THE ‘CREATIVE CLASS’ IN THE UK: AN INITIAL ANALYSIS

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Abstract

Richard Florida argues that regional economic outcomes are tied to the underlying conditions that facilitate creativity and diversity. Thus the Creative Class thesis suggests that the ability to attract creativity and to be open to diverse groups of people of different ethnic, racial and lifestyle groups provides distinct advantages to regions in generating innovations, growing and attracting high-technology industries, and spurring economic growth. In this paper we investigate the extent to which there are similar processes concerning the relationship between creativity, human capital, and high-technology industries at work in the UK as in North America. This is focused around the three principal research questions: Where is the creative class located in the UK? What is the impact of quality of place upon this dispersion? What is the connection between the location of the creative class and inequalities in technical and economic outcomes within the UK?

To this end, the Creative Class and its subgroups are defined and identified. We then construct quality of place indicators relating to tolerance, diversity, creativity and cultural opportunity. To these are added measures of public provision and social cohesion. Data is primarily derived from the 2001 Census of Population and the Annual Business Inquiry, and analysed by means of correlations and regression. In general we find that, although the distribution of the Creative Class is uneven and complex, our results are consistent with the findings of the North American research. Finally, priorities for further research are discussed. The need to further investigate causality, variations within the Creative Class itself, and the potential role of qualitative data in this are highlighted.
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1. Introduction

Much of the recent interest in the development of creativity has drawn upon Richard Florida’s (2002b) book ‘The Rise of the Creative Class’. Whereas in the ‘Industrial Age’ classical and neo-classical economic theory told us that ‘people followed jobs’, in the modern ‘Knowledge Economy’ Florida shows how ‘jobs follow talented people’. That is, places that display ‘Creative Class’ characteristics, meaning a high presence of professionals, technologists and bohemians, performed best economically in recent years.

In a knowledge-based economy, the ability to attract and retain highly skilled labour is therefore crucial to the current and future prosperity of regions as well as entire nations. For example, Florida (2000) has argued that in the knowledge economy, regions develop advantage based on their ability to quickly mobilize the best people, resources and capabilities required to turn innovations into new business ideas and commercial products. In particular, the ability to attract creative people in arts and culture fields and to be open to diverse groups of people of different ethnic, racial and lifestyle groups provides distinct advantages to regions in generating innovations, growing and attracting high-technology industries, and spurring economic growth (Gertler, et al. 2002).

For example, the most recent research on this question by Florida indicates unequivocally that talent is attracted to and retained by cities, and that the social character of city-regions has a very large influence over their economic success and competitiveness. In particular, Florida and his colleagues have found that those places that offer a high quality of life and best accommodate diversity enjoy the greatest success in talent attraction/retention and in the growth of their technology-intensive economic activities.

This research demonstrates that ‘quality of place’ must be understood in broader terms than we have traditionally been accustomed to: while the attractiveness and
condition of the natural environment and built form are certainly important, so too is the presence of a rich cultural scene and a high concentration of people working in cultural occupations (‘bohemians’ or the ‘creative class’). According to the results from Florida et al.’s research the underlying hypothesis is that the presence and concentration of bohemians in an area creates an environment of milieu that attracts other types of talented or high human capitals individuals. The presence of such human capital in turn attracts and generates innovative, technology-based industries (Florida, 2002b).

2. Conceptual Approach- the Creative Class

A distinct advantage of city-regions is their ability to produce, attract and retain those workers who play the lead role in knowledge-intensive production and innovation – who provide the ideas, know-how, creativity and imagination so crucial to economic success. Because value creation in many sectors of the economy rests increasingly on non-tangible assets, the locational constraints of earlier eras – for example, the access to good natural harbours or proximity to raw materials and cheap energy sources – no longer exert the same pull they once did. Instead, what matters most now are those attributes and characteristics of particular places that make them attractive to potentially mobile, much sought-after talent. A key reason for believing that a significant shift has occurred taking us into a knowledge economy is that data suggest this to be true. Thus the book value of intangible assets compared to raw materials has shifted from 20:80 in the 1950s to 70:30 in the 1990s (Cooke and De Laurentis, 2002). Consequently, the distribution of talent, or human capital, is an important factor in economic geography, as talent is a key intermediate variable in attracting high-technology industries and generating higher regional incomes. This makes it an important research task to explore factors that attract talent and its effects on high-technology industry and regional incomes (Florida, 2002c).

The replacement of raw materials or natural harbours with human capital and creativity as the crucial wellspring of economic growth means that in order to be successful in the emerging creative age of the knowledge economy, regions must develop, attract and retain talented and creative people who generate innovations,
develop technology intensive industries and power economic growth. Such talented people are not spread equally across nations or places, but tend to concentrate within particular city-regions. The most successful city-regions are the ones that have a social environment that is open to creativity and diversity of all sorts. The ability to attract creative people in arts and culture fields and to be open to diverse groups of people of different ethnic, racial and lifestyle groups provides distinct advantages to regions in generating innovations, growing and attracting high-technology industries, and spurring economic growth.

Traditional theories of economic growth and development emphasized the role of natural resources and physical assets. Such theories were used to inform strategies typically based on various incentives to try to alter the location decision of firms. In recent years, several more robust theories have emerged. The first, associated with the work of Michael Porter (2000) and others, emphasizes the role of clusters of related and supporting industries. According to this work, clusters operate as geographically concentrated collections of interrelated firms in which local sophisticated and demanding customers and strong competition with other firms in the same industry drive the innovation process. A second view associated with Robert Lucas (1988) and Edward Glaeser (1998) focuses on the role of human capital – that is, highly educated people. It argues that places with higher levels of human capital are more innovative and grow more rapidly and robustly over time. A third view, associated with Richard Florida (2002b), emphasizes the role of creative capital, arguing that certain underlying conditions of places, such as their ability to attract creative people and be open to diversity, inform innovation and growth. Further, independent research by Robert Cushing (2001) of the University of Texas at Austin provides a good deal of support for the creative capital view.

Such constellations of talents and creative people are - as already mentioned - most commonly found in large city regions where the diversity of urbanization economies is most abundant. This, together with other factors such as labour markets characterized by high demand for qualified personnel, cultural diversity and tolerance, low entry barriers and high levels of urban service, largely determine the economic geography of talent and of creativity, both of which display concentration to large cities. According to Cooke and De Laurentis (2002) cities on average are twice as
advantaged by their knowledge intensity over towns and rural areas compared to their already existing advantages from agglomeration economies. Thus if a city scores 50% above the mean in GDP per capita it is likely to score 100% above it in terms of its knowledge-based industry. Thus there is more chance of knowledge economy employment in the city than the country, a major contributory factor in the renewed migration of young people from rural to urban areas in many European countries, making the knowledge economy uneven geographically distributed and knowledge poverty a new kind of locational disadvantage (Cooke and De Laurentis, 2002).

Thus, it is not enough to attract firms: the ‘right’ people also need to be attracted. Richard Florida calls for complementing policies for attracting firms with policies for attracting people, which means addressing issues of ‘people’s climate’ as well as of ‘business climate’ (Florida 2002c). Indeed, the former is seen as basic to the latter, in that the presence of human capital and talent is essential for attracting and developing high-tech industries and consequently for the economic growth of cities, a diversification relationship pointed out by Jacobs (1961, 1969) decades ago. This suggests that the attention of politicians and planners should be directed towards people, not companies, i.e. away for business attraction to talent attraction and quality of place (Florida, 2002c).

The knowledge-based economy means then that the ability to attract and retain highly skilled labour is crucial in terms of both the current and future prosperity of city-regions as well as entire nations. The most recent research on this question indicates unequivocally that talent is attracted to and retained by cities, but not just any cities. In their analysis of American metropolitan areas, Richard Florida and Gary Gates have shed new light on those characteristics of urban regions that seem to be most important in this process (Florida, 2002a; 2002b; 2002c; Florida and Gates, 2001). The central finding of this work is that the social character of city-regions has a very large influence over their economic success and competitiveness. In particular, Florida and his colleagues have found that those places that offer a high quality of life and best accommodate diversity enjoy the greatest success in talent attraction/retention and in the growth of their technology-intensive economic activities.
This research demonstrates that ‘quality of place’ must be understood in broader terms than we have traditionally been accustomed to: while the attractiveness and condition of the natural environment and built form are certainly important, so too is the presence of a rich cultural scene and a high concentration of people working in cultural occupations (‘bohemians’ or the ‘creative class’). According to the results from Florida et al.’s research the underlying hypothesis is that the presence and concentration of bohemians in an area creates an environment of milieu that attracts other types of talented or high human capitals individuals. The presence of such human capital in turn attracts and generates innovative, technology-based industries (Florida, 2002a).

Diversity is another key aspect of successful places. There are several dimensions to this. The first dimension concerns entry barriers facing newcomers: cities with great diversity are understood as places where people from different backgrounds can easily fit in (Florida, 2002c). Several quantitative indicators used by Florida and colleagues capture this. One of the most influential variables was found to be a city’s ‘gay index’, measuring the prevalence of gay males in the local population. This index has been shown to imply a high degree of openness to newcomers of diverse backgrounds with respect to nationality, race, ethnicity, and sexual orientation, reflecting an environment that is open to diversity, high in urban oriented amenities, and characterized by low entry barriers (Florida, 2002c). Another indicator of diversity is the ‘melting pot index’, reflecting the proportion of a city-region’s population that is foreign-born.

The findings from the Canadian study by Gertler et al. (2002) strongly indicate that the relationships first captured for US city-regions in the work of Florida and colleagues are also evident in Canadian city-regions. If anything, the relationships in Canada are stronger than those found in the United States. In particular, the findings showed that a vibrant local creative class and openness to diversity attract knowledge workers in Ontario and Canada. It was also found that, in general, Ontario city-regions (of which Toronto is the largest) have a solid foundation in these areas to compete against US city-regions. In summary, there appears to be a strong set of linkages between creativity, diversity, talent and technology-intensive activity that are
driving the economies of Ontario’s – and Canada’s – city-regions (Gertler et al., 2002).

2.1 Creativity, Class and the Mainstream

The use of the word ‘class’ comes of course with a certain baggage in that it implies some kind of self-identity and consistent value-system within a socio-political hierarchy. Whether the Creative ‘Class’ really is a class in the Marxist sense is something of a moot point, but the broad attitudes held and approaches to life that Florida (and others) describe does suggest that at least the term is not wholly erroneous in this context. These include personal attire and style, beliefs and values, attitudes to work – to old-style demarcations of blue-collar and white collar is added the ‘no-collar’ workplace; viewed through the eyes of someone used to the traditional demarcations of the workplace these are people “…who seem to be always working, and yet never working when they are supposed to” (Florida 2002b, p5).

Moreover, the Creative Class label can more generally be linked to a reassessment of the idea that ‘bourgeois’ values of business, profit and so on (inherently linked to a wider conservative value system) are by definition mutually exclusive to ‘bohemian’ values of creativity, the embracing of new ideas and valuing of diversity (in its various forms). Brooks (2000) actually merged to two words themselves in describing the emergence of the bobos – a new group of people in which bourgeois and bohemian values are blended i.e. creative, unconventional but also entrepreneurial. This idea has some intrinsic appeal when the nature of ‘cool’ jobs in technology, new media and so on is considered: as Heath and Potter (2005, p206) put it “What people yearn for these days is no longer an old-fashioned ‘status’ job, like being a Doctor. The ‘cool job’ has become the holy grail of the modern economy.” Indeed, with play-zones and chill-out areas having become the stuff of hi-tech start-up cliché the question remains as to whether such idiosyncrasies are actually intrinsic to this kind of creativity or merely ostentations, to be dropped hastily in an economic downturn such as fallout of the dot.com shakeout. A full answer to this question is however beyond the scope of the present paper.
Whatever the subtleties of the debate, the fundamental point remains that a
dichotomous split between the bohemian and the bourgeois, or the business-like and
the creative, is no longer adequate in describing how a significant group of people live
and work, and that this Creative Class is now very much part of the economic
mainstream.

3. Research Questions

Although North America and Europe share many common values and institutions,
there are aspects of their respective societal development that show strong divergence,
for example with regard to political priorities, functioning of labour markets,
economic growth processes and social outcomes (see for example Hall and Soskice,
2001). Given that virtually all of the systematic research of the phenomenon has taken
place in North America, the Creative Class warrants investigation in a European
context. Therefore, the research reported in this paper represents an analysis of quality
of place and the dispersion of the Creative Class in the UK1, mirroring the work
described above that has been undertaken in North American cities in order to
understand whether similar processes concerning the relationship between creativity,
human capital, and high-technology industries are at work in Europe as in North
America. The questions we seek to address are then essentially:-

1. Where is the creative class located in the UK
2. What is the impact of quality of place upon this dispersion?
3. What is the connection between the location of the creative class and
   inequalities in technical and economic outcomes within the UK?

Our research is taking place within the context of a wider project entitled
“Technology, Talent and Tolerance in European Cities: a comparative analysis”,
involving matched datasets and research partners in Denmark, Sweden, Norway,

1 At present data from Northern Ireland and Scotland is absent from our analysis. This will be
addressed during subsequent iterations of the analysis.
Finland, the Netherlands and Germany. To get at these issues, the role of human
capital, creative capital, and diversity in technology-based economic development in
the UK is investigated. The research uses the two measures developed by the North
American studies, the Creativity (Bohemian) Index to reflect creative capital, and the
Diversity (Mosaic) Index to reflect openness and diversity. This suggests that there
will be a relationship between openness to creativity and diversity and the ability to
support high-tech industries and economic development based on talented workers.
New indices are developed in order to grasp the fundamental differences in certain
aspects of life between North American and European societies (see the following
section). As noted, this kind of analysis has not yet been performed for European
cities, and has the potential to shed important new light on the role of quality of place
in shaping the competitiveness of city-regions in Europe.

4. Data and Methodology

The data for the quantitative statistical analyses are derived primarily from the 2001
Census of Population, supplemented by the Labour Force Survey and the Annual
Business Inquiry. Various indices are constructed from this data as described below,
and explored through means of plots, regressions and correlations. In addition, this is
being supplemented by the collection of qualitative empirical material in the form of
interviews with key actors, as well as with theoretical representative groups of
‘talents’ employed in urban governance and planning in the case-study cities, high
technology industry and service, and higher education and research institutions. These
interviews are being complemented with additional interviews with representatives
from creative/artistic occupations as well as from different ethnic groups. The
qualitative analyses are aimed at obtaining a subjective evaluation and assessment of
the relative importance of the various indices used in the quantitative analyses in
order to get a more comprehensive picture of which preferences talented people
actually have and why they behave the way they do. These interviews are on-going at

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2 This involves the construction of a dataset that allows three distinct fields of analysis; examining how
the creative class model applies within each partner country, the performing of inter-country
comparisons across partner countries, and finally a comparison between the ‘TTT group’ as whole and
existing US and Canadian studies. Results relating to these latter two project aims will be reported
elsewhere in due course.
time of writing, thus most of the material presented here derives from the quantitative analyses.

### 4.1 Key Variables for Quantitative Analyses

The key variables for the quantitative analyses are the Bohemian Index, the Talent Index, the Diversity Index, and the Tech-Pole Index. These mirror variables employed in previous research by Florida (2002a, 2002b, 2002c) and Gertler et al. (2002) on the geography of talent and the rise of the creative class. In addition indicators for cultural and recreational amenities, which also were used in Florida’s studies, will be considered. A couple of new indicators developed to reflect characteristics of European cities and their national political economies are also introduced. These two new indicators are social cohesion, and a public provision index measuring the supply of public sector goods such as education, health care, social security, etc. on different geographical levels (e.g. local and regional).

In general, the variables used were designed to jointly maximize consistency between the different European countries involved in the wider project, and between Europe and the US and Canada. Variation in availability across the partner nations has inevitably imposed constraints upon the data used by individual partners, and in some cases involved compromises around ‘lowest common denominator’ levels of detail and timeframes.

**Creative Class:** clearly of central importance is the ability to actually quantify the size of the Creative Class present in any given location. These are essentially people who as a key constituent of their work are involved in the creation of new knowledge, or use of existing knowledge in new ways, combinations and so on. In the absence of a primary data set relating to the actual engagement in such activities, this is proxied by the use of Occupational categories. We subdivide the Creative Class into the Creative Core (scientists and engineers, architects and designers, academics and teaching professionals), and the Creative Professionals (associated professional and technical

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3 As we define it, the Creative Core maps very closely to the major occupational group Professional
occupations of the Creative Core, managers, financial and legal professionals). Data for this index (and the others using occupational data) were derived from the 2001 Census of Population, the only source with sufficient same size to allow 4 digit SOC breakdowns at the levels of regional disaggregation required.

**Bohemian Index:** The Bohemian Index is defined using employment in artistic and creative occupations. It is a locational quotient that compares the region’s share of the nation’s ‘bohemians’ to the region’s share of the nation’s population (local prominence of employment in artistic/creative occupations compared to national prominence of employment in the same occupations). Data for the UK is delineated using the Standard Occupational Classification 2000 (SOC2000) system; within this it is convenient to use sub-major group 34 (Culture, Media and Sports) to define the bohemian occupations.4

**Cultural Opportunity Index:** The opportunity to enjoy cultural and recreational activities can be calculated more directly than other indicators on quality of place. According to Florida, such opportunities play an important role in cities’ ability to attract the creative class. The proportion of employees in the cultural and recreational industries within an area is used as an indicator of this cultural opportunity. This involves using a number of 3 digit SIC groups from Annual Business Inquiry to account for employment within restaurants and bars, libraries, museums and other cultural and entertainment activities.

**Talent Index:** Talent is defined as the proportion of the population over 18 years of age with a bachelor’s degree or higher (local proportion compared to national). This data was obtained from the 2001 Census of Population.

**Diversity (Openness) Index:** The Diversity Index is the European counterpart of Florida’s ‘Melting Pot Index’. It is calculated as the proportion of the total population

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4 Mainland European countries use the International Standard Classification of Occupations (ISCO) system; due to the nature of the wider research being undertaken it was with reference to this system that our occupational groupings (bohemian, creative class) were defined. In many cases ISCO maps directly to SOC2000, but in other cases it does not.
that is foreign-born. A second index, which measured the proportion of total population that is foreign-born of non-western origin, was also constructed; the logic behind this was that a more visible manifestation of diversity may be a more valid tool, or at least provide greater insight into the concept of tolerance (see later discussion of this issue). This data was provided by the 2001 Census of Population.

**Tech-Pole Index:** Following the method of the Milken Institute ([http://www.milkeninstitute.org/](http://www.milkeninstitute.org/)), this index shows local employment in technology-intensive manufacturing and service sectors (specialization and size). The index compares a region’s share of national employment in high-technology industries to the region’s overall share of national employment; this is then adjusted for city-size by multiplying by a region’s overall share of national high-technology employment. Therefore, it reflects both the region’s degree of specialization in technology-intensive activity as well as its sheer scale of employment in these sectors. The index includes technology-intensive sectors in both manufacturing and services. Data for constructing the index was extracted from the Annual Business Inquiry (ABI) employee analysis for 2002.

**Social Cohesion Index:** Florida himself has expressed concern regarding the polarisation in terms of prosperity that high levels of creative class employment has been associated with in the US, to the point where this is becoming a negative quality of place factor for these creative workers themselves. As such it was felt that some attempt to factor this in to the research design should be made. Ideally this should involved some kind of gini coefficient with respect to income distribution, but this kind of data is not available at the spatial level we are using (this also true for the other European project partners). As such, the apparent level of exclusion from mainstream economic activity was used, as represented by the ILO definition of unemployment\(^5\). Using a labour market variable as a proxy for social cohesion introduces a new net of complicating factors- as with other issues relating to operationalistion of Creative Class concepts, these are revisited in later sections. The data was taken from the Labour Force Survey with respect to the twelve month period March 2001 to February 2002.

\(^5\) i.e. those people who have not worked more than one hour during the short reference period regardless of whether they are in receipt or not of unemployment related benefits.
**Public Provision Index:** having acknowledged the potential implications for social cohesion implied within the Creative Class model, there is a need to further take account of the European context; to what extent is social welfare provision a quality of place factor for the European Creative Class? In this index, levels of employment in education and healthcare (SIC2003, 2 digit codes 80 and 85) for a given locality are expressed as a proportion of the resident population, using data from the Annual Business Inquiry.

**Levels of Geography:** As described above, data was collected such that the triple of goals of country-specific, inter-country and Europe-North America comparisons could best be achieved. This was also true with respect to the levels of geography i.e. spatial units employed in the analysis. With the partner countries accounting for large variations in size, governance structure, patterns of population dispersion and so on it was impractical to impose a single ‘standard’ definition; in practice such definitions actually have different meanings dependant upon the context in which they are applied; i.e. the same definition will actually define a spatial unit that has a different meaning from one country to another.

As we were seeking definitions that encapsulated something approaching functional labour markets (analogous at least in part to the municipal city-regions employed in the North American research[^6]) it was decided that the ‘most meaningful functional unit’ in each national context would be used, subject to this also being a level at which the necessary statistical data was available from the relevant national agencies. As Parr (2005) notes, standard UK administrative geographies do not typically relate in a systematic way to any theoretical construct of the city-region; for the UK this ‘meaningful unit’ was primarily the NUTS3 definition (105 spatial units in England and Wales). Due to the sometimes complex and non-hierarchical nature of these standard geographies, this is supplemented by analysis using the Unitary/County Authority level (171 units).

[^6]: Not in terms of absolute size – the US and Canadian regions typically being much larger; but rather having a similar role within the national context in question.
A significant difference between our geography and that of the research undertaken in the US and Canada is that it is totally inclusive (i.e. no localities are excluded), whereas the North American analysis has tended to focus exclusively on large urban centres. This was essentially done for reasons of consistency across the project partners; the European countries are generally more densely populated than North America, the demarcation of ‘city-regions’ less obvious and so partial selection is potentially more arbitrary. Once information has been included in a database it can always be manipulated further, rescaled or partially excluded, while the reverse is much more problematic.

5. Results and Analysis

5.1 Mapping the Creative Class in the England and Wales

As shown in table 1, the Creative Class in England and Wales accounts for some 37.3% of the workforce, substantially greater than the ‘more than 30%’ figure that Florida (2002b) himself quotes with regard to the US. Problems in obtaining consistent occupational time series data mean that it is difficult to draw many conclusions with regard to how the size of the Creative Class may be changing over time. However, if the major group Professional Occupations is taken as a proxy for the Creative Core, then an increase is observed from below 9% of the workforce in the 1991 Census to over 11% in 2001, suggesting significant growth in these occupations.

The total figure for the Creative Class is split between the Creative Core (9.7% of the workforce), the Creative Professionals (25.5%) and the Bohemians (2.1%). As table 1 shows there is considerable variation around the England and Wales percentages. It is worth noting here that the two NUTS3 areas of Inner London West and Inner London East between them account for the highest percentages across the all four Creative Class categories shown. Other than Inner London West (64.9%), only Inner London East (at just under 52%) possesses a labour force of which the Creative Class comprises more than half. For the Bohemians an even greater concentration is
observed; after the two Inner London areas (both above 7%) the highest percentage is found in Brighton and Hove at 4.4% of the labour force.

At the opposite end of the spectrum, the same localities also tend to crop up across the board, albeit with some variation; Stoke on Trent possesses the lowest proportion of total Creative Class and also Creative Core, Gwent Valleys the lowest share of Bohemian occupations, while the lowest share of Creative Professionals is found in Hull. Despite this apparent variation, the same localities are typically found within a few places of each other at both the top and bottom of the rankings. This effectively demonstrates that although there are variations in the overall make up of the Creative Class in any given place, there is little correlation between this variation and the actual size of the Creative Class in that place.

Table 1: Creative Class as a Percentage of the Labour Force

Table 2: Creative Class Location and Population Rank

Table 2 shows the top fifteen and bottom fifteen NUTS3 areas in England and Wales ranked in terms of their population size. The actual populations vary from just under 1.8m down to around 69,000, with a median size of just over 360,000. The corresponding ranks in terms of Creative Class Location Quotient (LQ) are also shown. The LQ itself is a measure of spatial concentration, expressed as a proportion such that the average for England and Wales is 1.

This data does highlight the sometimes arbitrary nature of NUTS3 geography in the UK, with counties, towns, cities and urban metropolitan areas all being represented—many of the smaller areas are particularly ‘accidents of geography’ such as islands and relatively isolated smaller towns and cities.

One thing the table does highlight are the differences that exist within London, particularly the relatively low ranking in terms of Creative Class LQs of the more peripheral areas in contrast to the central ones. As the UK’s ‘second city’ Birmingham is an interesting case, with statistics relating to the central area (population of about
this ranks proportionally much lower for the Creative Class \(54^{th}\) than it does in terms of population \(13^{th}\); variations around this core area are apparent in figure 1, discussed below. Despite these discrepancies and data issues, there is however some evidence of an association between size of agglomeration and Creative Class concentration, a rank correlation between the two producing a coefficient of 0.41. In order to explore this agglomeration effect further, the association between population density and Creative Class concentration was investigated; somewhat surprisingly, virtually no link was found, with a correlation coefficient of only 0.1.\(^7\) Clearly then it is not just size or density of population, the higher levels of which are typically found in metropolitan areas and urban centres, that explains the location of the Creative Class. As such, this highlights the importance of investigating additional ‘quality of place’ factors in seeking to explain the distribution of the Creative Class.

**Table 3: Creative Core Location by Unitary Authority / County**

Table 3 provides a slightly different view of Creative Class distribution, in this case showing the ten highest and lowest Unitary / County Authorities, ranked with respect to their Creative Core LQs. There are in total 171 of these localities in England and Wales, and this level of geography allows a little more detail to become apparent than is the case with NUTS3. Further to this end, the 33 Unitary Authorities that comprise London have been combined into the single standard NUTS1 UK region; this provides a view of how London as a whole is positioned, but equally important is the fact that 18 of the top 20 Creative Core UAs in England and Wales are located in the capital,\(^8\) and so collapsing these into a single figure allows detail elsewhere to emerge.

As might be expected, localities in the west-of-London M4 corridor area (Wokingham, Reading, Oxfordshire, Windsor and Maidenhead) feature heavily in the top ten Creative Core LQs. In addition to London, ranked at number seven Cambridgeshire completes the third facet of the ‘Golden Triangle’ of the UK’s knowledge economy. What is perhaps more interesting is that in addition to those

\(^7\) This figure rises slightly to 0.28 for the Bohemians only.

\(^8\) This statistic should not obscure the fact that massive variation exists within London, with some very low Creative Core LQs found therein for example Barking and Dagenham, at 0.51 the third lowest and England and Wales.
areas which might be expected to feature, a number of less obvious regional centres of creativity emerge – Cardiff in the West, Manchester in the north west (Trafford lying just to the west of the city centre with Manchester itself ranked only 4 places below at 14), and Newcastle in the north east. Finally, our rankings confirm the perception of Brighton and Hove as a creative centre with its unique bohemian image and relative proximity to London.

It is worth noting here that although not a directly comparable analysis, there are generally however some consistencies with the indices produced by the Demos think tank in 2003 (http://www.demos.co.uk/media/pressreleases/bohobritain)

Turning attention to the bottom ten UAs, a number of these are places suffering the protracted after-effects of the loss of heavy industry, either as distinct localities (Blaenau Gwent, Stoke on Trent, Barnsley) or the de-industrialised areas of large cities e.g. Tameside (Manchester), Knowsley (Liverpool) and Sandwell (Birmingham). In addition, a couple of places associated with old-style seaside holiday resorts also make an appearance (North East Lincolnshire, Blackpool). Although locations in the left had column are generally associated with higher levels of growth and prosperity, the patterns revealed here do not necessarily imply an economic consequence; for example Blackpool although the 9th least Creative (Core) locality in England and Wales has had some success in recent years reinventing itself from a traditional ‘bucket and spade’ destination into one that seeks to attract a younger party-oriented clientele.

**Figure 1: Location of the Creative Core**

Figure 1 shows how the Creative Core are distributed within England and Wales, with London excluded from this representation for the reasons outlined above. A number of locations are highlighted on the map- this is not necessarily a comprehensive listing of the highest or lowest ranked places, rather they are intended to server as illustrative examples. The concentration Creative Core in the south east of England generally and M4 corridor area in particular is apparent; within this area the Unitary Authority of Reading is highlighted, immediately to the south east is Wokingham, and Windsor & Maidenhead lies to the east again (not shown).
The three cities of the East Midlands (Derby, Leicester and Nottingham) serve to illustrate the way in which urban centres do not necessarily possess a consistent relationship with their surrounding hinterland in terms of where the Creative Core congregate- one of these cities (Leicester) has a significantly higher concentration than the corresponding county area, while in the other two cases it is approximately equal. There is a wider point to note on this in that as alluded to earlier, explanations of Creative Class distribution go beyond a simplistic urban vs. rural issue, although this may play some part in the process. It is also worth acknowledging that such idiosyncrasies do tend to get lost in a NUTS3 level or user-constructed city-region type analysis.

This type of pattern is further revealed when the major cities are examined, in that localities which make up the wider city area are often very different with respect to levels of the Creative Core, despite quite small distances being involved. Examples of this are apparent in Birmingham, with the district of Sandwell immediately to the west placed 5th lowest (see table 3) while directly to the east lies Solihull (22nd from the 138 Unitary Authorities and Counties outside London). A similar situation is observed with respect to Manchester- Tameside to the east, Trafford to the (south) west, placed in the bottom ten and top ten respectively of the Creative Core ranking. The north east of England provides another example of contrasting Creative Class patterns existing in close proximity; this is however different in one key aspect in that although adjacent to one another, Newcastle and Sunderland are two distinct cities with their own identities, not to mention rivalries. Newcastle’s much higher levels of Creative Core can in part be assigned to its role as a regional capital and administrative centre, but is has in recent years seen extensive cultural development and has acquired something of a ‘boho’ image that is more complex to explain.

Focusing on those areas of England and Wales that are less well placed in terms of creativity, as discussed above a number of larger city areas fall into this category, along with distinct ‘post industrial’ regions such as the South Wales valleys, and the former coal field areas in the north of England. It is notable that the former exist in relative proximity to Cardiff, one of the highly placed cities for Creative Core in England and Wales, and it is significant that of these Blaenau Gwent is one of the two
valleys areas that does not share a border with either Cardiff or Newport to the east (the other being Merthyr Tydfil).

5.2 The Creative Class and Quality of Place

As outlined earlier, Florida suggests that the Creative Class is highly mobile, with strong preferences for certain aspects of quality of place. In conjunction with Canadian researchers (see for example Gertler et al, 2002) he shows that in North America cities with high levels of Creative Class tend to be open, tolerant and diverse places, with high levels of recreational and cultural opportunity. According to Florida (2002b) an open environment is one in which people are accepted and allowed in, on the basis of their skills rather than their similarity to the exiting gatekeepers. As such, another indicator of tolerance is the proportion of bohemians in any given location. This group often stands out compared to mainstream culture, lifestyle and values, and thus in order to thrive requires high levels of tolerance (Florida 2002b: 260-1). The idea therefore is that Bohemians seek the opportunity to experience a diversity of impressions, and are thereby themselves indicators of a tolerant and open environment. Finally, to these indicators have been added those of Public Provision and Unemployment (Social Cohesion) in order to reflect the European context of our research.

We do not suggest that all aspects of a concept as nebulous as quality of place can be perfectly captured by these relatively simplistic statistics; what is possible though is to construct some general indicators, underpinned by Creative Class theory- in this section we analyse the association between these indicators and the location of the Creative Class in England and Wales. An analysis is conducted of the bivariate correlations between the individual quality of place indicators and the location of the Creative Class; we then combine these indicators into a single multiple regression model, which allows estimation of the overall explanatory value of these variables on the distribution of the Creative Class.

Table 4: Quality of Place Indicators: Overview
Table 4 shows summary values of the quality of place indicators for England and Wales. The distribution of the bohemians has been discussed above and so will not be commented upon here. Levels of diversity, defined as the percentage of residents that are foreign born, shows quite considerable variation; the three highest values are accounted for by London NUTS3 areas (of which there are five) with Inner London East being the highest. The highest placed non-London locality is Leicester, a city with a long tradition of immigration from the sub-continent. This result does raise concerns over this particular indicator, and these are discussed subsequently. Conversely, Valleys (Gwent) is the least diverse locality in England and Wales by this measure, closely followed by the other Valleys area (Central).

Cultural opportunity also sees wide variation, however Inner London West is a massive outlier, unsurprisingly given the concentration of high profile museums and galleries therein. Perhaps more surprising is that the next highest placed locality is Blackpool at 4.1%; again this highlights how certain quality of place indicators can be influenced by underlying factors which are not necessarily consistent- the Blackpool figure is almost certainly largely derived from a high concentration of bars and amusements rather than the ‘high’ culture found in central London. One again, the lowest value of the indicator (1.3%) is accounted for by the Gwent Valleys region.

Finally, with regard to the Public Provision Index (PPI) it is quite hard to discern any pattern with the results, with two of the top three being cities of the East Midlands (Nottingham and Leicester respectively), separated only by Inner London West. Again, different forces are likely to be at work here.

Table 5: Quality of Place- Bivariate Correlations

As shown in table 5, the indicators for both diversity and the bohemians are positively correlated with the localisation of the Creative Class and both its sub-groups. This means that the Creative Class in England and Wales tends to live in places that also have high levels of bohemians and diversity. Both relationships are quite strong, particularly so between the Creative Class and the location of the bohemians. The
openness index is a fairly simplistic measure of tolerance and as such might not be sufficient. A more focused measure on the effect of integration or for highly educated foreign-born workers might capture the openness of a community better. These are however restricted by data problems, an issue that the forthcoming qualitative work will hopefully address. However, from the above we can tentatively conclude that the Creative Class and tolerance (measured as diversity, and the presence of bohemians) do correlate in the same way that Florida and his associates found in the North American analysis. Figures A1 and A2 in the Annex show graphical representations of the relationship between the Creative Class and respectively the Bohemians and Openness.

With regard to cultural opportunity, a positive and statistically significant relationship exists between the presence of the Creative Class in a location, and that location’s cultural and recreational offer. This finding is again compatible with those of the North American research. This relationship is quite strong for the Creative Class as whole and the Creative Professionals, but somewhat puzzlingly weaker for the Creative Core.

The concepts of public provision and social cohesion are actually quite abstract, and are therefore are somewhat difficult to operationalise in practice. The relative provision of public goods and services in healthcare and education is measured here by levels of employment in these sectors. Conversely, unemployment i.e. exclusion from the labour market is one of the main manifestations of social exclusion.

For public provision, a significant and positive (but weak) association is observed for the Creative Core only. For unemployment, the relationship is consistently negative, although moderate and weak with respect to the Creative Core, meaning that municipalities with high levels of unemployment tend to have a low concentration of the creative class.

Overall, it would appear that the Creative Class in England and Wales shows a similar pattern of distribution with respect to quality of place, as is observed in North American cities. High concentrations are found in places which are tolerant, diverse, bohemian, socially cohesive and which offer higher levels of cultural opportunity.
Table 6: Results of the Combined Model

In order to test a unified Creative Class model, the multiple regression method is used. The advantage of using this method is that all indicators are tested in one model, and therefore it is possible to control for any multicolinearity between the independent variables. A total of six models were produced; for each of the Creative Class and the two subgroups (the Creative Core and the Creative Professionals) two models were calculated for each dependent variable, including either all foreign born citizens or non-western foreign born citizens as the ‘openness’ variable. Of these, the model shown in table 6 - Creative Professionals as the dependent variable with all foreign-born citizens as a dependant variable- had the greatest explanatory power. In total, this model explains around 70% of the distribution of the Creative Professionals. All of the independent variables are significant at the 99% level, with the exception of openness (95%).

The location of the bohemians, openness and the cultural opportunity index are positively correlated with the localisation of the Creative Professionals. These means that, as we would expect from the theory of the Creative Class, wherever these quality of place indicators are high, levels of Creative Professionals will also tend to be higher. Moreover from the standardised coefficients shown in table 6 we can infer that of these variables it is the presence of the bohemians that has the greatest influence. With regard to the other two independent variables, as expected unemployment is negatively associated with the location of the Creative Professionals; the nature of causality behind this relationship is open to debate; on the one hand it may represent an association with higher levels of social cohesion, while on the other it could be seen as purely labour market related in that creativity is a growing area of employment and as such would be expected to coincide with lower unemployment. Finally, the public provision index is negatively linked to the distribution of the Creative Professionals, which is the opposite of what might be expected. This could be due to the nature of public sector employment in the UK, which tends to be proportionally higher in less prosperous areas, reflecting a lack of private sector jobs in combination with a conscious policy of employment redistribution.
Having examined where the Creative Class is located in England and Wales, and how this distribution is associated with various indicators of quality of place, attention is now turned to the relationship between the Creative Class and basic indicators of prosperity. Constraints of space prevent our reporting a full analysis of the geographical variations within each of these indicators here, thus table 7 shows overall bivariate correlations between the three Creative Class groupings and the five indicators of prosperity, growth and technology.

### Table 7: Indicators of Prosperity- Bivariate Correlations

The association between the two general indicators of prosperity (i.e. population growth and employment growth) and the localisation of the Creative Class is statistically significant and positive. The relationship between Creative Class location and population growth is quite strong for both the Creative Class as a whole and the Creative Professionals, but weak for the Creative Core. For employment growth, the relationship is weak for both the Creative Class and its two subgroups. Therefore a high concentration of the Creative Class tends to be found in places that have growing populations and rising employment. This can be interpreted as evidence in support of the ‘jobs follow people’ aspect of the Florida thesis, i.e. that the Creative Class creates prosperity in general by its very presence. Bivariate correlations can however only indicate association (i.e. covariance) and do not themselves imply any causal relationships between the variables involved. Put simply, it might be that the Creative Class also follow prosperity, rather than create it. Conclusions regarding causality will need to be informed by more qualitative data, currently being gathered (at the time of writing).

With regard to employment in the Techpole sectors, the relationship between the Creative Class and share of ‘high tech’ employees is positive and significant; this relationship is somewhat stronger for the Creative Class in general and the Creative
Professionals in particular than it is for the Creative Core. This means that a high concentration of resident Creative Class tends to be associated with the presence of relatively high levels of employment in technology-based businesses. This preponderance for the Creative Class to be collocated with high-technology activities is consistent with what is observed in the North American research (Florida 2002a, 2002b, 2002c; Gertler et al 2002). There is however no evidence to suggest that the presence of the Creative Class is associated with any growth in employment in these activities, these correlations not being significantly different from zero.

Finally, the correlation between the presence of the Creative Class (in all its forms) and the rate at which new firms are created is positive and significant. The relationship is strong with respect to the Creative Class as a whole, and for the Creative Professionals but less so for the Creative Core. This means that localities in which the Creative Class in England and Wales is concentrated typically exhibit higher levels of new firm formation; this is consistent with the Florida thesis but again open to interpretation with regard to causality.

6. Conclusions and Issues for Further Research

Our first research question was concerned with mapping the size and distribution of the Creative Class in England and Wales. In its widest definition it currently accounts for just over 37% of all employment; the dispersion of the Creative Class throughout England and Wales is rather uneven; high concentrations are typically an urban and metropolitan phenomena, but not exclusively so, a number of inner city areas having some of the lowest rankings observed. It should be noted that the level of geography employed does have an impact here, and striking the balance between highlighting distinct localities and functional labour markets on the one hand and being able to observe interesting variations and idiosyncrasies on the other is not always easy to do.

Attention was then focused upon how variations in quality of place are related to the location of the Creative Class. This analysis of this second research question showed statistically significant relationships between the localisation of the Creative Class and these indicators. Tested individually, all the indicators were significantly correlated in
the directions hypothesised with the exception of the Public Provision Index, which was partially so. The strength and significance level of these correlations showed some variation by Creative Class type (i.e. Creative Class as a whole, Creative Core and Creative Professionals). The combined quality of place regression model showed produced a high level of explanatory power with all independent variables significant in the direction suggested by Florida’s theory, with the exception of Public Provision, which showed a negative association with the location of the Creative Professionals.

Indicators of prosperity technology and growth all significant and positively associated with the presence of the Creative Class, again variations in the significance and strength of relationships were observed by Creative Class subgroup. The notable exception to this pattern was technology based employment growth, which showed no association with the location of the Creative Class.

Overall, we therefore generally conclude that the Creative Class in England and Wales displays similar properties to those ascribed to it in the United States (Florida 2002a, 2002b, 2002c) and Canada (Gertler et al, 2002), albeit with certain caveats. It should also be noted here that although our quantitative results provide evidence of consistency with the Creative Class theory through numerous correlations and associations, it is much more difficult to draw inferences relating to actual causality. This will be an issue that the qualitative part of the research addresses, with qualitative interviews and case studies designed to uncover the motivations and thought processes behind locational choices. A good example of this is the association of creative class and openness; does this correlation between the Creative Class and diversity arise merely from a more or less coincidental location in certain metropolitan and urban areas with little of no interaction, is it primarily a kind of consumption relationship in which the Creative Class are able to access for example exotic ethnic shops and a wide variety of interesting restaurants, or is it a reflection of the Creative Class’ genuine preference to live and work in an open, tolerant and diverse community as Florida describes? Each of these outcomes would potentially be consistent with our findings so far.

On the issue of diversity, figure A2 suggests a number of places that have arrived at similar levels (as we are able to measure it) but almost certainly for very different
reasons, and with different outcomes likely. Clearly the whole issue of diversity and
tolerance needs further exploration; one possibility is using the census data to
examine variations within the overall foreign-born or non-western figures, at present
it is not possible to distinguish between places that have equal sized foreign-born
communities originating from one or a hundred different parts of the world- intuition
alone would suggest two such places are likely to be very different. Also on the wider
point of measuring tolerance - one of the key insights of Florida and Gates (2001) is
the linking of gay and hi-tech indices, something not possible in the UK using
secondary data. Brighton is the classic example from the UK of a locality whose
position in the tolerance rankings would be significantly effected if this alternative
measure were used. To widen this point out, Florida himself suggests that the United
States is now starting to lose its dominance in what he refers to as ‘the new global
competition for talent’ (Florida, 2004); if this indeed the case, what might be the
potential impact on both policy and potential economic outcomes for Europe in
general, and the UK more specifically?

Our results suggest that a fruitful area for further investigation might be variations
within the Creative Class; it may be recalled for example that for a number of the
indicators significantly different results were obtained for the Creative Core relative
the rest of the Creative Class. Do these variations reflect ‘real’ differences in for
example preferences for quality of place? Alternatively are they more likely to derive
from data / model specification issues?

More generally, we also need to be aware that ‘Culture’ is now positioned at the
centre of many urban policies. It has become a delivery vehicle for all manner of
outcomes including social cohesion, sustainability, economic growth, civic pride,
mental and physical well-being, social inclusion, and an ever-increasing array of other
social, economic and environmental goals. This trend is highlighted by a recent report
by the Department of Culture, Media and Sport (DCMS) which states “Culture drives
regeneration in many ways, from inspiring landmark buildings through to reviving the
decaying centres of market towns to bringing a community together around an arts
event” (DCMS, 2004). In this climate we need to guard against the Creative Class and
the Creative and Cultural Industries becoming the latest policy panacea.
Figure A1: Creative Core and Bohemians (Boho LQ)

Figure A2: Creative Core and Openness (Diversity)
References


Table 1: Creative Class as a Percentage of the Labour Force

<table>
<thead>
<tr>
<th></th>
<th>England &amp; Wales</th>
<th>Highest Locality</th>
<th>Lowest Locality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative Core</td>
<td>9.7%</td>
<td>13.7%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Creative Professionals</td>
<td>25.5%</td>
<td>44.3%</td>
<td>17.7%</td>
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<tr>
<td>Bohemians</td>
<td>2.1%</td>
<td>8.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Creative Class in Total</td>
<td><strong>37.3%</strong></td>
<td><strong>64.9%</strong></td>
<td><strong>24.1%</strong></td>
</tr>
</tbody>
</table>

Source: Census of Population 2001

Table 2: Creative Class Location and Population Rank

<table>
<thead>
<tr>
<th>Population Size Rank</th>
<th>Locality (NUTS3)</th>
<th>Creative Class LQ Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>London (Inner, West)</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>London (Outer, West &amp; N West)</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>London (Outer, East &amp; N East)</td>
<td>29</td>
</tr>
<tr>
<td>4</td>
<td>Kent</td>
<td>36</td>
</tr>
<tr>
<td>5</td>
<td>Greater Manchester (South)</td>
<td>35</td>
</tr>
<tr>
<td>6</td>
<td>Essex</td>
<td>25</td>
</tr>
<tr>
<td>7</td>
<td>Hampshire</td>
<td>17</td>
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<tr>
<td>8</td>
<td>Greater Manchester (North)</td>
<td>75</td>
</tr>
<tr>
<td>9</td>
<td>London (Outer, South)</td>
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</tr>
<tr>
<td>10</td>
<td>Lancashire</td>
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<tr>
<td>11</td>
<td>Surrey</td>
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<tr>
<td>12</td>
<td>Hertfordshire</td>
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<tr>
<td>13</td>
<td>Birmingham</td>
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<tr>
<td>14</td>
<td>London (Inner, East)</td>
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<tr>
<td>15</td>
<td>Calder, Kirlees &amp; Wakefield</td>
<td>66</td>
</tr>
<tr>
<td>91</td>
<td>York</td>
<td>32</td>
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<tr>
<td>92</td>
<td>Swindon</td>
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<td>93</td>
<td>Herefordshire</td>
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<td>94</td>
<td>Southend</td>
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<td>95</td>
<td>Telford &amp; Wrekin</td>
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<td>96</td>
<td>Peterborough</td>
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<td>Thurrock</td>
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<td>98</td>
<td>Blackpool</td>
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<td>99</td>
<td>Blackburn &amp; Darwen</td>
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<td>Isle of Wight</td>
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<td>104</td>
<td>Darlington</td>
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<tr>
<td>105</td>
<td>Anglesey</td>
<td>76</td>
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</table>

Source: Census of Population 2001
Table 3: Creative Core Location by Unitary Authority / County

<table>
<thead>
<tr>
<th>Top 10 Localities</th>
<th>(LQ)</th>
<th>Bottom 10 Localities</th>
<th>(LQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wokingham</td>
<td>1.46</td>
<td>1. Barnsley</td>
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<td>2. Reading</td>
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<td>2. Tameside</td>
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<td>3. Cardiff</td>
<td>1.39</td>
<td>3. N.E. Lincolnshire</td>
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<td>4. Oxfordshire</td>
<td>1.34</td>
<td>4. Knowsley</td>
<td>0.60</td>
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<tr>
<td><strong>5. London</strong></td>
<td><strong>1.33</strong></td>
<td>5. Kingston upon Hull</td>
<td>0.58</td>
</tr>
<tr>
<td>6. Newcastle</td>
<td>1.32</td>
<td>6. Sandwell</td>
<td>0.57</td>
</tr>
<tr>
<td>7. Cambridgeshire</td>
<td>1.31</td>
<td>7. Thurrock</td>
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</tr>
<tr>
<td>8. Brighton &amp; Hove</td>
<td>1.31</td>
<td>8. Blackpool</td>
<td>0.52</td>
</tr>
<tr>
<td>9. Windsor &amp; Maidenhead</td>
<td>1.31</td>
<td>9. Blaenau Gwent</td>
<td>0.51</td>
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<tr>
<td>10. Trafford</td>
<td>1.27</td>
<td>10. Stoke on Trent</td>
<td>0.49</td>
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</tbody>
</table>

Source: Census of Population 2001
* Combined NUTS1 region

Table 4: Quality of Place Indicators: Overview

<table>
<thead>
<tr>
<th></th>
<th>England &amp; Wales</th>
<th>Highest Locality</th>
<th>Lowest Locality</th>
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<tbody>
<tr>
<td>Openness (Diversity)</td>
<td>8.9%</td>
<td>36.2%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Bohemians</td>
<td>2.1%</td>
<td>8.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Cultural Opportunity</td>
<td>2.9%</td>
<td>15.2%</td>
<td>1.3%</td>
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<tr>
<td>Public Provision</td>
<td>9.0%</td>
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<td>Unemployment</td>
<td>5.1%</td>
<td>10.5%</td>
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Table 5: Quality of Place- Bivariate Correlations

<table>
<thead>
<tr>
<th></th>
<th>Correlation with Creative Class</th>
<th>Correlation with Creative Core</th>
<th>Correlation with Creative Professionals</th>
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<tr>
<td>Openness (Diversity)</td>
<td>0.52**</td>
<td>0.44**</td>
<td>0.50**</td>
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<td>Bohemians</td>
<td>0.72**</td>
<td>0.58**</td>
<td>0.71**</td>
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<td>0.29**</td>
<td>0.56**</td>
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<tr>
<td>Public Provision</td>
<td>0.02</td>
<td>0.21*</td>
<td>-0.07</td>
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<td>Unemployment</td>
<td>-0.31**</td>
<td>-0.21*</td>
<td>-0.33**</td>
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* significant at the 95% level
** significant at the 99% level

Table 6: Results of the Combined Model

<table>
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<tr>
<th>Model</th>
<th>Unstandardised Coefficients</th>
<th>Standardised Coefficients</th>
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<th>Sig.</th>
<th>Collinearity Statistics</th>
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<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Tolerance</td>
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<tr>
<td>1</td>
<td>(Constant)</td>
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<td>1.097</td>
<td>25.406</td>
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<tr>
<td></td>
<td>Openness</td>
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<td>.060</td>
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<td>3.235</td>
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<td></td>
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<td>-.385</td>
<td>-6.231</td>
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Dependent Variable: Creative Professionals

Model Summary

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<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
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<td>.844(a)</td>
<td>.713</td>
<td>.696</td>
<td>2.192/72</td>
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Table 7: Indicators of Prosperity- Bivariate Correlations

<table>
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<tr>
<th></th>
<th>Correlation with Creative Class</th>
<th>Correlation with Creative Core</th>
<th>Correlation with Creative Professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population change</td>
<td>0.51**</td>
<td>0.29**</td>
<td>0.56**</td>
</tr>
<tr>
<td>Employment change</td>
<td>0.27**</td>
<td>0.23**</td>
<td>0.25**</td>
</tr>
<tr>
<td>Milken Techpole Index</td>
<td>0.64**</td>
<td>0.49**</td>
<td>0.63**</td>
</tr>
<tr>
<td>Employment change (Hi tech)</td>
<td>0.04</td>
<td>0.01</td>
<td>0.05</td>
</tr>
<tr>
<td>New Firm Formation</td>
<td>0.76**</td>
<td>0.46**</td>
<td>0.82**</td>
</tr>
</tbody>
</table>

Source: ONS, various datasets

* significant at the 95% level
** significant at the 99% level

The need to obtain consistent datasets both internally and with respect to European partners means time periods used are somewhat complex; they are as follows; Tech pole index 2002, New firm formation 2002, Population change 1996-2002, Employment change 1998-2003.
Figure 1: Location of the Creative Core

Legend

<table>
<thead>
<tr>
<th>Percentage of workforce accounted for by the Creative Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.02 - 6.71</td>
</tr>
<tr>
<td>6.72 - 8.41</td>
</tr>
<tr>
<td>8.42 - 10.11</td>
</tr>
<tr>
<td>10.12 - 11.81</td>
</tr>
<tr>
<td>11.82 - 13.51</td>
</tr>
</tbody>
</table>