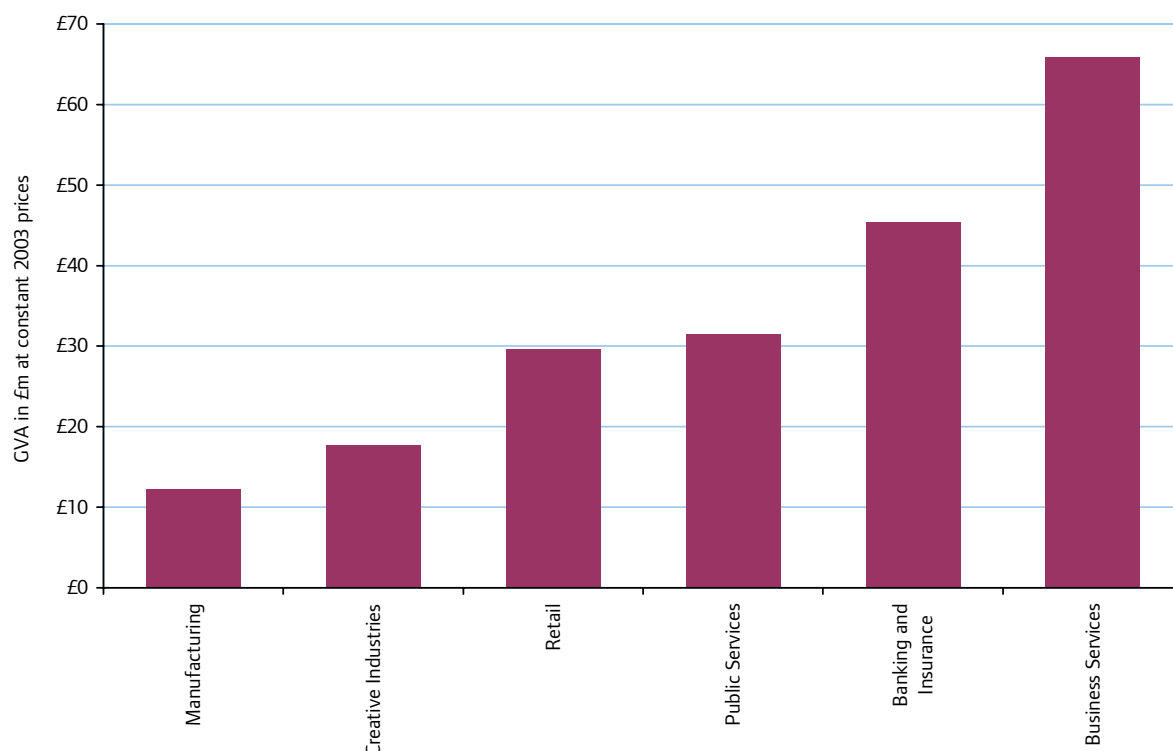
In 2002 we published estimates of the output, or Gross Value Added (GVA) of London's creative industries, which have been widely circulated and quoted. We did not update these figures in 2004 or 2007 and hence, this is the first substantial revision to these numbers since 2002. The new estimates differ significantly from our first estimates, for reasons explained below and in Appendix 1.

There are a number of technical difficulties associated with making accurate estimates of creative industry GVA, particularly at regional level.

Like DCMS, however, we do not attempt to estimate the value created by creatively-occupied workers outside the creative industries. The GVA figures in this section therefore refer only to those enterprises whose industrial classification places them in the creative industries and is attributable only to the workers within those industries.

The figures are compatible with GLA Economics' estimates of London's output, and of comparable sectors, as shown in Chart 19, which compares the output of the creative industries with that of London's main industrial sectors. The method used, however, differs from that used by DCMS and our estimates should not be compared with DCMS figures. For example, they cannot be used to estimate London's contribution to the creative industry GVA of the UK.

Chart 19: How London's creative industries stack up: comparison with some other sectors



Source: Experian Business Strategies and GLA Economics

It should also be borne in mind that all of the creative industries are actually contained within one or other of London's main industrial classifications, since they are a secondary or satellite classification.

Appendix 1: How robust are our estimates?

This appendix attempts to assess the 'robustness' of some of the central conclusions drawn from the data in this report. By 'robust' data we mean data whose source is reliable, and which is constructed based on assumptions that are not likely to change. The key conclusions we will consider are:

- How sensitive are the estimates to the assumptions underlying them?
- Did the trend of London creative industry employment actually turn up subsequent to year 2004?
- How reliable are the conclusions about the nature of the creative industry workforce, such as estimates of part-time working, self-employment, and participation by women and ethnic minorities?

A1.1 Sensitivity of the estimates

Creative industry employment has to be estimated using weightings referred to as 'coefficients'. These change over time, and from region to region. In this section we study how much they have changed in London over the past three years. This provides an indication of how much such estimates are likely to be affected, in the future, by further changes in industrial structure. It appears, as we will show, that the coefficients have been relatively stable over much of the period covered by the estimates – which, in turn, suggests that these coefficients do not need to be revised frequently.

To understand why this arises, some knowledge of the way industries are classified is required. Every enterprise that is registered for tax is required by UK legislation to specify a unique five-digit code describing its 'primary activity'. This is known as its Standard Industrial Classification. The creative industries as such (the nine creative sectors) are defined as including those enterprises whose SIC code is contained in the table we have reproduced in Appendix 2.

This classification system, in order to make fine enough distinctions to capture the industries it requires, uses all five digits of the SIC coding system. This is usually described as defining the creative industries at the 'five-digit level'.

The IDBR, which we used to produce our local industry data, does provide enterprise classifications at the five-digit level. In using the IDBR, therefore, it is not necessary to apply any coefficients and a simple count of employees can be made³⁴. However, the ABI and LFS report these magnitudes using only the first four of the five SIC digits. It is therefore necessary to estimate the proportion of jobs, in such each four-digit classification, that really should be classified in the creative industries.

³⁴ With the exception of fashion, which is dealt with below.

This is possible because the SIC classification is hierarchical. Consider, for example, SIC code 5248, 'Other retail sale in specialised stores'. This includes SIC code 5248/6, 'Retail sale in commercial art galleries', which is included in the DCMS 'Arts and Antiques' sector. But it also includes classifications such as 5248/5 'Retail sale of sports goods, games and toys, stamps and coins', which are not included in any DCMS sector. It is therefore necessary to estimate the proportion of jobs in 5248 which really are classified in 5248/6.

This can be calculated from the IDBR, which provides employment at the 5-digit level in London. The IDBR provides a breakdown of employment in code 5248 shown in Table 10. The last column shows the proportion of each five-digit SIC code that is included in the creative industries.

In London in 2007, the ABI records that there were 52,382 employees in the whole of SIC code 5248. We conclude that of these, $0.0231 \times 52,382 = 590$ were working in 5248/6, 'retail sale in commercial art galleries' and should therefore be included in the DCM Arts and Antiques sector.

We have tried to address two issues, which are relevant because a number of attempts are being made to coordinate the production of creative industry data for the regions of the UK which will be compatible. These issues concern the 'industrial structure' of the creative industries, which is measured by the coefficients just described:

- (1) Are the figures sensitive to variations in industrial structure at different points in time?
- (2) Are they sensitive to variations in industrial structure at different points in space – in different parts of the UK, for example?

Table 10: How employment coefficients are calculated for code 5248, 'Other retail sale in specialised stores'

| | London | UK | London coefficient | UK coefficient |
|-------------|---------------|----------------|--------------------|----------------|
| 5248 | 57,030 | 414,518 | | |
| 52481 | 2,232 | 20,765 | 0.0391 | 0.0501 |
| 52482 | 4,983 | 28,117 | 0.0874 | 0.0678 |
| 52484 | 6,791 | 39,777 | 0.1191 | 0.0960 |
| 52485 | 11,474 | 83,750 | 0.2012 | 0.2020 |
| 52486 | 1,316 | 4,344 | 0.0231 | 0.0105 |
| 52487 | 5,447 | 46,804 | 0.0955 | 0.1129 |
| 52488 | 9,388 | 33,529 | 0.1646 | 0.0809 |
| 52489 | 15,399 | 157,432 | 0.2700 | 0.3798 |

Source: IDBR, GLA Economics. See Box 1 and text of this section for details.

It then becomes important to know whether these figures and proportions have changed over time, and whether they differ from region to region, in order to understand how robust the estimates are.

Turning to the first question, it seems that the overall figure for creative industry employment is not very sensitive to the variations in the coefficients seen between 2003 and 2008. It is therefore relatively safe, subject to more study, to maintain the coefficients constant over a reasonable period of time before 'rebasings' them using a new set of coefficients. However it should be noted that for certain industries – most notably Advertising and Arts and Antiques – the change in coefficients makes a considerable difference, and that it is therefore likely the figures in this report understate the size of these two sectors. A more robust study may require, at least for certain industries, taking into account the variation in industrial structure over time at least in these two industries.

Table 11: London employee jobs for various assumptions about employment coefficients

| | 2007 update coefficients (compiled in 2003) | 2008 coefficients for London | 2008 coefficients for the UK |
|------------------------------|--|---|---|
| Advertising | 35,000 | 35,000 | 35,000 |
| Architecture | 10,000 | 16,000 | 9,000 |
| Arts and Antiques | 6,000 | 10,000 | 9,000 |
| Fashion | 5,000 | 3,000 | 3,000 |
| Film and Video | 19,000 | 17,000 | 16,000 |
| Leisure Software | 76,000 | 76,000 | 76,000 |
| Music and Performance | 34,000 | 31,000 | 31,000 |
| Publishing | 63,000 | 63,000 | 63,000 |
| Radio and Television | 39,000 | 39,000 | 39,000 |
| Creative Industries | 287,000 | 290,000 | 280,000 |

Source: IDBR, ABI, LFS, GLA Economics. See Box 1 and text of this section for details

However, coefficients are not yet available for the whole range of years covered by the data, so we do not know what the industrial structure may have been in, say, 1995. It would introduce distortions to trends if we corrected for variations in industrial structure only in certain years towards the end of the period covered by the data. Moreover, the GVA data have been prepared based on the 2003 coefficients, so that a change in these coefficients risks making the employment and GVA data incommensurable. Finally, international studies are being undertaken using the GLA's 2003 coefficients, notably a parallel study of the Paris region. For these three reasons, we have retained the 2003 coefficients.

As regards variations in space, if industrial structure were markedly different between one region of the UK and another, it would strictly speaking be preferable for each region to measure its creative industry employment using regional figures, and for a national figure to be arrived at by summing these parts. The method followed by DCMS is, however, to apply a single set of national coefficients. Our results suggest that the distortion this produces is small. If we had estimated London figures using 'global' UK coefficients, overall employment

in the creative industries would have been about 2.5 per cent smaller. This is not large: it suggests that a future strategy for producing comparable regional data on a common statistical basis, would not make large errors if it relied on a single set of national coefficients. For some individual industries, most notably fashion, arts and antiques, and architecture, there would be larger variations.

A1.1.2 The problem of fashion

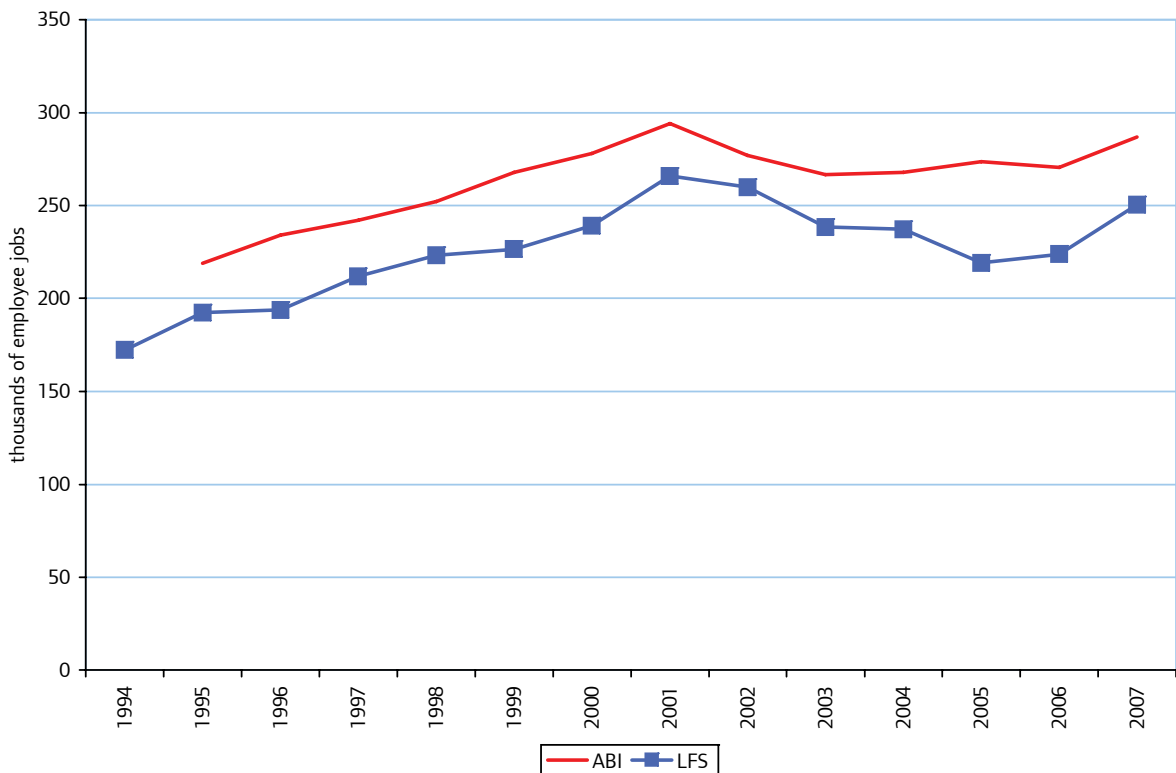
A specific problem exists for fashion, which we discussed in the 2004 update and in *Creativity: London's Core Business*. Essentially, it is not possible to distinguish, on the basis of SIC codes alone – even at the five-digit level – between the 'mass' clothing sector and the fashion industry as such. This requires further research, working with the sector itself, both to establish an agreed definition of what fashion really consists of, and to devise a practical means to operationalise this definition. In the interim, as in 2007, we have adopted the conservative approach of applying to the output of London's textile industry the very small coefficients (0.5 per cent) originally proposed by DCMS. It is likely, for reasons given in *London's Core Business*, that this significantly underestimates the size of London's fashion industry.

A1.2 Did creative industry employment really start rising again in 2004?

As noted, the measure of employment used in this report is derived from two sources: the ABI and the LFS. As also mentioned, in the ABI itself there is a discontinuity in 2006. Can we therefore infer, unambiguously, that employment in the creative industries has been rising recently, and if so, for how many years has this been the case?

The simplest way to answer this question is to compare estimates of employment growth from the greatest number of potential sources. There are three sources – the LFS, the ABI, and the IDBR. The IDBR, like the ABI, is an employer-based source although it was not subject to the same discontinuity between 2005 and 2007 and therefore provides a useful double-check.

Chart 20: Creative industry employee jobs in London as reported by LFS and ABI



Source: ABI, LFS, GLA Economics. See Box 1 and text of this section for details.

Chart 20 compares the creative industry employee jobs as estimated using the LFS and the ABI. At first sight, the ABI estimate is quite closely related to the LFS estimate, with an average difference of 34,000. However, its behaviour is not identical. Between 2004 and 2005 the LFS estimate fell whilst the ABI estimate rose, which was reversed in 2006 when the LFS estimate rose and the ABI estimate fell.

It can also be seen that because of this fall, the number of employee jobs according to the ABI is barely higher in 2006 than in 2003. There is thus only one year in which the total unequivocally rises, which is 2007. However, we know that there was a discontinuity in the ABI in 2006, and moreover that for most (but not all) sectors, the result was that the ABI estimate was reduced. Is it reasonable to infer that

- (1) creative industry employment has definitely risen, overall, since 2004?
- (2) creative industry employee jobs rose in each of the years 2005, 2006 and 2007?

To the first question (1), the answer is 'yes'. Table 12 compares LFS, IDBR and ABI figures for employee jobs for the five years 2004–2008, where these are available. For 2008, we have supplied an estimate – a forecast of what the past figure will be, when known – by assuming that the ABI figure increases, between 2005 and 2008, by the same amount as the IDBR between these two years.

As regards the LFS and ABI estimates, although each of them fell for one year (the ABI in 2006 and the LFS in 2005), by 2007 both were higher than their 2004 level. Moreover, the growth of the IDBR figure, between 2005 and 2008, is such that, if the ABI figure were to rise by the same amount over the same period, it would reach 294,000. The IDBR rose between 2004 and 2008, the only years for which data are currently available. It is therefore reasonable to conclude that employee jobs have risen, overall, since 2004, both over the period 2004-2007 and over 2004-2008.

Table 12: Estimates of creative industry employee jobs from three sources for 2005-2008

| | 2004 | 2005 | 2006 | 2007 | 2008 ^a |
|------------------|---------|---------|---------|---------|-------------------|
| IDBR | | 301,058 | N/a | N/a | 321,495 |
| ABI ^b | 268,000 | 274,000 | 271,000 | 287,000 | 294,000 |
| LFS ^b | 237,000 | 219,000 | 224,000 | 251,000 | 274,000 |

a estimate (see text for details)

b ABI and LFS figures rounded to the nearest 1,000.

Source: IDBR, ONS, ABI, LFS, GLA Economics. See Box 1 and text of this section for details.

Can we then infer that creative industry jobs rose in each of the years 2005, 2006, and 2007? It is more difficult to answer this question unequivocally.

Neither the absolute growth, nor the growth rates, show a consistent pattern (see Table 13). The LFS growth rate and ABI growth rate have diverged by as much as +10.3 per cent and -5.3 per cent. Although the change in ABI employment, in 2006, appears anomalously low at -3,000 (-1.2 per cent) and may be attributable to the discontinuity, LFS growth at 5,000 (2.1 per cent) would be compatible with negative ABI growth. Indeed, if the 2006 difference in the growth of the two estimates were as large as in 2002, when the ABI grew by 11,000 less than the LFS, the actual fall in creative industry employee jobs could be as large as 6,000.

Table 13: Comparison of ABI and LFS figures for creative industry employee jobs in London^a

| | ABI | LFS | ABI - LFS | Annual Change | | | Growth rate | | |
|-------------|---------|---------|-----------|---------------|---------|-----------|-------------|-------|-----------|
| | | | | ABI | LFS | ABI - LFS | ABI | LFS | ABI - LFS |
| 1994 | N/A | 172,000 | | | | | | | |
| 1995 | 219,000 | 192,000 | 26,000 | | | | | | |
| 1996 | 234,000 | 194,000 | 40,000 | 15,000 | 1,000 | 14,000 | 6.5% | 0.7% | 5.8% |
| 1997 | 242,000 | 212,000 | 30,000 | 8,000 | 18,000 | -10,000 | 3.3% | 8.6% | -5.3% |
| 1998 | 252,000 | 223,000 | 29,000 | 10,000 | 11,000 | -1,000 | 4.0% | 5.0% | -1.0% |
| 1999 | 268,000 | 227,000 | 41,000 | 16,000 | 3,000 | 12,000 | 5.9% | 1.5% | 4.4% |
| 2000 | 278,000 | 239,000 | 39,000 | 10,000 | 13,000 | -3,000 | 3.7% | 5.3% | -1.7% |
| 2001 | 294,000 | 266,000 | 28,000 | 16,000 | 27,000 | -11,000 | 5.5% | 10.0% | -4.5% |
| 2002 | 277,000 | 260,000 | 17,000 | -17,000 | -6,000 | -11,000 | -6.2% | -2.3% | -3.9% |
| 2003 | 267,000 | 238,000 | 28,000 | -10,000 | -21,000 | 11,000 | -3.9% | -9.0% | 5.1% |
| 2004 | 268,000 | 237,000 | 31,000 | 1,000 | -1,000 | 2,000 | 0.5% | -0.5% | 1.0% |
| 2005 | 274,000 | 219,000 | 54,000 | 6,000 | -18,000 | 24,000 | 2.1% | -8.2% | 10.3% |
| 2006 | 271,000 | 224,000 | 47,000 | -3,000 | 5,000 | -8,000 | -1.2% | 2.1% | -3.2% |
| 2007 | 287,000 | 251,000 | 36,000 | 16,000 | 27,000 | -10,000 | 5.7% | 10.6% | -4.9% |

a All figures rounded to the nearest 1,000. Percentages and differences are calculated from unrounded figures and may therefore not correspond precisely to the published figures.

Source: ABI, LFS, GLA Economics. See Box 1 and text of this section for details.

In answering both questions, it should be remembered that total creative industry employment is the sum of employee jobs, the self-employed, and workers creatively occupied outside the creative industries. These are shown, over the relevant years, in Table 14.

Table 14: Additional components of total creative industry employment, 2004-2007^a

| | 2004 | 2005 | 2006 | 2007 |
|-----------------------------------|----------------|----------------|----------------|----------------|
| Creative industry employee jobs | 268,000 | 274,000 | 271,000 | 288,000 |
| Creative industry self-employed | 81,000 | 93,000 | 112,000 | 99,000 |
| Creatively occupied outside CI | 329,000 | 359,000 | 400,000 | 411,000 |
| Creative workforce jobs | 677,000 | 725,000 | 783,000 | 797,000 |
| Growth in creative workforce jobs | -32,000 | 48,000 | 58,000 | 14,000 |

a Figures rounded to nearest 1,000 and may not sum to the totals of the published figures for this reason.

Source: ABI, LFS, GLA Economics. See Box 1 and text of this section for details

It can be seen that total creative industry employment rose in every year until 2007, and that the rise of 58,000 between 2005 to 2006 is in excess of the 'worst case' difference between the LFS and ABI estimates of employee job growth. Therefore, whilst we cannot be sure that employee jobs in the creative industries rose in every year after 2004, we can be confident that creative industry employment as a whole did so.

A1.3 Creative industry jobs

In this update, as in the previous two, some of the information on creative industry jobs is drawn from the LFS alone, and provides breakdowns of employment data, for example reporting separately on women and men, and on part-time and full-time employment.

The risk to data accuracy which arises, when this is done, is that the sample sizes may become small. When this happens, less reliance can be placed on the conclusions, because potential statistical errors become more likely.

As a general guideline, if the number of jobs in an estimate is lower than 10,000, the data is likely to be unreliable.

To gain some insight into the possible sampling error in the estimates provided in this report, we looked at the sample sizes involved in the production of the LFS-based tables. Table 15 gives, for a single year, the job counts which the LFS yields. It can be seen that, for example, part time employment in Architecture is below the size that would be acceptable for robust results.

For this reason, we have in this report taken an average over four years of the LFS in calculating the estimates used in section 2. Thus, no figure in this section draws on a sample yielding a job count lower than 36,000, which places the estimates in this section in a range compatible with the guidance issued by LFS.

Table 15: Sample size and employment counts for breakdowns reported in section 2, year 2007

| | Advertising | Architecture | Arts and Antiques | Fashion | Film and Video | Leisure Software | Music and Performance | Publishing | Radio and Television |
|--------------------------|-------------|--------------|-------------------|---------|----------------|------------------|-----------------------|------------|----------------------|
| Employment Counts | | | | | | | | | |
| <i>Female</i> | 48,000 | 28,000 | 610,000 | 51,000 | 28,000 | 13,000 | 50,000 | 34,000 | 33,000 |
| <i>BAME</i> | 13,000 | 13,000 | 509,000 | 18,000 | 12,000 | 23,000 | 12,000 | 10,000 | 9,000 |
| <i>Part Time</i> | 9,000 | 9,000 | 483,000 | 20,000 | 18,000 | 5,000 | 30,000 | 12,000 | 11,000 |
| <i>Self-employed</i> | 9,000 | 17,000 | 115,000 | 28,000 | 51,000 | 18,000 | 83,000 | 13,000 | 20,000 |

Source: LFS and GLA Economics. See Box 1 for details.

A1.4 GVA

The figures published in this report for GVA are lower than those published in 2002, in *London's Core Business*. Table 16 lists the principal source of the differences. Our present figure was calculated by Experian Business Strategies (EBS), in the following steps:

- (1) EBS have made an estimate of the number of Full-Time Equivalent (FTE) jobs working in the creative industries, for comparability with the productivity estimates which they supply to the GLA for other industrial sectors
- (2) They have also made an estimate of productivity per job, based on UK figures, in each of the main industrial divisions where the creative industries are to be found
- (3) GVA is then equal to the total number of jobs multiplied by productivity per job

The new figure for total creative industries GVA in 2000 is £14,661 million at constant year 2003 prices. This compares with the figure of £21,038 million published in GLA (2002). Where does the difference come from?

The largest change arises because, in 2004, when we adopted coefficients based on the IDBR for the first time, we revised downwards our estimate of the number of employees in the creative industries in London, from 491,000 to 335,000. Our estimate of GVA at that time was based on employee jobs alone. If EBS's figures for output per job are combined with this estimate, they yield a figure of £16,054 million, a decrease of 24 per cent compared with the 2002 figure. Note also that this figure is in year 2003 prices rather than year 2000 prices.

Table 16: Reasons that GVA has been revised since 2002

| Comparisons for the year 2000 | GVA | Jobs (000) | Output per job (£000) |
|--|---------------------------------------|-----------------------------|------------------------------|
| | <i>£million, constant 2000 prices</i> | <i>Employee Jobs</i> | <i>constant 2000 prices</i> |
| GLA estimate made in 2002 | 21,038 | 491 | 42.89 |
| | <i>£million, constant 2003 prices</i> | <i>Employee jobs</i> | <i>constant 2003 prices</i> |
| GLA estimate of GVA using employee jobs in place of FTE jobs, and EBS productivity estimates in 2004 | 16,054 | 335 | 47.96 |
| | <i>£million, constant 2003 prices</i> | <i>Full Time Equivalent</i> | <i>constant 2003 prices</i> |
| EBS estimate of GVA made in 2009 | 14,661 | 306 | 47.96 |

Source: ABI, LFS, EBS and GLA Economics. See Box 1 and text for details.

A further change arises because EBS convert this to a smaller number of FTE jobs – 306,000 in comparison to our own 2004 estimate of 335,000 employee jobs. This reduces the figure by a further six percentage points, in comparison with our 2002 figure, and brings it down to £14,661 million.

Appendix 2: SIC codes and proportions used

| DCMS Mapping | SIC 2003 4-digit code | Proportion of employment used | 4-digit description |
|-----------------------|-----------------------|-------------------------------|--|
| Advertising | 7440 | 1.0000 | Advertising |
| Architecture | 7420 | 0.1609 | Architectural activities |
| Arts and Antiques | 5248 | 0.0327 | Other retail sale: specialised stores |
| Arts and Antiques | 5250 | 1.0000 | Retail sale: second-hand goods in stores |
| Fashion | 1771 | 0.0005 | Manufacture of knitted/crocheted hosiery |
| Fashion | 1772 | 0.0005 | Manufacture: knitted/crocheted pullovers |
| Fashion | 1810 | 0.0005 | Manufacture of leather clothes |
| Fashion | 1821 | 0.0005 | Manufacture of workwear |
| Fashion | 1822 | 0.0005 | Manufacture of other outerwear |
| Fashion | 1823 | 0.0005 | Manufacture of underwear |
| Fashion | 1824 | 0.0005 | Manufacture of other wearing apparel nec |
| Fashion | 1830 | 0.0005 | Dressing and dyeing of fur |
| Fashion | 1930 | 0.0005 | Manufacture of footwear |
| Fashion | 7487 | 0.0484 | Speciality design activities |
| Film and Video | 2232 | 1.0000 | Reproduction of video recording |
| Film and Video | 7481 | 0.3444 | Advertising |
| Film and Video | 9211 | 0.6389 | Other motion picture and video production activities |
| Film and Video | 9212 | 1.0000 | Motion picture and video distribution |
| Film and Video | 9213 | 1.0000 | Motion picture projection |
| Leisure Software | 2233 | 1.0000 | Reproduction of computer media |
| Leisure Software | 7221 | 1.0000 | Publishing of software |
| Leisure Software | 7222 | 1.0000 | Other software consultancy and supply |
| Music and Performance | 2231 | 1.0000 | Reproduction of sound recording |
| Music and Performance | 9231 | 1.0000 | Live theatrical presentations |
| Music and Performance | 9232 | 1.0000 | Operation of arts facilities |
| Music and Performance | 9234 | 1.0000 | Other entertainment activities nec |
| Music and Performance | 9272 | 0.0163 | Other recreational activities nec |
| Publishing | 2211 | 1.0000 | Publishing of books |
| Publishing | 2212 | 1.0000 | Publishing of newspapers |
| Publishing | 2213 | 1.0000 | Publishing of journals and periodicals |
| Publishing | 2214 | 1.0000 | Publishing of sound recordings |
| Publishing | 2215 | 1.0000 | Other publishing |
| Publishing | 9240 | 1.0000 | News agency activities |
| Radio and Television | 9220 | 1.0000 | Radio activities |

Source: IDBR, ONS and GLA Economics

Appendix 3: Glossary of terms

ABI: Annual Business Inquiry and, until 1996, the Annual Employment Survey (AES) which preceded the ABI. For brevity we use 'ABI' to refer to both surveys.

DCMS or 'DCMS mapping': the classification adopted by the Department of Culture, Media and Sport in 2001 and specified in DCMS (2001) and DCMS (2007).

DET or 'DET mapping': the DCMS Evidence Toolkit classification.

Creative industry jobs: jobs in the industries classified by DCMS as creative.

Creative jobs: Creatively-occupied jobs: jobs held by workers whose occupation is classified by DCMS as creative.

Creative workforce jobs: the sum of creative industry jobs and creative jobs outside the creative industries.

GSE: the Greater South East, being London together with the East and South-East Government Office Regions.

IDBR: the Interdepartmental Business Register.

LFS: the Labour Force Survey until 2004 and thereafter, for brevity, to the Annual Population Survey (APS) which has now replaced the LFS.

ROSE: 'Rest of the South East' (South East excluding London).

SOC: the *Standard Occupational Classification*, which classifies the type of jobs that people do.

SIC: the *Standard Industrial Classification*, which classifies the type of industry that people work in.

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Tables

Throughout, figures marked (*) have been withheld to conform with ONS disclosure rules. Some figures – for example fashion – do conform to disclosure rules although they are low, because they are drawn from totals that are large and have been reduced by the weightings applied. Figures are rounded to the nearest thousand, and for these reasons and because of disclosure restrictions, components do not necessarily sum to totals.

Table 17: Creative industry jobs (Source: ABI, LFS)

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|-----------------------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Advertising | #N/A | 28,000 | 36,000 | 39,000 | 39,000 | 39,000 | 42,000 | 41,000 | 40,000 | 36,000 | 35,000 | 37,000 | 39,000 | 38,000 |
| Architecture | #N/A | 13,000 | 13,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 11,000 | 12,000 | 12,000 | 13,000 |
| Arts and Antiques | #N/A | 6,000 | 6,000 | 7,000 | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 | 7,000 | 7,000 | 7,000 | 7,000 | 7,000 |
| Fashion | #N/A | 4,000 | 3,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 4,000 | 5,000 | 5,000 | 5,000 | 6,000 |
| Film and Video | #N/A | 23,000 | 22,000 | 28,000 | 30,000 | 30,000 | 26,000 | 29,000 | 28,000 | 27,000 | 27,000 | 27,000 | 27,000 | 28,000 |
| Leisure Software | #N/A | 41,000 | 50,000 | 50,000 | 58,000 | 66,000 | 77,000 | 78,000 | 72,000 | 77,000 | 73,000 | 83,000 | 90,000 | 93,000 |
| Music and Performance | #N/A | 58,000 | 64,000 | 65,000 | 65,000 | 73,000 | 74,000 | 81,000 | 72,000 | 70,000 | 68,000 | 70,000 | 78,000 | 76,000 |
| Publishing | #N/A | 66,000 | 72,000 | 73,000 | 78,000 | 80,000 | 80,000 | 82,000 | 80,000 | 83,000 | 75,000 | 78,000 | 84,000 | 76,000 |
| Radio and Television | #N/A | 36,000 | 39,000 | 36,000 | 40,000 | 44,000 | 44,000 | 49,000 | 51,000 | 49,000 | 46,000 | 48,000 | 42,000 | 49,000 |
| Grand Total | #N/A | 275,000 | 305,000 | 315,000 | 335,000 | 358,000 | 368,000 | 384,000 | 367,000 | 365,000 | 349,000 | 367,000 | 383,000 | 386,000 |

Table 18: Creative workforce summary (Source: ABI, LFS)

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Employee jobs | 219,000 | 234,000 | 242,000 | 252,000 | 268,000 | 278,000 | 294,000 | 277,000 | 267,000 | 268,000 | 274,000 | 271,000 | 287,000 |
| Self-employed jobs | 56,000 | 71,000 | 73,000 | 83,000 | 90,000 | 90,000 | 90,000 | 90,000 | 98,000 | 81,000 | 93,000 | 112,000 | 99,000 |
| Total Creative industry jobs | 275,000 | 305,000 | 315,000 | 335,000 | 358,000 | 368,000 | 384,000 | 367,000 | 365,000 | 349,000 | 367,000 | 383,000 | 386,000 |
| Creative jobs outside the creative industries | 240,000 | 252,000 | 269,000 | 295,000 | 316,000 | 335,000 | 369,000 | 343,000 | 345,000 | 329,000 | 359,000 | 400,000 | 411,000 |
| Total: Creative workforce jobs | 515,000 | 557,000 | 584,000 | 630,000 | 674,000 | 703,000 | 753,000 | 710,000 | 710,000 | 678,000 | 726,000 | 783,000 | 797,000 |

Table 19: Creative jobs by industry of employment (Source: LFS)

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Advertising | 15,000 | 10,000 | 10,000 | 12,000 | 12,000 | 15,000 | 13,000 | 19,000 | 22,000 | 21,000 | 18,000 | 16,000 | 15,000 | 17,000 | 25,000 |
| Architecture | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) |
| Arts and Antiques | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) | (*) |
| Fashion | 1,000 | 1,000 | 1,000 | - | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Film and Video | 9,000 | 9,000 | 9,000 | 12,000 | 13,000 | 11,000 | 13,000 | 15,000 | 14,000 | 13,000 | 11,000 | 11,000 | 10,000 | 13,000 | 11,000 |
| Leisure Software | 11,000 | 18,000 | 26,000 | 31,000 | 33,000 | 40,000 | 41,000 | 29,000 | 29,000 | 34,000 | 32,000 | 29,000 | 33,000 | 41,000 | 41,000 |
| Music and Performance | 27,000 | 29,000 | 32,000 | 36,000 | 38,000 | 36,000 | 39,000 | 41,000 | 35,000 | 32,000 | 32,000 | 37,000 | 46,000 | 44,000 | 52,000 |
| Publishing | 33,000 | 34,000 | 37,000 | 38,000 | 37,000 | 38,000 | 41,000 | 42,000 | 38,000 | 40,000 | 33,000 | 33,000 | 47,000 | 39,000 | 39,000 |
| Radio and Television | 21,000 | 21,000 | 20,000 | 20,000 | 23,000 | 26,000 | 26,000 | 29,000 | 32,000 | 27,000 | 26,000 | 31,000 | 32,000 | 27,000 | 27,000 |
| Creative industries total | 119,000 | 124,000 | 139,000 | 153,000 | 162,000 | 171,000 | 180,000 | 181,000 | 176,000 | 172,000 | 157,000 | 163,000 | 188,000 | 188,000 | 203,000 |
| Outside the creative industries | 219,000 | 240,000 | 252,000 | 269,000 | 295,000 | 316,000 | 335,000 | 369,000 | 343,000 | 345,000 | 329,000 | 359,000 | 400,000 | 411,000 | 427,000 |
| All creative jobs | 338,000 | 364,000 | 390,000 | 421,000 | 456,000 | 487,000 | 514,000 | 549,000 | 518,000 | 517,000 | 485,000 | 522,000 | 588,000 | 599,000 | 631,000 |

Table 20: Creative Industry employee jobs in the major geographical areas of Britain (Source: ABI)

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | (All Industries 2007) |
|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------------------|
| London | 219,000 | 234,000 | 242,000 | 256,000 | 272,000 | 282,000 | 299,000 | 281,000 | 270,000 | 272,000 | 278,000 | 275,000 | 291,000 | 4,079,000 |
| Rest of the South East | 164,000 | 176,000 | 187,000 | 202,000 | 222,000 | 235,000 | 235,000 | 229,000 | 232,000 | 237,000 | 236,000 | 238,000 | 236,000 | 6,109,000 |
| Rest of Great Britain | 263,000 | 270,000 | 278,000 | 288,000 | 312,000 | 326,000 | 344,000 | 346,000 | 357,000 | 368,000 | 371,000 | 388,000 | 396,000 | 16,411,000 |
| Total UK | 645,000 | 681,000 | 706,000 | 746,000 | 806,000 | 844,000 | 878,000 | 856,000 | 860,000 | 876,000 | 885,000 | 901,000 | 923,000 | 26,599,000 |

Table 21: GVA, £million (Source: Experian Business Strategies)

| 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 12,557 | 12,451 | 13,487 | 14,044 | 14,661 | 15,654 | 15,602 | 15,661 | 16,609 | 16,916 | 17,478 | 18,545 |

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Table 22: Creative jobs by occupation (Source: LFS)^a

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|-----------------------|---------|---------|---------|---------|---------|---------|---------|
| Advertising | 82,000 | 80,000 | 74,000 | 63,000 | 69,000 | 73,000 | 80,000 |
| Architecture | 18,000 | 19,000 | 21,000 | 20,000 | 20,000 | 16,000 | 26,000 |
| Crafts | 27,000 | 26,000 | 26,000 | 26,000 | 31,000 | 31,000 | 38,000 |
| Fashion | 71,000 | 59,000 | 64,000 | 70,000 | 64,000 | 68,000 | 72,000 |
| Film & video | 27,000 | 22,000 | 17,000 | 22,000 | 19,000 | 31,000 | 25,000 |
| Leisure Software | 116,000 | 113,000 | 131,000 | 126,000 | 129,000 | 143,000 | 162,000 |
| Music and Performance | 100,000 | 88,000 | 85,000 | 66,000 | 87,000 | 94,000 | 100,000 |
| Publishing | 63,000 | 63,000 | 59,000 | 56,000 | 56,000 | 86,000 | 61,000 |
| Radio and TV | 43,000 | 49,000 | 41,000 | 36,000 | 47,000 | 47,000 | 36,000 |
| Total | 549,000 | 518,000 | 517,000 | 485,000 | 522,000 | 588,000 | 599,000 |

a Data before 2001 is omitted because of a discontinuity created by the introduction of new occupational codes in 2000

Table 23: Proportions of creative industry jobs that are held by part time, self-employed, women or BAME workers, average 2005-2008 (Source: LFS)

| Proportions of: | Self-employed | Part time persons in employment | BAME persons in employment | Women |
|-------------------------|---------------|---------------------------------|----------------------------|-------|
| Advertising | 15% | 7% | 15% | 45% |
| Architecture | 25% | 9% | 17% | 32% |
| Arts and Antiques | 10% | 36% | 41% | 49% |
| Fashion | 26% | 16% | 16% | 51% |
| Film and Video | 46% | 15% | 18% | 33% |
| Leisure Software | 20% | 5% | 27% | 16% |
| Music and Performance | 66% | 27% | 13% | 38% |
| Publishing | 19% | 15% | 10% | 45% |
| Radio and Television | 20% | 8% | 12% | 38% |
| All Creative Industries | 29% | 13% | 16% | 35% |
| All industries | 14% | 18% | 26% | 43% |

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Nếu bạn muốn có văn bản tài liệu này bằng ngôn ngữ của mình, hãy liên hệ theo số điện thoại hoặc địa chỉ dưới đây.

Greek

Αν θέλετε να αποκτήσετε αντίγραφο του παρόντος εγγράφου στη δική σας γλώσσα, παρακαλείστε να επικοινωνήσετε τηλεφωνικά στον αριθμό αυτό ή ταχυδρομικά στην παρακάτω διεύθυνση.

Turkish

Bu belgenin kendi dilinizde hazırlanmış bir nüshasını edinmek için, lütfen aşağıdaki telefon numarasını arayınız veya adrese başvurunuz.

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਸ ਦਸਤਾਵੇਜ਼ ਦੀ ਕਾਪੀ ਤੁਹਾਡੀ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਚਾਹੀਦੀ ਹੈ, ਤਾਂ ਹੇਠ ਲਿਖੇ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ ਹੇਠ ਲਿਖੇ ਪਤੇ 'ਤੇ ਰਾਬਤਾ ਕਰੋ:

Hindi

यदि आप इस दस्तावेज की प्रति अपनी भाषा में चाहते हैं, तो कृपया निम्नलिखित नंबर पर फोन करें अथवा नीचे दिये गये पते पर संपर्क करें

Bengali

আপনি যদি আপনার ভাষায় এই দলিলের প্রতিলিপি (কপি) চান, তা হলে নীচের ফোন নম্বরে বা ঠিকানায় অনুগ্রহ করে যোগাযোগ করুন।

Urdu

اگر آپ اس دستاویز کی نقل اپنی زبان میں چاہتے ہیں، تو براہ کرم نیچے دئے گئے نمبر پر فون کریں یا دیئے گئے پتے پر رابطہ کریں

Arabic

إذا أردت نسخة من هذه الوثيقة بلغتك، يرجى الاتصال برقم الهاتف أو مراسلة العنوان أدناه

Gujarati

જો તમને આ દસ્તાવેજની નકલ તમારી ભાષામાં જોઈતી હોય તો, કૃપા કરી આપેલ નંબર ઉપર ફોન કરો અથવા નીચેના સરનામે સંપર્ક સાધો.

GLAECONOMICS

Greater London Authority
City Hall
The Queen's Walk
London SE1 2AA

Tel: 020 7983 4922

Fax: 020 7983 4137

Minicom: 020 7983 4458

Email: glaeconomics@london.gov.uk

www.london.gov.uk/mayor/economic_unit



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