Local authorities' impact on quality of life in England 2005

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University of Sussex, 2007

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Preface

For the last ten years my interest in the electronic structure of molecules brought me the opportunity to be involved in a thesis research project. It was one of the most motivated and splendid periods of my life. The more I researched, the more I felt involved. Moreover, it gave me the opportunity to develop other related skills, such as teaching and presentation abilities. The era culminated in the writing of a thesis entitled: '*Theoretical Characterisation of Metallofullerenes*'. So, my background is in chemistry.

The possibility of continuing my studies in chemistry as a postdoctoral fellow at Sussex University gave me a magnificent opportunity to change my way of working and also to research in a more relaxed way. It was time to explore my interests and broaden my horizons. Since I was a child, geography has been one of my hobbies. What are the economic activities of citizens in a certain village? How can their history explain their present socio-economics? So, to travel around and talk with people is one of the most exciting activities I have ever undertaken. You give voice (the main character) to unknown citizens. Thus, I thought it was time to study in depth human geography, the gate of knowledge to the interdisciplinary study of human being, location and behaviour.

So, I enrolled in the MSc in Social Research Methods (Human Geography) at Sussex University in 05/06. As I'm a part-time student, in the 1st year I took the subjects *Research Design* in the autumn term, *Social Statistics* in the winter term and *Multivariate Analysis* and *Logistic Regression* in the summer one. The first course laid the theoretical basis for a social study, the second one provided a broad perspective of the statistical techniques, and finally, in the last courses it was time to go in depth into more advanced statistical techniques with real applications for my dissertation project. At the beginning of the second year, I attended the *Philosophy of Science* course in the winter term and *Methods of Quantitative Data Collection and Analysis* in the spring term. As I was accustomed to hearing mainly from the positivism school of thought, the *Philosophy of Science* course enriched and strengthened my philosophical background. Finally, the whole effort culminated in the achievement of the present MSc Dissertation titled "*Local authorities' impact on the quality of life in England 2005*". The dissertation combines all the knowledge acquired throughout these courses in order to undertake a quantitative human geography research study. The dissertation revolves around how English local authorities' performances on delivering services could have made an impact on fostering quality of life conditions among their citizens.

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First year: Nadine (MSc, Germany, Hong Kong, feminism), Sandeep (MSc, Scotland, India, Feminism), Stefan (MSc, Germany, migration), George (MSc, UK, administration Sussex

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Abstract

The quality of life term is gaining importance day by day. However, its meaning has evolved throughout history from when it was first mentioned by Aristotle until it was given a central role in the UK national sustainable development strategy, launched in 1999. In this context, quality of life is about giving the opportunity to existing and future generations to achieve their potential through education, participation, access to information, good health and full employment. The various public institutions, private organisations and voluntary associations, collectively called the 'well-being delivery chain', share the responsibility to create, promote and foster high quality of life conditions. The drive to improve quality of life conditions has always been at the heart of what English local authorities do. However, up to now, local authorities' activities are assessed through the performance on delivering their own local services, not on assuring quality of life among their citizens. This is going to change radically in the coming years, since this public assessment will evolve further to look at the well-being of local areas rather than the performance of services. So, local authorities will have to learn how to transform good public services into good quality of life conditions. In fact, it represents the shift of the local authorities' role from local administration to local government.

The present study aims to uncover what has been the impact of the local authorities' performance on delivering services on local quality of life issues. It is believed that local authorities have the power to create and modify quality of life conditions. The study explores empirically the relationship between local quality of life and local authorities' performance on delivering services at the level of English district in 2005, in the search for correlations between excellence of local public services and outstanding quality of life conditions, or contrarily. The in-depth study of the 2005 quality of life dataset and the 2003/04 report on local authorities' performance on delivering services form the core of the present research study. Intensive quantitative techniques —ranging from statistics to data mining— have been used to explore data, pinpoint the possible different clusters, correlate indicators, associate phenomena and analyse both datasets. The study has revealed that behind the lower quality of life enjoyed by citizens in inner London boroughs, metropolitan districts and northern unitary authorities —compared to the rest of English districts— there could be a failure in the responsibility of the local authorities to manage their local schools, since a strong association between both phenomena exists.

Acronyms

ANOVA	Analysis of variance
BVP	Best value performance
bvpx	BVP indicator
BVP-X	BVP cluster or index
CC	County council
CPA	Comprehensive performance assessment
DEFRA	Department for Environment, Food and Rural Affairs
DCLG	Department for Communities and Local Government
DETR	Department for the Environment, Transport and the Regions
DTLR	Department for Transport, Local Government and the Regions
GCSE	General Certificate of Secondary Education
GOR	Governmental office region
HMSO	Her Majesty's Stationery Office
LA	Local authority
LAA	Local area agreements
LB	London borough
LPSA	Local public service agreement
LSP	Local strategic partnership
MANOVA	Multivariate analysis of variance
MD	Metropolitan district
MLR	Multiple linear Regression
NMD	Non-metropolitan district
ONS	Office for national statistics
OPDM	Office of the deputy prime minister
PCA	Principal components analysis
QOL	Quality of life
qolx	QOL indicator
QOL-X	QOL cluster or index
SEEB	Social, economic and environmental background
seebx	SEEB indicator
UA	Unitary authority

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Chapter 1

The conceptual framework of the quality of life (QOL) in England

1.1. The meaning of the quality of life term

The meaning of the quality of life (QOL) term remains difficult to define, despite the fact that it is an expression embedded in our everyday language. Aristotle was the first to introduce the concept of QOL, he called it 'the good life for man'. Although it is highly philosophical, Aristotle's reasoning is based upon the idea that QOL has only individual connotations. Despite this limited approach, this conception predominated in western societies until the last century. 'The good life for man' was the way of living that pursues the fulfilment of mankind's purpose. Aristotle suggested that mankind's purpose revolved around rational activity, since human beings are rational animals. Thus, 'the good life' consisted of the possibility of developing activities linked with reading, writing, delivering speeches, reasoning, etc.[1]

In the XXth century, this individual vision of the QOL —e. g., how well an individual life is going— developed into measuring individual health status as a prominent achievement. For a long time, QOL was associated with health-related aspects of life, and specifically with the Quality Adjusted Life Years (QALY) index. The QALY is the arithmetic product of life expectancy and an adjustment for the quality of the remaining life years gained through the provision of health care. [2-5]

Gradually, at the end of last century, a broader concept of QOL emerged in contraposition to the individualistic approach. Nowadays, the concept of QOL involves many dimensions, such as quality of the environment, personal growth, health, economic stability, life satisfactions, psychological well being, etc. This list reflects what causes major concern within society as a whole. Thus, this new concept of QOL not only cares about the individual but also captures the quality of living conditions surrounding a human being. These living conditions are defined as the group of elements that form environment and culture in a given society. Soon, QOL ideas will encompass also the emerging values in contemporary society that concern both individuals and collective, such as opportunity versus chance, choice, resource renewal, valued environment, openness, respect for minority rights, non-violent resolution of conflicts, etc.[6]

A step forward has been made in England in recent years in the redefinition of the QOL term. Since the publication of the national sustainable development strategy in 1999 [7], the QOL term is used by UK government synonymously with sustainable development, because it is felt to be more easily understood by the general public. Sustainable development is about ensuring a better QOL for everyone now and without expense for people in the future. Sustainable development becomes equal to QOL in the sense that our economy, environment and social well-being are interdependent. It means that a damaged environment

sooner or later would hold back our economy, which is responsible for creating wealth among people. In this context, QOL is about giving the opportunity to people to achieve their potential through education, participation, information, good health and employment. In other words, assuring that people's needs are met. An exhaustive and indispensable review about quality of life research was reported by Heinz-Herbert Noll in 2004.[8]

A final aspect that emerges from the previous lines is crucial to mention: QOL has a marked local perspective. All mentioned dimensions that make a difference in QOL progress are undertaken within a community or developed by means of it. Thus, it becomes common to talk about *local* QOL, instead of just QOL.

1.2. 'Well-being delivery chain' and the quality of life model

Local QOL enjoyed by citizens of a locality develops directly on the basis of the specific social, economic and environmental background (SEEB) conditions, although QOL is not defined directly by them. Thus, QOL patterns are derived primarily from (1) environmental factors, such as type of settlement, rural/urban character, distance to major cities, etc., (2) social factors, such as demographic and minority distribution, and finally (3) economic factors such as occupational status, educational attainment, etc. In this way, it is possible to identify homogeneous neighborhoods that suffer from similar QOL weaknesses and require similar local policy interventions. Likewise, QOL studies have been addressing and focusing on specific population groups (women, immigrants, young, elder or handicapped people) since they encompass specific life situations. Therefore, a detailed knowledge of the specificity of each SEEB is required for a policy intervention that aims to foster QOL prosperity among citizens.

Who is responsible for achieving better QOL? We all are, nowadays. Traditionally, central governments had almost the exclusive formal responsibility to deliver welfare among their citizens. However, in the UK, after a strong central government commitment of leading the way in setting the framework and funding for a welfare state in the post-war era, the government moved to a more passive role at the end of the XXth century. Nowadays, this responsibility is shared among a conglomerate of organisations from institutional bodies (central government, local government and even EU and UN) to pressure groups, the voluntary and community sector, inter-governmental and non-governmental organisations and even the business world. The role of each of these organisations is slightly different. For instance, pressure groups promote and publicise certain QOL values, whereas the voluntary and community sector promotes change and demonstrates alternative possibilities. All these private organisations, and especially business firms, act on behalf of what is called 'corporate

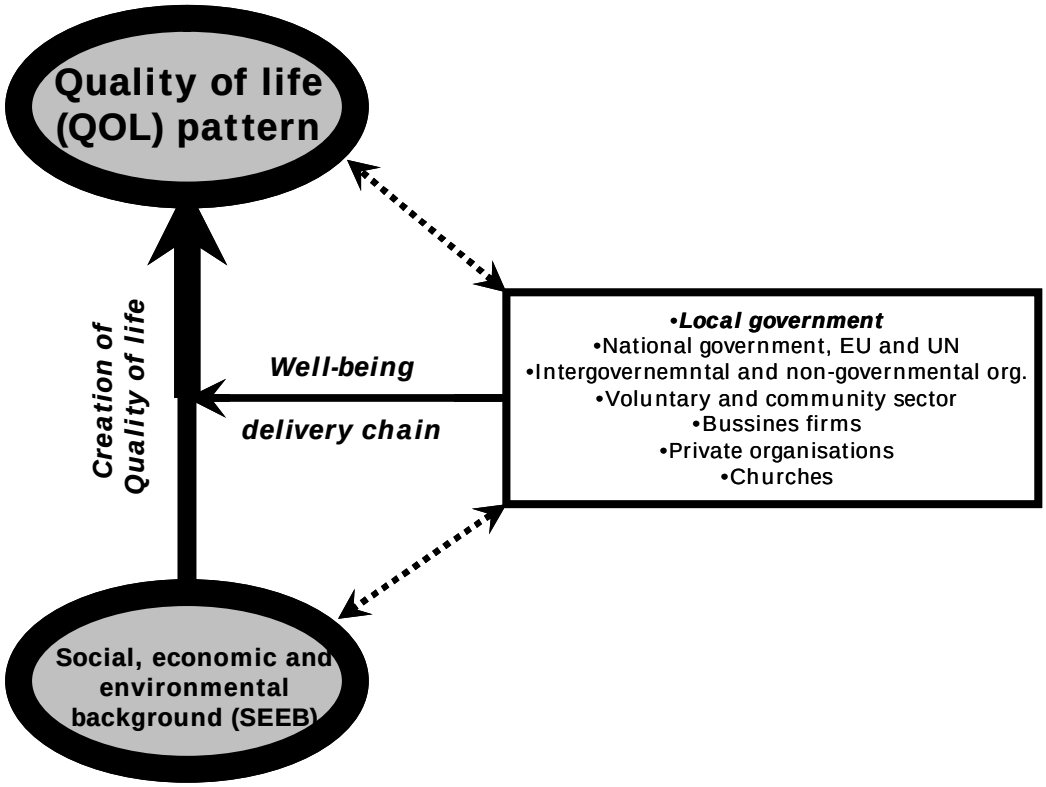


Figure 1.1. *Proposed quality of life (QOL) model. The well-being delivery chain intervenes horizontally to the main and vertical process of creation and modification of QOL patterns from the social, economic and environmental backgrounds (SEEBs). The 'well-being delivery chain' is headed by local government, which is simultaneously conditioned somehow by their own QOL and SEEB.*

and social responsibility', which ensures that the organization's activities will accomplish what is expected for society in terms of QOL values.

The complex set mentioned above forms the so-called 'well-being delivery chain', a conglomerate of arrangements made by public and private organisations in order to improve and promote economic, social and environmental well-being. UK legislation set out that government is at the head of this responsibility. Moreover, the *Local Government Act 2000* gave local authorities (LAs) the power to promote economic growth, social justice and environmental sustainability. Since then, the drive to improve QOL has been at the heart of what LAs do. They do this in a context of people-based and place-based policy interventions, in line with the local character of QOL. Therefore, the ultimate aim of the LAs' service delivery framework is to promote prosperity among citizens while protecting the environment. To accomplish this wide objective two key tools at the local level were introduced in the LAs' policies: *Local Area Agreements (LAAs)* and *Local Public Service Agreements (LPSAs)*.[9]

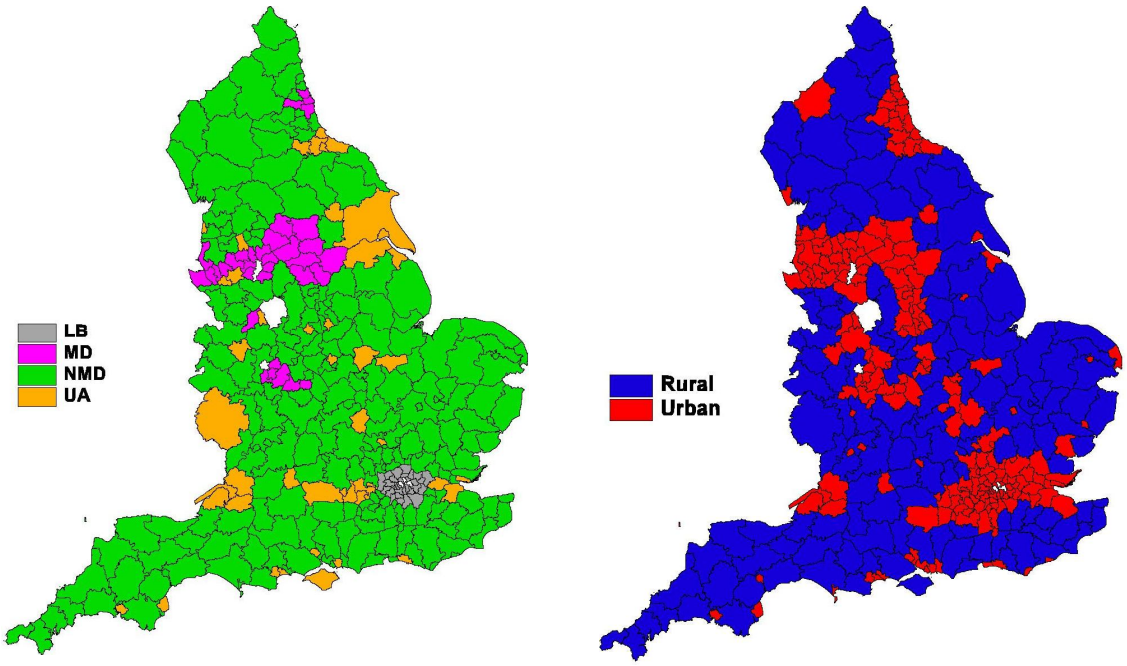
The LAs' performance is assessed by the *Audit Commission* through the *Comprehensive Performance Assessment* (CPA). CPA takes part of a wider improvement agenda set out in the 2001 white paper *Strong Local Leadership – Quality Public Services.*[10] By now, CPA examines only how well local councils are delivering services and also the capacity to improve. But the crucial point is that the CPA approach will evolve further to look at the well-being of local areas rather than the performance of services undertaken by single institutions.[11] So, LAs have to learn how to transform good public services into good QOL conditions.

Finally we combine the two main ideas introduced in this section —the dependence of QOL patterns on SEEBs and the 'well-being delivery chain'— to build the QOL model. Figure 1.1 shows the proposed model of the creation and modification of QOL patterns. The model has two axes: vertical, QOL formation, and horizontal, 'well-being delivery chain'. The vertical axis represents the link between the SEEB of a neighborhood and the expected QOL pattern enjoyed by its citizens. The horizontal axis represents the impact of the 'well-being delivery chain' policies and interventions on the specific neighborhood backgrounds. It is believed that these interventions can modify significantly the QOL of the local neighborhood.

1.3. Geographical scope: English districts

As stated above, local government plays a crucial role in the QOL model since it has responsibilities and leadership at the level where citizens raise their concerns about QOL conditions. Local government is administered by either single tier or two tier LAs in various parts of England. The single tier authorities are London boroughs (LBs), metropolitan districts (MDs) and unitary authorities (UAs), largely in the major urban areas. The two tier authorities elsewhere are the non-metropolitan districts (NMDs) and county councils (CCs) within which the NMDs fall. Taken at the district level, there are 354 LAs covering the whole of England divided into the four mentioned types. A map with its distribution is shown in Figure 1.2.

The district level is adequate to describe the local government in England and also to explore the QOL issues. The English districts represent the biggest administrative units where local phenomena, such as community feeling, deprivation and QOL patterns, occur. Smaller administrative units, such as parishes, also create local phenomena but unlike districts they do not have relevant responsibilities. On the other hand, greater or upper-tier authorities and county councils coordinate local bodies rather than implement local policies. Thus, English districts cover the natural area of local communities combined with the legal capacity to influence on them.



(a) type (b) Urban/rural

Figure 1.2. *English District map showing the distribution of the different types of local authorities and its classification into rural or urban ones. Notice that almost all London boroughs (LB), metropolitan districts (MD) and unitary authorities (UA) have an urban character. Also, all rural districts are non-metropolitan districts (NMD), although the reverse is not true.*

Approximately each type of district is designed to serve a specific geographical population: LBs to the capital metropolis, MDs to the neighborhoods of industrial northern cities (Manchester, Merseyside, Tyne & Wear, Yorkshire and Midlands), UAs to the scattered single cities across the country and two tier LAs —NMDs and CCs— to the less densely populated or rural areas across the country. Therefore, it is important to be aware of the main geographic characteristics of the LAs since, for instance, to provide services for scattered population could have implications for how the services are administered. Likewise, the quantity of service needs or population size could be negatively related to the LAs' performance. Table 1.1 lists the description of districts according to three profiling variables: rural/urban distinction, type of LA and Government Office Region (GOR).

Although LBs, MDs and UAs only account for 33% of LAs across England, they deliver services to 53% of the population which covers only 16% of the territory. Complementarily, the NMDs are responsible for the other half of the population but for 84% of the land. Hence, single tier authorities manage mainly people whereas NMDs and CCs are as responsible for people as for territory. The population density of the single tier authorities is treble that of NMDs. Thus, on average each NMD is responsible for administering 97,000 citizens but LBs, MDs and UAs normally have double the number of citizens under their administration.

Table 1.1. *Distribution and description of the 354 local authorities (LAs) according to three profiling variables (urban/rural, type of LA and region) in England 2001* [1]

	No. LAs	*%*	*% Pop.*	*% Territory*	*Pop. density* [3]	*Inhab. per LA*	*Terr. per LA* [4]
Urban/rural [2]							
Urban	209	59.0	71.3	23.3	1,148	168,771	147
Rural	145	41.0	28.7	76.7	140	97,967	699
Type of LA							
London borough (LB)	33	9.3	15.6	1.3	4,488	233,359	52
Metropolitan dist. (MD)	36	10.2	21.9	5.4	1,510	300,432	199
Unitary author. (UA)	46	13.0	16.6	9.8	636	178,677	281
Non-metropolitan dist.(NMD)	239	67.5	46.9	83.1	211	97,029	459
GOR							
North East	23	6.5	5.1	6.5	293	109,121	373
North West	43	12.1	13.1	10.8	454	151,060	333
Yorkshire-Humberside	21	5.9	10.1	11.7	323	237,268	734
East Midlands	40	11.3	8.5	11.8	270	105,441	390
West Midlands	34	9.6	10.7	9.9	403	155,376	386
Inner London	14	4.0	6.4	0.3	8,761	227,774	26
Outer London	19	5.3	9.1	0.9	3,580	236,298	66
East	48	13.6	11.0	14.5	283	112,879	399
South West	67	18.9	16.3	14.6	418	120,309	288
South East	45	12.7	10.3	18.4	209	112,804	541
Total / average [5]	354	100.0	100.0	100.0	375	139,769	373

[1] List of the 354 English districts, map of UK districts and UK regions can be found in appendices I - VI. [2] Distinction based upon Office for National Statistics (ONS). [3] Inhabitants per km^2. [4] Territory per LA: km^2/ no. LAs. [5] Total population of England in 2001 was 49.9 million people and its extension of 131,507 km^2.

When the analysis is done in the rural-urban axis one realizes about the unbalanced distribution of population in England. Roughly there are as many rural LAs as urban ones (145 against 209) but rural ones account for one third of the total population only, in other words as much as two in three live in urban areas in England. The consequence is that 77% of territory has only a population density of 140 inhabitants/km^2 and the other part 1,148 inhabitants/km^2. So, in one part English people live crowded together and in the other they can stretch their legs easily. These two distinctive Englands are depicted in Figure 1.3.

As regards the GORs, the population distribution seems balanced. Except for London, each region weights the same in terms of population and territory and furthermore a similar number of rural and urban LAs compose them. Thus, rurality and urbanity is not a matter of the region in which one lives but where do you live within that region. Especially good ratios of inhabitants/LA and territory/LA are found in the North East, East and South East. An extra conclusion emerges also from this preliminary analysis: LBs face radically different demographic indicators than the rest of the country, such as very densely populated

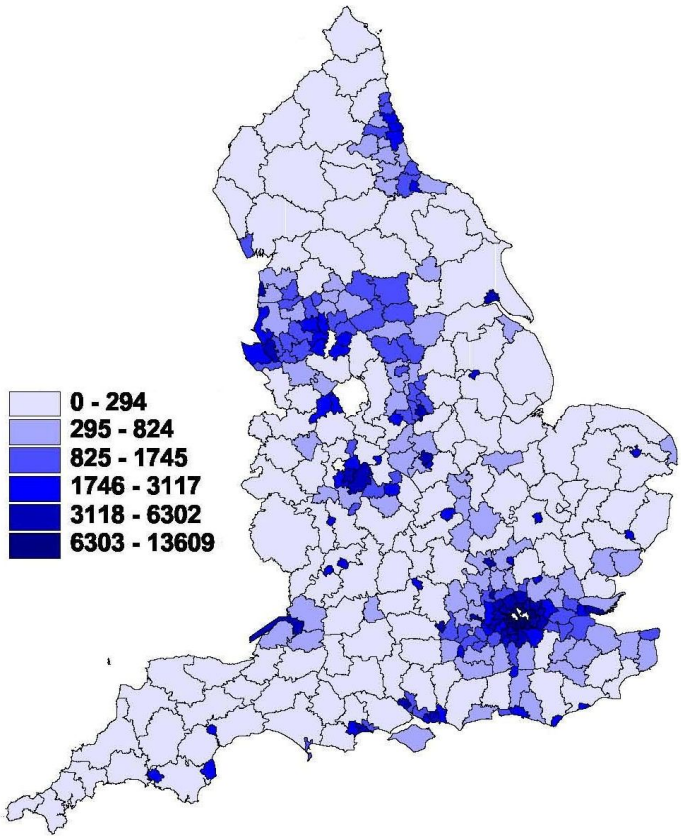


Figure 1.3. *Two distinctive Englands: high and low densely populated. English District map showing the population density (inhabitants/km²). Most of districts do not exceed a population density of 824 inhabitants/km² (205 districts, 58%), but oppositely 92 districts (26%) exceed the double of this value (1,746 inhabitants/km²) thus a few districts (16%) have an intermediate population density (825-1,745 inhabitants/km²)*

neighborhoods. All these differences somehow will be reflected in the capacity of the LAs to deal with QOL challenges.

1.4. Local authorities' responsibilities

Likewise, each type of LA has slightly specific responsibilities. But in general, local government statutory provision covers the following powers: education, social services, housing, benefits, environment, waste management, transport, planning, environmental health, libraries, culture and community safety (police and fire authorities). In urban district, LBs and MDs cede some of their responsibilities to greater or upper-tier authorities when services require a bigger size or a uniform delivery: fire & police forces, waste collection and disposal. On the other hand, since UAs are isolated urban LAs, they are responsible for all tasks that local government is in charge of. In the rural areas, the smaller and closer services are provided by NMDs, such as housing and benefits, and the services that require coordination or a larger number of citizens by CCs, such as education, social services, transport and libraries.

In line with what has been said in section 1.2, the role and nature of local government in the UK is under debate nowadays. It is perceived that local government is just local administration. Local government has become a group of agencies for the administration of services rather than an expression of local choice and local voice. For instance, the size of authorities is determined by the requirements of local administration rather than by those of a cohesive local area. Recent research suggests that the UK should look up to some of the local government models in continental Europe. The idea of 'power of the general competence' for LAs, which would allow them to act on behalf of their community, comes also from this research.[12] Under this new paradigm, to foster welfare and to promote QOL becomes central to local authority policies. Thus, LAs have to move towards playing the crucial role in the 'well-being delivery chain'. The present research study aims to explore the relationships between the QOL patterns and the LAs' performance on the eve of this new role for LAs.

Chapter 2

Aim and hypotheses

2.1. General aim: Impact of local authorities' performance on the quality of life

The shift in the role of the local authorities from local administration to local government in the near future gives huge research opportunities on how local authorities (LAs) will develop in this new context and, more importantly, it places more emphasis on the question of what the impact of local policies on the local quality of life (QOL) is nowadays. Under 'the power of general competence,' the main function of LAs becomes to foster prosperity through QOL values instead of just delivering good public services. Obviously, the current national framework of inspection and assessment of LAs, which targets only those services and activities under the direct control of the authority, will change to look at the local QOL and to evaluate the responsibility of the local authority on these issues.

However, the drive to improve local well-being has always been at the heart of what LAs do, though indirectly. Therefore it is already possible to evaluate the impact of LAs' policies, programmes and services on the improvements of QOL issues. It is widely accepted that a more efficient local government will bring advances on local economic development and simultaneously better QOL conditions will grow.[13] So, the complex notion of the relationship between local QOL and the LA's performance on delivering services in England forms the central research question of this paper.

Many local factors influence the demands made on LAs but, according to the *Audit Commission*'s research "no strong evidence that these [local factors] adversely affect how much councils perform in terms of CPA [Comprehensive Performance Assessment]".[14] Consequently, under this view, LAs' performance can be considered an independent variable only affected by intrinsic factors such as organizational and political framework and effective management of their finances within the authority. However, by contrast, research on UK local government suggested that external constraints have a powerful influence on the actual performance of the LA: "External constraints [here, background and QOL] imply that force of circumstance leaves policy-makers with a very limited room for manoeuvre" and consequently LAs have a limited influence on changing QOL conditions.[15]

Despite the controversies, we opted for the government vision. So, our overall working hypothesis of this paper will revolve around the idea that local QOL patterns initially depend largely on the social, economic and environmental background (SEEB) of the neighborhood. LAs have the responsibility and the administrative tools to promote and foster QOL values in spite of the local adversities. Thus, it is believed that LAs have the power to modify QOL patterns. These ideas are reflected in the QOL model presented in the previous chapter, Figure 1.1.

The research study explores empirically the relationship between local QOL and the LA's performance on delivering services at the level of district councils in rural areas and metropolitan districts and London boroughs in urban areas of England in 2005. Ultimately, we aim to identify the apparent mechanisms and relationships by which some LAs have been able to have a positive effect on the local QOL and some have not.

2.2. Structure of the research study

The paper is divided into two main parts. The first part aims to identify clusters of districts with uniform SEEB, homogeneous QOL patterns and similar performance on delivering services, chapter 4, 5 and 6, respectively. In the second part, first, the correspondence between the different English SEEBs and the QOL patterns will be investigated, and second, the possible impact of LAs' performance on these relationships will be explored, chapter 7. The last chapter, chapter 8, will summarise the most important findings.

2.3. Research hypotheses: statement of prediction

The research study is based on three hypotheses. The three hypotheses emerge from the relationships pictured in the QOL model of Figure 1.1.

Hypothesis 1 (chapters 4, 5 and 6). It is meaningful to group districts according to their similarities in terms of SEEB, QOL and LA's performance on delivering services to form clusters. Within a cluster, then, a set of identifiable characteristics exists. Contrarily, between clusters there exist fundamental differences. Furthermore, these clusters could be identified and characterised in terms of geographical information such as rural/urban distinction, region and type of LA. Note that this hypothesis has an important exploratory purpose and aims to describe each of the bubbles in the QOL model of Figure 1.1.

Hypothesis 2 (chapter 7). QOL patterns are significantly influenced by the SEEBs of local neighbourhoods. As local constraints determine QOL, a clear correlation between SEEB clusters and QOL clusters is expected. These links will allow us to draw a map of the QOL patterns enjoyed by each SEEB in England. The vertical axis in Figure 1.1 represents this hypothesis. Similarly, this analysis will highlight the weaknesses in QOL issues for specific kind of neighborhoods. Although it is important to mention that this framework by no means establishes cause-effect relationships, but only facts. This hypothesis has been already raised by similar research studies, for instance, development economists argued that education (such as literacy rate)[16, 17] or population [18, 19] is an important determinant factor in the level of economic growth.

Hypothesis 3 (chapter 7). Some of the previous SEEB-QOL correspondence clusters will be anomalous due to the impact of LAs' performance. This hypothesis is symbolized by the horizontal axis in Figure 1.1. The impact could be positive in the case where the district enjoys a higher QOL than expected for its SEEB and simultaneously an exceptional LAs performance is detected. Thus, in this study, this unexpected QOL will be attributed completely to the effect of the LA's activities. However, notice that, in fact, it is attributable to the conglomerate of bodies of the 'well-being delivery chain', although it is accepted that the LA plays the major role. This is a very controversial hypothesis since, as explained in the previous part, some researchers argue oppositely: in the sense that external conditions may affect significantly LAs' performance and therefore there may not be a direct cause-effect relation in the direction expressed in this research study.

Chapter 3

Methodologies

3.1. Human geography as a scientific discipline

This study is embedded into the field of human geography. This discipline together with physical geography forms the vast discipline of geography. Physical geography studies the characteristics of the physical environment (earth's climate, soils, vegetation, etc.), whereas human geography focuses its studies on human groups and their activities. One cannot fully understand the physical environment without understanding the alteration produced by human beings and in the same way, neither can one comprehend human life without knowing in which physical environment human beings live. So, modern geography is a bridge between the physical sciences and the social sciences. Human geography specializes on the study of human groups and the alterations of their activities produced on the earth's surface. In three words: humans, location and behaviour. So, its aim is the study of the humanized landscapes. Traditionally, this discipline has been divided into several big research topics such as population geography (demography), economic geography, rural geography, urban geography and political geography. But nowadays even fields such as cultural geography and social geography have become more independent research topics.

3.2. Philosophical stance: positivism and quantitative analysis

In the scientific world, all studies aim to accomplish three main attributes regardless of their philosophical positioning: objectivity, rationality and validity. Objectivity is the idea that knowledge can be acquired in a neutral fashion, rationality is the idea that knowledge is of great value when based on reason and, finally, validity is the idea that knowledge is legitimate and reliable. Other issues must be chosen and one must decide which school of thought best reflects one's beliefs in how a question should be answered. It could be a difficult task that requires a great deal of reflection. In this research study the positivist approach has been adopted as a main methodology. The influence of positivism is still great in human geography and the quantitative approach tends to be one of the accepted methodologies. According to this theory any human geography fact is explained through testing hypotheses by collecting and scientifically testing data related to the topic. This research study belongs to the field of quantitative social research using the deductive approach.

In addition, this research study aims to contribute to a better understanding of the mechanisms of quality of life (QOL) progress in line with the idea that academic research should influence policy making. Dorling et al. have already argued that a shift towards policy-orientated research within human geography would be necessary.[20]

Table 3.1. *Classification of the 45/83 QOL indicators within 10 themes in England 2005* [1]

	Themes	Ind. qolx	Contracted No.	Expanded No.	% [2]	Indices [3]
1	People & Place	1	1	3	3.6	-
2	Community cohesion & involvement	2-4	3	3	3.6	QOL-Com
3	Community safety	5-8	4	11	13.2	QOL-Saf
4	Culture & leisure	9-10	2	6	7.2	QOL-Cul
5	Economic well-being	11-17	7	10	12.0	QOL-Eco
6	Education & life-long learning	18-21	4	6	7.2	QOL-Edu
7	Environment	22-30	9	16	19.2	QOL-Env
8	Health & social well-being	31-35	5	14	16.9	QOL-Hea
9	Housing	36-41	6	6	7.2	QOL-Hou
10	Transport & access	42-45	4	7	8.4	QOL-Tra
	Total		45	83	100.0	QOL index

[1] Source: Audit Commission (2005) Local Quality of Life Indicators: Supporting Local Communities to Become Sustainable, www.audit-commission.gov.uk, London: Audit Commission, ODPM (now DCLG) and DEFRA. See appendix XIII for the definition of the 83 QOL indicators. Although the initial number of indicators is 45, the dataset expanded to 83 when children indicators are taken into account, for example 1 to 1a, 1b and 1c. See Appendix XIV for data cleansing and details of the expansion of the indicators. But, the final number of indicators taken into account into the study is 41 contracted and 73 expanded indicators after data cleansing has eliminated those variables with too many missing values or too many extreme values. [2] Out of 83. [3] These indices are used in Figure 7.5, they range between 0.00 (low) and 1.00 (high performance)

3.3. Data sources

It is time for a closer view of the details of the research study: data sources and methodological tools. Three different datasets are used in this paper, one for each main subject under study in accordance to QOL model shown in Figure 1.1: social, economic and environmental background (SEEB), QOL and LAs' performance on delivering services. All three datasets have been provided by and downloaded from the *Audit Commission* website.[21] Unlike the SEEB dataset, which was composed under our criterion, the other two datasets are available as a whole. This makes a huge difference since the latter two datasets are designed by governmental offices to fit the purpose, whereas the former will represent a more personal selection.

All datasets are composed of numerical indicators. Indicators help to measure, simplify and communicate important issues and trends in policy. Nowadays, policy-makers give an invaluable power to indicators as a means of measuring progress and also as a tool to raise awareness of the key issues among the public.[22]

3.3.1. QOL dataset

In 2002 the *Audit Commission* published its first report on QOL. The report answered the question 'How can we measure the quality of life in a local area?'.[23] The report was the result of a long project involving local authorities (LAs) and several government departments (ODPM —now DCLG— and DEFRA). The purpose was to develop and recommend one

Table 3.2. *Classification of the 52 SEEB indicators within seven themes in England 2005* [1]

	Themes	*Indicators seebx*	*Number*	*%*
1	*Population distribution*	1-4	4	7.8
2	*Changes in population*	5-7	3	5.9
3	*Demographic distribution*	8-19	12	23.5
4	*Minorities*	20-25	6	11.8
5	*Family composition*	26-32	7	13.7
6	*Occupational status*	33-44	12	23.5
7	*Educational attainment*	45-52	8	13.7
	Total		52	100.0

[1] *Source: Complementary indicators in: Audit Commission (2005) Local Quality of Life Indicators: Supporting Local Communities to Become Sustainable, www.audit-commission.gov.uk, London: Audit Commission, ODPM (now DCLG) and DEFRA. See appendix IX for the definition of the 52 SEEB indicators. This dataset is a personal selection of extra indicators provided also in the above-mentioned QOL dataset as complementary information. The final number of indicators taken into account into the study is 51 after data cleansing (appendix X) have eliminated a variable with too many missing values.*

consistent set of local indicators that will embrace economic, social and environmental issues and will also complement the new *UK Government Sustainable Development Strategy*.[7] This indicator set must help LAs to monitor the effectiveness of their sustainable community strategies. The current local QOL indicator set includes 45 key measures distributed into 10 themes: people & place, community cohesion & involvement, community safety, culture & leisure, economic well-being, education & life-long learning, environment, health & social well-being, housing and transport & access.[24] Notice that more than 60% of these indicators refer to only four themes which become the most influential (Table 3.1): environment, health & social well-being, community safety and economic well-being. These indicators help to paint a picture of the QOL in a local area. See appendices XIII to XVII for a complete definition and characterisation of the 45 QOL indicators.

3.3.2. SEEB dataset

The background dataset is a compilation of complementary measures accompanying the QOL dataset, previously presented here. So, it is not a preconfigured dataset, but rather a personal selection of indicators intended to draw a real map of the primary social, economic and environmental background across England. The idea is to be able to identify what kind of people (young/old, male/female, white/minorities, family composition, occupational status, educational attainment) is living in a determined local area (city/town/villages/population density). For that purpose, 52 indicators have been included, divided into seven main themes: population distribution, changes in population, demographic distribution, minorities, family composition, occupational status and educational attainment.[24] This set differs from the QOL dataset in the sense that SEEB indicators do not incorporate a direction of improvement, they

Table 3.3. *Classification of the 99/168 BVP indicators in England 2003/04* [1]

	Themes	*Indicators bvpx* [2]	*Con. No.* [3]	*Exp. No.* [4]	*%* [5]	*Indices* [6]
1	*Corporate Health*	1*,2*,3*,4*,8*,9',10', 11*,12*,14*,15*,16*, 17*,156*, 157*,180*	16	25	14.9	BVP-Cor
2	*Education*	33+,34+,38+,39+,40+,41+,43+,44+,45+,46+,48+,159+,181+,192+,193+,194+	16	27	16.1	BVP-Edu
3	*Social Services*	49+,50+,51+,52+,53+,54+,56+,58+,161+, 162+,163+,195+,196+	13	13	7.7	BVP-Soc
4	*Housing & related services*	62',63',64',66',164', 183',184',185',76', 78',79',80',74',75'	14	31	18.4	BVP-Hou
5	*Environment & related services*	82',84',86',87+,89',90''+,91',166'+,199',96+,97+,99+,100+,102+,165+,103+,104+,178+,186+,187+,106',107*,109*'', 111*,179',188',200*	27	47	28.0	BVP-Env
6	*Culture & Libraries*	114*,117+, 118+,119*+***,170*	5	13	7.7	BVP-Cul
7	*Community Safety & Legal Service*	126',127',128',174*, 175*, 176*,177'	7	11	6.5	BVP-Com
8	*Cross cutting*	197+	1	1	0.6	-
	Total		99	168	100	BVP index

*[1] Source: ODPM (2003) Guidance on Best Value Performance Indicators for 2003/2004, www.bvpi.gov.uk, London: ODPM, now DCLG. See appendix XVIII for the definition of the 168 Best Value Performance (BVP) indicators. Although the initial number of indicators is 99, the dataset expanded to 168 when children indicators are taken into account, for example 1 to 1a, 1b and 1c. See appendix XIX for data cleansing and details of the expansion of the indicators. However, the final number of indicators taken into account into the study is 86 contracted and 137 expanded indicators after data cleansing has eliminated those variables with too many missing values or too many extreme values. [2] * means averaged data from county + district, ' means only district and + means only county. [3] Number of contracted indicators. [4] Number of expanded indicators. [5] Out of 168. [6] These indices are used in Figure 7.5, they range between 0.00 (low performance) and 1.00 (high performance)*

just describe what is the human landscape of England without any judgment. See Table 3.2 for more details and appendices IX to XII for a full definition and characterisation of all indicators.

3.3.3. Dataset of local authorities' performance on delivering services

Finally, Best Value Performance (BVP) indicators aim to provide valuable information on the key services delivered by local authorities (LAs). Indeed, the purpose of BVP indicators established by the UK government through the *Audit Commission* in 2000 is to establish a culture within local government that encourages good management practices delivering efficient, effective and economic services that meet users' needs.[25] BVP indicators constitute a framework of clear performance measures across the range of local government services. They measure things that matter and affect people lives. Moreover, they are a management tool in improving performance, since LAs will be able to use them to deliver real advances in the services which they are responsible for. The key services are grouped into

Table 3.4. *Alternative classification of the 99/168 BVP indicators in England 2003/04 that emphasize other important aspects on public services* [1]

	Themes [2]	*Indicators bvpx* [3]	*Con. No.* [4]	*Exp. No.* [5]	*%* [6]	*Indices* [7]
1	*Strategic objectives (SO)*	1*,49^{+},50^{+},62',63',64',106', 114*,177',197^{+}	10	13	7.7	-
2	*Cost/efficiency (CE)*	8*,9',10',11*,12*,14*,15*,16*,17*,156*,33^{+}, 34^{+},38^{+},39^{+},40^{+},41^{+},51^{+},52^{+},66',164',183', 184',185',86',87^{+}, 186^{+},107*	27	34	20.2	-
3	*Service delivery outcomes (SD)*	157*,180*,53^{+},54^{+},56^{+},58^{+},161^{+},162^{+},163^{+},19 5^{+},196^{+},78',79',187^{+},109*'',179',188',200*,1 17^{+},170*,126',127',128',174*, 175*,176*	26	40	23.8	BVP-Ser
4	*Quality (QU)*	43^{+},82',84', 91', 166'$^{+}$,199',96^{+},97^{+},99^{+},100^{+}, 102^{+}	11	26	15.5	-
5	*Fair access (FA)*	2*,44^{+},45^{+},46^{+},48^{+},159^{+},181^{+},192^{+},193^{+},194^{+}, 76', 165^{+},178^{+}	13	26	15.5	-
6	*Satisfaction (SA)*	3*,4*,80',74',75',89',90''$^{+}$,103^{+},104^{+},111*, 118^{+},119*$^{+}$***	12	29	17.3	BVP-Sat
	Total		99	168	100.0	BVP index

*[1] See appendix XVIII for the definition of the 168 Best Value Performance (BVP) indicators. Although the initial number of indicators is 99, the dataset expanded to 168 when children indicators are taken into account, for example 1 to 1a, 1b and 1c. See appendix XIX for data cleansing and details of the expansion of the indicators. However, the final number of indicators taken into account in the study is 86 contracted and 137 expanded indicators after data cleansing has eliminated those variables with too many missing values or too many extreme values.[2] These abbreviations are listed near each indicator in appendix XVII. [3] * means data from average county + district, ' means only district and $^{+}$ means only county. [4] Number of contracted indicators. [5] Number of expanded indicators. [6] Out of 168. [7] These indices are used in Figure 7.5, they range between 0.00 (low performance) and 1.00 (high performance)*

seven themes: education, social services, housing & related services, environment & related services, culture & libraries, community safety and legal service (see Table 3.3).[26] Moreover, in order to ensure a balanced view of performance, six dimensions of performance have been adopted as an alternative classification: strategic objectives, cost/efficiency, service delivery outcomes, quality, fair access and satisfaction (see Table 3.4). To sum up, BVP indicators are a statutory set of 99 indicators developed by UK government to measure the performance of LAs on delivering adequate services, that is, all LAs must measure themselves against BVP indicators. Look up appendices XVIII to XXIII for a full definition and characterisation of all indicators.

3.3.4 Technical issues

Several technical issues, worth mentioning, arose after the initial manipulation of all three datasets. First, county councils (CCs) and non-metropolitan districts (NMDs) data sometimes clash. As NMDs are our level of study, if the only data available pertains to a CC, this is spread over all NMDs under its umbrella. This is a common practice for some services that are CC responsibility only or data related to community safety that is only available at

Greater London level instead of London boroughs (LBs). Likewise, if both CC and NMD data are available for an indicator (in the case of some BVP indicators), then an average indicator is computed. Second, some indicators, though they represent a unique concept, are composed of several children indicators. They have not been combined together, but expanded into more indicators in order to keep valuable information. The consequence has been a moderate expansion of the number of final indicators, especially for the QOL and BVP datasets. Third, after an exhaustive process of cleansing, several indicators, and even LAs, have been excluded from the study due to too many missing values or too many extreme values. So, the initial/final dimensions of the three datasets become as follows: (QOL) 83 indicators × 354 districts / 73 × 347; (SEEB) 52 × 354 / 51 × 350; (BVP) 168 × 354 / 137 × 350. More details can be found in Tables 3.1, 3.2, 3.3, 3.4 and appendices.

3.4. Data mining framework

The quantitative approach used here is better described by means of the well-known discipline of data mining. Data mining is the process of searching large volumes of data for useful information previously hidden or unknown. Data mining consists of a broad range of techniques such as exploratory data analysis, classification, clustering, association rules, etc, and it has links with several disciplines such as: statistics, artificial intelligence, information retrieval, etc. However, statistics is the closest discipline to it.

Nowadays, a great number of fields use data mining techniques for their purposes, for instance marketing, biology, computer science, management, etc. Furthermore, as the advance of computers has enabled the electronic storage of great volumes of data there has been a huge demand for methodologies for analyzing and extracting useful information from raw data. Thus, data mining has become inevitable in some disciplines like business. Data mining applies its techniques over huge datasets composed of records of experimental or observational data of all sorts of nature (human behaviour, health information, molecules, countries, etc). A common example of data mining is the market basket analysis. If a clothing store records the purchases of customers, a data mining system could identify those customers who favour silk shirts over cotton ones. Then, this information could be used to increase the effectiveness of marketing. The extensive use of data mining techniques for this dissertation project awakened my interest in its philosophical foundations which were captured in the term paper entitled ‘Philosophical weaknesses of data mining’.[27] This research project follows the recommendations raised by this paper, especially those with regard to the constraints imposed by the hypothetico-deductive method.

3.5. Specific techniques of analysis

Three main statistical techniques have been used to extract the required information from the vast datasets: K-means, ANOVA/MANOVA tests and principal component analysis (PCA). The K-means clustering technique was used to group LAs into clusters with homogeneous characteristics. On the other hand, ANOVA/MANOVA methods identify which indicators have a significantly different mean for each cluster. Thus, it highlights the most important indicators/factors that group these clusters. And finally, PCA extracts the most important dimensions of the dataset, in addition to visualizing all LAs into the same plot. Other minor techniques have also been used such as cross-tabulations, rankings and chi-squared tests. All findings are based on statistical tests passed at 99% ($\alpha = 0.01$) confidence level conducted with SPSS[28] and YALE packages[29]. All these statistical tests and their details have been reported in the footnotes of tables and figures and the complete list of results for each LA (clusters member and indices) is tabulated in appendices VII and VIII. All spatial plots were produced by the geographical information system ArcView.[30]

3.5.1 K-means clustering

K-means is the most famous and simplest unsupervised learning algorithm that solves the well known clustering problem. Clustering is the process of deciding which elements of a group (here LAs) have the same features, and should thus be considered members of a cluster on the basis of their profiles, namely indicators. The other famous class of clusterers are the hierarchical methods, but they have not been used in this research study since the former is considered superior. The K-means algorithm defines an initial number of centroids, one for each cluster, and then each element is assigned to the cluster that has the closest centroid. The iteration of this algorithm, in the way that the dispersion within the cluster is minimised, produces an optimal solution. A recent improvement implemented into the present study called X-means allows also to estimate the optimal number of clusters.[31] K-means clustering offers a crucial advantage over other data mining techniques since no statistical assumptions on the variables are needed. This technique is used extensively in chapters 4, 5 and 6.

3.5.2. ANOVA and Pearson's chi-squared statistics

Once the clusters are formed, one is interested in their characterisation. For that purpose the well known ANOVA and the Pearson's chi-squared test can be extremely useful when the number of indicators is high and a selection necessary. ANOVA evaluates whether the difference of the mean value of a single indicator between clusters is statistically significant and consequently it helps to discard some indicators as insignificant to the cluster

analysis. After that, Pearson's chi-squared test evaluates the worth of an indicator by computing the value of the chi-squared statistic with respect to the clusters. The final output is a list of indicators sorted by relevance that most contribute to differentiate those clusters. This combination of techniques is applied in chapters 4, 5 and 6. The chi-squared test was also employed in chapter 7 as a test of strength of association between two categorical variables.

3.5.3. Weighted principal component analysis

PCA is a multivariate data analysis technique that has become very popular in social science in recent years.[32] It can be used to search for combinations of indicators (or dimensions) that best explain the dataset. Each combination is called a principal component (PC). The first principal component (PC1) describes the largest part of the dataset, whereas the second component (PC2) describes the largest part of the variability left over by PC1, and so on. Hence, by considering only the first few principal components we can study the relevant information contained in the dataset without being blurred by the redundancy of the data. The add-on feature of the PCA utilized here is that the indicators have not the same weight or importance *a priori* but those from the Pearson's chi-squared test. We have named weighted PCA and used it in chapters 4, 5 and 6. In this way, PCA will visualize the results from the previous techniques (K-means clustering + ANOVA + chi-squared). In other words, the cluster will become visually separated in a 2D plot. This technique is widely used already in social research studies.[33]

3.5.4. Indices and rankings

To simplify datasets, several composite indices have been constructed for the QOL and BVP datasets as they are shown in Tables 3.1, 3.3 and 3.4. They have been used in chapters 4, 5, 6 and 7. Each index accounts for a specified dimension in the dataset. An index is the mean of all indicators under the corresponding theme (e.g., education or health), taken into account that indicators have been previously rescaled and resorted to mean low/weak (0.00) and high/strong (1.00) performance. In the appendices XIII (QOL) and XVII (BVP), one can find which indicators have been inverted in order that a high value means strong performance (search for [I] label). For instance, the QOL-Education index (QOL-Edu in Table 3.1) compiles the information of *qol18*, *qol19*, *qol20* and *qol21* indicators, and *qol18* was inverted since 'high percentage of half days missed at school' definitely is not considered a good performance. Finally, overall indices for both QOL and BVP datasets have been computed. They will allow us to make league tables. It has been checked that all these indices fulfil the statistical requirements of validity, reliability and additivity, essential for the success

of such measures.[34] Notice that such pre-treatment is only possible for QOL and BVP indicators since it is not possible to judge SEEB indicators.

3.5.5. MANOVA

MANOVA is used in chapter 7 when one is interested in testing whether there are differences between several clusters when all indicators or indices are considered. This approach goes ahead with the problem of series of individual tests with ANOVA, which inflates the type I error. The assumption of normal distributed indicators is essential for the multivariate test procedure of MANOVA to be valid. Due to the presence of a high number of non-normal distributed indicators (as shown in appendices XV and XXI), indices instead of indicators have been used in order to assure normality. After that, once one have determined that differences exist among the means of the different clusters, *post hoc range* tests can determine which means differ. *Range* tests identify homogeneous subsets of means that are not different from each other.

Chapter 4

Patterns of social, economic and environmental backgrounds (SEEBs)

4.1. The clear differentiation of London

Neither the type of local authority (LA), nor the region, nor even the rural/urban distinction seems to be related to the possible different social, economic and environmental backgrounds (SEEBs) in England, except for London. LBs possess a completely different SEEB pattern from the rest of England, and, as expected, the population density is up to six times higher. But not only that, the percentage of mixed race (*seeb22*) is treble that of the rest of England and, moreover, LBs also accommodate a younger population, even younger than that in the northern metropolitan districts (MDs) and unitary authorities (UAs). So, LBs protrude like an outlier in the social landscape of England.

4.2. Three other identifiable SEEBs: northern cities, districts surrounding London and villages

Apart from the LB SEEB pattern, it has been difficult to discern other SEEB patterns. Thus, another technique has been used for that purpose. K-means cluster analysis has helped to determine that, in fact, four types of SEEB patterns can clearly be differentiated in England (Table 4.1 and Figure 4.1). The districts are grouped according to their resemblance to each other, so SEEB is more homogeneous within clusters than between clusters, and obviously these differences are statistically significant. The four clusters correspond to the SEEB found

Table 4.1. *Characterization of the four K-means clusters within the SEEB dataset* [1]

Cluster	*SEEB-0*	*SEEB-1*	*SEEB-2*	*SEEB-3*	*Total*
	London	*Cities mainly north*	*Districts surrounding London*	*Villages across England*	
No. of districts	30	110	119	91	350
Pop. density (inhab./km²)	6,096	1,688	789	234	-
% Population	12.9	40.7	29.9	16.5	
% territory	<1	15.1	31.3	52.6	
Urban	30	100	68	8	206
Rural		10	51	83	144
NMD	2	51	99	86	238
MD	1	32	3		36
UA	3	26	12	5	46
LB	24	1	5		30
North East		18		5	23
North West	1	27	9	6	43
Yorksire-Humberside		12	2	7	21
East Midlands		14	15	11	40
West Midlands		14	9	11	34
Inner London	11				11
Outer London	13	1	5		19
South West		5	12	27	44
East	1	10	24	13	48
South East	4	9	43	11	67

[1] *Figure 4.1 plots these data. Test1: MANOVA corroborates that, overall, there are statistically significant differences in SEEB indicators means between these clusters*

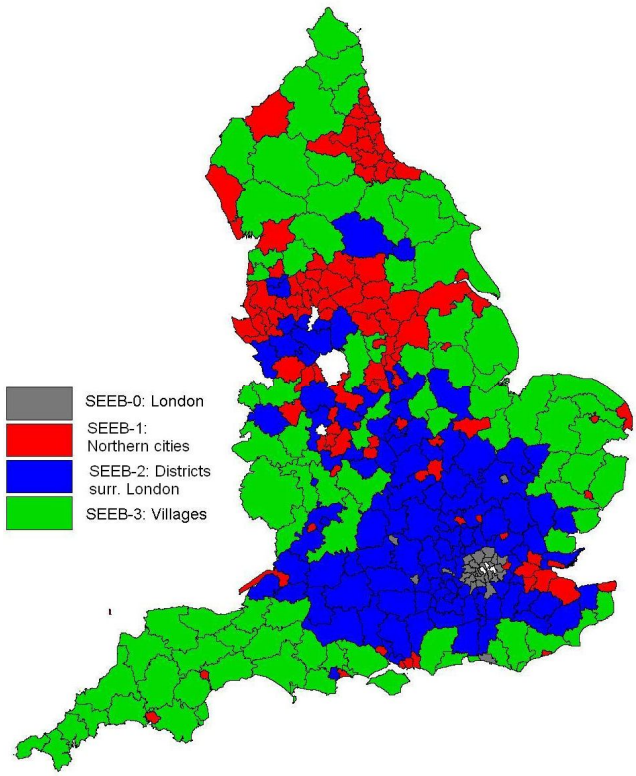


Figure 4.1. *English District map with the four characteristic SEEB patterns*

in London (SEEB-0), cities mainly from northern England (SEEB-1), districts (towns and cities) surrounding London (SEEB-2) and villages across England (SEEB-3). These labels do not pretend to be exclusive but instead they help us to elaborate an idea about where one can find these kinds of SEEB patterns.

The London cluster (SEEB-0) is formed by twenty-four LBs, with the addition of six other dispersed districts occupying less than 1% of the English territory but almost 13% of the population. The city cluster (SEEB-1), which accounts for 41% of English population, comprises 110 MDs, UAs and urban non-metropolitan districts (NMDs), mainly from the north of England. The SEEB-2 cluster is formed by 119 NMDs, either rural or urban, surrounding London with the inclusion of some northern cities. In contrast, the village cluster (SEEB-3) seems to be formed of scattered districts markedly rural across the country with a slightly prominent presence from the South-West region. The village pattern occupies half of the English territory but with only 17% of the population. Thus, the SEEB grouping now appears to be clear and meaningful, giving us a solid view on who is living where in England.

4.3. Minorities and population age distribution as the main differential features

The main indicator that defines these groups is the population density, which increases from 234 inhabitants/km^2 in the village cluster (SEEB-3) to 6,096 inhabitants/km^2 in the London cluster (SEEB-0). But apart from the population density, what else makes them different? Principal component analysis (PCA) allows us to extract the most important

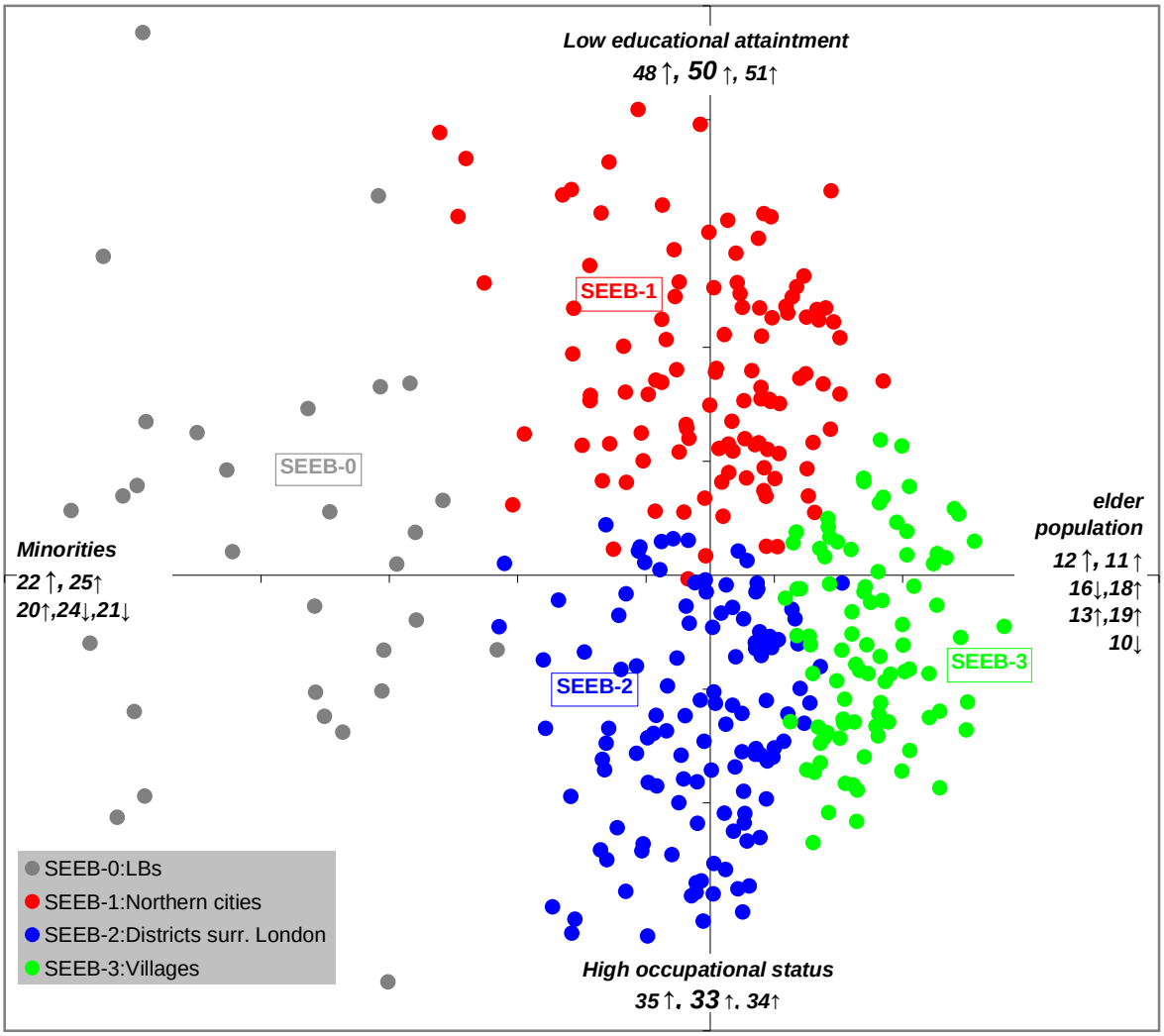


Figure 4.2. *Score plot of weighted principal component analysis (PCA) from the SEEB dataset. Each district is classified into the four clusters (SEEB-0, SEEB-1, SEEB-2 and SEEB-3) determined by the K-means technique. The most important SEEB indicators, which differentiate the different clusters, are located in the direction from the centre that points to high or low values of the corresponding indicator. This plot accounts for 70% of the variance of the dataset —x axis, 55% and y axis, 15%.*

indicators that create such categorisation. In a score plot (Figure 4.2), two districts are close to each other when the values of their SEEB indicators are similar. Similarly, a long separation is proportional to the differences in their SEEB indicators. Indicators are represented in the same plot by their corresponding number; indicators are situated in the area of the graph where districts have the highest values of them. By considering the districts clusters and the indicators together, we can visually find similarities and differences between clusters and study what indicators are responsible for such interdependencies, thus obtaining further valuable information.

In Figure 4.2, the first axis (horizontal) divides districts with a high percentage of minorities on the left side, inversely correlated, with districts with a high percentage of elderly population on the right side. That is the minorities-age axis, which is the most important

Table 4.2. *The 10 most important SEEB indicators that differentiate the four K-means SEEB clusters* [1]

	Ind.	*Definition* [2]	*theme*	*Axis*	*SEEB-0 London*	*SEEB-1 North Cities*	*SEEB-2 surr. London*	*SEEB-3 Villages*	*Homog* [3]
1st	*seeb12*	Males aged 50-69	Demography	x	8.1	10.9	11.4	12.9	0-1-2-3
2nd	*seeb18*	Females aged 50-69	Demography	x	8.6	11.2	11.7	13.5	3-1,2-0
3rd	*seeb1*	Pop. density	Population		6096	1688	780	234	3,2-1-0
4th	*seeb22*	Mixed race people	Minorities	x	3.2	0.9	1.0	0.5	3-1,2-0
5th	*seeb16*	Females 20-29	Demography	x	9.0	6.2	5.4	4.2	0-1,2-3
6th	*seeb20*	Black people	Minorities	x	28.5	5.9	4.2	1.2	3-2,1-0
7th	*seeb21*	White people	Minorities	x	71.5	94.1	95.8	98.8	0-1,2-3
8th	*seeb25*	Chinese people	Minorities	x	2.8	0.5	0.7	0.3	0-1,2-3
9th	*seeb13*	Males over 70	Demography	x	3.4	4.6	4.7	6.1	0-1,2-3
10th	*seeb11*	Males aged 30-49	Demography	x	16.7	14.2	14.8	13.2	3-1,2-0
-	*seeb48*	No or low qualifications	Attainment	y	34.3	51.9	41.4	46.6	-
-	*seeb50*	Poor literacy skills	Attainment	y	23.0	26.3	20.6	24.3	-
-	*seeb35*	Lower managerial & professionals	Occup. status	y	22.1	15.9	21.8	17.9	-

[1] Test1: ANOVA detects that listed indicators have statistically different means between clusters at 0.01 level of confidence. Test2: Also, overall, MANOVA finds significant differences in SEEB indicators means between clusters at 0.01. Figure 4.2 plots these data. [2] More details on the definition of the indicators can be found in appendix X. [3] Post hoc tests identify homogeneous clusters: "-"= different; ","=equal

dimension in the definition of SEEB patterns in England. It accounts for 55% of the total variability of the dataset. Where minorities (black, Chinese and mixed) live, there tend to be younger people too. This is not surprising since we have already observed that minorities live in the English cities, which, at the same time, also attract younger people for studies or job opportunities. On the other hand, the opposite effect is also found: districts where most of the people are white (>95%) are correlated with high percentages of elderly population, for instance in villages. The second axis of the SEEB (the vertical axis in Figure 4.2) contemplates the relationship between the occupational status of their citizens and their educational attainment. Again, the conclusions appear to be clear and disturbing. Districts with low educational attainment, where high levels of the population have no qualifications or poor literacy or numeracy skills, link with routine or semi-routine occupations. The inverse is true for districts where large parts of the population work in more high-status professional occupations. Figure 4.3 and 4.4 present plots that support the findings of both dimension: minorities-age and attainment-occupation axis. It is important to remark that the rest of the indicators (not mentioned in the text) have a minor impact on the clustering. So, there are no significant differences among districts in terms of family composition or changes in population, for instance.

The final question to be answered in this section is where can one find these profiles in England? It can be seen from Figure 4.2 that the London cluster (SEEB-0) and village cluster (SEEB-3) are located opposite each other along the minorities-age axis, whereas the city

cluster (SEEB-1) and districts surrounding London (SEEB-2) do the same but in the attainment-occupation axis. London (SEEB-0) is characterized by higher percentages of minorities and young people, combined with the whole range of educational attainment and of occupations. Unlike London, mainly white and elder population form the village cluster (SEEB-3). However, the village cluster also shows an intermediate profile with regard to either occupations or educational attainment, as for the London cluster. For instance, the percentage of black people (*seeb20*) in London (SEEB-0) goes up to 29%, whereas in the rest of the clusters it ranges only between 4% in villages (SEEB-3) to 6% in cities (SEEB-1) (see Table 4.2). We also see that the percentage of females between 20 and 29 years old (*seeb16*) in London is double that of the villages, 9% against 4%. Cities (SEEB-1) and districts surrounding London (SEEB-2) are situated in the middle of the minorities-age axis, which means more intermediate percentages of minorities, neither higher like London nor insignificant like villages, and also a more balanced age distribution. But what makes them different is the attainment-occupation axis. Districts surrounding London (SEEB-2) contrast with cities (SEEB-1) in that the percentage of people working in professional or managerial occupations (*seeb35*) is much higher, 21.8% versus 15.9%. In the cities, there is a higher percentage of population with poor literacy skills (*seeb50*), numeracy skills (*seeb51*), or no qualifications (*seeb48*) than in districts surrounding London (see Figure 4.4). We can conclude that, unlike these districts surrounding London, northern cities are occupied by people with routine or semi-routine occupations.

4.4. Concluding remarks: type of settlement and the London effect

London, northern cities, districts surrounding London, and villages accommodate patterns of different social, economic and environmental backgrounds. Population density largely defines the boundaries between these types of SEEBs; so on average the density shows 6,096 inhabitants/km^2 for London, 1,688 for cities, 789 for towns and 234 for villages. Two factors characterise the SEEB of these settlements. First, on the one hand the concentration of ethnic minorities, and on the other hand the population age distribution. London hosts the youngest and the most ethnically diverse population of all, whereas the opposite is found in the villages. Second, northern cities and districts surrounding London exhibit a more balanced society with respect to population age distribution and presence of ethnic minorities, but they become differentiated through the occupational status and educational attainment of their inhabitants. Districts surrounding London are characterized by high levels of educational attainment, which is correlated with high occupational status, but

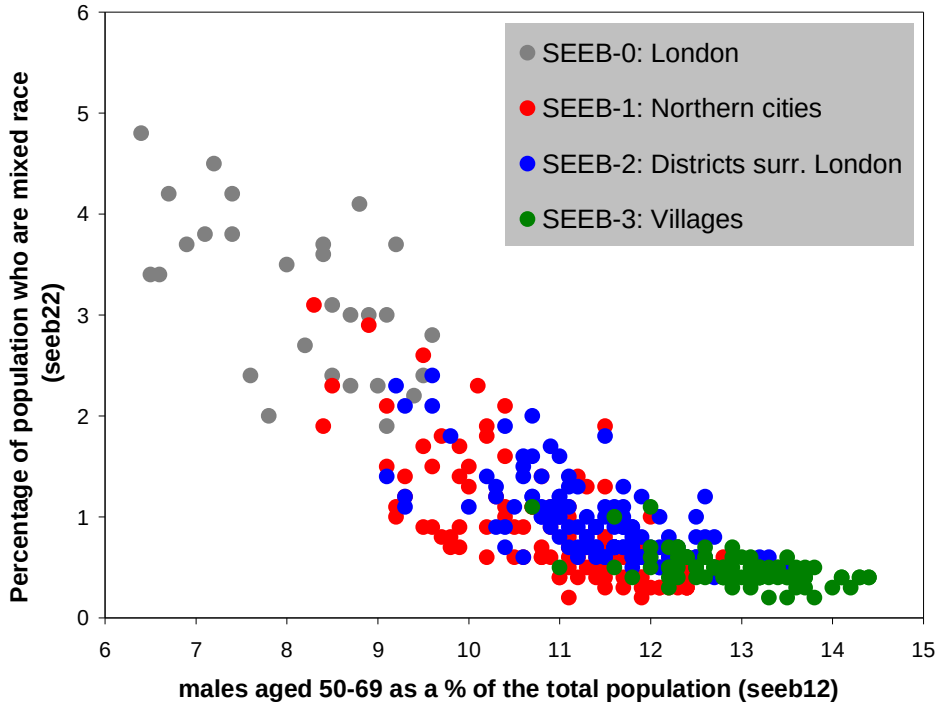


Figure 4.3. *Elder and white citizens reach higher proportions in villages whereas younger and mixed race citizens do it in London. Minorities and age distribution is the main axis in the formation of the four SEEB clusters .This relationship represents axis X in Figure 4.2.*

the contrary happens in cities. To sum up, the combination of location in relation to London and kind of settlement is the key element to inform us of who is living where in England.

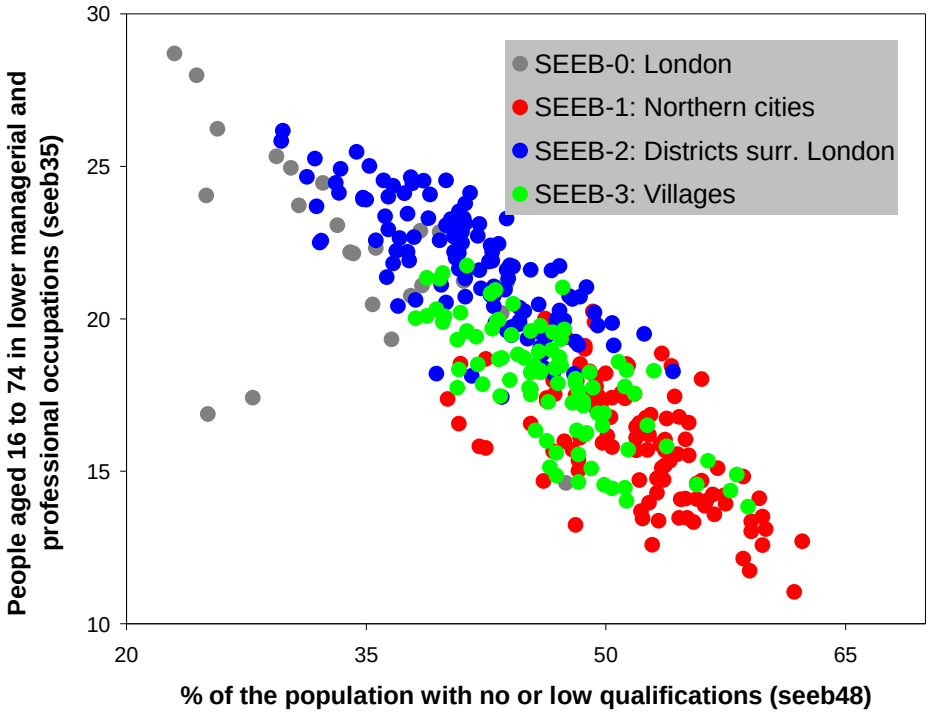


Figure 4.4. *Educational attainment and the occupational status, such as seeb48 and seeb35 indicators, are highly related and also influence the formation of characteristic SEEB clusters. This relationship represents axis Y in Figure 4.2.*

Chapter 5

Human landscapes of quality of life (QOL)

5.1. Southern and rural non-metropolitan districts (NMDs) at the top of QOL ranking

To begin this chapter, all districts have been ranked according to their QOL indices emerging from the 45 indicators (see Table 5.1 and Table 3.1). The five top districts are rural NMDs from the South West, except that the first position is held by South Lakeland, a NMD in the North West. The other four LAs ranked at the top of the QOL ranking are North Dorset, Winchester, Purbeck and Christchurch. But the first LB to be found is Richmond Upon Thames in the 64th position. At the bottom of the list there are LBs, MDs and northern urban UAs. Liverpool, Knowsley, Salford, Barking & Dagenham and Middlesbrough head the list at the bottom. It should be noted that there are only 11 districts with a QOL index between 0.00 and 0.25 whereas there are 89 between 0.75 and 1.00, and consequently, most districts show an intermediate QOL index between 0.25-0.75 (244 LAs), although the distribution is positively skewed toward the top scores. The top districts, which are rural NMDs from southern counties, are characterised by high achievements in community cohesion, community safety and economic well-being, but they could perform better in education, environment, health and housing. On the other hand, the bottom districts score poorly in almost every theme except in the use of public transport due to their urban character.

Table 5.1. *5 top and bottom districts according to the QOL index.*[1]

QOL ind [2]	*Local authority*	*Description* [3] *(type,R/U,region)*			*Indices by themes. QOL-X* [4]								
					X= Coh	*Saf*	*Cul*	*Eco*	*Edu*	*Env*	*Hea*	*Hou*	*Tra*
1.00	South Lakeland	NMD	R	NW	0.99	0.99	0.83	0.96	0.76	0.62	0.72	0.80	0.47
0.92	North Dorset	NMD	R	SW	0.75	0.93	0.54	0.92	0.70	0.70	0.85	0.77	0.44
0.91	Winchester	NMD	R	SE	1.00	0.91	0.87	0.93	0.87	0.55	0.76	0.75	0.14
0.91	Purbeck	NMD	R	SW	0.85	0.89	0.72	0.87	0.64	0.58	0.83	0.79	0.49
0.91	Christchurch	NMD	U	SW	0.79	0.88	0.37	0.89	0.71	0.68	0.80	0.89	0.47

0.89	Rutland 9th	UA	R	EM	0.88	0.88	0.55	0.89	0.84	0.41	0.99	0.61	0.47
0.79	Richmond upon T. 64th	LB	U	OL	0.80	0.54	0.36	0.80	0.76	0.39	0.87	0.60	0.75
0.69	Trafford, 141st	MD	U	NW	0.57	0.54	0.64	0.84	0.88	0.19	0.54	0.64	0.60

0.18	Middlesbrough	UA	U	NE	0.32	0.39	0.38	0.15	0.13	0.56	0.09	0.34	0.62
0.17	Barking and Dagenham	LB	U	OL	0.05	0.31	0.12	0.32	0.18	0.29	0.20	0.47	0.76
0.16	Salford	MD	U	NW	0.27	0.37	0.21	0.34	0.09	0.21	0.09	0.55	0.63
0.06	Knowsley	MD	U	NW	0.30	0.41	0.46	0.05	0.04	0.25	0.00	0.16	0.72
0.00	Liverpool	MD	U	NW	0.33	0.28	0.23	0.00	0.17	0.14	0.02	0.15	0.72

[1] The QOL index for each district can be found in appendix VII. [2] QOL index is the average of the 9 listed QOL theme indices. It is rescaled between 0.00 (weak) and 1.00 (strong) performance.[3] R=Rural, U=urban, NW=North West, SW=South West, SE=South East, EM=East Midlands, OL=Outer London, NE=North East.[4] Intermediate theme index also ranging from 0.00 to 1.00. Theme indices compute weighted means for the corresponding group indicators according to Table 3.1. QOL-Coh=Community cohesion & involvement, QOL-Saf= Community safety, QOL-Cul=Culture & leisure, QOL-Eco=Economic well-being, QOL-Edu= Education and life-long learning, QOL-Env=Environment, QOL-Hea=Health & social well-being, QOL-Hou=Housing.

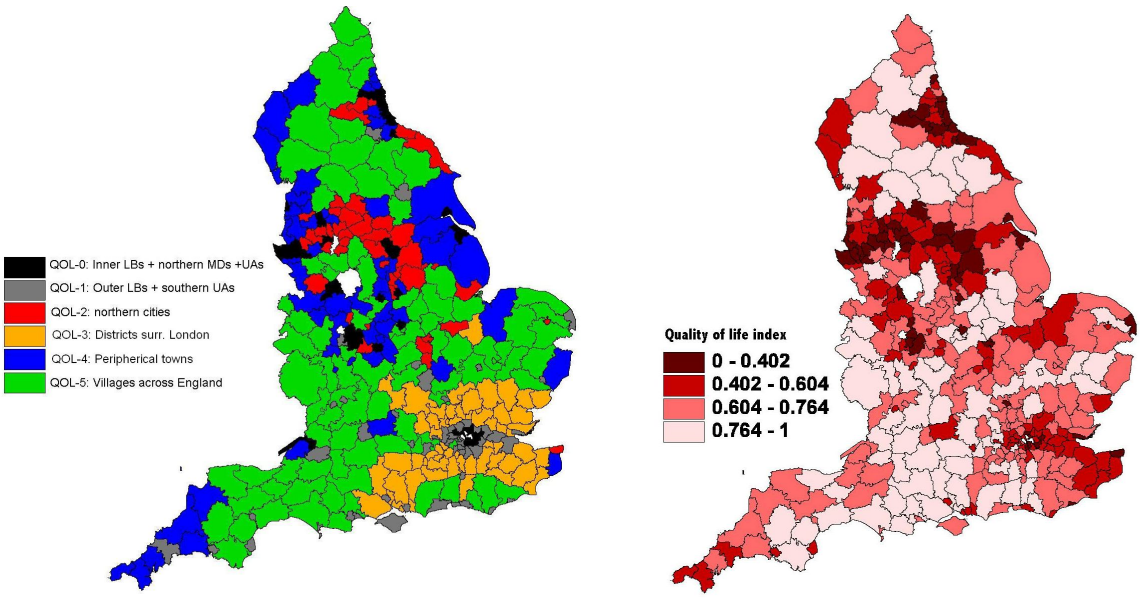
Table 5.2. *Characterization of the six K-means clusters within QOL dataset* [1]

	QOL-0	*QOL-1*	*QOL-2*	*QOL-3*	*QOL-4*	*QOL-5*	*Total*
	Inner London & MD / UA North	*Outer London & UA South*	*Cities North*	*Districts surr. London*	*Periph. Towns*	*Villages*	
No.	37	55	42	61	61	91	347
Pop. density (inhab./km²)	3,923	3,008	1,084	855	552	235	
QOL index	0.34	0.58	0.43	0.68	0.59	0.80	0-2-1,4-3-5 [3]
% population	19.1	19.6	14.7	13.7	15.4	17.6	
% territory	2.6	4.1	7.7	12.9	21.1	51.6	
Urban	37	51	34	37	34	10	203
Rural		4	8	24	27	81	144
LB	11	17				1	29
MD	13	1	17		3		34
UA	12	20	2		6	6	46
NMD	1	17	23	61	52	84	238
North East	7	1	4		6	5	23
North West	7		13		16	6	42
Yorksire-Humberside	3	1	8		3	6	21
East Midlands	3	1	11		10	15	40
West Midlands	5	1	3		14	10	33
Inner London	7	3					10
Outer London	4	14				1	19
South West	1	11			7	25	44
East		7	2	23	3	13	48
South East		16	1	38	2	10	67

[1] *Test1: MANOVA corroborates that, overall, there are statistically significant differences in QOL indicators means between these clusters. Figure 5.2 plots these data.* [3] *Post hoc tests identify homogeneous clusters according to QOL index: "-"= different; ","=equal x*

5.2. Six distinctive QOL patterns detected

K-means analysis has been performed on the QOL dataset in order to assemble districts into clusters of homogeneous QOL patterns. Table 5.2 lists the six clusters' optimal solution characterized by the three profiling variables already used (urban/rural, type of district and region). The 354 districts —in fact, only 347 taken into the study— are approximately homogeneously distributed into the six clusters of size 37, 55, 42, 61, 61 and 91, respectively QOL-0, QOL-1, QOL-2, QOL-3, QOL-4 and QOL-5. QOL-0, QOL-1 and QOL-2 clusters consist mainly of urban districts only. The QOL-0 cluster is formed by inner LBs and UAs/MDs from the Midlands and North of England (e.g., Camden, Hackney, Newham, Manchester, Nottingham, etc). Analogously, the QOL-1 cluster is formed by outer LBs and UAs from the South and East of England (e.g., Bexley, Enfield, Croydon, Reading, Brighton & Hove, etc). The third urban cluster of distinctive QOL, QOL-2, is formed by middle size northern cities. They are less dense urban districts than those in QOL-0 and QOL-1 clusters from northern England (e.g., Wigan, Bolton, Sefton, etc). The equivalent for the southern cities is found in the QOL-3 cluster, districts surrounding London. The moderate



(a) QOL patterns (b) QOL index

Figure 5.1. *English District map colouring the different QOL patterns and the QOL index (0.00, low; 1.00, high) (b). Observe that the highest QOL index is enjoyed by QOL-3 (Districts surr. London) and QOL-5 (villages across England), the worst by QOL-2 (northern cities)*

population density does not impede these southern cities to exhibit some features of rurality. The QOL-4 cluster is more difficult to define. It represents peripheral towns and villages across the country, either urban or rural districts. Finally, the less populated rural districts are found separately in the QOL-5 cluster. This contains the small towns and scattered villages of England without distinction of the region (e.g., mid Devon, Chilterton, Lewes, etc.) that occupy 50% of the territory but only accommodate 18% of the population. In other words, the typical English countryside lifestyle is to be found there. Despite similar population density, northern and southern cities exhibit different QOL patterns. One should notice also that LBs appear now, unlike SEEB clustering, separated in two different clusters, with the differential line being the location in the metropolitan area: inner or outer. Further research will be necessary to understand the association between inner LBs and northern MDs/UAs, while outer LBs link with southern UAs. Among the less dense districts (QOL-4 and QOL-5), the regional or location factor does not seem to be a determinant, unlike for cities and metropolitan areas. So, all towns and villages across the country enjoy a similar QOL regardless of their location.

5.3. The economic deprivation at the basis of the lack of QOL

But what are the underlying indicators that contribute to differentiate these clusters? That is to say, what makes the QOL in the villages (QOL-5) different in relation to the inner

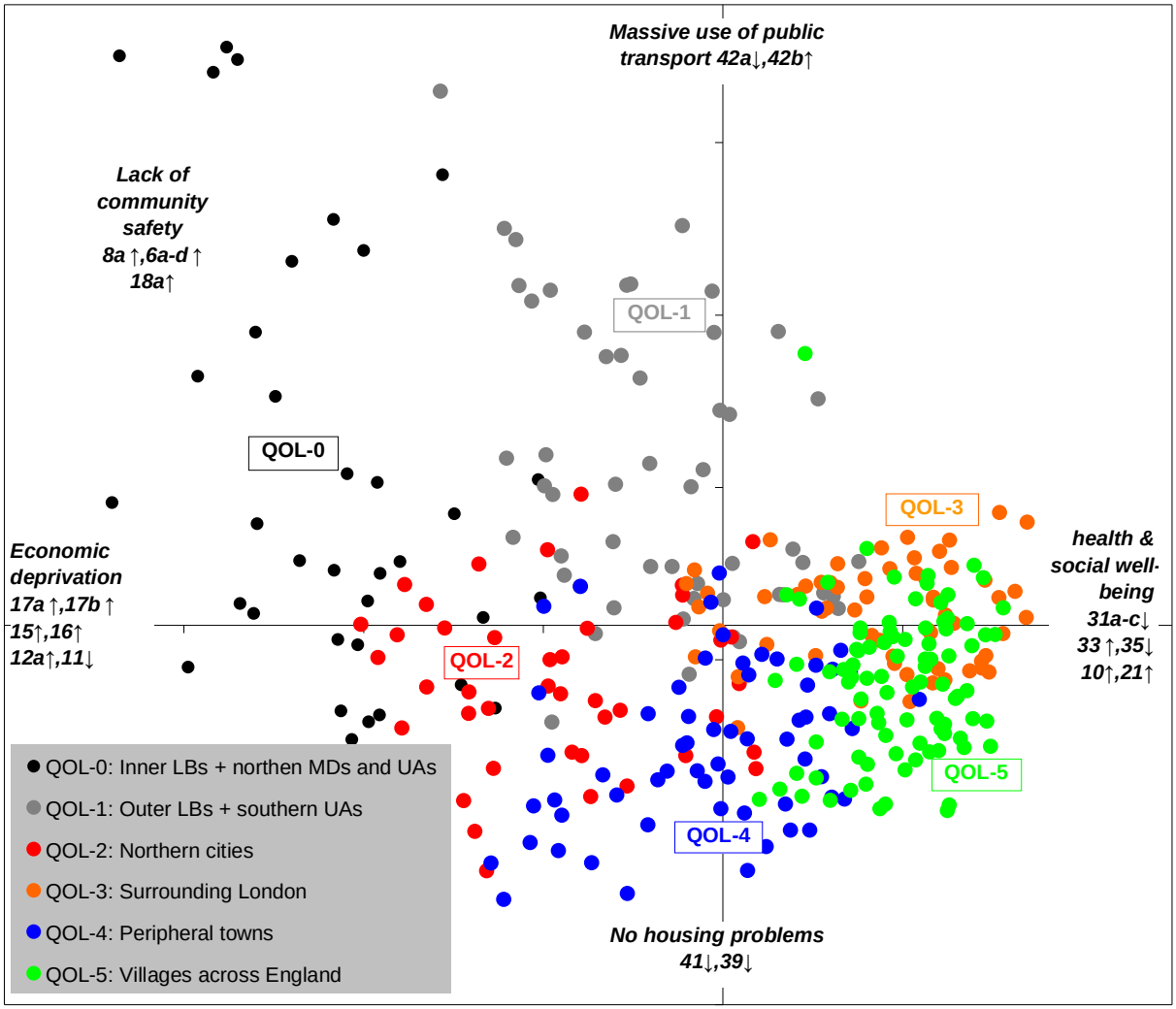


Figure 5.2. *Score plot of weighted principal component analysis (PCA) from the QOL dataset. Each district is classified into six clusters (QOL-0, QOL-1, QOL-2, QOL-3, QOL-4 and QOL-5) determined by the K-means technique. The most important QOL indicators, which differentiate the different clusters, are located in the direction from the centre that points to high or low values of the corresponding indicator. This plot accounts for 61% of the variance of the dataset—axis x, 46% and axis y, 15%.*

LBs (QOL-0), for instance? First of all, QOL patterns are dominated mainly by a few themes, namely economic deprivation and health & social well-being, which include life expectancy, mortality rates and educational attainment. In this great dimension of QOL, high life expectancy and high educational attainment are closely correlated on the right side of the principal components analysis (PCA) score plot (Figure 5.2), and negatively correlated to economic deprivation and high mortality rates, which are positively correlated among them on the left side of the PCA score plot. At a second level of importance house-related problems, use of public transport and lack of community safety also help to distinguish QOL patterns (vertical axis in Figure 5.2).

To illustrate this point the different clusters are described. In the aforementioned main dimension (horizontal axis in Figure 5.2), a good approximation would be: QOL-0 (inner LBs and northern MDs/UAs) and QOL-2 (northern cities) on the left, QOL-1 (outer LBs +

Table 5.3. *The 10 most important QOL indicators that differentiate the six K-means QOL clusters* [1]

	Ind. qolx	*Definition* [2]	*Theme*	*QOL-0 Inner London MD/UA*	*QOL-1 Outer London & UA south*	*QOL-2 Cities North*	*QOL-3 Dist. surr. London*	*QOL-4 Periph. Towns*	*QOL-5 Villages*	*Homog* [3]
1st	*qol21*	5 GCSE	Education	44.7	53.7	50.3	57.7	53.9	55.9	0-2-1,4,5,3
2nd	*qol45*	Traffic flow	Transport	1556	2766	5188	12763	6520	5814	0-1,2-5,4-3
3rd	*qol15*	% most deprived	Economy	47.5	12.5	26.5	2.5	14.8	1.4	5,3-1,4-2-0
4th	*qol17a*	Children income depriv.	Economy	34.1	20.9	22.7	12.4	18.1	11.0	5,3-4,1,2-0
5th	*qol17b*	Elder income depriv.	Economy	23.3	14.4	16.6	10.1	14.1	10.1	3,5-4,1-2-0
6th	*qol16*	Claiming key benef.	Economy	19.4	11.6	14.9	8.0	12.6	7.9	5,3-1,4-2-0
7th	*qol12a*	Job seekers	Economy	3.9	2.3	2.3	1.3	2.0	1.2	5,3-4,2,1-0
8th	*qol5a*	Outside day safety	Safety	96.3	97.0	97.0	97.9	97.8	97.9	0-1,2-3,4,5
9th	*qol33a*	Life expectancy	Health	73.9	76.3	75.1	77.4	76.0	77.6	0-2-4,1-3,5
10th	*qol8a*	Pedestrian casualties	Safety	100.6	70.3	64.1	49.3	55.1	47.4	0-1-2-3,4,5
-	*qol39*	Housing perception	Housing	30.2	38.8	25.7	17.5	19.3	15.0	-
-	*qol41*	House price to income ratio	Housing	3.7	4.6	3.3	4.5	3.6	4.4	-
-	*qol42 b-c*	Use of public transport to work / foot or cycle	Transport	45.9	42.5	31.1	33.2	29.9	31.6	-
-	*qol6b*		Safety	27.8	22.4	20.0	14.1	16.7	11.4	-

[1] Test1: ANOVA detects that listed indicators have statistically different means between clusters at 0.01 level of confidence. Test2: Also, overall, MANOVA finds significant differences in QOL indicators means between clusters at 0.01. Figure 5.4 plots these data. [2] More details on the definition of the indicators can be found in appendix XIV. [3] Post hoc tests identify homogeneous clusters: "-"= different; ","=equal

southern UAs) and QOL-4 (peripheral districts) in the centre and, finally, QOL-3 (districts surrounding London or southern cities and towns) and QOL5 (villages) on the right (See Figure 5.2).

So, the QOL-0 cluster (inner LBs + northern MDs/UAs) contains a group of LBs where the QOL could be improved significantly in relation to the rest of England. Their scores, in every single aspect, become detached from the rest of England. Not only deprivation among children (*qol17a*) and the elderly (*qol17b*) show up as a serious problem, but also life expectancy, young educational attainment and mortality rates records achieve poor standards in these districts. Furthermore, lack of community safety (*qol8a*, *qol6* and *qol18a*) accompanies some of these districts, concretely northern MDs. Two examples can be offered: half of the population in the QOL-0 cluster lives in deprived super output areas (*qol15*), while that value falls to 13% in the QOL-1 cluster (outer LBs + southern UAs) , and it is almost insignificant in QOL-3 (districts surrounding London) and QOL-5 (villages)

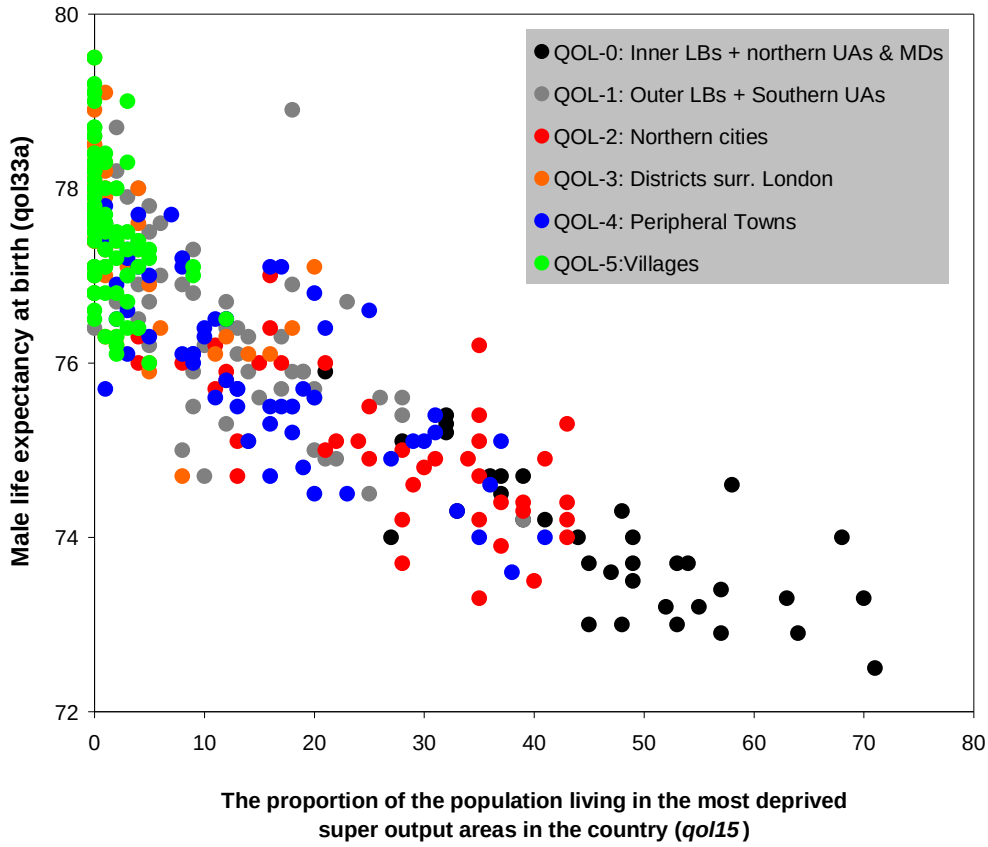


Figure 5.3. *Economic deprivation and health indicators such as qol15 and qol33a have a determinant contribution to the formation of the QOL patterns*

clusters (see Table 5.3). Life expectancy (*qol33*) decreases 2 years on average between QOL-0 and the rest of the country, from 76 to 74 years (see Figure 5.3).

The QOL-2 (northern cities) cluster shares the same conflicts exposed by the QOL-0 cluster, but with some improvement in almost every aspect, especially in the lack of community safety, although they do not yet achieve the average standards of QOL seen in the rest of England.

The next groups to be located are the QOL-1 (outer LBs + southern UAs) and QOL-4 (peripheral towns across England) clusters. These urban areas enjoy the average English QOL in terms of economic deprivation and health & social well-being. Most of the abovementioned conflicts have been addressed also. Observe, therefore, that the outer LBs (QOL-1) enjoy better QOL standards than the inner LBs (QOL-0), with clear improvements in young educational attainment (*qol21*) and the eradication of economic deprivation (*qol15* and *qol17*) (see Table 5.3). However, QOL-1 faces problems related to housing: high house price to income ratio (*qol41*) and perception of housing problems (*qol39*); and the lack of community safety remains high, especially in southern UAs.

Overall, districts surrounding London (QOL-3) and villages across the country (QOL-5) enjoy similar QOL standards. Both are characterized by high life expectancy, low mortality

rates and the lack of any social or economic difficulties of their inhabitants. However, in southern cities the performance of the pupils at school appears to be much higher than those in the villages. But on the other hand, these cities sustain an extremely high traffic flow which somehow diminishes their quality of living.

QOL index correlates negatively with population density, the higher the density the lower the QOL index. Southern cities and outer LBs represent the only exception to this trend. Observe data carefully, (density, index): QOL-0 (3,923 inhabitants/km^2, 0.34) < QOL-2 (1,084 inhab./km^2, 0.43) < QOL-1 (3,008 inhab./km^2, 0.58) ≈ QOL-4 (552 inhab./km^2, 0.59) < QOL-3 (855 inhab./km^2, 0.68) ≈ QOL-5 (235 inhab./km^2, 0.80).

To sum up, LBs display two kinds QOL patterns depending on their location: inner and outer LBs. Inner LBs, northern MDs, northern UAs and northern cities have a long way to improve their QOL standards in almost every aspect, specially on economic deprivation and except the use of public transportation. Outer LBs, densely populated southern cities and towns across England enjoy the same level of QOL but with different issues to focus upon. Towns should focus on improvements on health services due to their high mortality rates. On the other hand, outer LBs and densely populated southern cities should deal with housing problems. Moreover, in all MDs and UAs the lack of community safety arises as a serious problem that has a clear negative impact on the QOL in those local areas. Finally, it should be noted that intermediate southern cities and villages across the country score at the highest levels of QOL among all districts in England.

5.4. Concluding remarks: spatial QOL segregation in cities (north/south) and London (inner/outer) but homogeneous QOL in towns and villages

Unlike the social, economic and environmental background, the kind of settlement cannot provide information on how people are living. Instead, regional location matters. Economic deprivation and health & social well-being, which are negatively correlated, turn out to be the crucial indicators that explain what kind of quality of life (QOL) English people will enjoy. Six genuine QOL patterns can be found in England, which are sorted by the QOL index (0.00, lowest; 1.00, highest) as follows: inner LBs + northern MDs/UAs (0.34) < northern cities (0.43) < outer LBs + southern UAs (0.58) ≈ towns across country (0.59) < districts surrounding London (0.68) ≈ villages across country (0.80). Economic deprivation afflicts inner LBs and all types of northern cities (MDs, UAs and urban NMDs). This is reduced considerably in outer LBs and towns, and almost extinguished in southern cities and villages. Moreover, the lack of community safety is strongly perceived in MDs and UAs elsewhere. On the other hand, southern cities and villages enjoy the best of the English QOL:

with higher life expectancy, lower mortality rates and higher educational performance of their schoolchildren.

Notice that more densely populated districts tend to segregate depending on the location: for instance outer LBs and southern cities enjoy a better QOL than inner LBs and northern cities, respectively; but, contrarily, less densely populated districts (towns and villages) keep their homogeneous and genuine QOL regardless of where they are: north/south or east/west. A recent study on poverty rates and wealth distribution by Dorling has reported findings in line with those presented here.[35] The Dorling's report notes the country is moving back towards levels of inequality in wealth and poverty last seen more than 40 years ago. But more importantly, the report finds that wealth have become more geographically concentrated causing a spatial segregation north/south or even some pockets of affluence across country, as we have also found. However, notice that our findings suggest that these inequalities affect more intensively cities than towns and villages across country.

Chapter 6

Patterns of local authorities' (LAs) performance on delivering services

6.1. The type of local authority (LA) strongly determines the performance pattern

The differences in performance on delivering services between urban and rural LAs are less significant than those which arose when measuring the quality of life (QOL) or social, economic and environmental backgrounds (SEEBs). On the other hand, the type of LA actually provides strong clues about how LAs are likely to perform in the Best Value Performance Indicators (BVPI) assessment. As seen also in the SEEB analysis, London boroughs (LBs) are distinguished from the rest of the LAs in most BVP indicators. Additionally, unitary authorities (UAs) and metropolitan districts (MDs) seem to have a common pattern, but further research is required to break down the NMDs into several clusters. The same indicators related to lack of community safety, head the table of the most important indicators that distinguish the different types of LAs, see Table 6.1. MDs and UAs are the places where the criminal activity is highest. Finally, three other indicators appear to be important: Percentage of top earners that are women (*bvp11*), which drops to half in the case of UAs in relation to the rest of LAs; the use of public libraries (*bvp117*), which is extraordinarily low in MDs and UAs, unlike in LBs and NMDs; and percentage of people satisfied with household waste collection (*bvp90*), which is high everywhere except in LBs. A complementary analysis, however, reveals that, leaving out LBs, the most important variables that characterise the differences between MDs, UAs and NMDs are related mainly to the performance of their schools. This last fact will be examined further below.

6.2. Divergent pattern for the top LAs

The LAs have also been ranked according to their overall performance (Table 6.2). The top position is occupied by a rural NMD from the South East, Chiltern, and the second position is for the LB of Kensington & Chelsea. At the bottom of performance are two LBs, Lambeth and Hackney. The LB of Hackney turns out to be an outlier with respect to the rest

Table 6.1. *The most important BVP indicators that differentiate urban/rural and the type of district* [1]

	Indicator	*Definition* [2]	*Theme*	*LB*	*MD*	*UA*	*NMD*
1st	*bvp126*	Vehicles crimes	Safety	13.9	25.9	20.6	11.1
2nd	*bvp128*	Dom. burglaries	Safety	13.5	21.2	20.1	11.5
3rd	*bvp11a*	Top earners women/min	Corpo. health	38.7	38.9	40.9	30.8
	bvp11b	Top earners minority	Corpo. health	11.4	3.4	2.7	1.5
4th	*bvp117*	Visits libraries	Culture	56.3	21.0	64.8	33.9
5th	*bvp90 a-b-c*	Satisfaction waste	Environ.	47.1	72.3	77.6	73.1

[1] *Test1: ANOVA detects that listed indicators have statistically different means between these categorical variables at 0.01 level of confidence. Test2: Also, overall, MANOVA finds significant differences in BVP indicators means between the different type of LAs at 0.01, not for the rural/urban distinction.* [2] *More details on the definition of these indicators can be found in appendix XVIII.*

Table 6.2. *10 top and bottom districts according to BVP dataset.*[1]

BVP ind. [2]	*LA*	*Description (type, R/U, region)*[3]			*X=Sat*	*Cor*	*Edu*	*Soc*	*Hou*	*Env*	*Cul*	*Saf*
					Indices by themes. BVP-X [4]							
1.00	Chiltern	NMD	R	SE	0.94	0.80	0.74	0.48	0.86	0.96	0.76	0.57
0.99	Kensington and Chelsea	LB	U	IL	0.83	0.86	0.68	0.75	0.46	0.89	0.75	0.84
0.94	Kennet	NMD	R	SW	0.84	0.90	0.67	0.44	0.71	0.77	0.84	0.89
0.93	Charnwood	NMD	U	EM	0.80	0.75	0.57	0.68	0.75	0.88	0.79	0.80
0.93	Vale Royal	NMD	R	NW	0.98	1.00	0.62	0.61	0.76	0.66	0.92	0.79

0.92	Poole 7th	UA	U	SW	0.87	0.66	0.55	0.73	0.74	0.89	0.91	0.80
0.90	St. Helens 11th	MD	U	NW	0.80	0.76	0.52	0.88	0.81	0.80	0.75	0.74

0.36	Leicester	UA	U	EM	0.35	0.36	0.74	0.25	0.17	0.32	0.34	0.42
0.35	Nottingham	UA	U	EM	0.34	0.35	0.43	0.32	0.12	0.46	0.51	0.62
0.29	Sandwell	MD	U	WM	0.28	0.29	0.44	0.24	0.07	0.25	0.52	0.57
0.25	Lambeth	LB	U	IL	0.24	0.25	0.19	0.25	0.35	0.39	0.00	0.42
0.00	Hackney	LB	U	IL	0.00	0.00	0.00	0.00	0.00	0.67	0.55	0.00

[1] The BVP index for each district can be found in the appendix VII . [2] BVP index is the average of the 8 listed BVP theme indexes. It is rescaled between 0.00 (the weakest) and 1.00 (the strongest) performance.[3] R=Rural, U=urban, NW=North West, SW=South West, SE=South East, EM=East Midlands, OL=Outer London, NE=North East.[4] Intermediate theme index also ranging from 0.00 to 1.00. Theme indices compute weighted means for the corresponding group indicators according to Table 3.3. BVP-Cor=Corporate health, BVP-Edu=Education, BVP-Soc=Social Services, BVP-Hou=Housing & related services, BVP-Cul=Culture & libraries, BVP-Com=Community safety & legal services & crosscutting.

of the BVPI dataset, performing extremely inadequately in almost every sphere under evaluation. Unlike the quality of life (QOL) ranking, there are no clear features for the top performers or the bottom ones. In general, they can either be from the north or the south, and either be a NMD or a LB. This is an interesting finding, since there must be other variables that affect the performance but definitely not the rural/urban, region or type of LA. In fact, these views agree with those expressed by the *Audit Commission*.[36]

6.3. Seven specific clusters

Our main aim after describing the dataset is to assemble LAs into clusters of homogeneous patterns of performance. This should not be confused with ranking the LAs according to their performance. Two LAs could be both at the top of the table and simultaneously belong to different groups of BVP patterns, since, for instance, one LA performs especially good at environmental issues but fails in providing good social services, and the reverse might apply for the other LA. Seven homogeneous clusters emerge from the K-means cluster analysis (see Table 6.3 and Figure 6.1). Again, LBs form a cluster by themselves, BVP-0. As noted above, northern UAs join MDs to compose BVP-1. Unlike the previous cluster analyses, more local and specific clusters are also obtained. In other words, the BVP-2 cluster is formed only by the 10 NMDs of the county of Hertfordshire. Similarly, the 17 NMDs of the adjacent counties of Surrey and West Sussex appear together to form the

Table 6.3. *Characterization of the eight K-means clusters within BVP dataset.* [1]

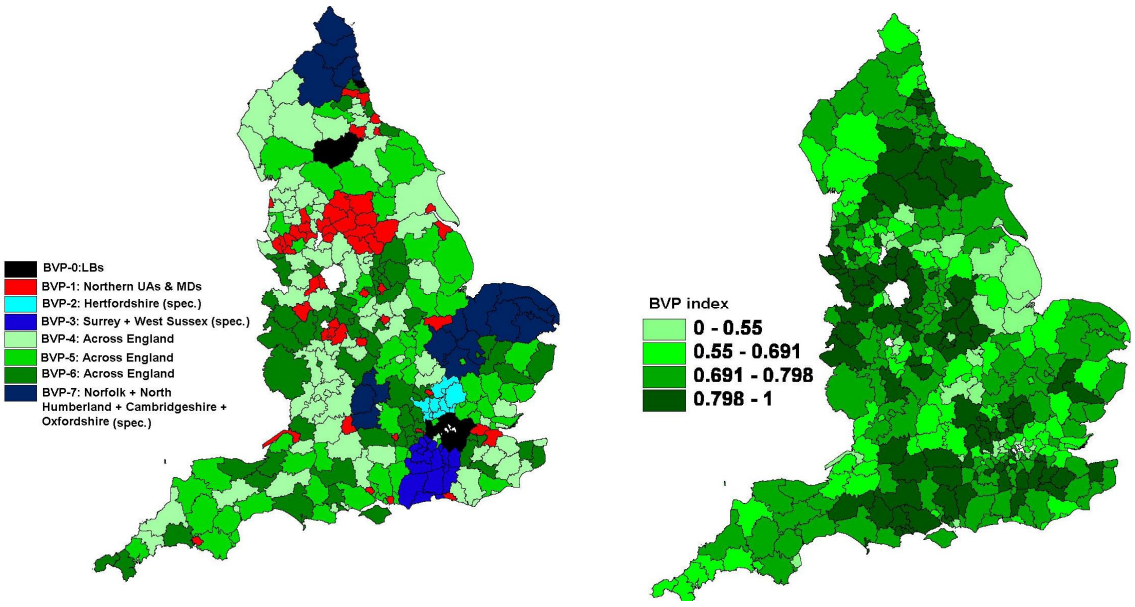
Cluster	*BVP-0*	*BVP-1*	*BVP-4*	*BVP-5*	*BVP-6*	*BVP-2*	*BVP-3*	*BVP-7*	
	Whole London	*MD & North UA*	*Across England*	*Across England*	*Across England*	*Specific* [2]	*Specific* [3]	*Specific* [4]	*Total*
No. of LAs	31	53	88	64	66	10	17	20	350
Pop. den	6,202	2,193	904	700	601	1,316	941	383	-
BVP Index	0.64	0.60	0.76	0.68	0.78	0.84	0.79	0.68	
BVP-Sat	0.49	0.69	0.780	0.77	0.79	0.86	0.76	0.71	
BVP-Ser	0.61	0.58	0.76	0.69	0.77	0.83	0.78	0.67	
BVP-Cor	0.63	0.58	0.62	0.50	0.67	0.74	0.68	0.60	
Urban	30	53	45	28	27	9	11	4	206
Rural	1		43	36	39	1	6	16	144
NMD	1		75	57	55	10	17	20	238
MD	1	28	6		1				36
UA		25	6	5	10				46
LB	29		1	2					30
North East	1	6	5	1	4			6	23
North West		13	23	4	3				43
Yorksire-Humberside	1	11	3	6					21
East Midlands		3	13	13	11				40
West Midlands		8	9		16				34
Inner London	13								11
Outer London	16		1	2					19
South West		3	16	13	12				44
East		3	5	13	5	10		11	48
South East		6	13	12	15		17	3	67

[1] Figure 6.1 plots these data. [2] Hertfordshire county. [3] All local authorities from Surrey and West Sussex counties. [4] Most of the local authorities from Norfolk, Cambridgeshire, Oxfordshire and Northumberland Counties.

BVP-3 cluster. Finally, and more intriguingly, all rural NMDs in the counties of Norfolk (East), North Humberland (North East), Cambridgeshire (East) and Oxfordshire (South East) group themselves into the BVP-7 cluster. Finally, a mix of rural and urban NMDs scattered across England form the BVP-4, BVP-5 and BVP-6 clusters. It would be interesting to find out why there is such a diverse clustering.

6.4. Education indicators break down LAs' performance on delivering services

The underlying structure of this clustering appears to be more complex than that of the previous datasets. However, a careful inspection provided by the principal component analysis (PCA) (Figure 6.2) reveals two main dimensions that differentiate characteristic patterns of performance. The first provides a general differentiation among the seven clusters, while the second helps to distinguish only certain BVP clusters (BVP-4, BVP-5 and BVP-6). The first, and the most important, dimension turns out to be, again, the performance of the



(a) BVP clusters (b) BVP index

Figure 6.1. *English District map colouring the different BVP patterns and the BVP index (0.00, lowest; 1.00, highest). No clear correlation between both maps exists*

schools maintained by LAs, indicators *bvp181*, *bvp38*, *bvp39*, *bvp41*, *bvp40* and *bvp194* (horizontal axis in Figure 6.2). LAs that achieve high scores on education are located on the right. By contrast, poor performers are on the left. Figure 6.3 plots two of the crucial indicators: *bvp181* and *bvp39*. Education performance is measured through student achievement in *GCSE* and *Key Stage 2 and 3*.

Corporate health becomes the second important dimension: precisely, indicator *bvp1* and *bvp177*. *bvp1* accounts for whether the LAs have a *Community Strategy Plan* developed in collaboration with a *Local Strategic Partnership* (LSP), whereas *bvp177* deals with the quality of legal and advice services identified within such a *Local Strategic Partnership*. This study demonstrates that some LAs accomplish their duties similarly regarding education and social services, but they differ enormously in the way they consider the *Community Strategy Plans* to be useful. Notice that the *Local Strategic Partnership* remit is aimed at working together with all sectors of society (public, private, community and voluntary) in a cross-agency to improve the QOL in a particular locality. The Government sees them as the main mechanism for the coordination of the delivery of better local services. Note that this dimension is not expressed in PCA score plot of Figure 6.2.

6.5. Different type of LA, different weaknesses

LAs in the BVP-0 (LBs) and BVP-1 (northern UAs and MDs) clusters have failed to manage their local schools to best advantage. They are located on the left side of the PCA

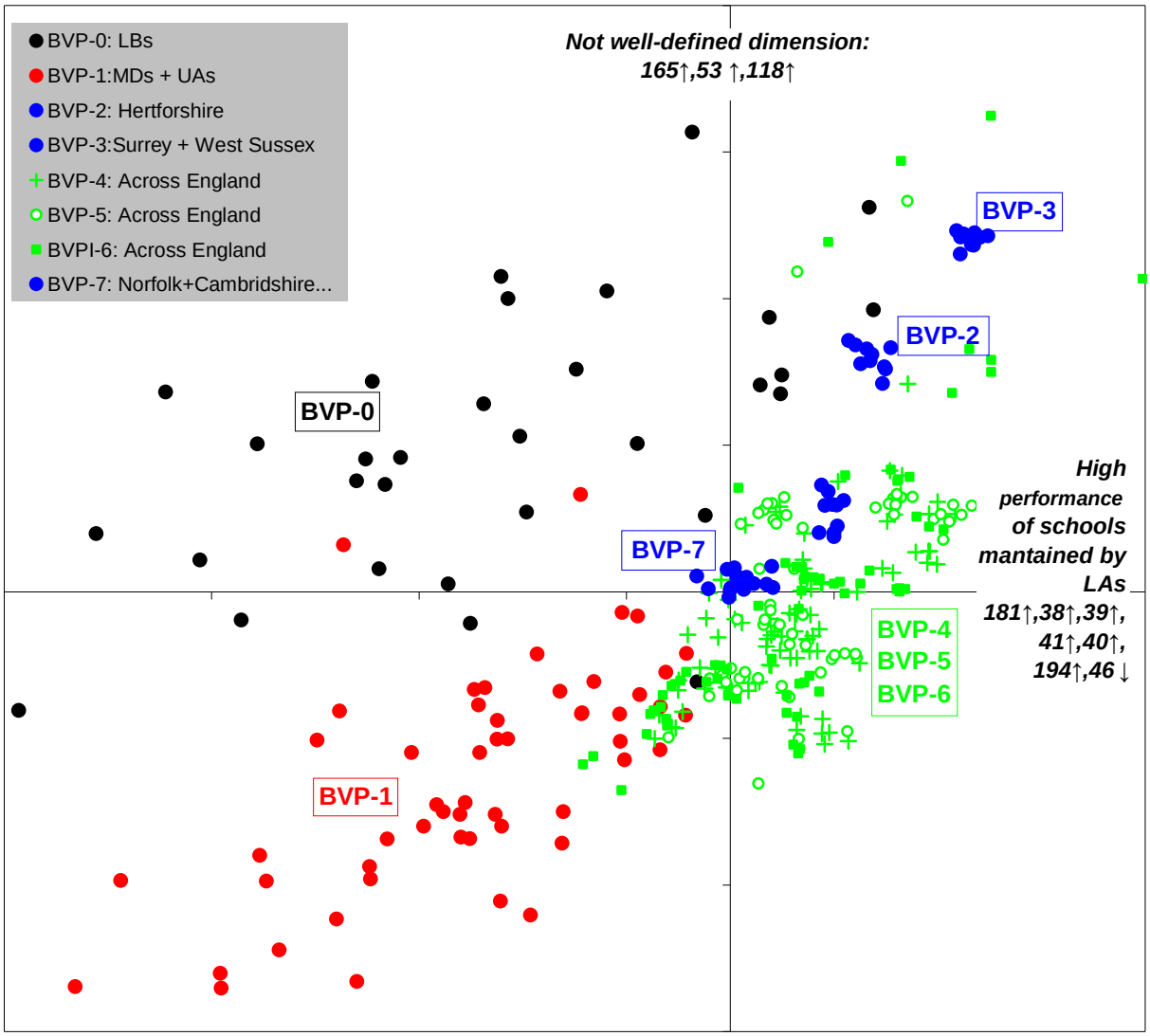


Figure 6.2. Score plot of weighted principal component analysis (PCA) from the BVPI dataset. *The loadings plot is also added. Each LA is classified into the six clusters (BVP-0, BVP-1, BVP-2, BVP-3, BVP-4, BVP-5, BVP-6 and BVP-7) determined by the K-means technique. The most important QOL indicators, which differentiate the different clusters, are located in the direction from the centre that points to high or low values of the corresponding indicator. This plot accounts for 40% of the variance of the dataset.*

score plot (Figure 6.2). Their schools' performance is far from the average of the rest of the state maintained schools in England. The situation is especially severe in the BVP-1 cluster. Just to illustrate this, notice that the percentage of pupils achieving five *GCSE*s or Level 4 in the *Key Stage 2* (*bvp39*, *bvp40* and *bvp41* in Table 6.4) decreases by 4 points on average in those schools maintained by LAs of BVP-0 and BVP-1 clusters, compared with the rest of schools. Despite that similarity, both clusters are plotted separately in Figure 6.2 due to the fewer number of criminal offences in LBs (BVP-0) than in MDs and UAs (BVP-1) seen also in the previous chapter.

On the other hand, on the right side of the PCA score plot there are the rest of the LAs, mainly NMDs. They can be grouped into two types of clusters: specific ones (BVP-2, BVP-3

Table 6.4. *The 10 most important BVP indicators that differentiate the eight K-means BVP clusters* [1]

	Ind.	*Definition* [2]	*Theme*	*BVP-0 Whole London*	*BVP-1 UA & MD*	*Averaged BVP -4-5-6 England*	*BVP-2 Herftord-shire specfic* [3]	*BVP-3 W.Sussex Surrey Specfic* [4]	*BVP-7 Speci -fic* [5]
1st	*bvp165*	Pedest. crossings for disabled	Transport	91.9	76.4	87.6	36.0	98.9	41.7
2nd	*bvp53*	Intensive home care	Social	17.2	13.1	9.0	9.3	5.4	10.7
3rd	*bvp48*	Schools special measures	Education	2.0	1.6	1.0	1.8	1.3	0.8
4th	*bvp39*	5 GCSE maths & English	Education	87.6	84.8	89.7	90.9	90.4	88.8
5th	*bvp 181 a-d*	Level 5 in Key 3	Education	49.1	47.5	73.3	81.4	80.6	73.4
6th	*bvp159a*	Excluded pupils	Education	10.1	7.1	12.5	52.7	17.6	9.0
7th	*bvp40*	Level 4 in Key 2 Maths	Education	71.5	69.5	73.7	76.4	76.1	72.7
8th	*bvp41*	Level 4 in Key 2 Maths	Education	75.9	71.1	76.5	80.7	80.1	76.2
9th	*bvp103*	Satisf. pub. transp	Transport	50.4	52.3	47.4	39.0	31.8	49.7
10th	*bvp33*	Youth expenditure	Education	96.2	87.9	70.1	79.4	76.4	59.4

[1] Test1: ANOVA detects that listed indicators have statistically different means between clusters at 0.01 level of confidence. Test2: Also, overall, MANOVA finds significant differences in BVP indicators means between clusters at 0.01. Figure 6.2 plots these data. [2] More details on the definition of the indicators can be found in appendix XIX. [3] Hertfordshire County. [4] All Local authorities from Surrey and West Sussex counties. [5] Most of the LAs from Norfolk, Cambridgeshire, Oxfordshire and North Humberland Counties.

and BVP-7) and general ones (BVP-4, BVP-5 and BVP-6). The specific clusters represent groupings of small numbers of LAs from very specific counties that perform equally well in all domains of the evaluation. BVP-2 (Hertfordshire) and BVP-3 (Surrey and West Sussex) clusters stand out as the best performers of all, especially in education terms. BVP-7 also remains separated from the general clusters due to high performance on social services (*bvp163*, *bvp196* and *bvp52*).

The general clusters (BVP-4, BVP-5 and BVP-6) illustrate an interesting phenomenon: (1) they are composed by rural/urban NMDs across the country and, more importantly, (2) they do not exhibit significant differences in terms of performances on educational and social matters. In other words, they cannot be distinguished in the PCA score plot. Thus, their unique characteristics involve the second mentioned dimension: the existence of *Local Strategic Partnerships* (LSPs). This is to say, these LAs have different views on the usefulness of LSPs, which are sponsored by central government, and consequently some LAs have developed such partnerships whereas some have not yet. Definitely, this would appear to be a response to the different political philosophies within these LAs. Most of the LAs in the

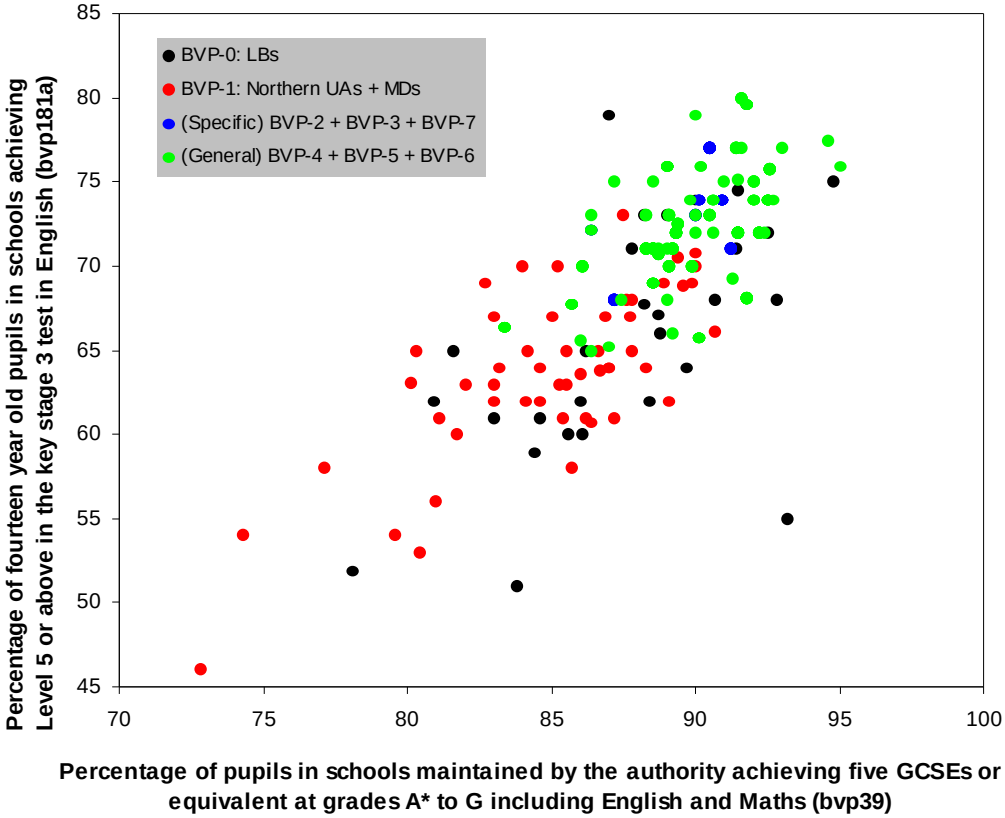


Figure 6.3. *Pupils performance under LAs schools distinguishes BVP clusters*

BVP-4 and BVP-6 clusters have developed a *Local Strategic Partnership* (LSP), unlike BVP-5, although only the BVP-4 cluster has also prioritised the quality of the services delivered through such partnership (see Histogram in Figure 6.4). It is worth noting that almost all LAs have adopted these LSPs, except those in BVP-2, BVP-3 and BVP-5. The lack of social conflicts could be a reasonable explanation for the non-creation of these LSPs in the LAs of BVP-2 and BVP-3 clusters, since they are wealthy areas. On the other hand, LAs in BVP-4 and BVP-6 clusters have adopted LSPs as a way to tackle social issues, whereas LAs in BVP-5 probably follow a different strategy.

6.6. Concluding remarks: education is the failed subject for LBs, UAs and MDs that could have a crucial impact on QOL issues

The type of LA explains a considerable number of facts about how a LA is going to perform on delivering services. Actually, each type of LA has to deal with different geographical backgrounds. MDs are designed to administer densely populated urban areas, UAs are designed for isolated intermediate cities and NMDs for towns and villages. And as we have seen, each kind of settlement gives you an idea about a different social, economic, environmental background pattern (SEEB). So, it is quite reasonable to think that each type of LA has different needs and problems to deal with.

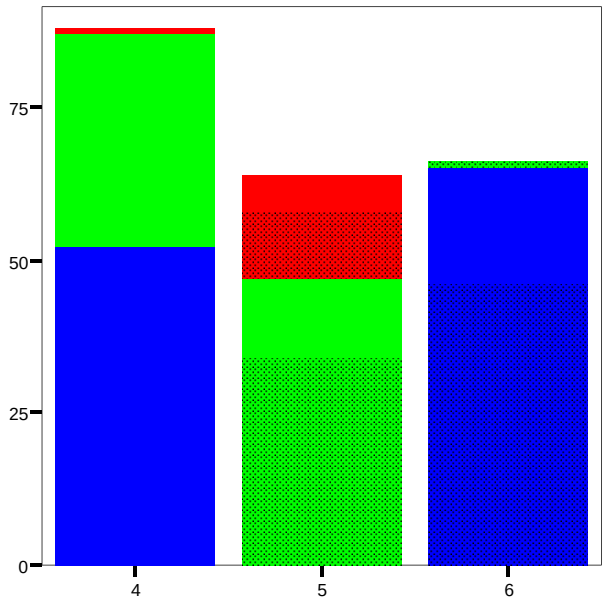


Figure 6.4. *Description of BVP-4, BVP-5 and BVP-6 clusters in terms of bvp1 (Community Strategic developed in collaboration with Local Strategic Partnership) and bvp177 (Services in the mentioned Community Strategy awarded Quality Mark). bvp1: high, intermediate and low predisposition to the Community Strategy. bvp177: solid color highly awarded, dotted color poorly awarded*

In spite of the high number of services under evaluation – more than 100 BVP indicators – only those related to the performance of schools maintained by the LAs turns out to be important differentiators. Eight genuine clusters are grouped according to their resemblance in the BVPI dataset: one group for the LBs, one for the MDs and UAs together, three general NMDs clusters and then also three very specific clusters formed by NMDs. LBs, MDs and UAs deliver a poor performance on their schools, but this situation is amended in the NMDs. Some NMDs are really specific, all NMDs from West Sussex, Surrey and Hertfordshire counties protrude as places where high levels of school performance are achieved. Furthermore, rural NMDs of Norfolk, Cambridgeshire, Oxfordshire and North Humberland stand out for their success in delivering adequate social services.

However, among NMDs, which enjoy average school and social services performances, other factors related to corporate health take importance. The UK government has promoted the creation of *Community Strategies* developed in collaboration with *Local Strategic Partnership* for each LA in order to tackle social and economic problems together with private and voluntary associations. But the way these strategies are implemented largely depends on the will of LAs, thus originating different BVP clusters. The political orientation of the LA, probably, lies behind these different strategies.

Chapter 7

The impact of LAs' policies on the quality of life

7.1. Methodological introduction: the pathway to identify relevant QOL concerns in each SEEB cluster

The relationships and correspondences between the four distinctive social, economic and environmental backgrounds (SEEBs) clusters and the six quality of life (QOL) patterns —influenced by the LAs' performance on delivering services according to the QOL model in Figure 1.1— constitute the main frame of the present chapter. On the one hand, through multiple regression analysis (MLR) we will separate out the crucial SEEB and BVP indicators that strongly correlate with QOL index. Although we will not probe cause-effect relationships, we will uncover the most frequent facts that lead to high standards of QOL, either among SEEB indicators or BVP indicators.

On the other hand, cross-tabulated clusters will emerge as a result of the correspondence between both sets of clusters, SEEB and QOL clusters. These 'new' clusters represent genuine conversions from a specific SEEB to a determined QOL pattern. In other words, it is expected that each SEEB cluster splits into smaller clusters with different QOL patterns, which may also account for different QOL indices. Then MANOVA will group these cross-tabulated clusters into groups of homogeneous QOL indices within each SEEB, named final QOL groups. Finally these final QOL groups will be classified into three categories: 'expected QOL', 'better than expected' and 'lower than expected,' in accordance with its QOL indices. So, it will be easier to detect genuine issues that affect each characteristic SEEB —LBs (SEEB-0), cities (SEEB-1), districts surrounding London (SEEB-2) and villages (SEEB-3)— and to realise that LAs in each SEEB cluster face different challenges in relation to QOL issues. The evaluation of the possibilities of LAs to have an impact on performance on those above mentioned links will be the last step.

7.2. Relationships between QOL index and SEEB dataset: Unemployment and lack of literacy result in a decrease of the QOL index

Among all SEEB indicators, two kinds of measures stand out for negatively high correlation against the QOL index: unemployment rates and poor literacy and numeracy skills. This is revealed by a Multiple Linear Regression (MLR) analysis between the SEEB dataset and the QOL index. Taking into account the overall model, the SEEB variables as a whole (independent ones) explain up to 85% of the variance of the QOL index (dependent one).

It should be noted that controversial issues such as presence of minorities and the population age distribution have a minimal impact on the population well-being. In contrast, percentages of those who are long-term unemployed (*seeb42*) and who have never worked

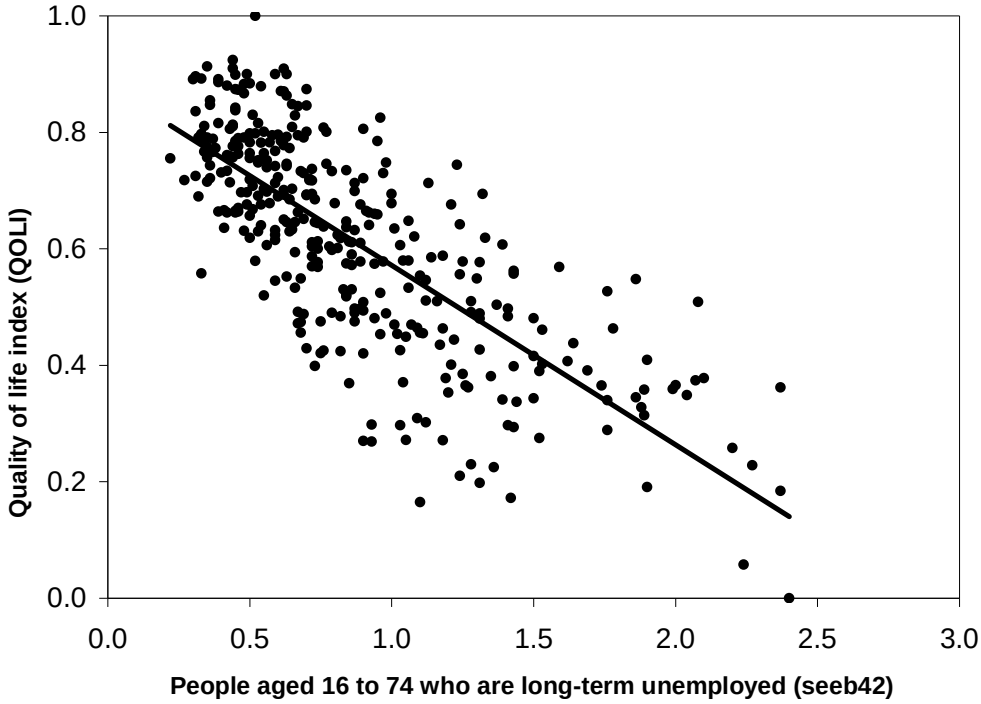
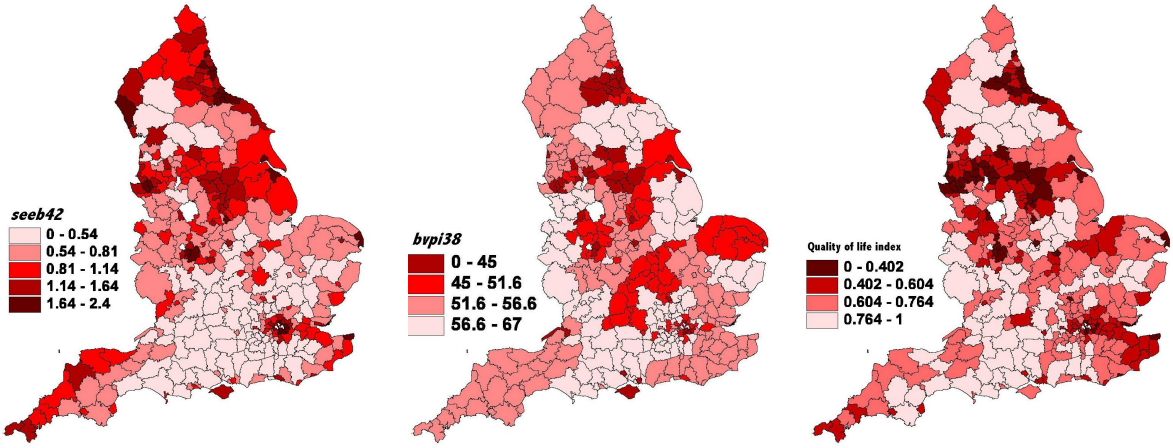


Figure 7.1. *Correlation plot between QOL Index (dependent variable) and seeb42 variable (Independent). Coeff. Correl. = -0.76.*

(*seeb41*) show a significant correlation of -0.76 and -0.68 with respect to QOL index (see Figures 7.1 and 7.2). Negative trends with the same magnitude are also found for the percentage of those with poor literacy (*seeb50*) and numeracy skills (*seeb51*) and those with no or low qualifications (*seeb48*). Conversely, the presence of small employers and own account workers (*seeb37*) and also of a high percentage of people with high qualifications (5 *GCSE*'s Grades A*-C) (*seeb47*) foster high QOL conditions, as indicated by positive correlation coefficients.

7.3. Relationships between QOL index and Local Authorities' performance on delivering services: Performance of the schools maintained by the local authority clear indication of the QOL enjoyed by their citizens

In this section the correlation between the BVPI dataset, which represents LAs' performance on delivering services, and the QOL index is examined through MLR. The amount of variation in the QOL index explained by the BVP indicators through the MLR model reaches the value of 83%, which represent a strong significant relationship. Among the huge variety of BVP indicators, education-related measures stand out as the most correlated to QOL index. The values of educational indicators such as high percentage of pupils achieving *Level 5* or above in the *Key Stage 3* (*bvpi181*), high percentage of pupils achieving 5 or more *GCSE* at grades A*-C or equivalent (*bvpi38*) or low percentage of half days missed due to



People aged 16 to 74 who are long-term unemployed (*seeb42*)

% pupils achieving 5 or more GCSEs at grades A* - C or equivalent (*bvpi38*)

QOL index

Figure 7.2. *Visual correlation between seeb42, bvpi38 and the QOL index. Notice that shade intensity coincides in the three maps. High QOL (soft shaded districts) is accompanied of high performance of their pupils and low rates of unemployment*

unauthorised absence (*bvpi45*) denote high levels of QOL index. The correlation reaches a value of 0.70 for *bvpi181c* and a bit lower for the other two, see Figure 7.3.

The weak correlation —a coefficient of determination of only 0.29— between LAs' corporate health and QOL index is not surprising. In line with this finding, the MLR over BVP index from the SEEB or QOL dataset only yielded a coefficient of determination smaller than 0.45 for both cases, in other words SEEB and QOL indicators only managed to explain the variability of as much as 45% of the BVP index. We conclude, therefore, that other significant factors must play a role in the determination of the LAs' performance in addition to the external factors (SEEB and QOL indicators). Notice, on the other hand, that the other coefficient exceeds 80%, almost double, for the explanation of the QOL index from SEEB or BVP datasets. This is an important finding, since it corroborates our third hypothesis in Chapter 3 and confirms that LAs have a certain freedom to perform their own responsibilities regardless of adversity in their surroundings.

7.4. Cross-tabulation: each SEEB cluster gives birth to several QOL patterns; economic QOL indicators responsible

The cross-tabulation of both, four SEEB clusters and six QOL patterns, is shown in Table 7.1. The maximum number of cross-tabulated clusters would be 24 (6 x 4) but not all combinations are produced; only 18 cross-tabulated clusters are. And if smaller cross-tabulated clusters (<10 LAs) are excluded, that value accounts only 12 cross-tabulated clusters. It is expected that a specific QOL pattern will be enjoyed only by citizens within a

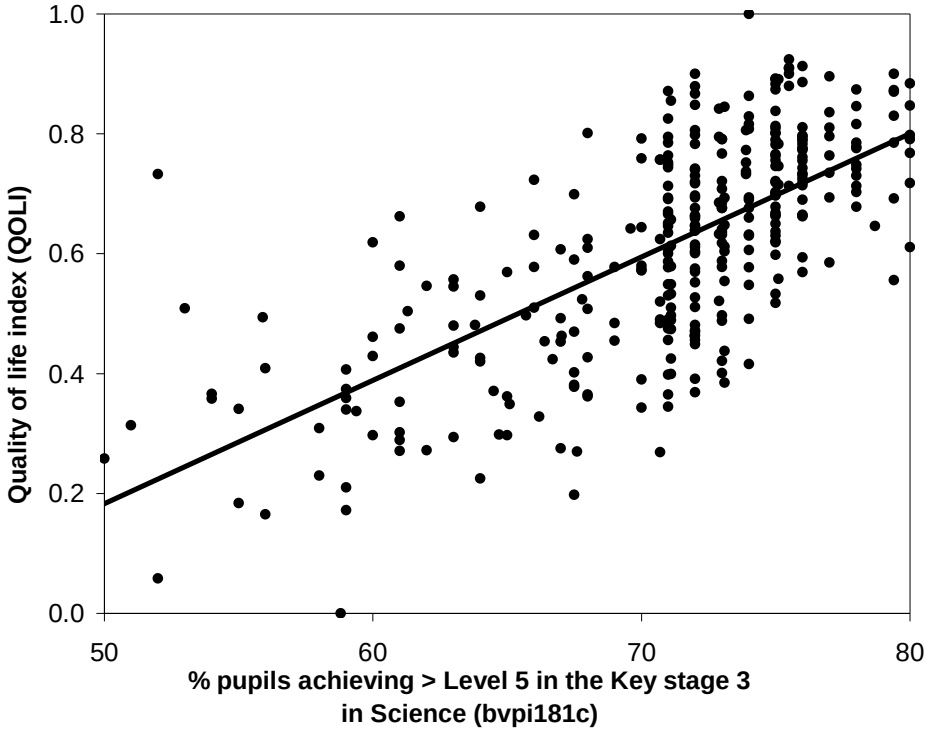


Figure 7.3. *Correlation plot between QOL index (dependent variable) and bvpi181c variable (independent Coeff. Correl. = 0.70.*

determined SEEB cluster. So, citizens of a determined SEEB cluster will not have access to all possible QOL patterns in England but only to predetermined ones. Therefore, there will be more common links than others.

For instance, a homogeneous SEEB cluster is detected in the whole of London (SEEB-0), but when the QOL is analysed, this homogeneous group splits up into LAs belonging to three different QOL patterns (QOL-0, QOL-1 and QOL-5). So, notice that not all QOL patterns are achieved, only three. QOL-0 is characteristic of inner LBs and is also found in northern MDs, QOL-1 characterises outer LBs and can be also found in UAs, whereas the LB of Richmond-Upon-Thames only shows a QOL pattern like that of a village (QOL-5).

Then we tested if there are statistically significant differences in terms of QOL indices among these new clusters. The idea is to cluster them again into groups of homogeneous QOL indices within each SEEB to form the final QOL groups. In the particular case of SEEB-0 (LBs), as there are only two cross-tabulated clusters, there was no need for searching homogeneous groups and both become the final QOL groups. Then the MANOVA analysis showed significant differences in terms of QOL indices between the two larger cross-tabulated clusters, QOL-0 (10 LAs) and QOL-1 (17 LAs). By default, the biggest 'final group' is labelled as 'expected' and the others are compared to this one. So, as QOL-0 is the smaller group and enjoys a statistically significant lower QOL index than QOL-1, this latter is labelled as 'expected QOL' and the former as 'lower than expected'.

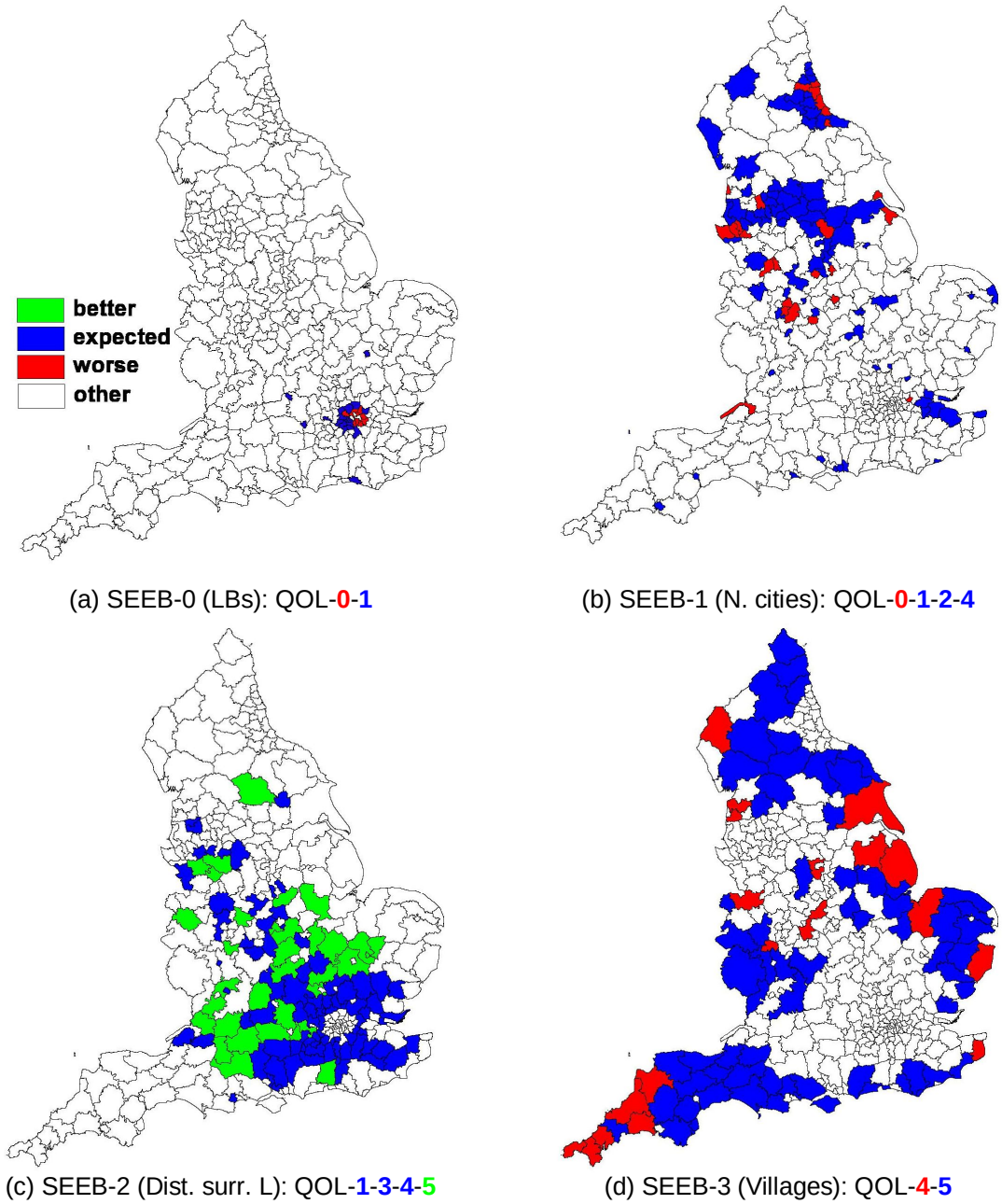
Table 7.1 *Cross-tabulation between the four SEEB clusters and the six QOL clusters and consequent classification into expected, better than expected and worse than expected QOL.*[1, 2, 3]

		Total [4]	*QOL-0 Inner LBs / MDs / northern UAs*	*QOL-2 North Cities*	*QOL-1 Outer LBs / southern UAs*	*QOL-4 Periph. Towns*	*QOL-3 Dist. surr. London*	*QOL-5 Villages*
	Total [4]		37(37)	(33)42	47(55)	61(61)	49(61)	90(91)
SEEB-0	*London*	27(28)	**10 (0.40)**		**17 (0.59)**			
SEEB-1	*N. Cities*	102(109)	**27 (0.32)**	**33 (0.40)**	**16 (0.49)**	**26 (0.52)**		
SEEB-2	*Dist. surr. L.*	113(119)			**14 (0.65)**	**14 (0.66)**	**49 (0.70)**	**36 (0.79)**
SEEB-3	*Villages*	75(91)				**21 (0.63)**		**54 (0.80)**

[1] Numbers (QOL index). Cross-tabulated clusters with smaller than 10 LAs have been excluded from the analysis. [2] MANOVA and Post-hoc Turkey test at 0.01 level determines which cross-tabulated clusters have statistically significant different QOL indices. [3] Colours (red, blue and green) distinguish final QOL groups: (1) 'expected QOL', or (2) 'better than expected' or (3) 'worse than expected'. The 'expected QOL' label is assigned to most numbered final group, then 'better' and 'worse' are labelled in comparison to it. [4] LAs in the analysis (total LAs).

Table 7.1 presents the extension of such analysis to the rest of SEEB clusters: SEEB-1 (cities), SEEB-2 (districts surr. London) and SEEB-3 (villages). The formation of these cross-tabulated clusters does not seem to be particularly influenced by the type of LA, rurality or region, except in particular cases that will be highlighted below. 12 cross-tabulated clusters and 8 final QOL groups are created in total. Figure 7.4 also depicts in a district map the different QOL patterns enjoyed by each SEEB cluster and also the final QOL groups. In the rest of England, the outlook seems much more complicated since each of the remaining SEEB clusters splits up into five groups, although some of them contain less than 10 LAs.

Now we are interested in finding out whether LAs' performance could be behind these observed differences in QOL. For that purpose, a MANOVA analysis has been undertaken over BVP indices in order to elicit correlated relationships. For instance, are the final QOL groups classified as 'better than expected QOL' accompanied by significantly better LAs' performance on delivering services? If so, it would provide excellent evidence of a positive impact of LAs' activities on QOL issues. Figure 7.5 summarises all the findings in a visual way. All BVP and QOL indexes for each final QOL group are tabulated. Only in the SEEB-1 cluster (cities), a correspondence between poor performances of LAs on delivering services and 'lower than expected QOL' is found. For the other final QOL groups a correspondence like this can not be proved since the differences in the QOL indices are not accompanied by



(a) SEEB-0 (LBs): QOL-**0**-**1**

(b) SEEB-1 (N. cities): QOL-**0**-**1**-**2**-**4**

(c) SEEB-2 (Dist. surr. L): QOL-**1**-**3**-**4**-**5**

(d) SEEB-3 (Villages): QOL-**4**-**5**

Figure 7.4. *English District map showing the final QOL groups for each SEEB cluster. Each SEEB cluster originates several QOL patterns. Final QOL groups are classified as having an 'expected', 'better than expected' or 'lower than expected QOL'.*

differences over BVP indices between both groups. Thus, the origin of such distinction in QOL indexes must be sought in other elements of the 'well-being delivery chain'. In the next paragraphs a specific analysis for each SEEB cluster will be undertaken.

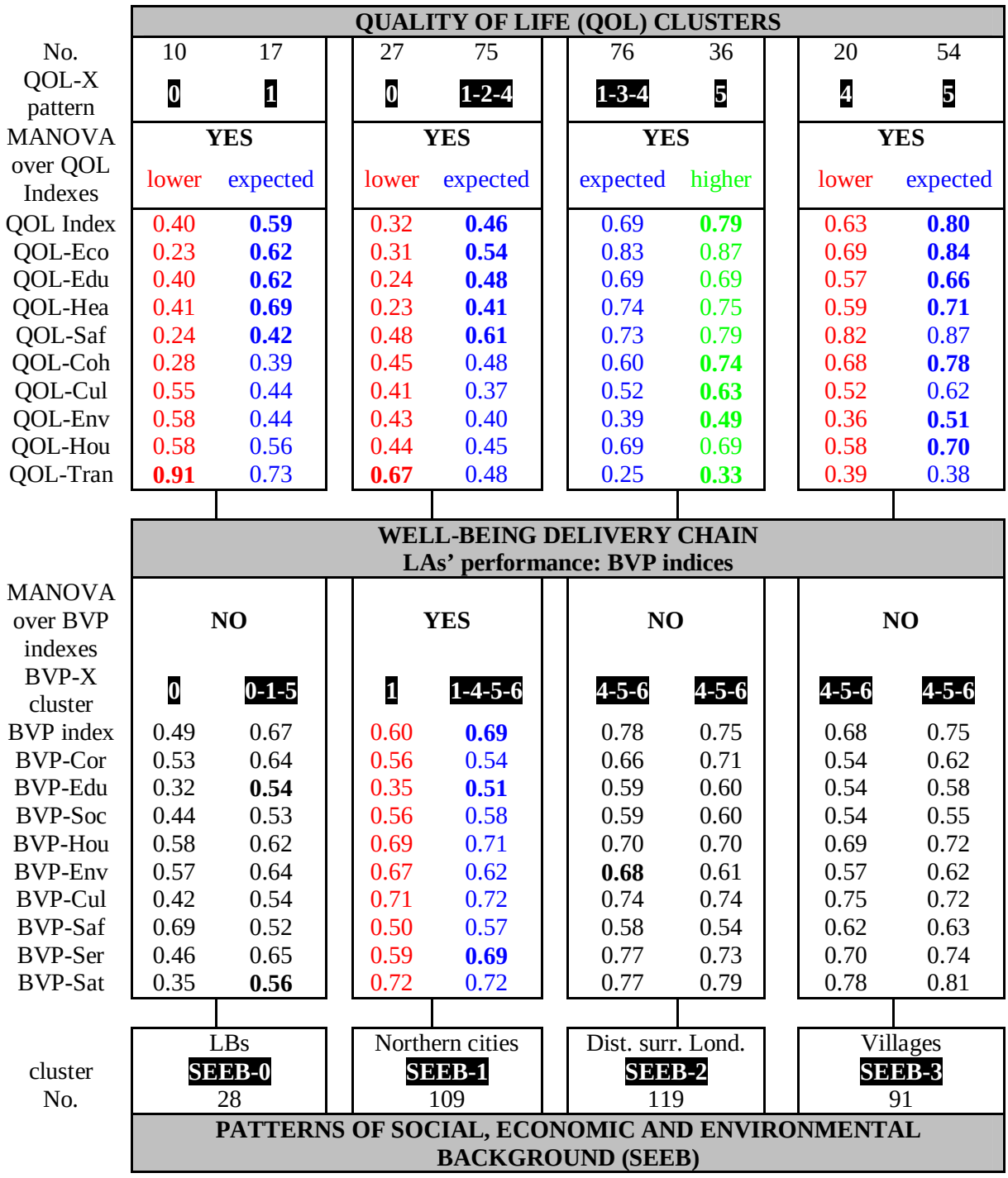


Figure 7.5. *Construction (bottom-up) of distinctive QOL clusters from the homogeneous SEEB clusters influenced by LAs' performance, one of the elements of the 'well-being delivery chain'. This diagram aims to symbolise QOL model from Figure 1.1. Final QOL groups have been formed according to MANOVA procedure presented in Table 7.1. Value in bold indicates that it is statistically different from its counterpart. When nothing is indicated both values are statistically the same*

7.5. SEEB-0 (London): Standards of QOL as a matter of inner or outer LBs

The differentiation of QOL indices among LBs (SEEB-0) relies, specifically, on the markedly different economic behaviour of inner (QOL-0) and outer (QOL-1) LBs, see QOL indexes in Figure 7.5. The QOL-Eco is almost three times higher for QOL-1 versus QOL-0, 0.62 and 0.23, respectively. Moreover, there exist economically deprived wards with high

unemployment rates in inner LBs but they are scarce in outer LBs. Education, health and community safety measures also help to exacerbate this differentiation. The consequence is that citizens in outer LBs enjoy much better QOL opportunities than their counterpart citizens in the inner LBs, despite the fact that there are no significant differences in terms of SEEB since together they form the SEEB-0 cluster. In this case, the geographical position seems to be a determinant, which may suggest that even LAs' policies could have had null impact to revert such a situation.

Overall, there are no significantly different BVP indexes and indicators between both final QOL groups according to MANOVA, even though BVP indices for QOL-1 show slightly higher scores than those of QOL-0. On the other hand, however, there are differences in terms of educational performance of the schools maintained by LAs. The BVP-Edu index is almost double for outer LBs compared to inner LBs —0.54 versus 0.32. Even so, they do not reach the educational performance level of NMDs (BVP-2, 3, 4, 5, 6 and 7 clusters) of 0.58. Amid other values, the educational achievement of pupils in outer LBs is about 20% significantly higher than those in inner LBs indicated by *bvpi38*, *bvpi40*, *bvpi41*, *bvpi181* and *bvpi194*. Moreover, indicators such as *bvpi46* and *bvpi48*, which link with disciplinary behaviour of the pupils, double their values in inner LBs compared to the outer ones. Besides educational performance, citizens in outer LB are much more satisfied with their LAs' administration than inner LB citizens.

In conclusion, the 'lower than expected QOL' of QOL-0 compared to QOL-1 —0.40 vs. 0.59— could not be explained by the failure of their corresponding LAs, since they perform similarly. The reason of such a distinction seems to be the geographical localisation, which somehow notably influences quality of living conditions in London. However, these inner LBs have a clear deficiency in delivering good educational services to their citizens, much more effort could be put into this, and it would definitely have a positive impact on the meagre QOL enjoyed by their citizens, as demonstrated in section 7.2 (relationship between educational achievement of pupils at schools maintained by LAs and QOL index).

7.6. SEEB-1 (Northern cities): some cities are left behind in terms of QOL due to underperformance of their LAs

Unlike SEEB-0, which leads to three QOL patterns only (QOL-0,1 and 5), the cities SEEB-1 cluster gives rise to five different QOL patterns, though there are only four large cross-tabulated clusters with more than 10 LAs (QOL-0, 1, 2 and 4). As a reminder, the cities cluster (SEEB-1) was made up of MDs, northern UAs and urban NMDs. 75 LAs that belong to QOL-1, 2 and 4 form the 'expected QOL' group for this SEEB cluster, whereas the 27 LAs

belonging to QOL-0 constitute the group with ‘lower than expected QOL’. Behind this difference, again economic well-being, life-long learning, life expectancy, health conditions and even levels of community safety hits. Notice that the same indices as in the London case become important. Therefore, since there is no geographical pattern involve unlike SEEB-0. It seems that the cities SEEB cluster could be a good example of the decisive intervention of the LAs’ policies.

MANOVA concludes that BVP indicators and indices of the former group (QOL-1, 2 and 4) are statistically higher than those of the latter group (QOL-0). So, LAs’ performance could be a means by which local QOL has been modelled and modified in these highly urban neighbourhoods. Districts classified as having a ‘lower than expected QOL’ are also managed by LAs that perform overall lower in the BVP test in key local responsibilities such as education and services, among others. Specifically, the same educational phenomenon observed between inner and outer LBs is also found here between both final groups: some LAs do not properly manage their schools, causing a significantly lower educational achievement than in their counterpart LAs. In the schools maintained by these ‘lower than expected QOL’ LAs, on average, 11 per cent less pupils achieve top grades, measured through *bvpi38*, *bvpi39*, *bvpi40*, *bvpi41*, *bvpi193* and *bvpi194*. Although it is not as high as the difference between inner and outer LBs, it is still a remarkable and unacceptable difference between the two groups, which share a common SEEB. Likewise, the percentage of half days missed due to unauthorised absence in primary and secondary schools (*bvpi45* and *bvpi46*) is 10% higher in these schools too, reflecting maybe a less supportive action from parents. Various social and economic services are also delivered much less efficiently by these LAs, such as promotion of use of public libraries (*bvpi117*), reduction of domestic burglaries and vehicle crimes (*bvpi16*, *bvpi128*, *bvpi174* and *bvpi176*), provision of adequate social care (*bvpi50*, *bvpi53*, *bvpi54* and *bvpi195*), and reduction of bureaucratic burden (*bvpi3*, *bvpi103*, *bvpi104*, *bvpi107*, *bvpi109* and *bvpi118*). As a result, there is a clear pathway to be followed for those LAs that, being classified as cities, do not reach the most common standards of QOL achieved by the majority of cities across UK.

These underperformers have the responsibility to boost QOL conditions, just like their counterpart cities have done, since they all share the same issues and SEEB. The way to go could be to analyse what has been done wrong, especially on education, and to look at the success of their counterpart cities that have succeeded in their responsibilities.

7.7. SEEB-2 (Districts surr. London): a little manoeuvre for LAs, since enviable QOL standards exist where privileged location and cohesive societies can even make further gains

The economic deprivation has completely vanished in SEEB-2. This cluster is formed of less densely populated urban areas and highly densely populated rural areas surrounding the London metropolitan area mainly, see Figure 7.4c. The SEEB-2 cluster leads to neighborhoods of high standards of QOL in all considered aspects. So, the outlook is radically different from that presented up to now. First of all, the source of QOL differentiation between the two final QOL groups —'expected QOL', 76 LAs from QOL-1-3-4 clusters and 'better than expected QOL', 36 LAs from QOL-5 cluster— differ radically from the arguments found in LBs (SEEB-0) and cities (SEEB-1), which were economy, life-long learning, health and community safety reasons. Instead, in this SEEB cluster, QOL issues like community cohesion, culture and accessibility to work take priority importance.

As seen on Figure 7.4c, London's proximity determines such patterns. In other words, location seems to be crucial for determining the QOL. So, QOL-4-5 patterns are characterised by high percentage of people travelling to work by private vehicle, and more importantly, more people with lengthened travel-to-work journeys. Therefore, in these LAs, people sacrifice being close to work for a desirable local QOL. This finding has already been reported.[37] Among these districts, the group of QOL-5 stands out for having created even more excellent QOL conditions. Definitely, this group is a candidate to be studied for the possible positive impact of LAs' policies on QOL, since other LAs (QOL-1-3-4) enjoy even better accessibility conditions but do not perform as well as QOL-5.

However, as seen in Figure 7.5, there is no impact of LAs' performance on the abovementioned differentiation, since LAs in both final groups deliver the same quality of services, including the crucial educational ones. As the SEEB-3 cluster benefits already from the highest standards of QOL in England, LAs and the other elements of the 'well-being delivery chain' have accomplished their role of fostering QOL values up to the highest standards across England. As suggested above, the origin of the 'better than expected QOL' in the final group of 36 LAs (QOL-5) seems to be related to less densely populated towns, within easy reach of London, with rural character and strong feeling of participation in community life, where commuting probably is a common habit among workers.

In conclusion, citizens in districts surrounding London enjoy an enviable QOL leaving a little leeway for the impact of LAs' policies.

7.8. SEEB-3 (Villages): the highest QOL standards although some districts suffer from scarcity of economical opportunities

Most of the LAs within the villages cluster (SEEB-3) achieve QOL-4 and QOL-5 patterns. The correspondence between SEEB clusters and QOL patterns becomes obvious in this case. The village SEEB-3 cluster provides magnificent conditions for creating good quality of living in all aspects, except those related to environment, culture, and transport and access. The scattered housing causes an efficient use of resources (water, gas and electricity), affecting negatively carbon dioxide emissions, although the level of pollutants is significantly lower. Another rural phenomenon is the disconnection between the local unskilled employment opportunities and skilled workforce willing to live there that forces people to commute. However, notice that most of the commuters live in the districts surrounding London (SEEB-2) cluster instead, whereas the village cluster accommodates mainly retired people and home workers.

MANOVA analysis determines that QOL-4 and also the smaller groups (QOL-1-2-3) have statistically lower QOL indices than the most common QOL-5, see Figure 7.5. The reason for such differentiation relies on several factors, but mainly differences in economic performance, as seen in SEEB-0 (LBs) and SEEB-1 (Cities). Simply, the QOL-4 group does not enjoy the extremely wealthy parameters of QOL-5, though the basic QOL standards are met. Likewise, the different performance of the LAs' policies could have caused such a distinction, since no geographical patterns are detected, see Figure 7.4d.

The final group of 54 districts belonging to the QOL-5 cluster enjoys what is expected for this SEEB cluster, whereas the subgroup of 21 districts belonging to the QOL-4 cluster yields a much lower QOL. However, MANOVA analysis discards the hypothesis that the source of such a distinction lies in the different performance of LAs. In fact, LAs in these districts top the table of BVP indicators and indexes in all aspects, together with those belonging to the town SEEB-2 cluster. Moreover, all LAs within SEEB-3 cluster belong to the BVPI-4-5-6 clusters that were characterised as top public performers. Thus, the reasons for such a distinction must be found elsewhere in the 'well-being delivery chain'. But it would not be a wrong idea for the districts with 'lower than expected QOL' to focus on improving educational standards in their schools, since we have demonstrated that improvements in that area link positively with better QOL standards, and a path of improvement is still possible.

7.9. Concluding remarks: proven impact of LAs on QOL only in cities

Our quality of life chances depend too much on where we live. Our standards of quality of life are engendered as early as when we chose the local community where we want

to live (or can live). The social composition characterised by the demographic distribution and educational attainment of their citizens, the economic characteristics such as the occupational status and the environmental information such as type of settlement and location respect to London create specific and characteristic backgrounds that strongly determine the quality of life enjoyed by citizens. Four homogeneous social, economic and environmental backgrounds (SEEB) exist in England, labelled as LBs, cities, districts surrounding London and villages. Among SEEB indicators, what affects most negatively the quality of life are the unemployment rates and lack of literacy skills. All districts surrounding London and some villages give rise to the highest standards of QOL in England, whereas SEEB in inner LBs and some northern cities lead to the lowest ones.

The statistical analysis has concluded that each SEEB cluster originates different QOL clusters, although not all combinations are possible, but there are limited correspondences. It is remarkable that each SEEB cluster has managed to emerge as different QOL clusters, so the possibility to jump from one QOL class to another is possible, although these jumps are restricted to specific correspondences. In three out of four SEEBs (LBs, cities and villages), at the root of these jumps turn out to be significant differences in terms of economic well-being, life-long learning and health conditions like life expectancy and mortality rates. In the remaining case, districts surrounding London, the possibility of jump occurred through less tangible factors such as use of culture facilities, community cohesion and involvement, and people's access to work. These findings should be used, correspondingly, by LAs in order to sort out quality of life imbalances.

The statistical analysis also reveals that most LAs (214, 66%) benefit from a quality of life as expected according to their SEEBs, but 73 LAs (23%) yield anomalously lower quality of life indicators than those corresponding to their SEEBs, and only 36 LAs (11%) from the SEEB-2 cluster (districts surr. London) enjoy a better quality of life than expected according to their SEEBs. The latter effect is caused by the surplus offered by privileged location in relation to London and vibrant community life.

Thus, a QOL pattern can be originated from reduced but diverse SEEBs, which demonstrates that the 'well-being delivery chain' has power to influence the formation of diverse QOL patterns from their natural SEEBs. Without doubt, LAs' policies and activities, as a crucial element of the 'well-being delivery chain', would have helped to achieve the abovementioned standards of QOL across the country. However, as an origin of jump among districts of the same SEEB, the impact of the LAs' policies and activities seems meagre. So, in one case only, LAs' performance on delivering services contributes to differentiate districts within the same SEEB. Unfortunately, the impact was proven to be negative. In spite of this

scarce involvement, LAs cannot skip their responsibility with regard to the finding that educational performance in their schools, which they are fully responsible for, was the most correlated factor against the quality of life index. The better qualifications of their pupils, the better quality of life is to be expected.

To sum up, most LAs have accomplished their role to foster the minimum conditions for creating the expected standards of QOL, but none of them have been able to break out with a remarkably positive impact based on the natural SEEB cluster-QOL pattern link. In contrast, the negligence of some LAs in northern cities in their duty to achieve reasonable standards of educational and public services seems to be behind the anomalously low quality of life enjoyed by their citizens.

Chapter 8

Concluding remarks: our quality of life chances depend too much on where we live

An initial research study of the current shift of local authorities' responsibility from local administration to local government (Chapters 1 and 2). Without doubt the dissertation title *'Local authorities' impact on quality of life in England 2005'* has become too grandiose for the final outcome of the research study. To address such an ambitious aim, a range of approaches should have been undertaken, instead of a single quantitative research study. For instance, a qualitative research study of the different local policies and programmes specifically designed to improve quality of life among citizens could have been done. However, the present research study is the first attempt, as far as we know, to place quality of life issues amid the main priorities of local authorities' policies and interventions. This is a necessary shift since local authorities will undergo a radical transformation in the coming years in order to convert them from just local administration to local government. In line with this shift, a model that links the social, economic and environmental background (SEEB) to its local quality of life (QOL), influenced by local authorities' policies by means of the Best Value Performance (BVP) programme, is proposed and investigated. This model assumes ideally that local authorities are capable to freely modify the SEEB-QOL interrelationship without simultaneously being affected by them. This vision is widely supported by the UK central government policies though some academics have proposed precisely an opposite model.

The complexity of a quantitative human geography research study (Chapter 3). A quantitative investigation that requires the analysis of three datasets —SEEB, QOL and BVP— with more than 100,000 records in total cannot be a straightforward task, in spite of the use of state-of-the-art data mining techniques. Moreover, the lack of normal distributed variables, which is one of the main assumptions in statistical inference, weakens somehow the power of the findings. However, this weakness does not affect all chapters in the same way. Chapters 4, 5 and 6, which include a K-means clustering and an a posteriori geographical characterisation of the clusters, stay excluded from these statistical requirements. As a consequence, the results arising from them can be considered strongly reliable, valid and objective. On the other hand, as Chapter 7 relies upon a range of multivariate statistical tests, the final findings should be taken more cautiously. In addition to that, chapter 7 aims to extract information from interrelationships between three datasets, and this could have been done using a huge variety of procedures, each leading to slightly different conclusions. Although these interrelationships in chapter 7 express explicitly some sort of causality, it is important to remark the methodological difficulty to corroborate it and therefore, causality has not been taken into account in the present research study. Furthermore, as final clarification,

we should admit that more efforts should have been put on the conceptualisation of QOL, BVP and SEEB terms, especially the latter that lacks of solid differentiation from QOL.

London, northern cities, districts surrounding London and villages accommodate patterns of different social, economic and environmental backgrounds (Chapter 4). Type of settlement —urban/rural, village, town and city— and the "effect of London"— metropolitan area or surroundings— largely define who is living in an English district. London is characterised by accommodating higher proportions of ethnic minorities, combined with younger population. In contrast, villages are formed of higher percentages of older white people. Northern cities and districts surrounding London exhibit a more balanced distribution in those variables, but they differ on educational attainment and occupational status achieved by their citizens. Higher percentages of citizens with high qualifications and skills live in districts surrounding London than in northern cities and, as a consequence, these northern districts house higher percentages of people with professional occupations.

Spatial segregation appears into local quality of life landscapes (Chapter 5). So, inner and outer London boroughs have different quality of life patterns in the same way as northern and southern cities do. At the heart of such a division, there are significant differences in terms of economic deprivation (unemployment and income deprivation) and health well-being (life expectancy and mortality rates) measures in favour of outer London boroughs and southern cities. Moreover, northern cities are afflicted by high levels of community unsafety. On the other hand, villages and peripheral towns yielded homogeneous quality of life regardless of their location. The highest standards of quality of life are achieved in districts surrounding London and villages across the country, whereas the lowest are found in inner London boroughs and northern cities.

Local authority's performance on delivering services seems to be highly determined by the type of authority (Chapter 6). London boroughs, metropolitan districts and unitary authorities have failed to provide the same standards of education as those achieved by non-metropolitan districts (NMD). Up to 4% less pupils on average achieve the standards found in NMDs. So, education has become the cornerstone of local authorities' performance. NMDs exhibit a fairly homogeneous performance across main services, such as educational, social, environment, culture and community safety, only disrupted by whether local authorities apply

Community Strategy Plans sponsored by central government. These plans aim at working together with all sectors of society in a cross-agency to improve quality of life.

Local authorities could intervene positively in the mechanisms for creating quality of life from the social, economic and environmental backgrounds if they focus on improving their educational services (Chapter 7). The districts with high unemployment rates and high percentages of adult population with poor literacy and numeracy skills show a lower quality of life. We have also observed that these districts coincide with those in which local authorities have failed to achieve average standards of educational services. The picture is especially dramatic for London boroughs and metropolitan districts and northern unitary authorities. These local authorities have not been able to find a way out of this fatal circle. Even worse, some local authorities' failure seems to lie behind the lower than expected —already meagre— quality of life enjoyed by citizens in northern cities (20% of the total). However, most of the districts (70%) exhibit an expected quality of life according to their social, economic and environmental background (SEEB). On the other hand, local authorities in southern districts and villages have little room for manoeuvre, since they already enjoy the highest standards of quality of life. Thus, our standards of quality of life are engendered as early as when we chose the local community (or SEEB) we want to live in. Promotion is possible, especially when there is an improvement of the economical indicators, accompanied by high standards of local authorities' educational services. Other factors that make a difference are a privileged location with respect to London and a vibrant community life.

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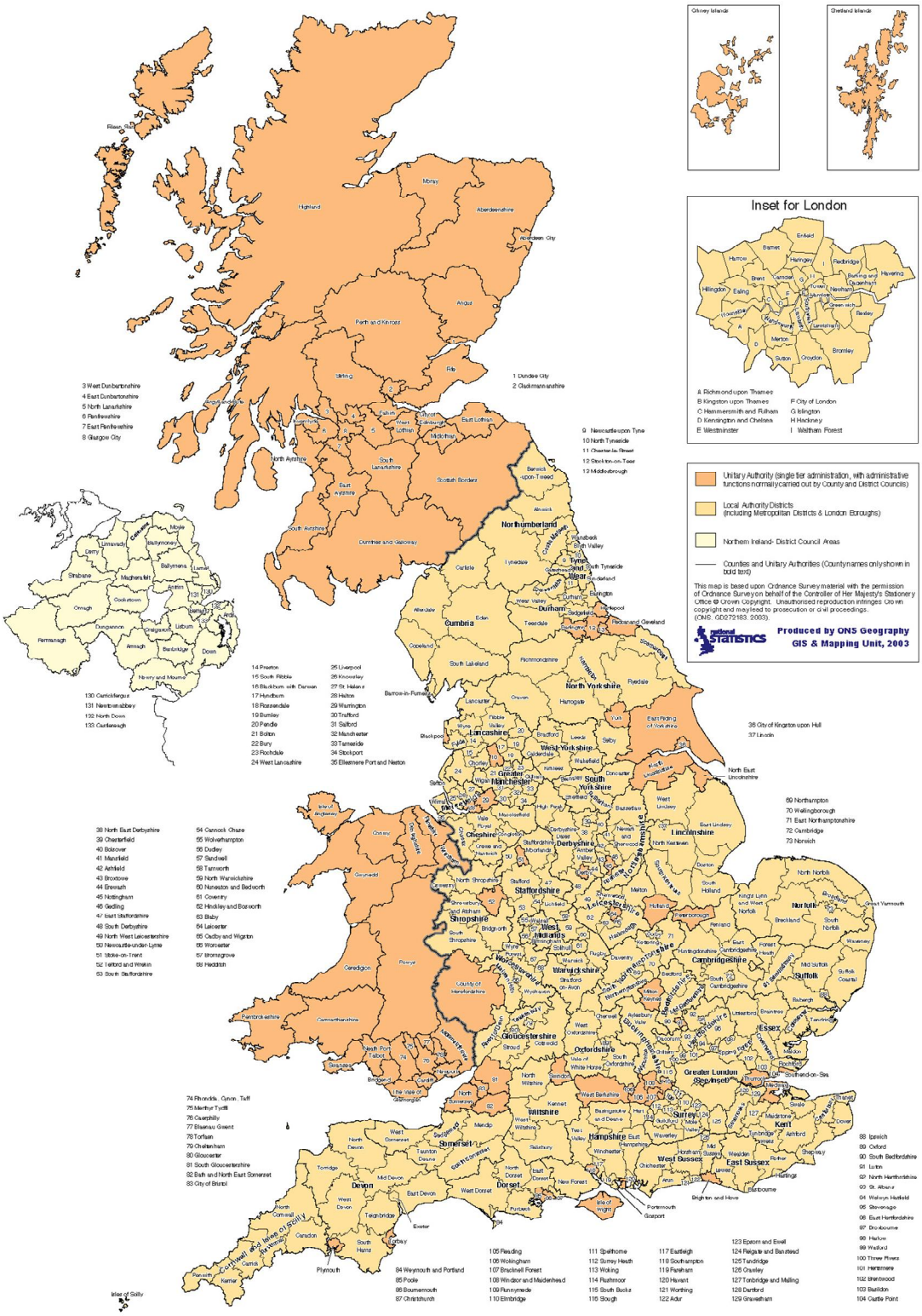
Appendices

Part A
Maps of local boundaries and their characterisation

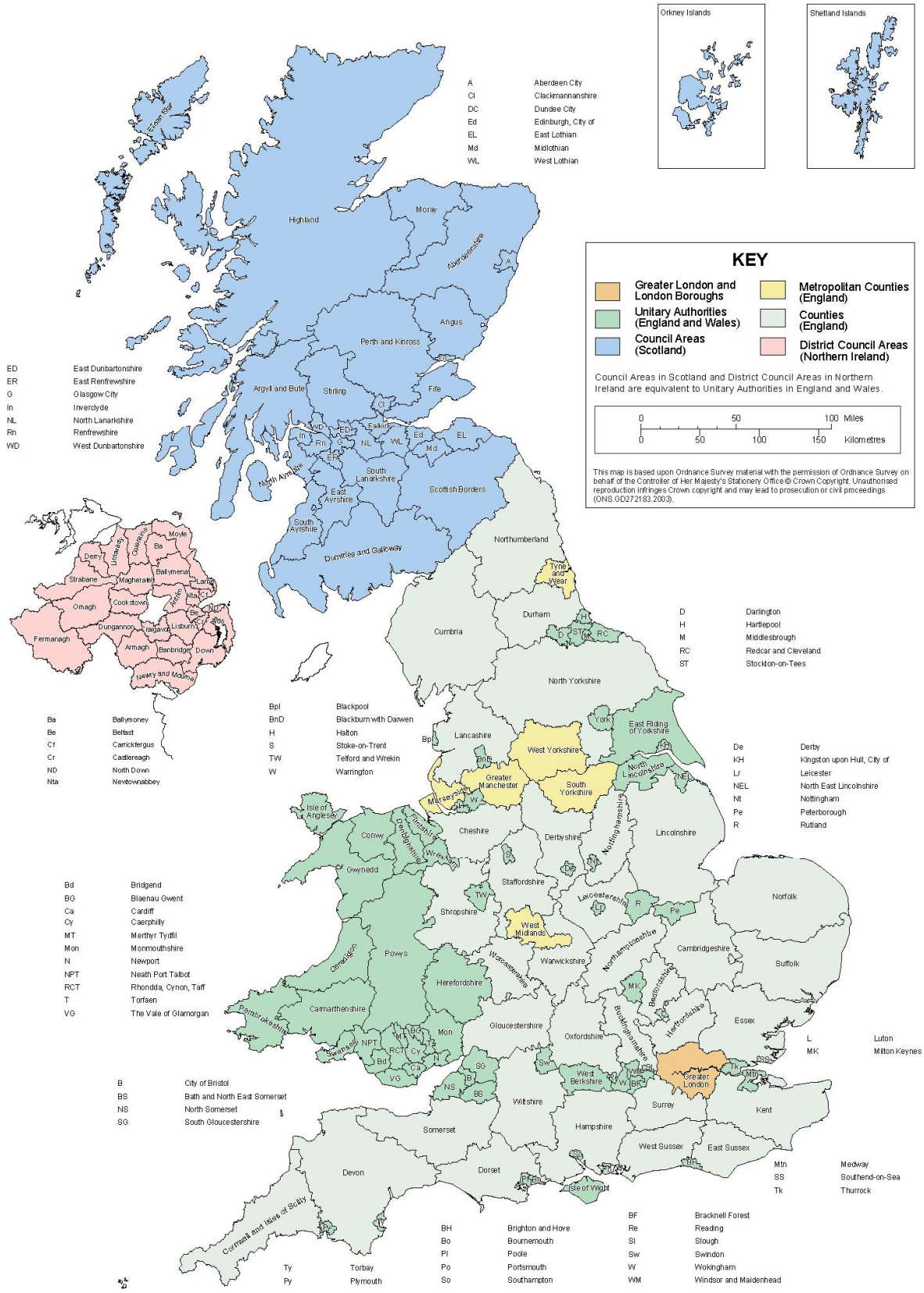
APPENDIX I. Local authority districts, counties and unitary authorities in the UK 1998

Source: Produced by office for national statistics (ONS) Geography GIS & Mapping Unit 2003. www.statistics.gov.uk



APPENDIX II. Counties and unitary authorities in the UK 1998

Source: Produced by office for national statistics (ONS) Geography GIS & Mapping Unit 2003. www.statistics.gov.uk

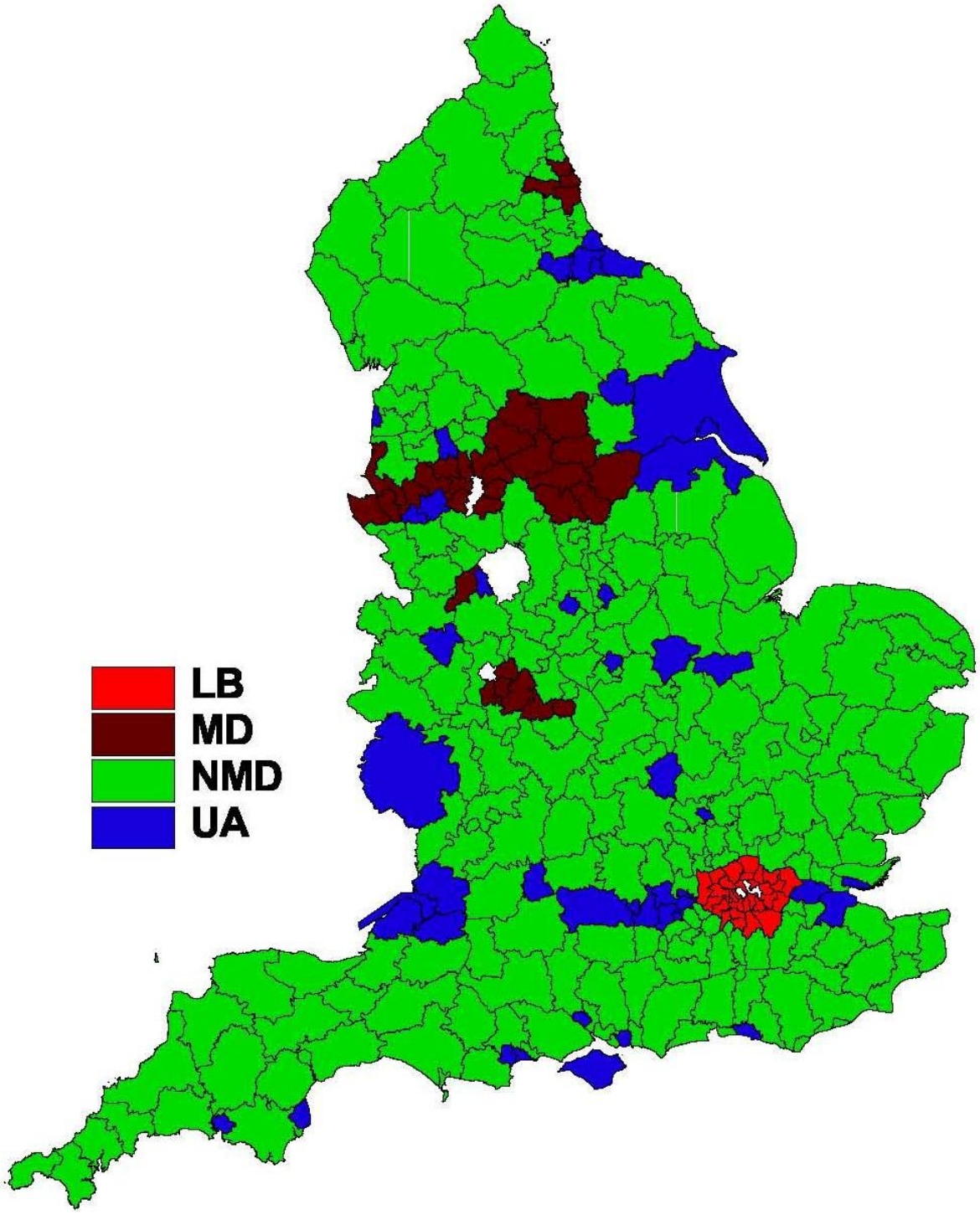


APPENDIX III. Government office regions in the UK 1998

Source: Produced by office for national statistics (ONS) Geography GIS & Mapping Unit 2003. www.statistics.gov.uk

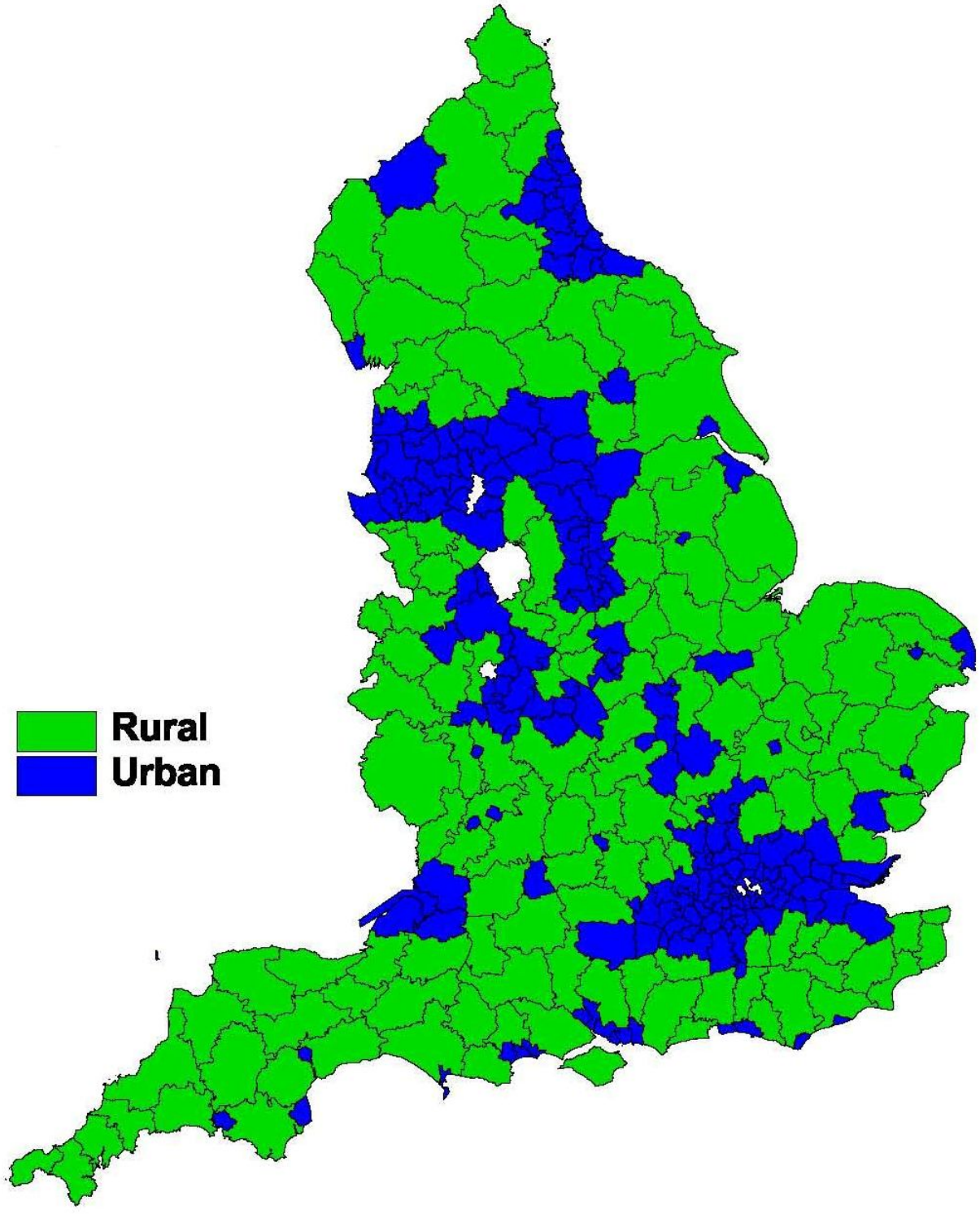
APPENDIX IV. Type of local authority in England 2001

Source: Personal compilation based on Audit Commission data, www.audit-commission.gov.uk, 2006. LB, London boroughs; MD, metropolitan districts; NMD, non-metropolitan districts; UA, unitary authority. Empty area means excluded from analysis.



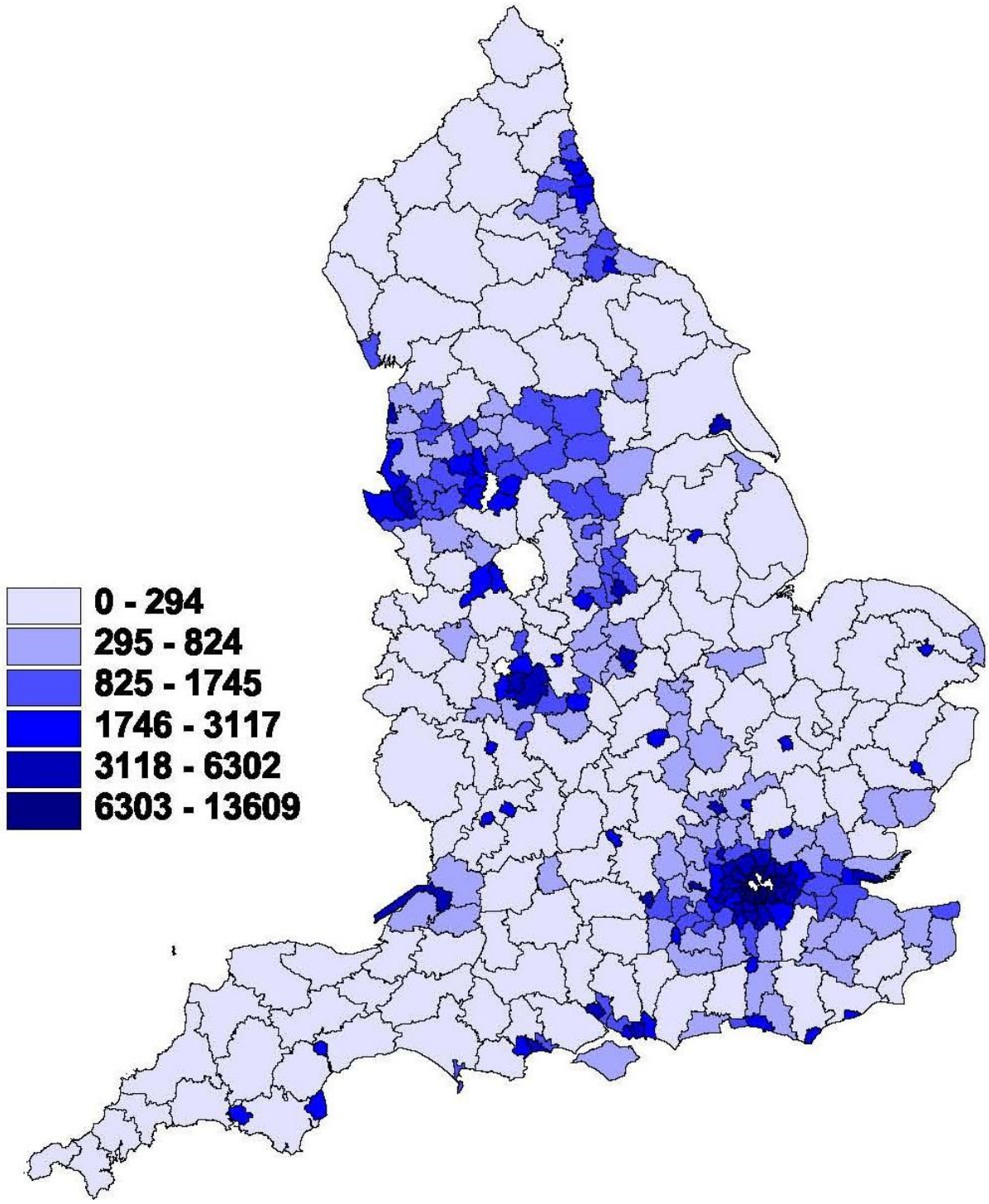
APPENDIX V. Rural and urban local authorities in England 2001

Source: Personal compilation based on urban/rural classification of 2001 Census Output Areas from office for national statistics (ONS). www.statistics.gov.uk. Empty area means excluded from analysis.



APPENDIX VI. Local authorities population density in England 2001

Source: Personal compilation based on data from office for national statistics (ONS). www.statistics.gov.uk. Units: inhabitants / km^2. Empty area means excluded from analysis.



Part B
Local authorities

APPENDIX VII. Characterisation of the 354 local authorities: single tier and non-metropolitan districts in England 2005

Source: First seven columns are a personal compilation based on data from office for national statistics (ONS). www.statistics.gov.uk and the last five columns are own research results

ONS No. [1]	*Local Authority*	*Type* [2]	*Urb/ Rur* [3]	*Region* [4]	*County / Greater authority* [5]	*Pop. Den.* [6]	*SEEB clus.* [7]	*QOL cluster* [8]	*QOL Index (0-1)* [9]	*BVP clu.* [10]	*BVP Index (0-1)* [11]
1	*London*	LB	Urb	London	Inner London	2694	-	-	-	-	-
2	*Barking & Dagenham*	LB	Urb	London	Outer London	4636	1	0	0.17	0	0.52
3	*Barnet*	LB	Urb	London	Outer London	3694	0	1	0.61	0	0.67
4	*Bexley*	LB	Urb	London	Outer London	3612	2	1	0.57	0	0.77
5	*Brent*	LB	Urb	London	Outer London	6302	0	0	0.46	0	0.66
6	*Bromley*	LB	Urb	London	Outer London	1977	2	1	0.68	0	0.72
7	*Camden*	LB	Urb	London	Inner London	9498	0	0	0.57	0	0.75
8	*Croydon*	LB	Urb	London	Outer London	3890	0	1	0.48	0	0.79
9	*Ealing*	LB	Urb	London	Outer London	5554	0	1	0.55	0	0.53
10	*Enfield*	LB	Urb	London	Outer London	3486	0	1	0.50	0	0.63
11	*Greenwich*	LB	Urb	London	Outer London	4677	0	0	0.36	0	0.48
12	*Hackney*	LB	Urb	London	Inner London	11027	0	0	0.23	0	0.00
13	*Hammersmith & Fulham*	LB	Urb	London	Inner London	10566	0	1	0.56	0	0.78
14	*Haringey*	LB	Urb	London	Inner London	7609	0	0	0.31	0	0.46
15	*Harrow*	LB	Urb	London	Outer London	4193	0	1	0.58	5	0.54
16	*Havering*	LB	Urb	London	Outer London	1997	2	1	0.42	0	0.59
17	*Hillingdon*	LB	Urb	London	Outer London	2131	2	1	0.49	0	0.50
18	*Hounslow*	LB	Urb	London	Outer London	3870	0	1	0.53	0	0.66
19	*Islington*	LB	Urb	London	Inner London	12181	0	-	-	0	0.47
20	*Kensington & Chelsea*	LB	Urb	London	Inner London	13609	0	1	0.69	0	0.99
21	*Kingston upon Thames*	LB	Urb	London	Outer London	4031	0	1	0.70	5	0.85
22	*Lambeth*	LB	Urb	London	Inner London	10136	0	0	0.36	0	0.25
23	*Lewisham*	LB	Urb	London	Inner London	7220	0	0	0.41	0	0.71
24	*Merton*	LB	Urb	London	Outer London	5112	0	1	0.66	0	0.57
25	*Newham*	LB	Urb	London	Inner London	7013	0	0	0.51	0	0.64
26	*Redbridge*	LB	Urb	London	Outer London	4326	0	1	0.46	0	0.66
27	*Richmond upon Thames*	LB	Urb	London	Outer London	3038	0	5	0.79	4	0.79
28	*Southwark*	LB	Urb	London	Inner London	8710	0	0	0.38	0	0.59
29	*Sutton*	LB	Urb	London	Outer London	4126	2	1	0.65	0	0.87
30	*Tower Hamlets*	LB	Urb	London	Inner London	10462	-	-	-	0	0.70
31	*Waltham Forest*	LB	Urb	London	Outer London	5751	0	0	0.41	0	0.40
32	*Wandsworth*	LB	Urb	London	Inner London	7859	0	1	0.58	0	0.84
33	*Westminster*	LB	Urb	London	Inner London	8875	-	-	-	0	0.78
34	*Bolton*	MD	Urb	North West	Greater Manchester	1871	1	2	0.30	1	0.56
35	*Bury*	MD	Urb	North West	Greater Manchester	1823	1	2	0.49	4	0.82
36	*Manchester*	MD	Urb	North West	Greater Manchester	3652	0	-	-	1	0.55
37	*Oldham*	MD	Urb	North West	Greater Manchester	1535	1	2	0.27	1	0.41
38	*Rochdale*	MD	Urb	North West	Greater Manchester	1305	1	2	0.30	1	0.50
39	*Salford*	MD	Urb	North West	Greater Manchester	2224	1	0	0.17	1	0.63
40	*Stockport*	MD	Urb	North West	Greater Manchester	2246	2	2	0.59	4	0.85
41	*Tameside*	MD	Urb	North West	Greater Manchester	2063	1	2	0.30	1	0.83

42	*Trafford*	MD	Urb	North West	Greater Manchester	1978	2	2	0.68	4	0.61
43	*Wigan*	MD	Urb	North West	Greater Manchester	1603	1	2	0.27	1	0.68
44	*Knowsley*	MD	Urb	North West	Merseyside	1745	1	0	0.06	1	0.65
45	*Liverpool*	MD	Urb	North West	Merseyside	3947	1	0	0.00	1	0.80
46	*St. Helens*	MD	Urb	North West	Merseyside	1296	1	2	0.28	1	0.91
47	*Sefton*	MD	Urb	North West	Merseyside	1840	1	4	0.40	4	0.86
48	*Wirral*	MD	Urb	North West	Merseyside	1975	1	0	0.39	4	0.89
49	*Barnsley*	MD	Urb	Yorksire & Humberside	South Yorkshire	662	1	2	0.23	1	0.44
50	*Doncaster*	MD	Urb	Yorksire & Humberside	South Yorkshire	506	1	2	0.23	1	0.45
51	*Rotherham*	MD	Urb	Yorksire & Humberside	South Yorkshire	871	1	0	0.44	1	0.64
52	*Sheffield*	MD	Urb	Yorksire & Humberside	South Yorkshire	1392	1	2	0.48	1	0.57
53	*Gateshead*	MD	Urb	North East	Tyne & Wear	1340	1	0	0.56	1	0.86
54	*Newcastle-upon-Tyne*	MD	Urb	North East	Tyne & Wear	2294	1	0	0.43	1	0.61
55	*North Tyneside*	MD	Urb	North East	Tyne & Wear	2321	1	4	0.61	0	0.87
56	*South Tyneside*	MD	Urb	North East	Tyne & Wear	2365	1	0	0.36	6	0.76
57	*Sunderland*	MD	Urb	North East	Tyne & Wear	2030	1	0	0.29	1	0.85
58	*Birmingham*	MD	Urb	West Midlands	West Midlands	3697	1	0	0.37	1	0.57
59	*Coventry*	MD	Urb	West Midlands	West Midlands	3089	1	0	0.44	1	0.58
60	*Dudley*	MD	Urb	West Midlands	West Midlands	3112	1	1	0.48	1	0.61
61	*Sandwell*	MD	Urb	West Midlands	West Midlands	3329	1	0	0.37	1	0.29
62	*Solihull*	MD	Urb	West Midlands	West Midlands	1119	2	2	0.65	4	0.90
63	*Walsall*	MD	Urb	West Midlands	West Midlands	2428	1	0	0.30	1	0.53
64	*Wolverhampton*	MD	Urb	West Midlands	West Midlands	3447	1	-	-	1	0.67
65	*Bradford*	MD	Urb	Yorksire & Humberside	West Yorkshire	1292	1	2	0.34	1	0.48
66	*Calderdale*	MD	Urb	Yorksire & Humberside	West Yorkshire	531	1	2	0.46	1	0.59
67	*Kirklees*	MD	Urb	Yorksire & Humberside	West Yorkshire	953	1	2	0.43	1	0.73
68	*Leeds*	MD	Urb	Yorksire & Humberside	West Yorkshire	1299	1	4	0.68	1	0.71
69	*Wakefield*	MD	Urb	Yorksire & Humberside	West Yorkshire	934	1	2	0.37	1	0.71
70	*Mid Bedfordshire*	NMD	Rur	East	Bedfordshire	243	2	5	0.81	4	0.73
71	*Bedford*	NMD	Urb	East	Bedfordshire	313	2	4	0.61	4	0.72
72	*South Bedfordshire*	NMD	Rur	East	Bedfordshire	533	2	5	0.62	6	0.67
73	*Aylesbury Vale*	NMD	Rur	South East	Buckinghamshire	185	2	3	0.79	6	0.93
74	*Chiltern*	NMD	Rur	South East	Buckinghamshire	451	2	3	0.82	6	1.00
75	*South Bucks*	NMD	Urb	South East	Buckinghamshire	437	2	3	0.78	6	0.87
76	*Wycombe*	NMD	Rur	South East	Buckinghamshire	497	2	3	0.75	6	0.91
77	*Cambridge*	NMD	Urb	East	Cambridgeshire	2719	0	1	0.81	5	0.62
78	*East Cambridgeshire*	NMD	Rur	East	Cambridgeshire	114	2	5	0.68	7	0.75
79	*Fenland*	NMD	Rur	East	Cambridgeshire	154	3	3	0.53	7	0.63
80	*Huntingdonshire*	NMD	Rur	East	Cambridgeshire	174	2	5	0.76	7	0.71
81	*South Cambridgeshire*	NMD	Rur	East	Cambridgeshire	145	2	5	0.89	7	0.70
82	*Chester*	NMD	Rur	North West	Cheshire County	265	2	4	0.70	6	0.89
83	*Congleton*	NMD	Rur	North West	Cheshire County	432	2	5	0.70	6	0.84
84	*Crewe & Nantwich*	NMD	Rur	North West	Cheshire County	259	1	2	0.60	4	0.85
85	*Ellesmere Port & Neston*	NMD	Rur	North West	Cheshire County	920	1	4	0.52	6	0.89
86	*Macclesfield*	NMD	Urb	North West	Cheshire County	285	2	5	0.72	4	0.91

87	*Vale Royal*	NMD	Rur	North West	Cheshire County	324	2	5	0.80	4	0.93
88	*Caradon*	NMD	Rur	South West	Cornwall & the Isles of Scilly	120	3	4	0.69	6	0.60
89	*Carrick*	NMD	Rur	South West	Cornwall & the Isles of Scilly	194	3	4	0.72	5	0.59
90	*Kerrier*	NMD	Rur	South West	Cornwall & the Isles of Scilly	198	3	4	0.59	6	0.58
91	*North Cornwall*	NMD	Rur	South West	Cornwall & the Isles of Scilly	69	3	4	0.64	4	0.73
92	*Penwith*	NMD	Rur	South West	Cornwall & the Isles of Scilly	210	3	4	0.58	6	0.68
93	*Restormel*	NMD	Rur	South West	Cornwall & the Isles of Scilly	216	3	1	0.50	4	0.69
94	*Isles of Scilly*	NMD	Rur	South West	Cornwall & the Isles of Scilly	132	-	-	-	-	-
95	*Allerdale*	NMD	Rur	North West	Cumbria	75	3	4	0.58	4	0.74
96	*Barrow-in-Furness*	NMD	Urb	North West	Cumbria	919	1	4	0.42	4	0.69
97	*Carlisle*	NMD	Urb	North West	Cumbria	97	1	4	0.69	4	0.70
98	*Copeland*	NMD	Rur	North West	Cumbria	95	1	4	0.55	4	0.62
99	*Eden*	NMD	Rur	North West	Cumbria	23	3	5	0.82	4	0.67
100	*South Lakeland*	NMD	Rur	North West	Cumbria	67	3	5	1.00	5	0.63
101	*Amber Valley*	NMD	Urb	East Midlands	Derbyshire	441	1	4	0.61	5	0.70
102	*Bolsover*	NMD	Urb	East Midlands	Derbyshire	452	1	4	0.39	6	0.77
103	*Chesterfield*	NMD	Urb	East Midlands	Derbyshire	1500	1	2	0.44	4	0.83
104	*Derbyshire Dales*	NMD	Rur	East Midlands	Derbyshire	88	3	5	0.85	4	0.85
105	*Erewash*	NMD	Urb	East Midlands	Derbyshire	1009	1	4	0.65	6	0.69
106	*High Peak*	NMD	Rur	East Midlands	Derbyshire	166	2	5	0.60	4	0.82
107	*North East Derbyshire*	NMD	Urb	East Midlands	Derbyshire	352	3	4	0.55	4	0.78
108	*South Derbyshire*	NMD	Rur	East Midlands	Derbyshire	248	2	5	0.69	5	0.76
109	*East Devon*	NMD	Rur	South West	Devon	155	3	5	0.88	5	0.70
110	*Exeter*	NMD	Urb	South West	Devon	2363	1	1	0.72	4	0.79
111	*Mid Devon*	NMD	Rur	South West	Devon	77	3	5	0.74	4	0.75
112	*North Devon*	NMD	Rur	South West	Devon	81	3	5	0.73	5	0.72
113	*South Hams*	NMD	Rur	South West	Devon	92	3	5	0.90	5	0.78
114	*Teignbridge*	NMD	Rur	South West	Devon	181	3	5	0.78	5	0.70
115	*Torridge*	NMD	Rur	South West	Devon	61	3	4	0.68	5	0.62
116	*West Devon*	NMD	Rur	South West	Devon	44	3	5	0.85	5	0.76
117	*Christchurch*	NMD	Urb	South West	Dorset	900	3	5	0.91	4	0.91
118	*East Dorset*	NMD	Rur	South West	Dorset	239	3	5	0.88	6	0.86
119	*North Dorset*	NMD	Rur	South West	Dorset	102	3	5	0.92	5	0.81
120	*Purbeck*	NMD	Rur	South West	Dorset	109	3	5	0.91	5	0.79
121	*West Dorset*	NMD	Rur	South West	Dorset	87	3	5	0.90	6	0.70
122	*Weymouth & Portland*	NMD	Urb	South West	Dorset	1539	3	1	0.71	6	0.83
123	*Chester-le-Street*	NMD	Urb	North East	Durham County	788	1	2	0.47	4	0.81
124	*Derwentside*	NMD	Urb	North East	Durham County	314	1	2	0.38	6	0.77
125	*Durham*	NMD	Urb	North East	Durham County	470	1	4	0.59	4	0.76
126	*Easington*	NMD	Urb	North East	Durham County	648	1	0	0.20	6	0.75
127	*Sedgefield*	NMD	Urb	North East	Durham County	399	1	4	0.38	4	0.80
128	*Teesdale*	NMD	Rur	North East	Durham County	29	3	5	0.70	4	0.80
129	*Wear Valley*	NMD	Rur	North East	Durham County	122	1	2	0.40	5	0.70
130	*Eastbourne*	NMD	Urb	South East	East Sussex	2055	3	1	0.57	4	0.69
131	*Hastings*	NMD	Urb	South East	East Sussex	2886	1	1	0.34	4	0.64
132	*Lewes*	NMD	Rur	South East	East Sussex	319	3	5	0.79	4	0.71
133	*Rother*	NMD	Rur	South East	East Sussex	168	3	5	0.64	5	0.59
134	*Wealden*	NMD	Rur	South East	East Sussex	167	3	5	0.76	4	0.70
135	*Basildon*	NMD	Urb	East	Essex	1512	1	3	0.48	4	0.70

136	*Braintree*	NMD	Rur	East	Essex	220	2	3	0.69	5	0.67
137	*Brentwood*	NMD	Urb	East	Essex	448	2	3	0.67	5	0.67
138	*Castle Point*	NMD	Urb	East	Essex	1935	2	3	0.46	5	0.64
139	*Chelmsford*	NMD	Urb	East	Essex	465	2	3	0.76	5	0.67
140	*Colchester*	NMD	Urb	East	Essex	472	2	3	0.71	5	0.73
141	*Epping Forest*	NMD	Urb	East	Essex	358	2	3	0.60	5	0.65
142	*Harlow*	NMD	Urb	East	Essex	2572	1	3	0.53	5	0.67
143	*Maldon*	NMD	Rur	East	Essex	168	3	3	0.65	4	0.73
144	*Rochford*	NMD	Urb	East	Essex	468	2	3	0.61	5	0.62
145	*Tendring*	NMD	Rur	East	Essex	415	3	3	0.49	5	0.73
146	*Uttlesford*	NMD	Rur	East	Essex	108	2	3	0.67	5	0.71
147	*Cheltenham*	NMD	Urb	South West	Gloucestershire	2360	2	1	0.69	4	0.75
148	*Cotswold*	NMD	Rur	South West	Gloucestershire	69	3	5	0.81	4	0.73
149	*Forest of Dean*	NMD	Rur	South West	Gloucestershire	153	3	5	0.74	4	0.64
150	*Gloucester*	NMD	Urb	South West	Gloucestershire	2727	1	1	0.59	4	0.63
151	*Stroud*	NMD	Rur	South West	Gloucestershire	235	2	5	0.80	4	0.71
152	*Tewkesbury*	NMD	Rur	South West	Gloucestershire	187	2	5	0.76	4	0.71
153	*Basingstoke & Deane*	NMD	Urb	South East	Hampshire County	241	2	3	0.80	4	0.87
154	*East Hampshire*	NMD	Rur	South East	Hampshire County	213	2	3	0.76	5	0.81
155	*Eastleigh*	NMD	Urb	South East	Hampshire County	1454	2	3	0.81	5	0.79
156	*Fareham*	NMD	Urb	South East	Hampshire County	1466	2	3	0.79	5	0.85
157	*Gosport*	NMD	Urb	South East	Hampshire County	3043	1	3	0.59	5	0.78
158	*Hart*	NMD	Urb	South East	Hampshire County	391	2	3	0.76	5	0.72
159	*Havant*	NMD	Urb	South East	Hampshire County	2103	1	3	0.57	5	0.72
160	*New Forest*	NMD	Rur	South East	Hampshire County	226	3	3	0.78	5	0.82
161	*Rushmoor*	NMD	Urb	South East	Hampshire County	2320	2	3	0.66	5	0.86
162	*Test Valley*	NMD	Rur	South East	Hampshire County	176	2	3	0.79	4	0.76
163	*Winchester*	NMD	Rur	South East	Hampshire County	163	2	3	0.91	5	0.85
164	*Broxbourne*	NMD	Urb	East	Hertfordshire	1701	2	3	0.66	2	0.89
165	*Dacorum*	NMD	Urb	East	Hertfordshire	650	2	3	0.70	2	0.80
166	*East Hertfordshire*	NMD	Rur	East	Hertfordshire	273	2	3	0.77	2	0.85
167	*Hertsmere*	NMD	Urb	East	Hertfordshire	924	2	3	0.63	2	0.86
168	*North Hertfordshire*	NMD	Urb	East	Hertfordshire	315	2	3	0.62	2	0.87
169	*St Albans*	NMD	Urb	East	Hertfordshire	800	2	3	0.72	2	0.79
170	*Stevenage*	NMD	Urb	East	Hertfordshire	3068	1	3	0.64	2	0.82
171	*Three Rivers*	NMD	Urb	East	Hertfordshire	929	2	3	0.70	2	0.89
172	*Watford*	NMD	Urb	East	Hertfordshire	3751	2	3	0.65	2	0.84
173	*Welwyn Hatfield*	NMD	Urb	East	Hertfordshire	751	2	3	0.67	2	0.83
174	*Ashford*	NMD	Rur	South East	Kent	180	2	3	0.55	4	0.80
175	*Canterbury*	NMD	Rur	South East	Kent	440	2	3	0.60	6	0.83
176	*Dartford*	NMD	Urb	South East	Kent	1188	2	3	0.47	6	0.81
177	*Dover*	NMD	Rur	South East	Kent	333	3	4	0.46	6	0.70
178	*Gravesham*	NMD	Urb	South East	Kent	971	1	3	0.47	6	0.77
179	*Maidstone*	NMD	Rur	South East	Kent	355	2	3	0.64	4	0.88
180	*Sevenoaks*	NMD	Rur	South East	Kent	294	2	3	0.70	6	0.85
181	*Shepway*	NMD	Rur	South East	Kent	271	3	3	0.51	4	0.78
182	*Swale*	NMD	Urb	South East	Kent	336	1	3	0.46	4	0.73
183	*Thanet*	NMD	Rur	South East	Kent	1236	1	2	0.39	4	0.72
184	*Tonbridge & Malling*	NMD	Rur	South East	Kent	453	2	3	0.66	4	0.84
185	*Tunbridge Wells*	NMD	Rur	South East	Kent	313	2	3	0.66	6	0.82
186	*Burnley*	NMD	Urb	North West	Lancashire	804	1	2	0.43	4	0.74
187	*Chorley*	NMD	Urb	North West	Lancashire	500	2	4	0.55	4	0.78
188	*Fylde*	NMD	Urb	North West	Lancashire	447	3	4	0.66	4	0.70

189	*Hyndburn*	NMD	Urb	North West	Lancashire	1121	1	4	0.47	5	0.62
190	*Lancaster*	NMD	Rur	North West	Lancashire	232	1	4	0.51	4	0.67
191	*Pendle*	NMD	Rur	North West	Lancashire	533	1	2	0.50	4	0.71
192	*Preston*	NMD	Urb	North West	Lancashire	914	1	4	0.53	4	0.76
193	*Ribble Valley*	NMD	Rur	North West	Lancashire	94	3	5	0.86	4	0.84
194	*Rossendale*	NMD	Urb	North West	Lancashire	477	1	4	0.40	4	0.63
195	*South Ribble*	NMD	Urb	North West	Lancashire	926	2	2	0.58	4	0.82
196	*West Lancashire*	NMD	Urb	North West	Lancashire	313	1	4	0.49	5	0.77
197	*Wyre*	NMD	Rur	North West	Lancashire	378	3	4	0.61	4	0.68
198	*Blaby*	NMD	Urb	East Midlands	Leicestershire	702	2	5	0.88	6	0.87
199	*Charnwood*	NMD	Urb	East Midlands	Leicestershire	550	2	4	0.72	4	0.93
200	*Harborough*	NMD	Rur	East Midlands	Leicestershire	132	2	5	0.85	4	0.86
201	*Hinckley & Bosworth*	NMD	Rur	East Midlands	Leicestershire	339	2	4	0.77	4	0.83
202	*Melton*	NMD	Rur	East Midlands	Leicestershire	100	3	5	0.80	4	0.82
203	*North West Leicestershire*	NMD	Rur	East Midlands	Leicestershire	310	3	4	0.61	4	0.74
204	*Oadby & Wigston*	NMD	Urb	East Midlands	Leicestershire	2411	2	5	0.79	4	0.85
205	*Boston*	NMD	Rur	East Midlands	Lincolnshire	157	3	2	0.63	5	0.48
206	*East Lindsey*	NMD	Rur	East Midlands	Lincolnshire	75	3	4	0.63	5	0.49
207	*Lincoln*	NMD	Urb	East Midlands	Lincolnshire	2408	1	2	0.49	4	0.55
208	*North Kesteven*	NMD	Rur	East Midlands	Lincolnshire	105	3	5	0.83	4	0.59
209	*South Holland*	NMD	Rur	East Midlands	Lincolnshire	107	3	5	0.68	5	0.47
210	*South Kesteven*	NMD	Rur	East Midlands	Lincolnshire	133	2	5	0.86	5	0.53
211	*West Lindsey*	NMD	Rur	East Midlands	Lincolnshire	70	3	4	0.66	5	0.51
212	*Breckland*	NMD	Rur	East	Norfolk	94	3	5	0.65	7	0.71
213	*Broadland*	NMD	Rur	East	Norfolk	216	3	5	0.80	7	0.75
214	*Great Yarmouth*	NMD	Urb	East	Norfolk	526	1	1	0.35	7	0.63
215	*King's Lynn & West Norfolk*	NMD	Rur	East	Norfolk	96	3	4	0.58	7	0.68
216	*North Norfolk*	NMD	Rur	East	Norfolk	103	3	5	0.69	7	0.69
217	*Norwich*	NMD	Urb	East	Norfolk	3117	1	2	0.55	7	0.61
218	*South Norfolk*	NMD	Rur	East	Norfolk	124	3	5	0.75	7	0.74
219	*Corby*	NMD	Urb	East Midlands	Northamptonshire	669	1	2	0.27	5	0.41
220	*Daventry*	NMD	Rur	East Midlands	Northamptonshire	111	2	5	0.76	5	0.58
221	*East Northamptonshire*	NMD	Rur	East Midlands	Northamptonshire	154	2	5	0.62	5	0.66
222	*Kettering*	NMD	Urb	East Midlands	Northamptonshire	355	2	2	0.52	5	0.48
223	*Northampton*	NMD	Urb	East Midlands	Northamptonshire	2404	1	1	0.48	4	0.57
224	*South Northamptonshire*	NMD	Rur	East Midlands	Northamptonshire	129	2	5	0.76	5	0.51
225	*Wellingborough*	NMD	Urb	East Midlands	Northamptonshire	453	1	2	0.49	5	0.62
226	*Alnwick*	NMD	Rur	North East	Northumberland	29	3	5	0.74	7	0.76
227	*Berwick-upon-Tweed*	NMD	Rur	North East	Northumberland	27	3	5	0.75	7	0.66
228	*Blyth Valley*	NMD	Urb	North East	Northumberland	1160	1	4	0.49	7	0.66
229	*Castle Morpeth*	NMD	Rur	North East	Northumberland	79	3	5	0.83	7	0.62
230	*Tynedale*	NMD	Rur	North East	Northumberland	27	3	5	0.79	7	0.72
231	*Wansbeck*	NMD	Urb	North East	Northumberland	914	1	4	0.37	7	0.66
232	*Craven*	NMD	Rur	Yorksire & Humberside	North Yorkshire	46	3	5	0.83	5	0.81
233	*Hambleton*	NMD	Rur	Yorksire & Humberside	North Yorkshire	65	3	5	0.90	4	0.88
234	*Harrogate*	NMD	Rur	Yorksire & Humberside	North Yorkshire	115	2	5	0.87	5	0.82
235	*Richmondshire*	NMD	Rur	Yorksire & Humberside	North Yorkshire	36	3	5	0.87	0	0.86
236	*Ryedale*	NMD	Rur	Yorksire & Humberside	North Yorkshire	34	3	5	0.87	5	0.85

237	*Scarborough*	NMD	Rur	Yorksire & Humberside	North Yorkshire	131	3	2	0.56	5	0.76
238	*Selby*	NMD	Rur	Yorksire & Humberside	North Yorkshire	130	3	5	0.69	5	0.71
239	*Ashfield*	NMD	Urb	East Midlands	Nottinghamshire	1043	1	2	0.43	6	0.77
240	*Bassetlaw*	NMD	Rur	East Midlands	Nottinghamshire	170	1	2	0.37	6	0.66
241	*Broxtowe*	NMD	Urb	East Midlands	Nottinghamshire	1345	2	2	0.62	6	0.78
242	*Gedling*	NMD	Urb	East Midlands	Nottinghamshire	933	2	4	0.61	6	0.81
243	*Mansfield*	NMD	Urb	East Midlands	Nottinghamshire	1278	1	2	0.36	6	0.71
244	*Newark & Sherwood*	NMD	Rur	East Midlands	Nottinghamshire	164	3	2	0.51	6	0.84
245	*Rushcliffe*	NMD	Rur	East Midlands	Nottinghamshire	259	2	5	0.80	6	0.82
246	*Cherwell*	NMD	Rur	South East	Oxfordshire	222	2	3	0.72	7	0.66
247	*Oxford*	NMD	Urb	South East	Oxfordshire	2952	0	1	0.75	4	0.64
248	*South Oxfordshire*	NMD	Rur	South East	Oxfordshire	189	2	5	0.78	5	0.58
249	*Vale of White Horse*	NMD	Rur	South East	Oxfordshire	202	2	4	0.56	7	0.68
250	*West Oxfordshire*	NMD	Rur	South East	Oxfordshire	135	2	5	0.89	7	0.65
251	*Bridgnorth*	NMD	Rur	West Midlands	Shropshire	83	3	5	0.74	6	0.79
252	*North Shropshire*	NMD	Rur	West Midlands	Shropshire	86	3	4	0.73	4	0.84
253	*Oswestry*	NMD	Rur	West Midlands	Shropshire	149	3	5	0.71	6	0.79
254	*Shrewsbury & Atcham*	NMD	Rur	West Midlands	Shropshire	159	2	5	0.85	6	0.84
255	*South Shropshire*	NMD	Rur	West Midlands	Shropshire	40	3	5	0.87	6	0.83
256	*Mendip*	NMD	Rur	South West	Somerset	142	3	5	0.73	5	0.66
257	*Sedgemoor*	NMD	Rur	South West	Somerset	191	3	5	0.74	6	0.67
258	*South Somerset*	NMD	Rur	South West	Somerset	158	3	5	0.75	4	0.82
259	*Taunton Deane*	NMD	Rur	South West	Somerset	224	3	5	0.77	6	0.74
260	*West Somerset*	NMD	Rur	South West	Somerset	50	3	5	0.81	6	0.71
261	*Cannock Chase*	NMD	Urb	West Midlands	Staffordshire	1182	1	2	0.37	6	0.72
262	*East Staffordshire*	NMD	Rur	West Midlands	Staffordshire	270	1	4	0.66	6	0.82
263	*Lichfield*	NMD	Urb	West Midlands	Staffordshire	281	2	5	0.65	6	0.84
264	*Newcastle-under-Lyme*	NMD	Urb	West Midlands	Staffordshire	579	1	4	0.53	6	0.84
265	*South Staffordshire*	NMD	Rur	West Midlands	Staffordshire	261	2	4	0.64	6	0.76
266	*Stafford*	NMD	Urb	West Midlands	Staffordshire	201	2	4	0.57	4	0.80
267	*Staffordshire Moorlands*	NMD	Rur	West Midlands	Staffordshire	165	3	4	0.67	-	-
268	*Tamworth*	NMD	Urb	West Midlands	Staffordshire	2418	1	2	0.45	6	0.81
269	*Babergh*	NMD	Rur	East	Suffolk	143	3	5	0.80	6	0.80
270	*Forest Heath*	NMD	Rur	East	Suffolk	147	2	5	0.76	6	0.76
271	*Ipswich*	NMD	Urb	East	Suffolk	2976	1	1	0.62	5	0.71
272	*Mid Suffolk*	NMD	Rur	East	Suffolk	101	3	5	0.79	5	0.64
273	*St Edmundsbury*	NMD	Rur	East	Suffolk	150	3	5	0.78	6	0.81
274	*Suffolk Coastal*	NMD	Rur	East	Suffolk	129	3	4	0.75	6	0.78
275	*Waveney*	NMD	Rur	East	Suffolk	306	3	1	0.59	-	-
276	*Elmbridge*	NMD	Urb	South East	Surrey	1307	2	3	0.71	3	0.80
277	*Epsom & Ewell*	NMD	Urb	South East	Surrey	1960	2	3	0.73	3	0.80
278	*Guildford*	NMD	Urb	South East	Surrey	476	2	3	0.78	3	0.77
279	*Mole Valley*	NMD	Urb	South East	Surrey	311	2	3	0.80	3	0.86
280	*Reigate & Banstead*	NMD	Urb	South East	Surrey	978	2	3	0.66	3	0.78
281	*Runnymede*	NMD	Urb	South East	Surrey	1011	2	3	0.69	3	0.80
282	*Spelthorne*	NMD	Urb	South East	Surrey	1998	2	3	0.73	3	0.77
283	*Surrey Heath*	NMD	Urb	South East	Surrey	838	2	3	0.72	3	0.75
284	*Tandridge*	NMD	Rur	South East	Surrey	321	2	3	0.77	3	0.89
285	*Waverley*	NMD	Rur	South East	Surrey	336	2	3	0.74	3	0.78

286	*Woking*	NMD	Urb	South East	Surrey	1406	2	3	0.73	3	0.82
287	*North Warwickshire*	NMD	Rur	West Midlands	Warwickshire	221	3	4	0.63	6	0.76
288	*Nuneaton & Bedworth*	NMD	Urb	West Midlands	Warwickshire	1518	1	4	0.52	6	0.68
289	*Rugby*	NMD	Urb	West Midlands	Warwickshire	253	2	4	0.69	6	0.78
290	*Stratford-on-Avon*	NMD	Rur	West Midlands	Warwickshire	116	3	5	0.84	6	0.78
291	*Warwick*	NMD	Urb	West Midlands	Warwickshire	453	2	4	0.80	4	0.81
292	*Adur*	NMD	Urb	South East	West Sussex	1448	3	1	0.68	3	0.75
293	*Arun*	NMD	Rur	South East	West Sussex	643	3	1	0.63	3	0.74
294	*Chichester*	NMD	Rur	South East	West Sussex	136	3	5	0.79	3	0.78
295	*Crawley*	NMD	Urb	South East	West Sussex	2219	2	1	0.71	3	0.74
296	*Horsham*	NMD	Rur	South East	West Sussex	231	2	5	0.79	3	0.77
297	*Mid Sussex*	NMD	Rur	South East	West Sussex	381	2	3	0.77	3	0.80
298	*Worthing*	NMD	Urb	South East	West Sussex	3000	2	1	0.53	-	-
299	*Kennet*	NMD	Rur	South West	Wiltshire	77	2	5	0.84	4	0.94
300	*North Wiltshire*	NMD	Rur	South West	Wiltshire	164	2	5	0.89	4	0.82
301	*Salisbury*	NMD	Rur	South West	Wiltshire	115	2	5	0.87	6	0.83
302	*West Wiltshire*	NMD	Rur	South West	Wiltshire	234	2	5	0.88	5	0.80
303	*Bromsgrove*	NMD	Urb	West Midlands	Worcestershire	412	2	5	0.74	4	0.62
304	*Malvern Hills*	NMD	Rur	West Midlands	Worcestershire	126	3	5	0.87	4	0.74
305	*Redditch*	NMD	Urb	West Midlands	Worcestershire	1459	1	4	0.48	4	0.63
306	*Worcester*	NMD	Urb	West Midlands	Worcestershire	2801	2	4	0.72	6	0.71
307	*Wychavon*	NMD	Rur	West Midlands	Worcestershire	172	3	5	0.80	4	0.80
308	*Wyre Forest*	NMD	Urb	West Midlands	Worcestershire	498	3	4	0.60	4	0.75
309	*Hartlepool*	UA	Urb	North East	Hartlepool UA	940	1	0	0.35	1	0.74
310	*Middlesbrough*	UA	Urb	North East	Middlesbrough UA	2485	1	0	0.18	1	0.61
311	*Redcar & Cleveland*	UA	Urb	North East	Redcar & Cleveland UA	569	1	2	0.33	6	0.69
312	*Stockton-on-Tees*	UA	Urb	North East	Stockton-on-Tees UA	881	1	4	0.46	4	0.87
313	*Darlington*	UA	Urb	North East	Darlington UA	496	1	1	0.50	1	0.79
314	*Halton*	UA	Urb	North West	Halton UA	1494	1	0	0.29	1	0.77
315	*Warrington*	UA	Urb	North West	Warrington UA	1064	2	4	0.62	5	0.70
316	*Blackburn with Darwen*	UA	Urb	North West	Blackburn with Darwen UA	1018	1	0	0.35	1	0.61
317	*Blackpool*	UA	Urb	North West	Blackpool UA	4065	1	0	0.21	1	0.47
318	*Kingston upon Hull*	UA	Urb	Yorksire & Humberside	City of Kingston upon Hull UA	3379	1	0	0.26	1	0.48
319	*East Riding of Yorkshire*	UA	Rur	Yorksire & Humberside	East Riding of Yorkshire UA	132	3	4	0.67	4	0.77
320	*North East Lincolnshire*	UA	Urb	Yorksire & Humberside	North East Lincolnshire UA	824	1	0	0.34	1	0.56
321	*North Lincolnshire*	UA	Rur	Yorksire & Humberside	North Lincolnshire UA	182	1	4	0.52	4	0.71
322	*York*	UA	Urb	Yorksire & Humberside	York UA	670	2	1	0.69	5	0.79
323	*Derby*	UA	Urb	East Midlands	Derby UA	2861	1	0	0.62	1	0.76
324	*Leicester*	UA	Urb	East Midlands	Leicester UA	3868	1	0	0.34	1	0.36
325	*Rutland*	UA	Rur	East Midlands	Rutland UA	91	3	5	0.90	6	0.91
326	*Nottingham*	UA	Urb	East Midlands	Nottingham UA	3619	1	0	0.19	1	0.35
327	*Herefordshire*	UA	Rur	West Midlands	County of Herefordshire UA	81	3	5	0.81	6	0.75
328	*Telford & Wrekin*	UA	Urb	West Midlands	Telford & Wrekin UA	553	1	4	0.58	1	0.75
329	*Stoke-on-Trent*	UA	Urb	West Midlands	Stoke-on-Trent UA	2553	1	0	0.27	1	0.40
330	*Bath & North East Somerset*	UA	Urb	South West	Bath & North East Somerset UA	491	2	1	0.81	4	0.67
331	*Bristol*	UA	Urb	South West	City of Bristol UA	3482	1	0	0.73	1	0.40

332	*North Somerset*	UA	Urb	South West	North Somerset UA	507	2	4	0.67	5	0.58
333	*South Gloucestershire*	UA	Urb	South West	South Gloucestershire UA	496	2	5	0.89	6	0.61
334	*Plymouth*	UA	Urb	South West	Plymouth UA	3000	1	1	0.58	1	0.56
335	*Torbay*	UA	Urb	South West	Torbay UA	2081	3	1	0.58	5	0.54
336	*Bournemouth*	UA	Urb	South West	Bournemouth UA	3547	1	1	0.64	6	0.81
337	*Poole*	UA	Urb	South West	Poole UA	2130	2	1	0.78	4	0.92
338	*Swindon*	UA	Urb	South West	Swindon UA	785	2	1	0.63	1	0.58
339	*Peterborough*	UA	Urb	East	Peterborough UA	460	1	2	0.42	1	0.70
340	*Luton*	UA	Urb	East	Luton UA	4295	1	1	0.31	1	0.59
341	*Southend-on-Sea*	UA	Urb	East	Southend-on-Sea UA	3802	1	1	0.40	4	0.67
342	*Thurrock*	UA	Urb	East	Thurrock UA	889	1	1	0.42	1	0.59
343	*Medway*	UA	Urb	South East	Medway UA	1307	1	1	0.45	1	0.66
344	*Bracknell Forest*	UA	Urb	South East	Bracknell Forest UA	1002	2	1	0.64	6	0.69
345	*West Berkshire*	UA	Rur	South East	West Berkshire UA (Newbury)	204	2	5	0.84	6	0.92
346	*Reading*	UA	Urb	South East	Reading UA	3574	0	1	0.55	1	0.51
347	*Slough*	UA	Urb	South East	Slough UA	3725	0	1	0.45	1	0.54
348	*Windsor & Maidenhead*	UA	Urb	South East	Windsor & Maidenhead UA	678	2	5	0.78	6	0.65
349	*Wokingham*	UA	Urb	South East	Wokingham UA	845	2	5	0.90	6	0.80
350	*Milton Keynes*	UA	Urb	South East	Milton Keynes UA	682	2	1	0.72	5	0.49
351	*Brighton & Hove*	UA	Urb	South East	Brighton & Hove UA	3023	0	1	0.51	1	0.68
352	*Portsmouth*	UA	Urb	South East	Portsmouth UA	4671	1	1	0.49	1	0.52
353	*Southampton*	UA	Urb	South East	Southampton UA	4438	1	1	0.48	1	0.58
354	*Isle of Wight*	UA	Rur	South East	Isle of Wight UA	355	3	1	0.64	6	0.72

[1] ONS = Office for National Statistics, www.statistics.gov.uk. *[2] MD = Metropolitan district, NMD = Non-metropolitan district, UA = Unitary Authority, LB = London Borough; [3] Official classification since* 2001 Census Output Areas. *[4] 9 Goverment Office regions: North East, North West, Yorkshire & the Humberside, West Midlands, East Midlands, East of England, London, South East & South West. [5] NMD falls within county council whereas MD & LB within greater authorities; [6] Inhabitants per km^2. [7] 4 Social, economic and environmental background (SEEB) clusters (0, 1, 2 & 3). [8] 6 Quality of life (QOL) clusters (0, 1, 2, 3, 4 & 5). [9] Quality of life (QOL) Index (low 0.00 – high 1.00). [10] 8 Best value performance (BVP) clusters (0, 1, 2, 3, 4, 5, 6 & 7). [11] BVP Index (low 0.00 – high 1.00).*

APPENDIX VIII. Classification and data cleansing of the 354 local authorities according to several profiling variables [1]

Source: Own elaboration

		Total Number		Considered LAs		
Profiling variable		*No.*	*%*	SEEB [2]	QOL [3]	BVP [4]
Urb/Rur	*Urban*	209	59.0	*206*	*203*	*206*
	Rural	145	41.0	*144*	*144*	*143*
Type of local authority	*London Borough (LB)*	33	9.3	*30*	*29*	*32*
	Metropolitan District (MD)	36	10.2	36	*34*	36
	Unitary Authority (UA)	46	13.0	46	46	46
	Non-Metropolitan District (NMD)	239	67.5	*238*	*238*	*234*
Region	*North East*	23	6.5	23	23	23
	North West	43	12.1	43	*42*	43
	Yorksire & Humberside	21	5.9	21	21	21
	East Midlands	40	11.3	40	40	40
	West Midlands	34	9.6	34	*33*	*33*
	Inner London	14	4.0	*11*	*10*	*13*
	Outer London	19	5.3	19	19	19
	East	48	13.6	48	48	*47*
	South East	67	18.9	67	67	*66*
	South West	45	12.7	*44*	*44*	*44*
Total		354	100.0	350	347	349

[1] See appendix VII for the list of 354 local authorities in England. [2] In the social, economic and environmental background (SEEB) dataset the following LAs are taken out due either too many extrem values or too many missing ones.List of missing LAs (name, urban/rural, type, ONS): City of London (Inner London, Urb, LB, 1); Tower Hamlets (Inner London, Urb, LB, 30); Westminster (Inner London, Urb, LB, 33) and Isles of Scilly (South West, Rur, NMD, 94). [3] Out: City of London, Islington (Inner London, Urb, LB, 19), Tower Hamlets, Westminster, Manchester (North West, Urb, MD, 36), Wolverhampton (West Midlands, Urb, MD, 64) and Isles of Scilly. [4] Out: City of London, Isles of Scilly, Staffordshire Moorlands (West Midlands, Rur, NMD, 267), Waveney (East, Rur, NMD, 275) and Worthing (South East, Urb, NMD, 298).

Part C
Social, economic and environmental background (SEEB)

APPENDIX IX. Definition of the 52 SEEB indicators in England 2005 [1]

Source: Complementary indicators in: Audit Commission (2005) *Local Quality of Life Indicators: Supporting Local Communities to Become Sustainable*, www.audit-commission.gov.uk, London: Audit Commission, ODPM (now DCLG) and DEFRA.

Population distribution

seeb1 Population density (inhabitants per km^2)

seeb2 % of the population living in urban settlements

seeb3 % of the population living in town fringe settlements

seeb4 % of the population living in villages, hamlets or isolated settlements

Changes in population

seeb5 % change in population from 1981 to 2001

seeb6 % change in population from 1991 to 2001

seeb7 % change in population from 2001 to 2003

Demographic distribution

seeb8 Males aged 0-9 as a % of the total population

seeb9 Males aged 10-19 as a % of the total population

seeb10 Males aged 20-29 as a % of the total population

seeb11 Males aged 30-49 as a % of the total population

seeb12 Males aged 50-69 as a % of the total population

seeb13 Males aged 70 and over as a % of the total population

seeb14 Females aged 0-9 as a % of the total population

seeb15 Females aged 10-19 as a % of the total population

seeb16 Females aged 20-29 as a % of the total population

seeb17 Females aged 30-49 as a % of the total population

seeb18 Females aged 50-69 as a % of the total population

seeb19 Females aged 70 and over as a % of the total population

Minorities

seeb20 Black Minority Ethnic population as a % of the total population

seeb21 Percentage of the population who are white

seeb22 Percentage of the population who are mixed race

seeb23 Percentage of the population who are Asian or Asian British

seeb24 Percentage of the population who are Black or Black British

seeb25 Percentage of the population who are Chinese or of Other Ethnic Group

Families

seeb26 Daytime population as a ratio of the resident population

seeb27 Economically active disabled residents as a percentage of the population who are economically active

seeb28 One person households as a % of all households

seeb29 One person pensioner households as a % of all households

seeb30 One person non-pensioner households as a % of all households

seeb31 Households with children as a % of all households

seeb32 Households with 3 or more adults and no children as a % of all households

Occupational status

seeb33 People aged 16 to 74 who are large employers and in higher managerial occupations

seeb34 People aged 16 to 74 in higher professional occupations

seeb35 People aged 16 to 74 in lower managerial and professional occupations

seeb36 People aged 16 to 74 in intermediate occupations

seeb37 People aged 16 to 74 who are small employers and own account workers

seeb38 People aged 16 to 74 in lower supervisory and technical occupations
seeb39 People aged 16 to 74 in semi-routine occupations
seeb40 People aged 16 to 74 in routine occupations
seeb41 People aged 16 to 74 who have never worked
seeb42 People aged 16 to 74 who are long-term unemployed
seeb43 People aged 16 to 74 who are full-time students
seeb44 People aged 16 to 74 who are not classifiable for other reasons

Educational Attainment

seeb45 % of the population whose highest qualification is a first degree (or equivalent)
seeb46 % of the population whose highest qualification is 2 A' levels (or equivalent)
seeb47 % of the population whose highest qualification is 5 *GCSE*'s Grade A*-C (or equivalent)
seeb48 % of the population with no or low qualifications
seeb49 % of the population holding other qualifications
seeb50 % of the adult population with poor literacy skills
seeb51 % of the adult population with poor numeracy skills
seeb52 % of young people (16 -24 year olds) in full time education or employment *[NI]* [3]

[1] This dataset is a personal selection of extra indicators provided together with the quality of life dataset (Audit Commission, Local quality of life indicators –supporting local communities to become sustainable: A guide to local monitoring to complement the indicators in the UK Government Sustainable Development Strategy, Audit Commission, 2005). 52 indicators / 51 considered into the study. Indicator number 52 excluded. See Table 3.2 for classification and data cleansing of the dataset. [3] [NI = Not included] , too many missing values

APPENDIX X. Classification and data cleansing of the 52 SEEB indicators [1]

Source: Own elaboration

	themes	*seeb indicators*	*Ind. excluded* [2]	*Final no.*	*%* [3]
1	*Population distribution*	1-4		4	7.8
2	*Changes in population*	5-7		3	5.9
3	*Demographic distribution*	8-19		12	23.5
4	*Minorities*	20-25		6	11.8
5	*Families*	26-32		7	13.7
6	*Occupational status*	33-44		12	23.5
7	*Educational attainment*	45-52	8	7	13.7
	Total	52	1	51	100.0

[1] See appendix IX for the definition of 52 SEEB indicators. But the final number of indicators taken into account is 51. [2] Indicator seeb8 is excluded due too many missing values (13%). [5] Out of 51.

APPENDIX XI. Description and normality test for the 52 SEEB indicators considered

Source: Audit Commission, www.audit-commission.gov.uk, 2005

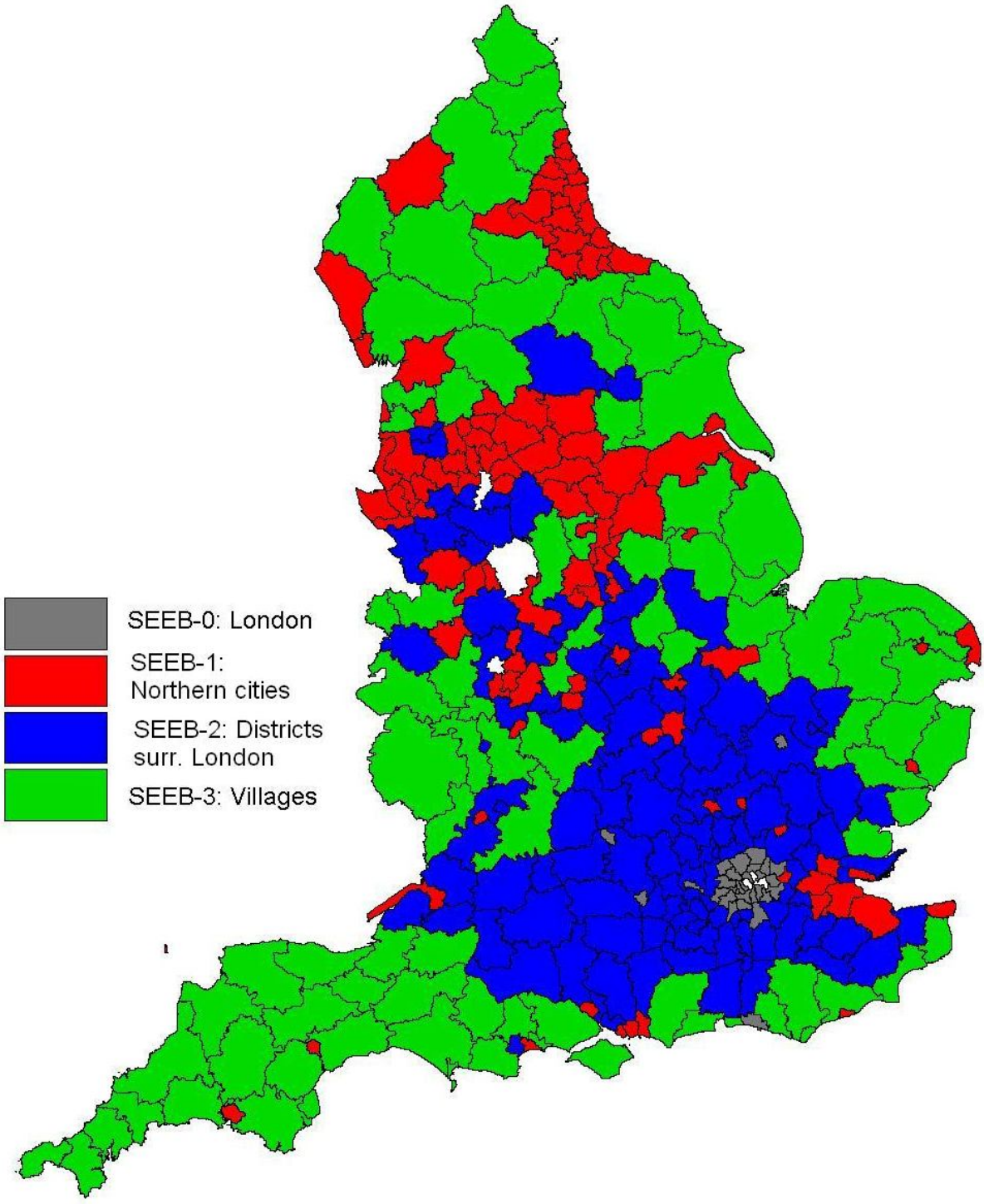
Ind [1]	*Mean*	*Std. Dev.*	*95 % lower*	*95 % upper*	*Min.*	*Local authority*	*Max.*	*Local authority*
				Population distribution				
seeb1*	1379.0	1984.9	1135.5	1539.8	23.0	Eden	13758.0	Kensington and Chelsea
seeb2*	73.2	27.3	70.0	75.8	0.0	Rutland	100.0	Barking and Dagenham
seeb3*	13.9	14.8	12.5	15.7	0.0	Southampton	59.0	Teesdale
seeb4*	13.0	15.4	11.4	14.7	0.0	Southampton	65.0	Eden
				Changes in population				
seeb5	7.8	9.6	7.0	9.0	-15.1	Liverpool	64.4	Milton Keynes
seeb6	3.1	4.8	2.7	3.7	-10.4	Kingston upon Hull	19.6	East Cambridgeshire
seeb7*	1.3	1.6	1.1	1.5	-5.3	Mid Suffolk	10.1	Kensington and Chelsea
				Demographic distribution				
seeb8	5.96	0.56	5.91	6.02	4.40	Cambridge	8.10	Newham
seeb9	6.63	0.55	6.57	6.69	4.00	Wandsworth	8.70	Rutland
seeb10*	5.7	1.7	5.5	5.9	3.3	Rother	14.2	Cambridge
seeb11*	14.4	1.3	14.2	14.5	10.4	West Somerset	19.4	Lambeth
seeb12*	11.3	1.6	11.2	11.5	6.4	Lambeth	14.4	East Lindsey
seeb13*	4.9	1.1	4.8	5.0	2.4	Newham	9.5	Christchurch
seeb14	5.68	0.54	5.62	5.74	4.20	Cambridge	7.70	Newham
seeb15	6.24	0.50	6.18	6.29	3.90	Wandsworth	7.70	Knowsley
seeb16*	5.61	1.64	5.43	5.78	3.10	Rother	13.00	Wandsworth
seeb17	14.64	0.96	14.54	14.75	11.8	West Somerset	17.5	Lewisham
seeb18	11.73	1.60	11.56	11.90	6.90	Newham	15.50	West Somerset
seeb19*	7.18	1.49	7.02	7.34	3.5	Newham	13.3	Christchurch
				Minorities				
seeb20*	5.94	9.00	4.99	6.89	0.40	Berwick-upon-Tweed	60.60	Newham
seeb21*	94.0	9.1	93.1	95.0	39.4	Newham	99.6	Eden
seeb22*	1.01	0.83	0.92	1.10	0.20	Wansbeck	4.80	Lambeth
seeb23*	2.9	5.2	2.3	3.4	0.1	Mid Suffolk	32.5	Newham
seeb24*	1.38	3.72	0.99	1.78	0.00	Berwick-upon-Tweed	25.90	Southwark
seeb25*	0.68	0.77	0.60	0.76	0.10	West Somerset	5.50	Kensington and Chelsea
				Family composition				
seeb26*	0.95	0.13	0.94	0.97	0.70	Chester-le-Street	1.90	Camden
seeb27	13.5	4.0	13.1	13.9	0.1	Reigate and Banstead	29.0	Easington
seeb28*	29.0	3.7	28.5	29.3	22.4	Hart	48.6	Kensington and Chelsea
seeb29	14.49	2.04	14.27	14.70	9.70	Wokingham	22.10	Rother
seeb30*	14.42	3.45	14.05	14.79	8.00	East Dorset	34.20	Camden
seeb31	26.85	2.63	26.57	27.13	17.80	Kensington and Chelsea	34.90	Newham
seeb32	11.22	1.26	11.09	11.36	8.00	Hastings	17.50	Brent
				Occupational status				
seeb33*	3.60	1.45	3.44	3.75	1.40	Kingston upon Hull	9.00	Richmond upon Thames
seeb34*	4.96	2.09	4.73	5.18	1.60	Easington	13.20	Cambridge

seeb35	18.94	3.34	18.59	19.29	11.00	Easington	28.70	Richmond upon Thames
seeb36	9.39	1.68	9.21	9.57	5.50	West Somerset	14.40	Bexley
seeb37	7.65	2.21	7.41	7.88	3.70	Middlesbrough	15.70	South Shropshire
seeb38	7.39	1.41	7.24	7.54	2.80	Kensington and Chelsea	11.90	Copeland
seeb39	11.77	2.00	11.55	11.98	5.60	Richmond upon Thames	17.40	Boston
seeb40	9.12	2.65	8.84	9.40	3.40	Richmond upon Thames	18.60	Corby
seeb41*	2.15	1.37	2.00	2.29	0.70	South Northamptonshire	11.40	Newham
seeb42*	0.87	0.45	0.82	0.92	0.2	Hart	2.4	Liverpool
seeb43*	6.21	2.80	5.91	6.51	3.40	South Holland	25.60	Oxford
seeb44	17.97	3.23	17.62	18.31	10.7	Oxford	29.4	Easington
Educational attainment								
seeb45*	19.3	7.0	18.5	20.0	8.5	Corby	51.5	Kensington and Chelsea
seeb46*	8.0	2.0	7.8	8.2	4.9	Boston	19.0	Oxford
seeb47*	20.1	2.2	19.9	20.3	11.8	Cambridge	24.8	Mid Sussex
seeb48	45.5	7.4	44.7	46.3	19.2	Kensington and Chelsea	62.3	Sandwell
seeb49	7.16	1.03	7.05	7.27	3.3	Kensington and Chelsea	9.3	Scarborough
seeb50	23.6	3.2	23.2	23.9	16.8	Hart	31.6	Knowsley
seeb51	23.4	4.0	23.0	23.8	14.8	Hart	34.6	Knowsley

*[1] See appendix IX for the definition of each indicator and also appendix X for its classification and data cleansing; TEST1: ***** indicates non-normal distribution variable according to the Kolmogorov-Smirnov test (2-tailed) at 0.01 level of confidence. Only 23 indicators out of 51(45%) show a normal distribution.*

APPENDIX XII. Map of the four distinctive patterns of SEEBs in England 2005

Source: Own research. Empty area means excluded from analysis.



Part D
Quality of life (QOL)

APPENDIX XIII. Definition of the local QOL indicators in England 2005 [1]

Source: Audit Commission (2005) *Local Quality of Life Indicators: Supporting Local Communities to Become Sustainable*, www.audit-commission.gov.uk, London: Audit Commission, ODPM (now DCLG) and DEFRA

People & place

qol1 Priorities for improvement in the local area, as defined by local residents: a) first; b) second; c) Third. *[OK, NI nominal]*

Community cohesion & involvement

qol2 The percentage of residents who think that people being attacked because of their skin colour, ethnic origin or religion is a very big or fairly big problem in their local area *[I]*

qol3 The percentage of residents who think that for their local area, over the past three years, community activities have got better or stayed the same *[OK]*

qol4 Election turnout *[OK]*

Community safety

qol5 The percentage of residents surveyed who said they feel 'fairly safe' or 'very safe' outside a) during the day *[OK]*; b) after dark *[OK]*

qol6 a) Domestic burglaries per 1,000 households *[I]*; b) Violent offences committed per 1,000 population *[I]*; c) Theft of a vehicle per 1,000 population *[I]*; d) Sexual offences per 1,000 population *[I]*

qol7 The percentage of residents who think that a) vandalism, graffiti and other deliberate damage to property or vehicles *[I]*; b) people using or dealing drugs *[I]*; c) people being rowdy or drunk in public places is a very big or fairly big problem in their local area *[I]*

qol8 The number of a) pedestrian *[I]*; b) cyclist road accident casualties per 100,000 population *[I]*

Culture & leisure

qol9 The percentage of the population within 20 minutes travel time (urban – walking, rural – by car) of different sports facility types *[OK]*

qol10 The percentage of residents who think that for their local area, over the past three years the following have got better or stayed the same a) activities for teenagers *[OK]*; b) cultural facilities (for example, cinemas, museums) *[OK]*; c) facilities for young children *[OK]*; d) sport and leisure facilities *[OK]*; e) parks and open spaces *[OK]*

Economic well-being

qol11 The percentage of the working-age population that is in employment *[OK]*

qol12 a) The number of Job Seekers Allowance claimants as a percentage of the resident working age population *[I]*; b) percentage of these who have been out of work for more than a year *[I]*

qol13 a) The total number of VAT registered businesses in the area at the end of the year *[OK, NP]* b) The percentage change in the number of VAT registered businesses *[OK, NI]*

qol14 Job density (number of jobs filled to working age population) *[OK]*

qol15 The proportion of the population living in the most deprived super output areas in the country *[I]*

qol16 The percentage of the population of working age that is claiming key benefits *[I]*

qol17 The percentage of a) children *[I]*; b) population over 60 that live in households that are income deprived *[I]*

Education & life-long learning

qol18 The percentage of half days missed due to total absence in a) primary *[I]*; b) secondary schools maintained by the local education authority *[I]*

qol19 The proportion of young people (16-24 year olds) in full-time education or employment *[OK]*

qol20 The proportion of working-age population qualified to a) NVQ2 or equivalent *[OK]*; b) NVQ4 or equivalent *[OK]*

qol21 The percentage of 15-year-old pupils in schools maintained by the local authority achieving five or more *GCSE*s at grades A*-C or equivalent *[OK]*

Environment

qol22 The proportion of developed land that is derelict *[I]*

qol23 The proportion of relevant land and highways that is assessed as having combined deposits of litter and detritus *[OK]*

qol24 Levels of key air pollutants *[I, NI]*

qol25 Carbon dioxide emissions by sector and per capita emissions: a) domestic *[I]*; b) total *[I]*

qol26 Average annual domestic consumption of a) gas *[I]*; b) electricity (kwh) *[I]*

qol27 Daily domestic water use (per capita consumption) *[I]*

qol28 The percentage of river length assessed as a) good biological quality *[OK]*; b) good chemical quality *[OK]*.

qol29 The volume of household waste a) collected per head *[I]*, b) the proportion recycled *[OK]*, c) composted *[OK]*; d) used to recover heat, power and other energy sources *[OK]*

qol30 a) The percentage area of land designated as sites of special scientific interest (SSSI) within the local authority area in favourable condition *[OK]*; b) the area of land designated as a local nature reserve per 1,000 population *[OK, NI]*

Health & social well-being

qol31 Age standardised mortality rates for a) all cancers (male & female) *[I]*; b) circulatory diseases (male & female) *[I]*; c) respiratory diseases (male & female) *[I]* ; d) stroke (male & female) *[I]*

qol32 Infant mortality: a) male *[OK]* ; b) female *[OK, NI]*

qol33 Life expectancy at birth: a) male *[OK]* ; b) female *[OK]*

qol34 The percentage of households with one or more person with a limiting long-term illness *[I]*

qol35 Teenage pregnancy, conceptions under 18 years, per 1,000 females aged 15-17 *[I]*

Housing

qol36 The total number of new housing completions *[OK]*

qol37 Affordable dwellings completed as a percentage of all new housing completions *[OK]*

qol38 Household accommodation without central heating *[I]*

qol39 The percentage of residents who think that people sleeping rough on the streets or in other public places is a very big or fairly big problem in their local area *[I]*

qol40 The percentage of all housing that is unfit *[I, NI]*

qol41 House price to income ratio *[OK]*

Transport & access

qol42 The percentage of the resident population who travel to work a) by private motor vehicle *[I]*; b) by public transport *[OK]*; c) on foot or cycle *[OK]*

qol43 The percentage of the resident population travelling over 20 km to work *[I]*

qol44 The percentage of residents who think that for their local area, over the past three years, that a) public transport has got better or stayed the same *[OK]*; b) the level of traffic congestion has got better or stayed the same *[OK]*

qol45 Estimated traffic flows for all vehicle types (million vehicle km) *[I]*

[1] Dataset officially set as a whole by Audit Commission, www.audit-commission.gov.uk, in 2005 in: Audit Commission, *Local quality of life indicators –supporting local communities to become sustainable: A guide to local monitoring to complement the indicators in the UK Government Sustainable Development Strategy*, Audit Commission, 2005. *45 contracted indicators / 41 considered. 83 expanded indicators / 73 considered. [NI = Not included], [I = Inverted] , [OK = not modified], [NP = normalised by population]. Most of indicators are not modified at all [OK] but some indicators are inverted [I] in order that high values indicate positive direction. Moreover some indicators are not included [NI] into the analyses due to several reasons such as: not provided, inclusion of too many missing or extreme values and also not adequate. See Table 3.3 for classification and data cleansing of the dataset.*

APPENDIX XIV. Classification and data cleansing of the 45/83 QOL indicators within 10 themes in England 2005 [1]

Source: Own elaboration

Themes	*qolx ind..*	*Con-tracted No. (used)* [2]	*Expanded Ind.* [3]	*Ind.not provided or excluded* [4]	*Expanded no.(used)* [5]	*%* [6]
People & Place	1	1(0)	1 (a-c)	1(a-c)^{e}	3(0)	0.0
Community cohesion & involvement	2-4	3(3)			3(3)	4.1
Community safety	5-8	4(4)	5 (a&b), 6 (a-d), 7 (a-c), 8 (a&b)		11(11)	15.0
Culture & leisure	9,10	2(2)	10 (a-e)		6(6)	8.2
Economic well-being	11-17	7(7)	12 (a&b), 13 (a&b), 17 (a&b)		10(10)	13.7
Education & life-long learning	18-21	4(3)	18 (a&b), 20 (a&b)	19^{e}	6(5)	6.8
Environment	22-30	9(8)	25 (a&b), 26 (a&b), 28 (a&b), 29 (a-d), 30 (a&b)	24^{np}, 30b^{np}, 29d^{e}	16(13)	17.8
Health & social well-being	31-35	5(5)	31(a1,a2,b1,b2, c1,c2,d1,d2), 32 (a&b), 33(a&b)	32b^{np}	14(13)	17.8
Housing	36-41	6(5)		40^{np}	6(5)	6.8
Transport & access	42-45	4(4)	42 (a-c), 44 (a&b)		7(7)	9.6
TOTAL		45(41)		9	83(73)	100.0

[1] See Appendix XIII for the definition of 83 quality of life indicators. Although, the initial number of indicators is 45, the dataset expanded to 73 when children indicators are taken into account. So, the final number of considered indicators is 65, 8 are excluded due to several reasons. [2] In parenthesis the real number of indicators taken into account after removing excluded indicators, if only a part of the indicator is removed it still accounts. [3] For instance indicator qol5 contains two closed-related indicators: qol5a and qol5b. [4] (^{np}) indicates not provided whereas (^{e}) excluded. qol19 and qol29d are excluded due too many missing values 13% and 5%, respectively, and also too many extreme values for qol29d (5%). 1 excluded as being nominal. [5] Number of expanded indicators, in parenthesis the number when subtracting indicators not provided and excluded. [6] Out of 73.

APPENDIX XV. Description and normality test for the 73 local QOL indicators considered

Source: Own elaboration

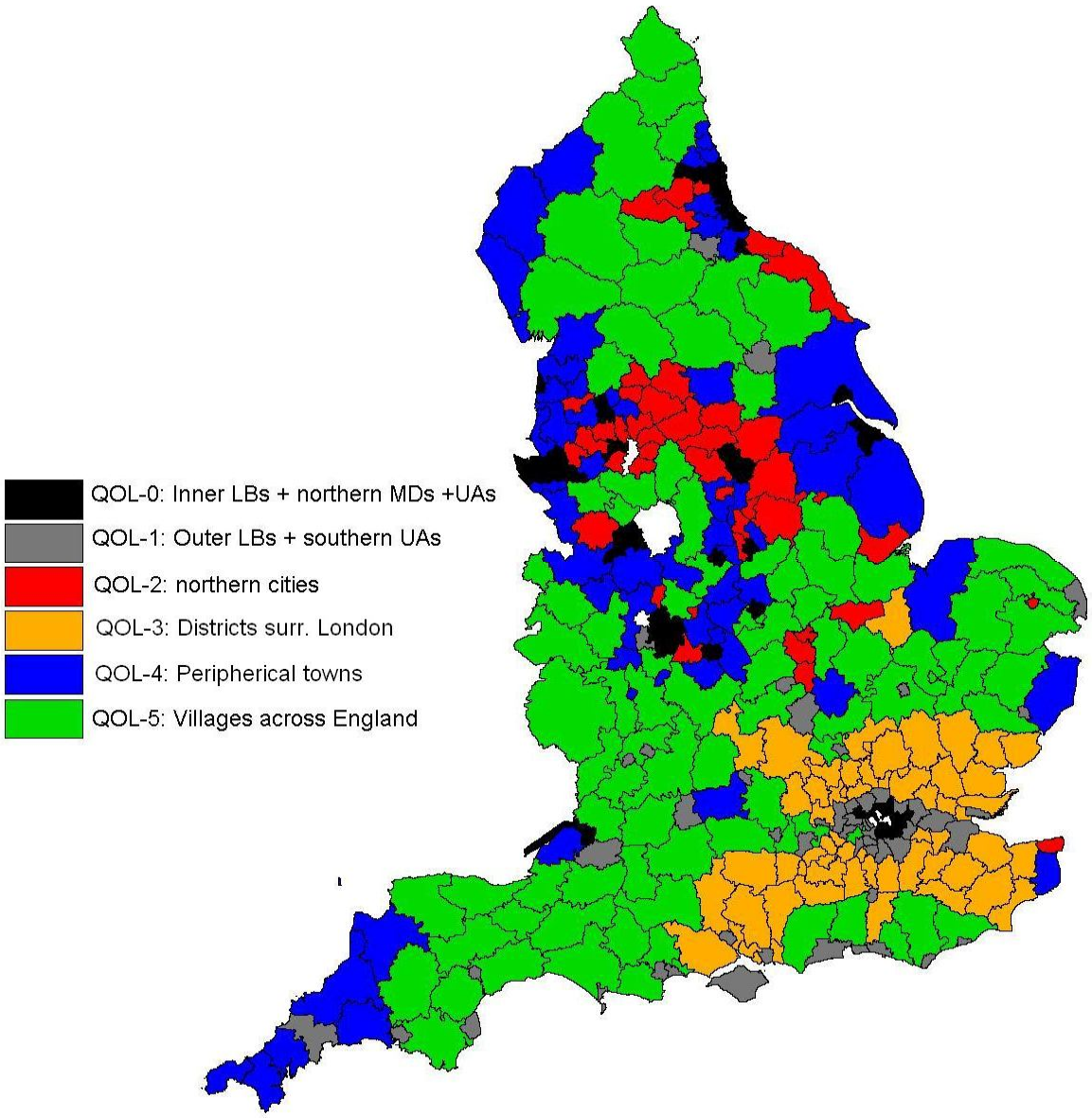
Ind [1]	*Mean*	*Std. Dev.*	*95 % lower*	*95 % upper*	*Min.*	*Local authority*	*Max.*	*Local authority*
People & place								
Community cohesion & involvement								
qol2*	23.1	12.5	21.8	24.5	3.3	Ryedale	58.2	Oldham
qol3	84.9	5.0	84.3	85.4	59.8	Corby	95.9	Bristol
qol4	39.2	4.9	38.7	39.8	27.4	Stoke-on-Trent	50.8	Derbyshire Dales
Community safety								
qol5a*	97.4	1.1	97.3	97.5	95.0	Wellingborough	99.3	Christchurch
qol5b*	71.6	5.2	71.0	72.1	62.3	Wandsworth	84.0	Allerdale
qol6a*	11.9	6.7	11.2	12.6	1.3	Teesdale	55.1	Nottingham
qol6b*	17.3	7.4	16.5	18.1	3.2	Teesdale	41.1	Kingston upon Hull
qol6c*	3.7	2.1	3.5	3.9	0.5	Teesdale	11.8	Middlesbrough
qol6d*	1.04	0.41	1.00	1.09	0.3	South Northamptonshire	2.7	Middlesbrough
qol7a	60.4	10.8	59.4	61.7	27.7	Newham	83.0	Gravesham
qol7b	61.3	11.9	60.1	62.6	12.8	Bristol	89.8	Ashfield
qol7c	49.3	10.2	48.3	50.4	11.5	Newham	78.1	Weymouth and Portland
qol8a*	60.3	23.7	57.8	62.9	28.4	Havering	202.0	Camden
qol8b*	33.6	12.9	32.2	35.0	14.0	Havering	95.0	Camden
Culture & leisure								
qol9*	21.0	20.0	18.8	23.0	0.0	Isle of Wight	82.3	Waltham Forest
qol10a	60.5	7.3	59.7	61.3	38.9	Corby	92.2	Bristol
qol10b*	84.3	11.5	83.0	85.5	34.1	Corby	98.6	Stevenage
qol10c	77.2	5.7	76.6	77.8	58.8	Corby	95.3	Bristol
qol10d*	88.3	5.4	87.7	88.9	59.6	Lincoln	96.2	Woking
qol10e*	86.6	5.6	86.0	87.2	59.8	North East Lincolnshire	95.4	Mole Valley
Economic well-being								
qol11	76.4	6.0	75.8	77.0	52.4	Newham	89.5	Melton
qol12a*	1.94	1.02	1.83	2.04	0.5	Rutland	5.5	Hackney
qol12b	11.1	4.6	10.5	11.5	1.8	Gosport	30	Southwark
qol13a	32.4	10.9	31.3	33.6	11.7	Knowsley	89.8	Camden
qol13b	1.19	1.44	1.04	1.34	-5.3	Barnet	7.6	Trafford
qol14	0.80	0.17	0.78	0.81	0.4	Chester-le-Street	1.9	Camden
qol15*	13.6	16.6	11.9	15.5	0.0	Wokingham	83	Hackney
qol16*	11.4	4.6	10.9	11.9	3.8	Wokingham	27.9	Easington
qol17a	17.9	8.4	17.1	18.8	5.2	Hart	47.0	Hackney
qol17b*	13.7	4.9	13.2	14.2	6.1	Hart	37.5	Hackney
Education & life-long learning								
qol18a*	5.34	0.46	5.29	5.39	4.4	Wokingham	7.0	Bexley
qol18b*	7.91	0.76	7.83	7.99	6.1	Sutton	11.3	Salford
qol20a	24.8	7.5	24.1	25.7	10.2	Tendring	47.8	Cambridge
qol20b	62.3	7.1	61.5	63.0	43.2	Easington	86.1	Ribble Valley
qol21*	53.6	5.7	53.0	54.3	34.4	Kingston upon Hull	68.1	Redbridge
Environment								
qol22*	22.6	24.4	20.0	25.2	0.0	Portsmouth	94.3	North Cornwall
qol23	18.2	9.6	17.2	19.3	0.0	Craven	83.0	West Devon
qol25a*	2.81	0.38	2.77	2.85	1.5	Rushmoor	4.3	South

qol25b*	9.8	7.1	9.0	10.5	4.4	Hackney	90.3	Bedfordshire North Lincolnshire
qol26a	20156.6	1848.2	19962.3	20354.6	15230.0	Plymouth	26394.0	Chiltern
qol26b	4759.9	613.7	4695.1	4825.8	3528.0	South Tyneside	6495.0	Kennet
qol27*	154.5	15.2	152.9	156.1	108.0	North Lincolnshire	197.0	East Hampshire
qol28a*	52.6	33.7	48.9	56.1	0.0	Southend-on-Sea	100.0	Cambridge
qol28b	49.6	31.1	46.3	52.9	0.0	Thurrock	100.0	Bromley
qol29a	434.4	59.2	428.0	440.6	304.2	Oadby and Wigston	588.0	North Lincolnshire
qol29b	15.1	4.7	14.6	15.6	5.5	North Shropshire	38.3	Broadland
qol29c*	6.1	6.1	5.4	6.7	0.0	Middlesbrough	30.2	Daventry
qol30a	47.9	29.7	44.9	51.2	0.0	Southend-on-Sea	100.0	Barnet
Health & social well-being								
qol31a1	251.7	28.3	248.8	254.9	192.0	Ryedale	344.7	Liverpool
qol31a2	171.2	14.8	169.6	172.8	133.5	Ryedale	231.0	Corby
qol31b1	255.2	38.1	251.2	259.3	185.1	East Dorset	354.2	Blackburn with Darwen
qol31b2*	120.1	22.5	117.8	122.6	76.5	Kensington and Chelsea	196.0	Rossendale
qol31c1	135.0	27.2	132.3	138.1	67.3	West Somerset	216.4	Barking and Dagenham
qol31c2	84.6	16.5	83.0	86.5	46.5	Christchurch	138.4	Liverpool
qol31d1	78.4	11.9	77.1	79.6	53.3	Dacorum	119.1	Blyth Valley
qol31d2	70.4	9.3	69.4	71.3	51.6	Harrow	106.0	Blyth Valley
qol32a	4.90	2.23	4.67	4.67	0.9	Rushcliffe	14.7	Boston
qol33a	76.4	1.5	76.2	76.5	71.7	Blackpool	79.5	East Dorset
qol33b	80.9	1.2	80.8	81.1	77.6	Liverpool	84.1	Kensington and Chelsea
qol34	33.1	5.2	32.5	33.6	22.6	Wokingham	54.9	Easington
qol35*	38.3	11.5	37.1	39.6	9.5	Rutland	104.9	Lambeth
Housing								
qol36*	380.5	285.1	351.4	412.1	1.0	Berwick-upon-Tweed	2948.0	Leeds
qol37*	33.7	108.6	22.3	45.4	0.0	Hartlepool	1900.0	Berwick-upon-Tweed
qol38*	7.5	4.6	7.0	8.0	1.4	Durham	27.0	Liverpool
qol39*	22.9	13.2	21.4	24.2	3.5	North Tyneside	74.3	Weymouth and Portland
qol41	4.12	0.88	4.02	4.21	2.0	Sedgefield	6.8	West Somerset
Transport & access								
qol42a*	65.3	10.0	64.2	66.3	18.5	Camden	77.3	South Derbyshire
qol42b*	11.3	10.7	10.2	12.5	1.2	North Cornwall	58.6	Lambeth
qol42c*	13.1	4.1	12.6	13.5	6.4	Epping Forest	39.9	Cambridge
qol43	14.2	5.9	13.5	14.8	3.5	Hackney	30.6	Brentwood
qol44a	70.1	9.8	69.1	71.2	29.6	Redditch	93.9	Bristol
qol44b	31.5	9.1	30.5	32.5	15.2	Taunton Deane	96.4	Bristol
qol45*	6147.4	4272.0	5682.1	6591.5	565.0	Rutland	14950.0	Basingstoke and Deane

*[1] See appendix XIII for the definition of each indicator and also appendix XIV for its classification and data cleansing; TEST1: ***** indicates non-normal distribution variable according to the Kolmogorov-Smirnov test (2-tailed) at 0.01 level of confidence. Only 37 indicators out of 73 (51%) show a normal distribution.*

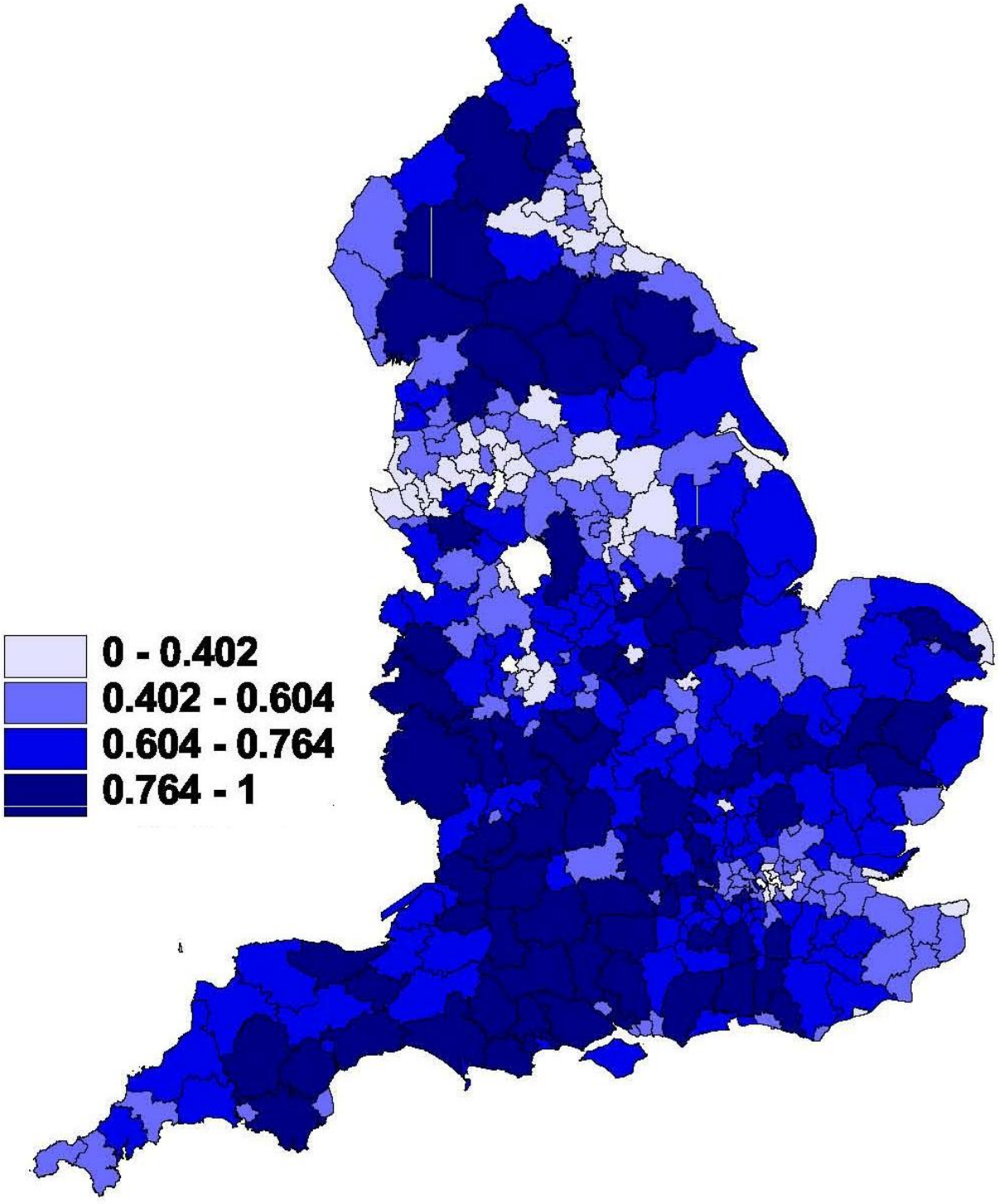
APPENDIX XVI. Map of the six distinctive patterns of QOL in England 2005

Source: Own research. Empty area means excluded from analysis.



APPENDIX XVII. Map of the QOL index (low/weak 0.00 – high/strong 1.00) in England 2005

Source: Own research. Empty area means excluded from analysis.



Part E
Local authorities' performance: Best Value Performance (BVP) indicators

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APPENDIX XVIII. Definition of BVP indicators dataset in England 2003/04 [1, 2]

Source: Office of the Deputy Prime Minister (ODPM) (2003) *Guidance on Best Value Performance Indicators for 2003/2004*, www.bvpi.gov.uk, London: ODPM, now Communities and Local Government.

Corporate health

bvp1 **a)** Does the authority have a Community Strategy developed in collaboration with Local Strategic Partnership? *[OK];* **b)** By when will a full review of the community strategy be completed? *[NI]*; **c)** Has the authority reported progress towards implementing the community strategy to the wider community this year? if no, by when will this be undertaken? *[NI]*; **d)** By when does the authority plan to have such a strategy in place? *[NI]*. *[SO]*

bvp2 **a)** The Equality Standard for local government *[OK]*; **b)** The duty to promote race equality *[OK]*. *[FA]*

bvp3 The percentage of citizens satisfied with the overall service provided *[OK]*. *[SA]*

bvp4 The percentage of complainants satisfied with the handling of their complaint *[OK]*. *[SA]*

bvp8 The percentage of undisputed invoices which were paid within 30 days of being received by the authority *[OK]*. *[CE]*

bvp9 Percentage of Council Tax collected *[OK]*. *[CE]*

bvp10 The percentage of business rates (NNDR) which should have been received during the year that were received *[OK]*. *[CE]*

bvp11 **a)** The percentage of top 5% of earners that are women *[OK]*; **b)** The percentage of top 5% of earners from black and minority ethnic communities *[OK]*. *[CE]*

bvp12 The number of working days/shifts lost to sickness absence per full time equivalent member of staff *[NI]*. *[CE]*

bvp14 Early retirements (excluding ill-health retirements) as a percentage of the workforce *[I]*. *[CE]*

bvp15 Ill health retirements as a percentage of the workforce *[I]*. *[CE]*

bvp16 **a)** The number of staff declaring that they meet the Disability Discrimination Act 1995 disability definition as a percentage of the total workforce *[OK]*; **b)** The percentage of the population aged 18 and over but under 65 who said they had a long standing illness or disability. ONS 2003 mid-year estimate figures *[OK]*. *[CE]*

bvp17 **a)** Staff from minority ethnic communities as a percentage of the total workforce *[OK]*; **b)** The percentage of the population aged 18 and over but under 65 from minority ethnic communities. ONS 2003 mid-year estimate figures *[OK]*. *[CE]*

bvp156 The percentage of authority buildings open to the public in which all public areas are suitable for and accessible to people with disabilities *[OK]*. *[CE]*

bvp157 The number of types of interactions with the public which are capable of being delivered electronically that are delivered electronically *[OK]*. *[SD]*

bvp180 **a1)** The energy consumption of local authority operation property. Electricity *[NI]*; **a2)** The energy consumption of local authority operation property. Fossil fuels *[NI]*; **b)** Average street lamp wattage compared with average consumption/wattage by local authorities in the UK *[NI]*. *[SD]*

Education

bvp33 Net Youth Service expenditure (i.e. LEA expenditure only) per head of population in the Youth Service target age range *[OK]*. *[CE]*

bvp34 **a)** Percentage of primary schools with 25% or more (and at least 30) of their places unfilled *[OK]*; **b)** Percentage of secondary schools with 25% or more (and at least 30) of their places unfilled *[OK]*. *[CE]*

bvp38 Percentage of pupils in schools maintained by the authority in the previous summer achieving 5 or more *GCSE*s at grades A* - C or equivalent *[OK]*. *[CE]*

***bvp*39** Percentage of pupils in schools maintained by the authority achieving five *GCSE*s or equivalent at grades A* to G including English and Maths *[OK]*. *[CE]*

bvp40 Percentage of pupils in schools maintained by the authority in the previous summer achieving Level 4 or above in the *Key Stage* 2 Mathematics test *[OK]*. *[CE]*

bvp41 Percentage of pupils in schools maintained by the authority in the previous summer achieving Level 4 or above in the *Key Stage* 2 English test *[OK]*. *[CE]*

bvp43 Percentage of statements of special educational need (SENs) prepared within 18 weeks: **a)** excluding those affected by "exceptions to the rule" under the SEN Code of Practice *[OK]*; **b)** including those affected by "exceptions to the rule" under the SEN Code of Practice *[OK]*. *[QU]*
bvp44 Number of pupils permanently excluded during the year from the secondary, primary and special schools maintained by the authority per 1,000 pupils *[I]*. *[FA]*
bvp45 Percentage of half days missed due to unauthorised absence in secondary schools maintained by the authority *[I]*. *[FA]*
bvp46 Percentage of half days missed due to unauthorised absence in primary schools maintained by the authority *[I]*. *[FA]*
bvp48 Percentage of schools maintained by the authority subject to special measures *[I]*. *[FA]*
bvp159 The percentage of permanently excluded pupils attending: **a)** Five hours or less a week of alternative tuition *[OK]*; **b)** Between six and twelve hours a week of alternative tuition *[OK]***; c)** Between thirteen and nineteen hours a week of alternative tuition *[OK]***; d)** Twenty or more hours a week of alternative tuition *[OK]*. *[FA]*
bvp181 Percentage of fourteen year old pupils in schools achieving Level 5 or above in the *key stage* 3 test in: **a)** English *[OK]*; **b)** Mathematics *[OK]*; **c)** Science *[OK]*; **d)** ICT assessment *[OK]*. *[FA]*
bvp192 **a)** Quality of teaching. Average days access to relevant training and development per practitioner delivering Foundation Stage education *[NI]*; **b)** Quality of teaching. Average number of early years settings per QTS teacher *[OK]*. *[FA]*
bvp193 **a)** Schools budget as a percentage of the Schools Funding Assessment *[OK]*; **b)** Increase in Schools Budget on the previous year as a percentage of the increase in Schools Funding Assessment on the previous year *[OK]*. *[FA]*
bvp194 Percentage of pupils achieving level 5 or above in *Key Stage* 2 in: **a)** English *[OK]*; **b)** Mathematics *[OK]*. *[FA]*

Social services [2]

bvp49 Percentage of children looked after with three or more placements in the year (PAF A1) *[I]*. *[SO]*
bvp50 Percentage of young people looked after leaving care aged 16 or over with at least 1 *GCSE* grade A*-G or GNVQ (PAF A2) *[OK]*. *[SO]*
bvp51 Weekly cost of residential/foster services for children looked after in such care (PAF B8) *[OK]*. *[CE]*
bvp52 Weekly cost of intensive social care per adult receiving such care in residential and nursing care (PAF B12) *[OK]*. *[CE]*
bvp53 The number of households receiving intensive home care per 1,000 older people (aged 65 or over) (PAF C28) *[OK]*. *[CE]*
bvp54 Older people (aged 65 or over) helped to live at home per 1,000 older people (PAF C32) *[OK]*. *[CE]*
bvp56 Percentage of items of equipment delivered within 7 working days (PAF D38) *[NI]*. *[CE]*
bvp58 Percentage of people receiving a statement of their needs and how they will be met (PAF D39) *[OK]*. *[CE]*
bvp161 Percentage of young people who were looked after when they were 16 and who turned nineteen in 2003/04, who were in education, training or employment on their nineteenth birthday (PAF A4) *[OK]*. *[CE]*
bvp162 The percentage of children on the register whose cases should have been reviewed that were reviewed (PAF C20) *[OK]*. *[CE]*
bvp163 The percentage of children looked after for at least 6 months who were adopted during the year (PAF C23) *[OK]*. *[CE]*
bvp195 Percentage of new older clients who were assessed within an acceptable waiting time (PAF D55) *[OK]*. *[CE]*
bvp196 Percentage of new older clients where the time from completion of assessment to the provision of all services in a care package was less than or equal to four weeks (PAF D56) *[OK]*. *[CE]*

Housing and related services

Housing

bvp62 The average number of unfit private sector dwellings made fit or demolished as a direct result of action by the local authority as a proportion of all unfit private sector dwellings *[OK]*. *[SO]*
bvp63 Energy efficiency - the average SAP rating of local authority owned dwellings (high is good)

[NI]. [SO]

bvp64 The number of private sector vacant dwellings that are returned into occupation or demolished during 2003/04 as a direct result of action by local authority *[OK]. [SO]*

bvp66 Local authority rent collection and arrears: proportion of rent collected *[NI]. [CE]*

bvp164 Does the authority follow the Commission for Racial Equality.s code of practice in rented housing and follow the Good Practice Standards for social landlords on tackling harassment? *[NI]. [CE]*

bvp183 The average length of stay, of households which include dependent children or a pregnant woman and which are homeless and in priority need, in: **a)** Bed and breakfast accommodation *[I]*; **b)** Hostel accommodation *[I]. [CE]*

bvp184 **a)** The proportion of LA homes which were non-decent at 1st April 2003 *[NI]*; **b)** The percentage change in proportion of non-decent LA homes between 1st April 2003 and 1st April 2004 *[NI]. [CE]*

bvp185 Percentage of responsive (but not emergency) repairs during 2003/04, for which the authority both made and kept an appointment *[NI]. [CE]*

Benefits

bvp76 **a)** The number of housing benefit claimants visited, per 1,000 caseload *[OK]*; **b)** The number of fraud investigators employed, per 1,000 caseload *[OK]*; **c)** The number of fraud inspections, per 1,000 caseload *[OK]*; **d)** The number of prosecutions and sanctions, per 1,000 caseload *[OK]. [FA]*

bvp78 **a)** Average time in calendar days for processing new claims *[I]*; **b)** Average time in calendar days for processing changes of circumstances *[I]*; **c)** Percentage of renewal claims processed on time *[I]. [SD]*

bvp79 **a)** Percentage of cases calculated correctly *[OK]*; **b)** Percentage of recoverable overpayments recovered in the year *[NI]. [SD]*

bvp80 Overall satisfaction with the following aspects of the service: **a)** Contact with the office *[OK]*; **b)** Service in the office *[OK]*; **c)** Telephone service *[OK]*; **d)** Staff in the office*[OK]*; **e)** Forms *[OK]*; **f)** other aspect1 *[OK]*; **g)** other aspect2 *[OK]. [SA]*

Tenants

bvp74 **a)** All tenants. Satisfaction of tenants of council housing with the overall service provided by their council *[NI]*; **b)** Black and minority ethnic tenants. Satisfaction of tenants of council housing with the overall service provided by their council *[NI]*; **c)** Non-black and minority ethnic. Satisfaction of tenants of council housing with the overall service provided by their council *[OK]. [SA]*

bvp75 **a)** All tenants. Satisfaction of tenants of council housing with opportunities for participation in management and decision making in relation to housing services provided by their landlord *[NI]*; **b)** Black and minority ethnic tenants. Satisfaction of tenants of council housing with opportunities for participation in management and decision making in relation to housing services provided by their landlord *[NI]*; **c)** Non-black and minority ethnic tenants. Satisfaction of tenants of council housing with opportunities for participation in management and decision making in relation to housing services provided by their landlord *[NI]. [SA]*

Environment & related services

Environment

bvp82 **a)** Percentage of household waste recycled (all England summary statistics not appropriate) *[OK]*; **b)** Percentage of household waste composted (all England summary statistics not appropriate) *[OK]*; **c)** Percentage of household waste used to recover heat, power and other energy sources (all England summary statistics not appropriate) *[OK]*; **d)** Percentage of household waste landfilled (all England summary statistics not appropriate) *[OK]. [QU]*

bvp84 Kg of household waste collected per head (all England summary statistics not appropriate) *[I]. [QU]*

bvp86 Cost of waste collection per household (all England summary statistics not appropriate) *[I]. [CE]*

bvp87 Cost of waste disposal per tonne for municipal waste (all England summary statistics not appropriate) *[I]. [CE]*

bvp89 Percentage of people satisfied with the standard of cleanliness in their local area *[OK]. [SA]*

bvp90 **a)** The percentage of people satisfied with household waste collection *[OK]*; **b)** The percentage of people satisfied with waste recycling *[OK]*; **c)** The percentage of people satisfied with waste disposal *[OK]. [SA]*

bvp91 Percentage of population resident in the authority's area served by a kerbside collection of recyclables *[OK]*. *[QU]*

bvp166 Percentage of 'yes' answers to items on the best practice checklist for: **a)** Environmental Health *[OK]*; **b)** Trading Standards *[OK]*. *[QU]*

bvp199 The proportion of relevant land and highways that is assessed as having combined deposits of litter and detritus *[NI]*. *[QU]*

Transport

bvp96 [3] Condition of principal roads - a low percentage is good *[I]*. *[QU]*

bvp97 Condition of non-principal roads - a low percentage is good: **a)** Classified *[I]*; **b)** Unclassified *[I]*. *[QU]*

bvp99 Road safety.Number of road accidents per 100,000 population broken down as follows: **a)** Pedestrians - *[I]*; 1) killed/seriously injured*;* 2) slight injuries; **b)** Pedal cyclists *[I]* - 1) killed/seriously injured 2) slight injuries; **c)** Two-wheeled motor vehicles *[I]* - 1) killed/seriously injured 2) slight injuries; **d)** Car users *[I]* - 1) killed/seriously injured 2) slight injuries; **e)** Other vehicle users *[I]* - 1) killed/seriously injured 2) slight injuries. *[QU]*

bvp100 Number of days of temporary traffic controls or road closure on traffic sensitive roads caused by local authority road works per km of traffic sensitive road *[I]*. *[QU]*

bvp102 Local bus services - passenger journeys per year (not scaled) *[OK]*. *[QU]*

bvp165 The percentage of pedestrian crossings with facilities for disabled people *[OK]*. *[FA]*

bvp103 Satisfaction with transport information *[OK]*. *[SA]*

bvp104 Satisfaction with bus services *[OK]*. *[SA]*

bvp178 [4] The percentage of the total length of footpaths and other rights of way that were easy to use (which here includes signposting/way marking) by members of the public *[OK]*. *[FA]*

bvp186 **a)** Roads not needing major repair. Principal road network *[OK]*; **b)** Roads not needing major repair. Non-principal road network *[OK]*. *[CE]*

bvp187 Condition of footway *[I]*. *[SD]*

Planning

bvp106 Percentage of new homes built on previously developed land *[OK]*. *[SO]*

bvp107 Gross planning cost per head of population *[OK]*. *[CE]*

bvp109 Percentage of total planning applications determined in line with the Government's new development control targets to determine: **a)** 60% of major applications in 13 weeks *[OK]*; **b)** 65% of minor applications in 8 weeks *[OK]*; **c)** 80% of other applications in 8 weeks *[OK]*. *[SD]*

bvp111 The percentage of applicants satisfied with the service they received *[OK]*. *[SA]*

bvp179 The percentage of standard searches carried out in 10 working days *[OK]*. *[SD]*

bvp188 The number of decisions delegated to officers as a percentage of all decisions *[OK]*. *[SD]*

bvp200 **a)** Does the authority have a development plan? *[OK]*; **b)** If the authority does not currently have a development plan are there any proposals to develop one? *[NI]*. *[SD]*

Culture and libraries

bvp114 The adoption by the authority of a Local Cultural Strategy - score against a checklist of the guidance in 'Creating opportunity' *[OK]*. *[SO]*

bvp117 The number of physical visits per 1,000 population to public libraries *[OK]*. *[SD]*

bvp118 **a)** The percentage of library users who found the book they were looking for *[OK]*; **b)** The percentage of library users who found the information they were looking for *[OK]*; **c)** The percentage of library users who were satisfied with the library overall *[OK]*. *[SA]*

bvp119 The percentage of residents satisfied with the Local Authority Cultural services: **a)** Sports and leisure facilities *[OK]*; **b)** Libraries *[OK]*; **c)** Museums *[OK]* **d)** Arts activities and venue *[OK]*; **e)** Parks and open spaces *[OK]*. *[SA]*

bvp170 The number **a)** of visits to/usages of museums per 1,000 population *[NI]*; **b)** of those visits that were in person per 1,000 population *[NI]*; **c)** of pupils visiting museums and galleries in organised school groups *[NI]*. *[SD]*

Community safety & legal services

bvp126 Domestic burglaries per 1,000 households and percentage detected *[I]*. *[SD]*

bvp127 **a)** Violent offences committed by a stranger per 1000 population *[NI]*; **b)** Violent offences committed in a public place per 1000 population *[NI]*; **c)** Violent offences committed in connection

with licensed premises per 1000 population *[NI]*; **d)** Violent offences committed under the influence per 1000 population *[NI]*; **e)** Robberies per 1,000 population *[NI]*. *[SD]*

bvp128 Vehicle crimes per 1,000 population and percentage detected *[I]*. *[SD]*

bvp174 The number of racial incidents recorded by the authority per 100,000 population *[I]*. *[SD]*

bvp175 The percentage of racial incidents that resulted in further action *[OK]*. *[SD]*

bvp176 The number of domestic violence refuge places per 10,000 population which are provided or supported by the authority *[OK]*. *[SD]*

bvp177 Percentage of expenditure on legal and advice services that have been awarded Quality Mark and meet a priority legal need *[OK]*. *[SO]*

Cross cutting

bvp197 Change in the number of conceptions to females aged under 18, resident in an area, per thousand females aged 15-17 resident in the area, compared with the baseline year of 1998 *[I]*. *[SO]*

[1] 99 contracted indicators / 86 considered. 168 expanded indicators / 137 considered. This dataset was set up oficially by the Office of the Deputy Prime Minister (ODPM), now Department for Communities and Local Government, www.bvpi.gov.uk. *[2] The five dimensions of performance which each BVP indicators is classified: [SO = Strategic objectives]; [CE = Cost/efficiency]; [SD = Service delivery outcomes] ; [QU = Quality]; [FA = Fair access]; [SA = Satisfaction]. [2] [NI = Not included], [I = Inverted] , [OK = not modified], [NP = normalised by population]. Most of indicators are not modified at all [OK] but some indicators are inverted [I] in order that high values indicate positive direction. Moreover some indicators are not included [NI] into the analyses due to several reasons such as: not provided, inclusion of too many missing or extreme values. [2] The Department of Health's equivalent PAF indicator references are given in brackets. [3] See Table 3.4 and 3.5 for a report on classification and data cleansing of the dataset. [4] bvp96 was calculated on the basis of deflectograph (D) or visual (V). [5] bvp178 was calculated on the basis of the length (L) or the number (N) of footpaths.*

APPENDIX XIX. Classification and data cleansing of the 99/168 BVP indicators in England 2003/04 [1]

Source: Own elaboration

themes	*Indicators, bvpx* [2]	*Contracted No. (used)* [3]	*Expanded Ind.* [4]	*Ind.not provided or excluded* [5]	*Final expan-ded no. (used)* [6]	*%* [7]
Corporate Health	1*,2*,3*,4*,8*,9',10', 11*,12*,14*,15*,16*, 17*,156*, 157*,180*	16(14)	1(a-d), 2(a-b),11(a-b),16(a-b), 17(a-b), 180(a1,a2,b)	12,1(b-d),180a1, 180a2,180b	25(18)	13.1
Education	33+,34+,38+,39+,40+, 41+,43+,44+,45+,46+, 48+,159+,181+,192+, 193+,194+	16(16)	34(a-b), 43(a-b), 159(a-d), 181(a-d), 192(a-b), 193(a-b), 194(a-b)	192a	27(26)	19.0
Social Services	49+,50+,51+,52+,53+, 54+,56+,58+,161+, 162+,163+,195+,196+	13(12)		56	13(12)	8.8
Housing & related services (benefits + tenants)	62',63',64',66',164', 183',184',185',76', 78',79',80',74',75'	14(7)	183(a-b),184(a-b), 76(a-d),78(a-c),79(a-b),80(a-g),74(a-b), 75(a-c)	63,66,164, 79b,184(a-b),185,74(a-b),75(a-c)	31(19)	13.9
Environment & related services (transport + planning)	82',84',86',87+,89', 90''+,91',166'+,199', 96+,97+,99+,100+,102+, 165+,103+,104+,178+, 186+,187+,106',107*, 109*'',111*,179', 188',200*	27(26)	82(a-d), 90(a-c), 166(a-b), 97(a-b), 99(a1,a2,b1,b2, c1,c2,d1,d2,e1, e2), 186(a-b), 109(a-c), 200(a-b)	199,200b	47(45)	32.8
Culture & Libraries	114*,117+, 118+,119*+***,170*	5(4)	118(a-c),119(a-e),170(a-c)	170(a-c)	13(10)	7.3
Community Safety & Legal Service	126',127',128',174*, 175*, 176*,177' (should be * missing one part)	7(6)	127(a-e)	127(a-e)	11(6)	4.4
Cross cutting	197+	1(1)			1(1)	0.1
TOTAL		99(86)	-	31	168 (137)	100.0

*[1] See appendix XVIII for the definition of 168 Best Value Performance (BVP) indicators. Although, the initial number of indicators is 99, the present dataset expanded to 169 when children indicators are taken into account. But the final number of considered indicators is 137 because 32 are excluded due to several reasons (too missing values or too many extreme values). [2] * means data from average county + district, ' means only district and + means only county. [3] In parenthesis the real number of indicators taken into account after removing excluded indicators, if only a part of the indicator is removed it still accounts . [4] For instance indicator bvp1 contains four closed-related indicators: bvp1a, bvp1b, bvp1c and bvp1d. [5] Excluded due to too missing values. [6] Number of expanded indicators, in parenthesis the number after subtracting indicators not provided or excluded. [7] Out of 137.*

APPENDIX XX. Alternative classification and data cleansing of the 99/168 BVP indicators in England 2003/04 [1]

Source: Own elaboration

Themes	*Indicators, bvpx .*[2]	*Contracted No. (used)* [3]	*Expanded Ind.* [4]	*Ind.not provided or excluded* [5]	*Final expan-ded no.* [6]	*%* [7]
Strategic objectives (SO)	1*,49+,50+,62',63' ,64',106', 114*, 177',197+	10(9)	1(a-d)	1(b-d),63	13(9)	6.5
Cost/efficiency (CE)	8*,9',10',11*,12*, 14*,15*,16*,17*, 156*,33+,34+,38+, 39+,40+,41+,51+,52+, 66',164',183',184', 185',86',87+, 186+,107*,	27(22)	11(a-b),16(a-b),17(a-b), 34(a-b),186(a-b),183(a-b),184(a-b)	12,66,164,184(a-b),185	34(28)	20.4
Service delivery outcomes (SD)	157*,180*,53+,54+, 56+,58+,161+,162+, 163+,195+,196+,78', 79',187+,109*'',179', 188',200*,117+,170*, 126',127',128',174*, 175*,176*	26(22)	180(a1,a2,b), 78(a-c),79(a-b),109(a-c), 200(a-b), 170(a-c), 127(a-e)	180(a1a2,b) ,56,79b,200b, 170(a-c),127(a-e)	40(26)	18.9
Quality (QU)	43+,82',84', 91', 166'+,199',96+,97+, 99+,100+, 102+	11(10)	43(a-b), 82(a-d),166(a-b), 97(a-b), 99(a1,a2,b1,b2, c1,c2,d1,d2,e1, e2),	199	26(25)	18.2
Fair access (FA)	2*,44+,45+,46+,48+, 159+,181+,192+,193+, 194+,76', 165+,178+	13(13)	2(a-b),159(a-d),181(a-d), 192(a-b), 193(a-b), 194(a-b),76(a-d)	192a	26(25)	18.2
Satisfaction (SA)	3*,4*,80',74',75', 89',90''+,103+, 104+,111*, 118+,119*+***	12(10)	80(a-g),74(a-b),75(a-c), 90(a-c),118(a-c),119(a-e)	74(a-b),75(a-c)	29(24)	17.5
TOTAL		99(86)	-	31	168 (137)	100.0

*[1] See appendix XVIII for the definition of 168 Best Value Performance (BVP) indicators. Although, the initial number of indicators is 99, the present dataset expanded to 169 when children indicators are taken into account. But the final number of considered indicators is 137 because 32 are excluded due to several reasons (too missing values or too many extreme values). [2] * means data from average county + district, ' means only district and + means only county. [3] In parenthesis the real number of indicators taken into account after removing excluded indicators, if only a part of the indicator is removed it still accounts . [4]For instance indicator 1 contains four closed-related indicators: bvp1a, bvp1b, bvp1c and bvp1d. [5] Excluded due to too missing values. [6] Number of expanded indicators, in parenthesis the number after subtracting indicators not provided or excluded. [7] Out of 137.*

APPENDIX XXI. Description and normality test for the 137 BVP indicators considered

Source: Office of the Deputy Prime Minister (ODPM), now Communities and Local Government, www.bvpi.gov.uk

Ind [1]	*Mean*	*Std. dev.*	*Min*	*Local authority*	*Max*	*Local authority*
				Corporate Health		
bvp1a*	3.5	0.6	2.0	Milton Keynes	4.0	Barking and Dagenham
bvp2a*	1.1	0.6	0.0	Plymouth	4.0	Lewisham
bvp2b	52.4	16.5	0.0	Barnsley	100.0	Bexley
bvp3	54.0	7.7	0.0	Slough	77.0	Mid Sussex
bvp4	32.2	4.6	0.0	Leeds	46.5	Oldham
bvp8*	89.6	8.2	0.0	Waltham Forest	99.5	Gateshead
bvp9*	96.9	2.2	79.3	Hart	99.9	Hackney
bvp10*	98.4	1.1	91.8	Hyndburn	100.0	Southwark
bvp11a	33.7	7.5	0.0	Purbeck	53.6	Rutland
bvp11b*	2.8	4.1	0.0	Portsmouth	28.8	Hackney
bvp14*	0.6	0.4	0.0	Windsor and Maidenhead	2.8	Melton
bvp15*	0.4	0.2	0.0	Slough	1.2	Calderdale
bvp16a*	2.5	1.5	0.0	Sefton	11.9	Swindon
bvp16b	13.5	3.5	0.0	Vale Royal	25.3	Easington
bvp17a*	4.4	7.3	0.0	Eden	45.8	Brent
bvp17b*	6.1	8.8	0.0	Eden	59.3	Newham
bvp156	41.3	20.8	0.0	North Somerset	100.0	Bury
bvp157	65.1	14.0	0.0	Richmond upon Thames	100.0	Tameside
				Education		
bvp33*	76.0	25.5	38.7	Torbay	220.6	Islington
bvp34a*	13.3	5.6	2.0	Redbridge	45.8	Knowsley
bvp34b*	7.4	5.8	0.0	Isle of Wight	33.3	Rutland
bvp38*	52.8	6.2	32.1	Kingston upon Hull	67.0	Kingston upon Thames
bvp39*	88.8	3.2	72.8	Nottingham	95.0	Bury
bvp40	73.0	3.4	59.2	Hackney	82.0	Richmondshire
bvp41*	75.9	3.7	63.0	Hackney	87.0	Richmondshire
bvp43a*	90.1	12.2	0.0	Trafford	100.0	Barking and Dagenham
bvp43b*	69.8	18.6	5.6	Trafford	100.0	Havering
bvp44*	1.2	0.4	0.0	Rutland	3.0	Derby
bvp45*	8.1	0.8	2.1	Rutland	11.4	Kingston upon Hull
bvp46*	5.6	0.6	2.5	Rutland	7.5	Camden
bvp48*	1.2	1.0	0.0	Southampton	7.0	Hackney
bvp159a*	12.9	12.8	0.0	Isle of Wight	96.8	Redbridge
bvp159b*	10.6	9.5	0.0	Isle of Wight	75.0	Kingston upon Thames
bvp159c*	14.1	9.8	0.0	Isle of Wight	49.0	Reading
bvp159d*	61.9	23.0	0.0	Redbridge	100.0	Hammersmith and Fulham
bvp181a*	70.3	5.5	46.0	Nottingham	80.0	Aylesbury Vale
bvp181b*	72.3	5.4	52.0	Nottingham	81.9	Rutland
bvp181c*	70.6	6.6	45.7	Tower Hamlets	84.3	Rutland
bvp181d*	68.9	7.1	42.0	Kingston upon Hull	82.6	Kingston upon Thames

bvp192b*	9.7	6.9	0.0	Havering	30.0	Southwark
bvp193a*	99.5	13.4	0.0	Restormel	109.7	Bristol
bvp193b*	103.4	21.9	0.0	Restormel	263.9	Redbridge
bvp194a*	27.1	3.7	15.0	Hackney	43.0	Richmondshire
bvp194b*	28.9	3.5	18.0	Thurrock	41.0	Kingston upon Thames
				Social services		
bvp49	12.8	3.3	1.1	Medway	21.0	Corby
bvp50	51.4	10.9	0.0	Rutland	80.0	East Riding of Yorkshire
bvp51	620.4	110.2	370.0	Medway	1337.0	Wokingham
bvp52*	454.9	62.8	306.0	Torbay	722.0	Reading
bvp53*	10.4	4.7	3.1	Plymouth	32.8	Camden
bvp54*	81.8	20.7	37.8	Woking	183.0	Tower Hamlets
bvp58*	88.1	11.2	37.9	Ealing	100.0	Lambeth
bvp161	58.1	12.7	20.0	Wokingham	89.8	Cannock Chase
bvp162*	95.1	8.0	45.0	Southend-on-Sea	100.0	Bexley
bvp163*	7.8	2.8	1.6	Windsor and Maidenhead	18.4	Ashfield
bvp195	61.9	15.3	25.0	Peterborough	95.9	Telford and Wrekin
bvp196*	81.2	12.1	32.8	West Lindsey	98.0	Barnsley
				Housing & related services		
bvp62*	3.4	3.1	0.0	Bracknell Forest	25.0	Tandridge
bvp64*	62.0	144.8	0.0	Wokingham	1319.0	Liverpool
bvp183a*	6.8	7.7	0.0	Nottingham	60.0	Kensington and Chelsea
bvp183b*	15.0	22.9	0.0	Isle of Wight	238.0	Islington
bvp76a	211.0	142.9	0.0	Brent	725.8	Wandsworth
bvp76b*	0.4	0.2	0.0	Rutland	2.1	New Forest
bvp76c*	43.5	27.0	0.0	Rutland	230.1	East Staffordshire
bvp76d*	3.8	4.0	0.0	Rutland	43.0	New Forest
bvp78a*	43.6	16.1	15.0	South Derbyshire	136.0	Liverpool
bvp78b*	12.9	7.7	2.4	High Peak	54.0	Southampton
bvp78c*	66.7	18.2	8.3	South Northamptonshire	100.0	Derbyshire Dales
bvp79a*	97.2	2.5	76.8	Lambeth	100.0	Purbeck
bvp80a*	77.7	6.7	48.0	Hackney	91.0	Bridgnorth
bvp80b*	78.8	7.9	35.0	Tynedale	94.0	Bridgnorth
bvp80c*	68.0	11.5	24.0	Hackney	90.0	Bridgnorth
bvp80d*	80.7	5.8	55.0	Hackney	93.0	Bridgnorth
bvp80e*	63.4	5.4	44.0	North Wiltshire	87.0	Tynedale
bvp80f*	69.7	8.3	41.0	Southampton	88.0	Bridgnorth
bvp80g*	77.9	7.9	0.0	Bury	92.0	Bridgnorth
				Environment & related services		
bvp82a	13.2	4.4	3.8	Liverpool	32.2	East Hampshire
bvp82b*	3.6	4.3	0.0	Middlesbrough	26.6	Daventry
bvp82c*	5.4	14.5	0.0	Brighton and Hove	79.8	Lewisham
bvp82d*	73.6	13.4	8.4	Coventry	94.9	Tower Hamlets
bvp84	429.4	60.9	281.0	Oadby and Wigston	615.0	Windsor and Maidenhead
bvp86*	38.7	10.0	18.4	Christchurch	103.4	Hackney
bvp87*	40.4	7.3	16.4	Plymouth	71.4	Brighton and Hove
bvp89	59.8	8.9	32.0	Hackney	81.0	Wolverhampton
bvp90a*	84.3	6.9	52.0	Hackney	97.0	Basingstoke and Deane
bvp90b*	68.0	9.2	22.0	Tower Hamlets	86.0	North Dorset

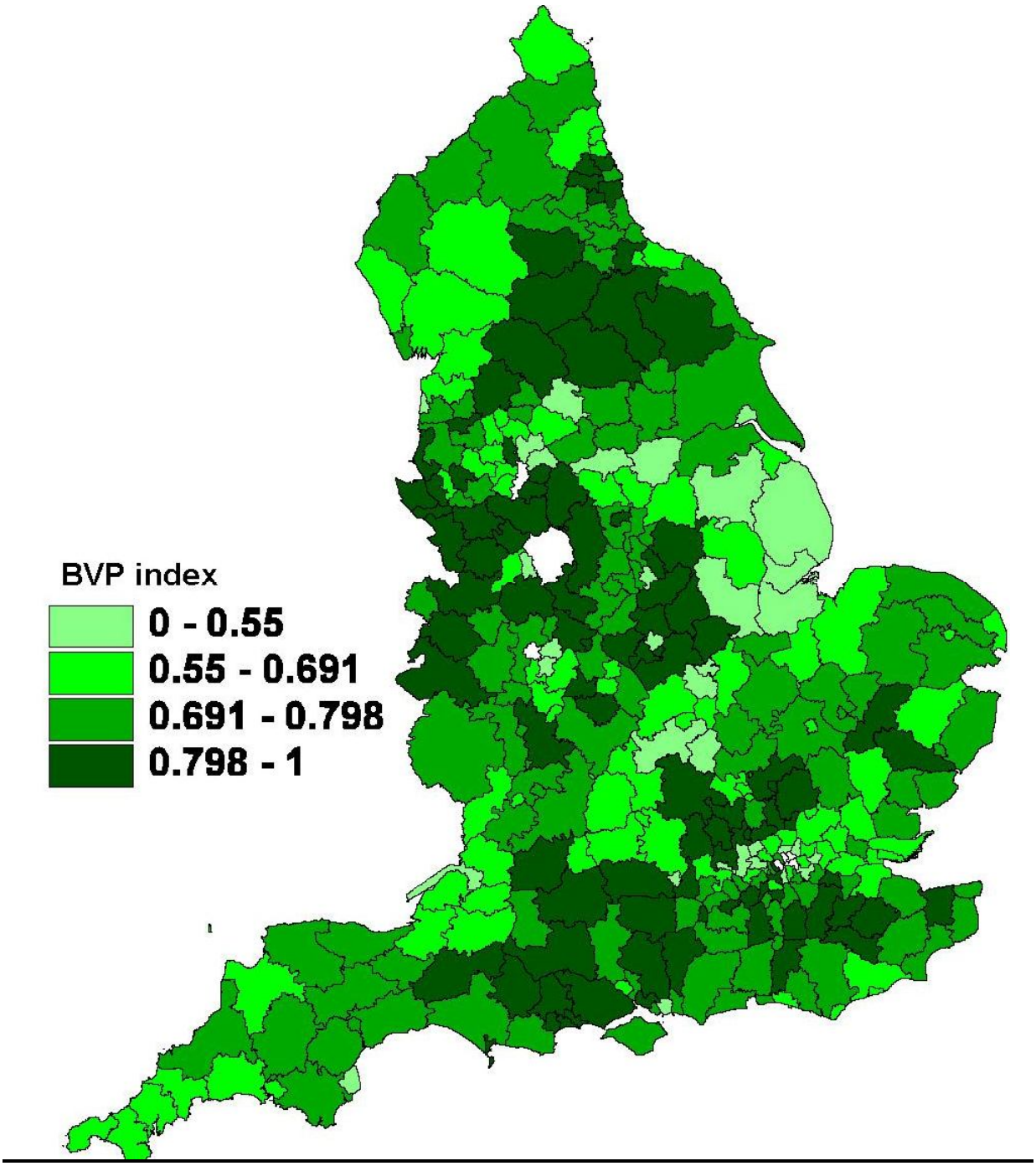
bvp90c*	79.3	9.2	30.0	Hackney	95.0	Birmingham
bvp91*	86.4	19.3	8.0	Barnet	100.0	Rutland
bvp166a*	79.2	18.4	7.0	North Norfolk	100.0	Barking and Dagenham
bvp166b*	89.4	13.3	9.5	Rochdale	100.0	Barking and Dagenham
bvp96*	10.1	7.2	0.0	Tower Hamlets	65.0	Oldham
bvp97a*	21.1	10.7	0.0	Tower Hamlets	58.0	Herefordshire
bvp97b*	21.2	10.6	0.0	Tower Hamlets	64.3	Oldham
bvp99a1*	13.2	6.3	3.6	Bracknell Forest	67.0	Westminster
bvp99a2*	46.2	22.0	17.3	Rutland	273.3	Westminster
bvp99b1*	4.5	2.2	0.0	Rotherham	18.2	Islington
bvp99b2*	25.9	12.6	11.6	Rutland	123.6	Westminster
bvp99c1*	14.5	5.2	1.3	Knowsley	37.2	Westminster
bvp99c2*	37.6	20.3	9.3	Redcar and Cleveland	222.5	Westminster
bvp99d1*	36.3	14.9	5.3	Leicester	87.0	Richmond upon Thames
bvp99d2	320.9	64.6	121.7	Merton	569.3	Manchester
bvp99e1*	4.2	2.6	0.0	Luton	24.6	Westminster
bvp99e2*	34.3	15.7	7.6	Torbay	230.4	Westminster
bvp100*	1.4	1.6	0.0	Portsmouth	8.6	Tower Hamlets
bvp102*	623.9	624.5	0.0	Thurrock	2679.8	Nottingham
bvp165*	82.5	21.0	18.5	Stoke-on-Trent	100.0	Barking and Dagenham
bvp103*	47.7	9.5	24.0	Wyre Forest	76.0	Kingston upon Hull
bvp104*	51.6	9.0	28.0	Windsor and Maidenhead	80.0	Brighton and Hove
bvp178*	65.8	16.9	5.0	Coventry	100.0	Barnet
bvp186a*	92.7	38.2	0.1	Doncaster	264.0	Milton Keynes
bvp186b*	332.0	220.3	0.2	Doncaster	3171.0	Newham
bvp187*	29.0	16.9	1.0	Woking	86.0	Reading
bvp106*	70.5	24.7	7.0	Corby	100.0	Barking and Dagenham
bvp107*	9.5	4.3	0.0	Copeland	48.6	Westminster
bvp109a	52.8	13.1	0.0	Luton	82.0	Knowsley
bvp109b	60.7	12.7	26.0	East Hertfordshire	95.2	Worcester
bvp109c*	78.1	9.8	34.0	East Hertfordshire	98.0	Worcester
bvp111	76.3	10.5	0.0	Hackney	94.0	Eastbourne
bvp179*	93.5	13.1	16.1	Trafford	100.0	Barking and Dagenham
bvp188*	86.6	7.0	44.0	Bromsgrove	98.9	Basildon
bvp200a*	1.3	0.4	0.0	Southampton	2.0	Brent
				Culture & Libraries		
bvp114*	84.8	22.4	0.0	North Somerset	100.0	Barking and Dagenham
bvp117*	55.4	48.8	0.0	Bracknell Forest	775.5	Lewisham
bvp118a*	72.3	7.3	47.0	Newham	92.0	Rochdale
bvp118b*	70.2	4.0	53.0	Southwark	86.0	Newcastle-under-Lyme
bvp118c*	91.2	6.6	51.0	Wansbeck	98.0	Chester-le-Street
bvp119a	53.6	7.3	0.0	Rutland	78.0	Leeds
bvp119b*	68.8	7.9	43.0	Tower Hamlets	89.0	Chester
bvp119c	42.5	11.2	0.0	Havering	77.0	Kensington and Chelsea

bvp119d	46.7	10.3	0.0	Haringey	74.0	Torbay
bvp119e	70.8	8.2	0.0	Fenland	86.0	Poole
				Community Safety & legal service		
bvp126*	14.2	8.6	0.0	Winchester	64.1	Nottingham
bvp128*	13.8	6.8	0.0	Winchester	46.3	Nottingham
bvp174*	42.9	55.4	0.0	Fenland	529.0	Portsmouth
bvp175*	81.9	22.7	0.0	Selby	100.0	Bexley
bvp176*	0.5	0.7	0.0	Poole	8.0	Manchester
bvp177*	56.9	36.1	0.0	Brent	100.0	Barking and Dagenham
				Cross cutting		
bvp197*	-6.0	15.6	-30.8	Calderdale	96.0	Leeds

*[1] See appendix XVIII for the definition of each indicator and also appendix XIX and XX for its classification and data cleansing; TEST1: ***** indicates non-normal distribution variable according to the Kolmogorov-Smirnov test (2-tailed) at 0.01 level of confidence. Only 25 indicators out of 137 (18%) show a normal distribution.*

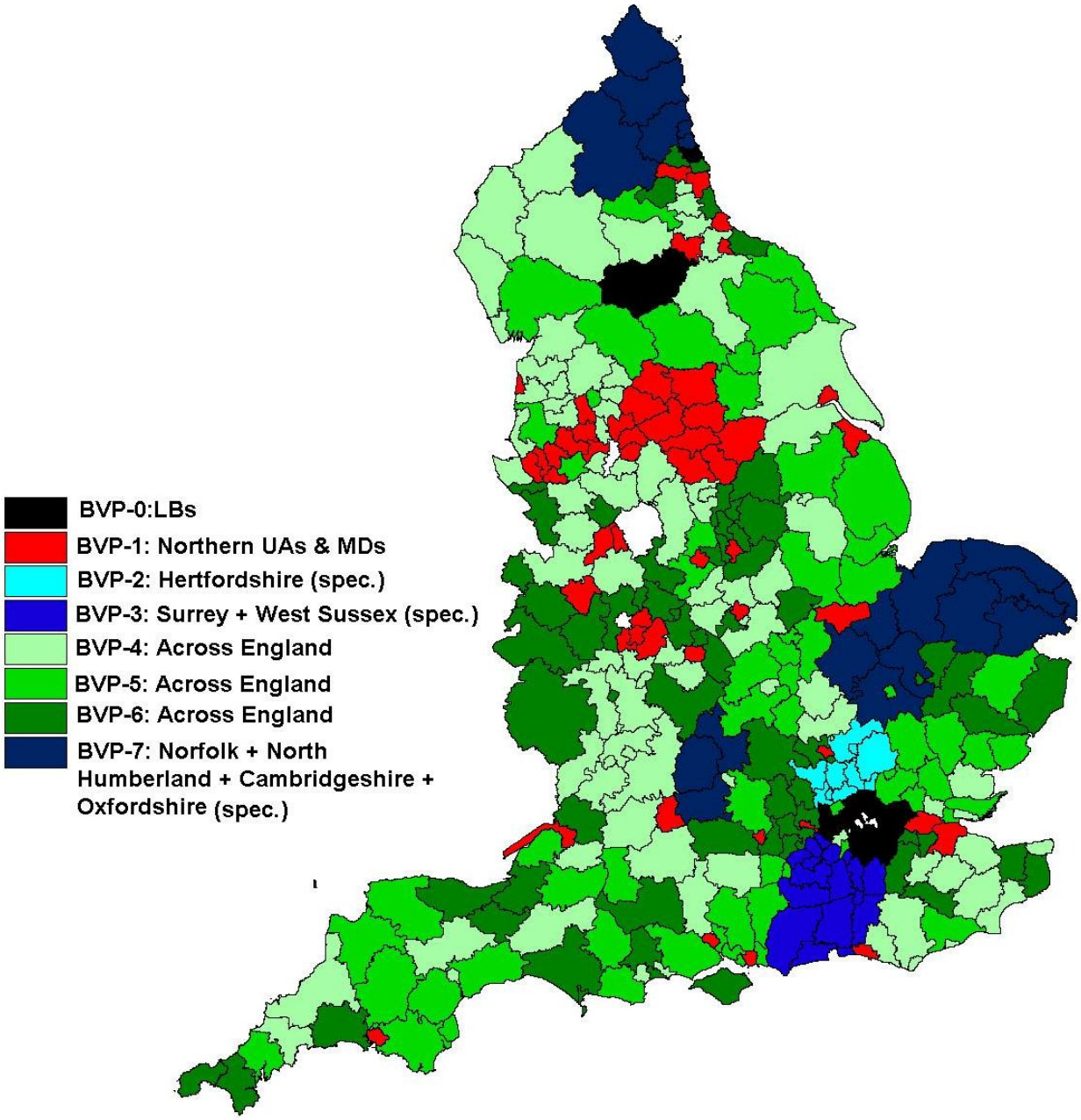
APPENDIX XXII. Map of the BVP index (low/weak, 0.00 – high/strong, 1.00) in England 2003/04

Source: Own research. Empty area means excluded from analysis.



APPENDIX XXIII. Map of the eight distinctive patterns of BVP in England 2005

Source: Own research. Empty area means excluded from analysis.



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