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Construction of a linked postcode district to regional-level dataset for Great Britain

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Abstract

A one-to-one link is developed between overlapping sub-regional entities using geographical tools newly available to the Economic Research Community. The aim of this project is to create a database exploiting the geographical variation in publicly available data, in order to better control for regional heterogeneity. The database covers the period 1995 to 2007, and includes regional identifiers at the postcode district, Local Authority, NUTS3 and Travel-To-Work Area levels of aggregation. Roughly 160 controls are available to the researcher. This data could be used to provide new insights for Regional Policy Analysis. An example of an application of this resource in the context of unemployment duration can be found in (Ball and Wilke, 2009) for the UK.

Keywords: Regional data, Great Britain, Overlapping regional entities, Regional heterogeneity.

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0.1 Preface

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1 Introduction

Cameron and Trivedi (2005) highlight the importance of controlling for unobserved heterogeneity at lower levels of aggregation when attempting to identify causal relationships in applied econometrics. "[It is important to control for confounding factors which arise] when the individual contributions of different regressors..to the variation in the variable of interest cannot be separated (see Cameron and Trivedi, 2005, pg.8)." A common approach widely used is to control for these confounding factors using fixed effects. This approach essentially parameterizes the nature of unobserved heterogeneity to be a shift parameter. This parametrisation may itself drive the results, if incorrectly specified. Since fixed effects removes any time varying macroeconomic effects, changes in local labour demand conditions are not controlled for in models which explicitly take into account the regional context via regional dummies only¹.

There is a growing popularity of this approach to modelling economic interactions, and the recent availability of geographical products tailored for use in the field of Economics has fueled this. However, the level of geographical detail at which many of these studies are conducted - using full postcode information - means that much the data used is not publicly available. Publicly available economic data tends to be more commonly available in grouped form, at the Local Authority level of aggregation and higher. The individual administrative data that is publicly available in the UK, e.g. the Joint Unemployment & Vacancies Operating System, contains residential location information that is censored to the postcode district level of aggregation. These restrictions introduce numerous issues with linking publicly available data at various levels of aggregation, due to the fact that these sub-regional classifications are not necessarily contiguous². This issue is not faced when using full postcode information.

The strategies implemented in this paper develop a one-to-one link between the postcode district- & higher levels of aggregation, allowing researchers to link publicly available datasets together from varying sources. This approach also provides added explanatory power, as it allows one to highlights the regional disparities driving the overall regional effect. Ultimately, the goal of this project is to provide new insights for Regional Policy.

The database covers the period 1995 to 2007, with variable availability varying depending on source (see Table 25 for more information). Coverage is restricted to Great Britain (excluding

¹Control for time varying factors is possible by interacting the fixed effect with time dummies, however this approach is quite restrictive.

²Regional boundaries may also change over time, an issue which we do not deal with in this study.

Northern Ireland). Regional identifiers available include: Local Authority; Travel-to-Work Area; and Nomenclature of Territorial Units for Statistics (NUTS) level 3 (NUTS3) levels of aggregation. The dataset includes information pertaining to socio-demographic and institutional features, regional labour market performance, as well as supply and demand conditions. An example of the application of this resource is provided in Ball and Wilke (2009), the extended discussion paper of which explains how the individual-level data was linked to the regional-level data set. Regional-level indicators were sourced from various providers with some key variables being selfconstructed. Given the complexity of this procedure, this article describes this in detail.

2 Level of Aggregation of Interest & Main Data Sources.

The aggregation levels of interest to us are:

- Local Authority
- Travel to work areas (TTWA)
- Nomenclature of Territorial Units for Statistics (NUTS) level 3

The first question faced is at which level of aggregation the variables of interest are most relevant. Since the aim is to capture regional characteristics one is presented with the challenge of defining self-contained regional labour markets (Petrongolo, 2001). TTWA's are the closest approximation, however there is a systematic lack of data at this level of aggregation. Thus data is collected at the lowest level of aggregation (local authority and NUTS3). This provides the flexibility to redefine geographical areas, aggregating up to the level of interest.

3 Linking the Regional levels

The Local Authority Unitary Authority (LAUA) classification represents the lowest aggregation level of interest in the data. After encountering many issues with the merging process, like regions disappearing, the procedure was revised as follows.

Postcode Grid The starting point was to create a grid containing observations for every Local Authority (LAUA) in Great Britain for every possible time period (year-quarter-month). This was initially constructed over the period 1995 to 2007. This complete grid was then used as a *blueprint* onto which all the other data was merged.

3.1 National Statistics Postcode Directory.

The map between the postcode- and the regional-level is established in the NSPD. This provides a complete mapping of the UK geographies, from the full postcode to the national level. The advantage of using postcode districts instead of full postcode information is that there is relatively less variation in postcode district classifications over the observation period³. Non-geographical postcode data in the NSPD was dropped. These relate to postboxes and are used by direct mailing companies for re-routing mail (NSPD, 2007).

An indicator was created, highlighting whether a postcode was live or terminated during the observation window. Over the period 01/01/1996 to 31/12/2005, roughly 20% of the full postcodes in the NSPD were terminated (see Table 1). I did not drop terminated postcodes, as they are relevant for the merging scheme during the periods in which they were live. The full postcode coverage of the NSPD is detailed in Table 2.

3.2 Overlapping Regions Problem

I am restricted to using postcode districts as regional identifiers, due to the ONS's censoring of full postcode information in most publicly available data sets. This introduces an *Overlapping Regions* issue, removing the one-to-one link between the postcode district and regional-levels, as postcode districts may fall into more than one Local Authority and one Local Authority may contain more

 $^{^{3}}$ Looking at the NSPD full postcode data, there are some postcodes that were introduced after the beginning of 1996 and were subsequently terminated before November 2007.

live	Freq.	Percent	Cum.
terminated	427,383	19.98	19.98
live	1,711,536	80.02	100.00
Total	2,138,919	100.00	

Table 1: Number of live and terminated full postcode observations in the NSPD after conditioning on 01/01/1996 and dropping Northern Ireland.

Table 2: Distribution of observations in the NSPD, by country.

live	Freq.	Percent	Cum.
ctry	Freq.	Percent	Cum.
Channel Islands	$6,\!498$	0.30	0.30
England	$1,\!841,\!028$	84.03	84.33
Isle of Man	$5,\!485$	0.25	84.58
Northern Ireland	$51,\!979$	2.37	86.95
Scotland	167,804	7.66	94.61
Wales	118,104	5.39	100.00
Total	2,190,898	100.00	

than one postcode district⁴. This issue is not present at the full postcode level. There is also a lack of concordance between the Local Authority and level 1 Local Administrative Units (LAU1), former NUTS4, regional classifications in Scotland. In order to get around these issues, merging schemes are developed which allowed me to define a one-to-one link between postcode districts and the higher levels of aggregation of interest. This scheme also established a link across regions. The procedure is detailed below.

 $^{^{4}}$ This issue is present for the other levels of aggregation of interest as well. See Figure 1 for an illustration of the overlapping regions problem.



Figure 1: *The Overlapping Regions problem.* - Squares represent postcode districts, and dots represent full postcodes.

3.3 Distribution of observations:

In order to establish a one-to-one link between the relevant levels of aggregation, the first piece of information we wanted was to know was how many *unique* regions that postcode district falls into⁵. As a first step, a variable indicating how many *unique* postcode districts fall into each Local Authority/ NUTS3/ LAU1 was generated in the NSPD. Since a many-to-many link exists between the different levels of aggregation, this identifier was generated by first collapsing the data of interest by the "postcode district-higher level of aggregation" link, generating the identifier, and then merging this information to the NSPD.

Table 23 illustrates that most postcode districts in Great Britain fall into 2 or 3 higher aggregation levels. This pattern is the same when full postcodes are taken into account. Table 24 illustrates the distribution of full postcodes falling into a postcode district that falls into T higher

 $^{^5 \}mathrm{See}$ Table 23

aggregation levels of interest. Most full postcodes in Great Britain seem to fall into postcode districts that fall into 1 to 4 higher aggregation levels. This is true at the local authority level and remains the case when aggregating up to the NUTS3 level.

An indicator, Uniq1, was generated to indicate the number of unique postcode districts falling into a higher aggregation level. The average Local Authority in Great Britain overlaps roughly 18 postcode districts. In case of level 1 Local Administrative Units (former NUTS4) this figure is roughly 17, whereas, on average, NUTS3 regions overlap 46 postcode districts. See Table 3 for summary statistics of this indicator.

Table 3: Distribution of UniqN: The number of unique postcode districts falling into higher aggregation levels of interest:

Variable	Obs	Mean	Std. Dev.	Min	Max
Uniq1	5366	18.018	13.295	2	87
Uniq3	5382	16.588	9.342	2	57
Uniq2	4131	46.339	24.465	3	109

Uniq1 # of unique postcode districts falling into Local Authorities.

Uniq2 # of unique postcode districts falling into NUTS3 regions.

Uniq3 # of unique postcode districts falling into level 1 Local Administrative Units (former NUTS4).

3.4 Merging Schemes

Two merging schemes were developed:

Scheme 1:

Higher levels of aggregation are ranked in terms of the number of postcode districts falling into them. Assign the postcode district in question to the area (local authority; NUTS3/4[lau1]) in which it falls that has **the least** number of postcode districts falling into it. The idea behind this⁶ is that areas with less postcode districts falling into them may contain a greater proportion of the district in question. Random assignment is implemented, in the event of a tie.

Scheme 2:

Assign the postcode district in question to the area (local authority; NUTS3/4[lau1]) in which it **falls the most**, based on the full postcode information in the NSPD. This algorithm creates a ranking of higher aggregation levels, in terms of the number of full postcodes within a postcode district that fall into each region. A postcode district is assigned to the area which ranks the highest on this scale. Random assignment is implemented, in the event of a tie.

Merging Scheme 1: Table 4 illustrates an example of the assignment of postcode districts to the Local Administrative Units Level 1 (LAU1) level of aggregation. In addition to the lack of a one-to-one link between the postcode district and the local authority level, the other problem faced was establishing a link between the Local Authority level and the NUTS3 level of aggregation. A one-to-one link between the local authority level and level 1 Local Administrative Units (former NUTS4) exists in the case of England & Wales, however this is not the case for Scotland. By establishing a one-to-one link between postcode districts and higher aggregation levels, this also establishes a one-to-one link across regional classifications.

Looking at Table 4, postcode district AB31 falls both into Aberdeen City and Aberdeenshire level 1 Local Administrative Units. However, 32 postcode districts fall into Aberdeenshire, whereas only 17 fall into Aberdeen City. Based on this information, merging scheme 1 assigns AB31 to

 $^{^{6}}$ Dr. R. Wilke is thanked for this suggesting this idea.

Table 4: Merging Scheme 1: Assignment of level 1 Local Administrative Units (LAU: formerNUTS4):

pcd2	LAU	LAU	Uniq3	Country	Assigned	Assigned
		Area			LAU	LAU Area
AB25	UKM1001	Aberdeen City	17	179	UKM1001	Aberdeen City
AB3	UKM1002	Aberdeenshire	32	179	UKM1002	Aberdeenshire
AB30	UKM1002	Aberdeenshire	32	179	UKM2101	Angus
AB30	UKM2101	Angus	14	179	UKM2101	Angus
AB31	UKM1001	Aberdeen City	17	179	UKM1001	Aberdeen City
AB31	UKM1002	Aberdeenshire	32	179	UKM1001	Aberdeen City
AB32	UKM1002	Aberdeenshire	32	179	UKM1002	Aberdeenshire
AB33	UKM1002	Aberdeenshire	32	179	UKM1002	Aberdeenshire
AB34	UKM1002	Aberdeenshire	32	179	UKM1002	Aberdeenshire
AB35	UKM1002	Aberdeenshire	32	179	UKM1002	Aberdeenshire
AB36	UKM1002	Aberdeenshire	32	179	UKM1002	Aberdeenshire
AB37	UKM4202	Badenoch & Strath-	9	179	UKM4203	West Moray
		spey				
AB37	UKM4203	West Moray	7	179	UKM4203	West Moray
AB38	UKM1003	North East Moray	11	179	UKM4203	West Moray
AB38	UKM4203	West Moray	7	179	UKM4203	West Moray
AB39	UKM1002	Aberdeenshire	32	179	UKM1002	Aberdeenshire
AB4	UKM1003	North East Moray	11	179	UKM1003	North East Moray
AB41	UKM1002	Aberdeenshire	32	179	UKM1002	Aberdeenshire
AB42	UKM1002	Aberdeenshire	32	179	UKM1002	Aberdeenshire

Aberdeen City. Due to the first merging scheme no being based on full postcode information, this scheme has a bias towards assigning postcode districts at the boundary of the Local Authority/level 1 Local Administrative Unit(former NUTS4)/NUTS3 region to the smallest region in which it falls, regardless of the actual proportion of the postcode district that actually falls into that region. In the case of Local Authorities, larger regions with more postcode districts falling into them will tend to lose postcode districts on their boundaries to smaller neighbouring Local Authorities.

Table 23 illustrate that the large majority of Local Authorities in Great Britain are a mixture of postcode districts falling into one to three unique Local Authorities with a significant proportion falling into just one (55%). This is also the case with other aggregation levels of interest, rising to 71% in the case of level 1 Local Administrative Units. This suggests this merging scheme may be vary in accuracy across these aggregation levels, given that the extent of regional overlap differs.

Merging Scheme 2: Given the problem of *Overlapping Regions*, the second merging scheme developed aims to assign postcode districts to the higher aggregation level into which they mostly fall. Table 5 illustrates a simplified version of how merging scheme 2 operates. The first question to be addressed would be into which Local Authority does postcode district NG9 mostly fall.

	Table 5: Merging Scheme 2	: Example o	f assignment o	of postcod	le districts to	Local Authorities
--	---------------------------	-------------	----------------	------------	-----------------	-------------------

Full Postcode	Local Author-	Postcode Dis-	uniQ1	VAR1	Assigned
	ity (LAUA)	trict			LAUA
NG9 1BB	00QA	NG9	3	3	00QA
NG9 2BC	00QA	NG9	3	3	00QA
NG9 1SG	00 QB	NG9	1	3	00QA
NG9 2CD	00QA	NG9	3	3	00QA
uniQ1: # of full po	stcodes in postcode	e district NG9 that	fall into	Local A	Authority 00QA.

Step 1 generates uniQ1 for each postcode district, an indicator for the number of unique full postcodes falling into each Local Authority that said postcode district falls into. Then, for each postcode district, Step two sorts these Local Authorities by this newly generated indicator, thus

ranking them in terms of the number of full postcodes falling into them. This approach is a simple weighting scheme which is based on the premise that full postcodes are evenly dispersed across a postcode district, i.e. giving equal weight to each full postcode and not taking its population density into account. This allows us to make the further assumption that if more full postcodes within a postcode district fall into Local Authority A rather than B, then the postcode district in question mostly falls into former Local Authority. Steps 4 & 5 are based on this assumption. One issue with this scheme is that full postcode which overlap Local Authorities will be treated as falling into both Local Authorities making full postcode-based boundaries fuzzy.

4 Regional Identifiers In The Data

4.1 Levels of Aggregation in the regional data:

4.1.1 Travel-to-Work Areas

The goal is to attempt to capture exogenous variation between regional entities. Given this aim, Unitary Authority & Local Authority Districts could not be considered self-contained labour markets due to the impact of inward & outward commuting (Office for National Statistics, 2008b) . Using residence-based denominators, e.g. ILO unemployment counts as a proportion of the residence-based (mid-year) working-age population, & local job density estimates, is likely to paint a more accurate picture of the local labour market (Office for National Statistics, 2008b). However, the use of work-based denominators will bias downward estimates in an area with net in-commuting. The opposite is true in the analogous case (Office for National Statistics, 2008b). To highlight this issue, consider calculation of the ILO unemployment rate for region j (U_i) :

$$U_j = \frac{\sum_{i=1}^{n} U_{ij}}{\sum_{i=1}^{n} E_{ij} + \sum_{i=1}^{n} U_{ij}} \qquad \text{where i} = \text{number of individuals residing in region j.}$$

The unemployed residing in an area are likely to have very different characteristics to those working in the same area, especially at longer unemployment durations⁷. The degree of this mismatch is likely to increase due the impact of commuting. in the case of net inward commuting, this will inflate the figure for the number of employees in an area, causing the overall statistic to be underestimated (Thomas, 1997, 1998, 2005). This statistic is only suitable for larger areas, in which the impact of commuting is reduced to a minimum. Travel-to-Work Areas (TTWAs) were introduced as areas which approximate self-contained labour markets, however, they are not without their problems.

The criterion on which TTWAs are defined is that: at least 75% of the resident economically active population actually work in the area, and that of everyone working in the area, at least 75% actually live in the area (Office for National Statistics, 2008a). The resulting pattern is that, although the definitive minimum working population in a TTWA is 3,500, many are much larger - indeed, the whole of London and surrounding area forms one TTWA.

A trend-reduction in the number of TTWAs can be observed, as the trend in more and longer distance commuting increases: in 1991 there were 314 TTWAs and in 1981, 334. As TTWAs become larger, on the one hand, they become more representative of self-contained labour markets,

⁷The distinction between structural versus frictional unemployment is likely to be important in this case.

however, they also become increasingly inappropriate as units for the measurement of unemployment as unemployment is a local phenomenon and large area statistics tend to give a distort view of the unemployment problem by smoothing out concentrations (Thomas, 1997). Despite these drawbacks, we include regional identifiers at this level of aggregation as this measure provides the closest approximation available to self-contained labour markets (Petrongolo, 2001).

Figure 11 illustrates the distributions of Travel-To-Work Areas in the UK. The link between the Local Authority level and Travel-To-Work Area level of aggregation is established in the National Statistics Postcode Directory. Again, this is not a 1-to-1 link. This link was established using information from GeoConvert (UKBORDERS). This information tells us the proportion of a local authority that falls into a TTWA. Using this information, merging scheme 2 was implemented in order to establish a one-to-one link.

4.1.2 NUTS3/LAU1

Figure 7 the distribution of NUTS3 regions in Scotland. Figures 9 & 10 highlight the distribution of NUTS3 and Local Authority Units Level 1 (former NUTS4) regions within the respective $counties^8$

4.1.3 Unitary Authorities & Local Authority Districts

Figure figure 8 details the distribution of Unitary Authorities & Local Authority Districts.

⁸Unfortunately a full map of English NUTS regions could not be garnered from standard sources.

5 The Regional Data.

5.1 Self-constructed variables:

5.1.1 University Indicator:

Information on Higher Education institution locations was sourced from the Higher Education Statistics Authority (HESA)⁹. Using this information institutional data was matched to the relevant postcode districts. Unfortunately, the HESA only hold data on the location of Higher Education Institutions' administrative centres, rather than the location of campuses. See Figure 2 for the distribution of 167 Administrative Centres across Great Britain.



Figure 2: University Present?. Created using 'spmaps' (Pisati, 2007).

5.1.2 Ports/Airports Indicator:

Data for this indicator was sourced from the port directory available from the Association of Port Health Authorities website (Association of Port Health Authorities, 2007). Three versions

⁹Information on the location of the 167 institutions in the UK is available at http://www.hesa.ac.uk/index.php/component/option,com_heicontacts/Itemid87/

of this indicator were developed: two separate port and airport indicators, as well as an indicator grouping ports and airports, at the Local Authority & NUTS3 level of aggregation. Three Royal Navy Ports were dropped from the data, however Great British ports for commercial use were retained. The distribution of ports and airports in Great Britain is shown in Figures 3a & 3b. A list of UK airports can be found from the Royal Aeronautical Society's website (Royal Aeronautical Society, 2005). This list was used to check for consistency of the existing data.



Figure 3: GB Ports & Airports. Created using 'spmaps' (Pisati, 2007).

5.1.3 Urban/Rural Indicator:

Two versions of this indicator were initially sourced: One from the National Statistics Postcode Directory (NSPD) and one from the Department of Environment, Food & Rural Affairs (DEFRA). A third measure was constructed, which combined these two measures.

1: NSPD version: For England and Wales this population density-based indicator was sourced from the 21st of July 2004 release of the National Statistics Rural & Urban Classification of Output Areas (NSPD, 2007), and thus not valid for higher levels of aggregation which may include a mixture of rural & urban output areas based on the definitions used. See Table 20 Column 1 for a breakdown of this output-based classification for England & Wales. For Scotland, areas with < 3000 inhabitants are defined as rural (NSPD, 2007). The distribution of this variable at the Local Authority level is shown in Figure 4a. The DEFRA methodology as the benchmark against which other Local Authority-level Urban/Rural definitions should be measured.



Figure 4: How Urban is a Local Authority? Created using 'spmaps' (Pisati, 2007).

2: DEFRA version: The DEFRA Rural-Urban indicator¹⁰ was introduced in 2005 and covers the England local authority geography only. See Table 19 Column 2 for a breakdown of this output-based classification. The distribution of this variable is shown in Figure 4b.

 $^{^{10}}$ For more information see http://www.defra.gov.uk/rural/ruralstats/rural-definition.htm

Variable	Obs	Mean	Std. Dev.	Min	Max
howurban	2363433	.7646	.261	0	1
Urban(NSPD)	2363433	.740	.439	0	1
Urban(DEFRA)	2020682	.601	.490	0	1

Table 6: Comparison between the different approaches: how urban; NSPD & DEFRA Urban/Rural classifications for Scotland, England & Wales.

howurban: sum urban output areas/number output areas

Urban (NSPD): Statistic calculated at Output Area level

Urban (DEFRA): Statistic calculated at Local Authority level

3: Constructed Measure: The additional constructed measure joins the 2 approaches, using the DEFRA methodology for England. This implies some measurement error for Scotland & Wales, an issue acknowledged and an issue for which robustness checks were constructed using alternative indicators¹¹.

5.1.4 URBAN/RURAL INDICATOR ISSUES

Table 6 presents the overall UK statistics from the different approaches. We define 'howurban' as the sum of urban output areas as a proportion of the total number of output areas in a Local Authority. The Output Area-based Urban/Rural measure, from the NSPD, paints a distorted picture of how urban the UK geography is. This is more evident when broken down by country.

The Urban/Rural classification based on the DEFRA methodology, defines 60% of local authorities in England as Urban, whereas the NSPD-based measure - based on output area classifications, defines 77% of local authorities in England as Urban (see Figure 4 for the distribution of these variables). As well documented on the DEFRA website (DEFRA, 2007), local authorities borders may encapsulate a mixture of urban and rural output areas. Thus, aggregating this data to the local authority level presents us with an issue.

DEFRA developed their methodology due to these concerns, however, it only covers England. Table 20 highlights the differences in the methodologies. The statistics in table 6 show that, on

¹¹Similar strategies can be easily implemented using the threshold-based indicators developed in the subsequent section as a substitute for the NSPD-base measure.

Variable	Obs	Mean	Std. Dev.	Min	Max
England					
howurban	2020682	.787	.250	0	1
Scotland					
howurban	210984	.642	.299	0	.995
Wales					
howurban	131767	.640	.279	.112	.972

Table 7: Comparison of how urban Local Authorities in Scotland, England & Wales are.

howurban: sum urban output areas/number output areas

average over Great Britain, 76.5% of output areas falling into a local authority are classified as Urban. This figure varies markedly across Great Britain. When we break this down by country, this figure is 78.7% in England, 64.2% for Scotland & 64.0% for Wales.

Variable	Obs	Mean	Std. Dev.	Min	Max
England					
Urban	2020682	.770	.421	0	1
UrbanDefra	2020682	.601	.490	0	1
Scotland					
Urban	210984	.530	.499	0	1
Wales					
Urban	131767	.612	.487	0	1

Table 8: Comparison of how urban Local Authorities in Scotland, England & Wales are.

howurban: sum urban output areas/number output areas

On average, the output area-based NSPD methodology classifies 74% of output areas in Great Britain as urban. As stated, the DEFRA local authority-based measure classifies 60% of English Local Authorities as urban. This aggregate figure masks the variation in this NSPD-based indicator across Great Britain. The statistics in Table 8 demonstrate that the highest proportion of Urban areas lie in England (77%) with 61% of output areas classified as Urban in Wales. This number is as low as 53% in Scotland. This is the benchmark against which more aggregated statistics should be measured, when considering Great Britain as a whole.



Figure 5: How Urban is a Local Authority?

Figure 5 illustrates the overall distribution of the 'howurban' variable detailed in Table 7. This distribution is skewed to the right at 1, with a long left tail and a relatively isolated mass point at zero. Based on this information, the idea was to look at the proportion of urban Output Areas falling into a Local Authority in order to decide how to classify a Local Authority (Urban/Rural). This information is captured by the 'howurban' variable. The same idea was implemented in the case of Accessibility. Since we already have a reliable indicator for England at the Local Authority-level (DEFRA methodology), we only need to conduct this exercise for Scotland and Wales. We develop thresholds above which a Local Authority is classified as Urban. These thresholds are defined in Tables 9 & 10.

5.1.5 Remoteness/Accessibility:

England & Wales In this case the population density of the surrounding area was used as a measure of whether a local authority was accessible or remote in the case of England and Wales¹². See Table 21 for how this indicator was constructed.

¹²The NSPD defines this indicator at the Output area level of aggregation, which suggests that aggregation issues could be present when aggregating to Local Authority level. The accessibility of Output Areas is based on their surrounding geography, "whether the wider surrounding area of a given output area is sparsely populated or less sparsely populated (NSPD, 2007, pp.17)".

Variable	Obs	Mean	Std. Dev.	Min	Max
Scotland & Wales					
>50%	342751	0.671	0.470	0	1
>60%	342751	0.643	0.479	0	1
>70%	342751	0.507	0.500	0	1
>80%	342751	0.415	0.493	0	1
>90%	342751	0.235	0.424	0	1

Table 9: Local Authority Urban/Rural Indicator: Scotland & Wales

Proportion of Output Areas in Local Authority that are NSPD Urban

Scotland Driving distance to the nearest large settlement (>10000 inhabitants) is used as a proxy in the case of Scotland. Areas more than 30 minutes driving distance from an urban centre of >10000 residents were classified as rural. See Table 21 for how this indicator was constructed.

5.1.6 Accessibility Indicator Issues

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It was felt that the Accessibility indicator did not give enough variation to accord with intuition about the UK geography. Alternative measures of this indicator were adopted, using an approach similar to that used for the Urban/Rural indicator. The sum of accessible Output Areas as a proportion of the number of Output Areas (OAs) within a Local Authority (LA) was used as a measure of how accessible Great British Local Authorities are. This measure was based on the National Statistics Postcode Directory data. The distribution of this indicator is detailed in Table 11.

The summary statistics in Table 11 raise concerns about our original definition of Accessibility. On the one hand this definition may be erroneous, whilst on the other, it may be that Local Authorities across Great Britain are truly very Accessible. More variation in this measure would be more desirable, thus alternative definitions were constructed.

Alternative definitions of Accessibility were constructed using differing accessibility criteria. Five thresholds were initially established: >50%; >60%; >70%; >80%; and >90%. Summary statistics for these thresholds are detailed for Great Britain in Table 12, as well as by country in Table 13. Table 12 highlights the lack of large variation in this statistic at the aggregate level. Whilst there is not a lot of variation in these summary statistics for England (only 3.7% difference between the >50% & >90% criterion), they varied markedly in the case of Scotland & Wales.

Variable	Obs	Mean	Std. Dev.	Min	Max
Scotland:					
>50%	210984	0.667	0.471	0	1
> 60%	210984	0.643	0.479	0	1
>70%	210984	0.487	0.500	0	1
>80%	210984	0.441	0.497	0	1
>90%	210984	0.302	0.459	0	1
Wales:					
>50%	131767	0.677	0.468	0	1
> 60%	131767	0.641	0.480	0	1
>70%	131767	0.537	0.499	0	1
>80%	131767	0.373	0.484	0	1
>90%	131767	0.128	0.334	0	1

Table 10: Local Authority Urban/Rural Indicator: Scotland & Wales

Proportion of Output Areas in Local Authority that are NSPD Urban

There is a 27.4% difference between the >50% & >90% criterion in Scotland, whereas the difference between the >50% & >90% criterion in Wales is 9.9%.

Stricter criterion were also implemented, using the following thresholds: >95%; >96%; >97%; >98%; and >99% (see Table 14). Again, for England the summary statistics did not vary much when conditioned on these tougher hurdles. There is only a 2.3% difference between the >95% & >99% measures, with 92.3% of at least 99% of the Output Areas falling into English Local Au-

Table 11: How Accessible? (% Urban Output Areas within a Local Authority: Great Britain

Variable	Obs	Mean	Std. Dev.	Min	Max
England.					
How Accessible?	2020682	0.983	0.080	0.034	1
Scotland.					
How Accessible?	210984	0.858	0.213	0	0.998
Wales.					
How Accessible?	131767	0.860	0.255	0.190	1
	·1 1 0 5	3 ()		1 11	

NB. How Accessible?: \sum (Accessible Output Areas/# Output Areas).

Variable	Obs	Mean	Std. Dev.	Min	Max
>50%	2430314	0.951	0.216	0	1
> 60%	2430314	0.947	0.223	0	1
>70%	2430314	0.935	0.247	0	1
$>\!80\%$	2430314	0.905	0.293	0	1
>90%	2430314	0.891	0.312	0	1

Table 12: Thresholds Accessibility Criterion: Great Britain

thorities being classified by the NSPD as Accessible according to our measure. Furthermore, this measure did not vary much for Wales (A 3.1% difference between the >95% & >99% measures). This measure seems quite stable at high thresholds for England & Wales, suggesting that Local Authorities classified as urban at high moments of the distribution of these indicators possess similar characteristics in terms of the number of urban OAs falling into them.

There is not a lot of variation at the top of the distribution in England. In the case of Scotland, we see a very large variation in this indicator when using these strict accessibility criterion. There is a 60.7% difference between the >95% & >99% measure. The difference between the >95% & >96% thresholds is 0%, whilst the difference between the >96% & >97% thresholds is 4.6%. These differences increase exponentially. The difference between the >97% & >98% thresholds is 17.4%, whilst the difference between the >98% & >99% thresholds is 29.5%! These observations suggest that the overall distribution in Figure 5 is mostly driven by England which accords with intuition.

Variable	Obs	Mean	Std. Dev.	Min	Max
England:					
>50%	2020682	0.992	0.090	0	1
> 60%	2020682	0.990	0.097	0	1
>70%	2020682	0.982	0.133	0	1
$>\!80\%$	2020682	0.965	0.183	0	1
>90%	2020682	0.955	0.207	0	1
Scotland:					
>50%	210984	0.921	0.270	0	1
> 60%	210984	0.921	0.270	0	1
>70%	210984	0.855	0.352	0	1
> 80%	210984	0.712	0.453	0	1
>90%	210984	0.647	0.478	0	1
Wales:					
>50%	131767	0.852	0.355	0	1
> 60%	131767	0.810	0.392	0	1
>70%	131767	0.810	0.392	0	1
$>\!80\%$	131767	0.753	0.431	0	1
>90%	131767	0.753	0.431	0	1

Table 13: Thresholds for Accessibility Criterion: Country-level

5.2 Local Area Quarterly Labour Force Survey (QLFS)

5.2.1 Background.

The Local Area Quarterly Labour Force Survey dates back to 1992q1, and includes roughly 100 variables covering the following subjects: employment by age group; employees; self-employed; economic activity; employment by industrial sector; ethnic minority economic activity; persons in full-time education; qualifications; job-related training (Economic & Social Data Service, 2008). For confidentiality reasons, local area data available on the UK Data Archive website at the Local Authority Unitary Authority (LAUA) level of aggregation has been suppressed by the Office of National Statistics (ONS) (Economic & Social Data Service, 2008). This restricted one to the Local Area Quarterly Labour Force Survey as a widely available source of information.

The local area data available via the UK Data Archive's standard end user license is formatted according to the Local Area District (LAD) classification. Since the existing dataset has been

Variable	Obs	Mean	Std. Dev.	Min	Max
England:					
> 95%	2020682	0.946	0.226	0	1
>96%	2020682	0.936	0.244	0	1
>97%	2020682	0.931	0.254	0	1
>98%	2020682	0.929	0.256	0	1
>99%	2020682	0.923	0.266	0	1
Scotland:					
>95%	210984	0.608	0.488	$0 \ 1$	
>96%	210984	0.608	0.488	0	1
> 97%	210984	0.562	0.496	0	1
> 98%	210984	0.388	0.487	0	1
>99%	210984	0.093	0.290	0	1
Wales:					
>95%	131767	0.717	0.450	0	1
> 96%	131767	0.717	0.450	0	1
> 97%	131767	0.686	0.464	0	1
> 98%	131767	0.686	0.464	0	1
>99%	131767	0.686	0.464	0	1

Table 14: Strict Accessibility Criterion: Country-level

constructed according to the Local Authority & Unitary Authority (LAUA) classification, the first challenge was to develop a concordance between the LAD and LAUA methodologies. This was not very obvious given the lack of clear documentation, or a concordance table. The LFS estimates for LADs are based on 1981 boundaries, implying that boundary changes since 1991 will not be accounted for in the data (Labour Force Survey, 2006).

The quarterly Labour Force Survey (LFS) is a representative survey based on some 60,000 households (Economic & Social Data Service, 2008), with a single LFS quarter representing roughly 150,000 individuals. However, when interest is in small population sub-groups, or smaller areas, the quarterly LFS is fairly limited as a source of reliable estimates given the small sample sizes (Labour Force Survey, 2003). The LFS documentation suggests that an average of a larger sample over a longer period will improve the accuracy of estimates as well as smoothing out seasonal variation (Labour Force Survey, 2003).

Given the small sample size at lower levels of aggregation, the LFS adopts the following rules:

- the base population for each area is rounded to the nearest thousand; and
- any proportion based on an estimate of less than 10,000 is suppressed(Labour Force Survey, 2003).

These rules imply that the data pertaining to the City of London & Isle of Scilly Local Authorities are generally suppressed - censored at zero - in the published data. In the case of the City of London, many sample sizes are considered too small to provide reliable estimates; In the case of the Isle of Scilly, this geography is not sampled due to its remote location and small population. Furthermore, since the LFS is assumed a representative sample, individual responses are weighted to reflect the distributions of the relevant aggregate statistics. If less than 2 individuals replied to the survey in an area, this information is considered disclosive and dropped for confidentiality reasons (Government Statistical Service, 1999). This is likely to be an issue the less disaggregate the level of analysis.

The quarterly LFS is a survey, and thus subject to issues like *Non-Response* which affect survey accuracy. Given the rotating nature of the QLFS, following individuals for 5 quarters, it is also subject to sampling variability implying that comparability over time is affected. Since interest lies in broad band regional characteristics, these issues are less of a concern.

5.2.2 Concordance between Local Area Data Classifications.

During the major Local Government reorganisation during the 1990s, single-tier unitary authorities were established in urban areas, with responsibility for all areas of local government. The existing 2-tier system of counties and non-metropolitan districts, established in the 70s, remained for the rest of the country. The result is a mixture of single-tier and two-tier administrative structures at the local level. This phase of restructuring occurred between 1995 and 1998 (see National Statistics, 2004). In April 1996 the counties of Avon, Cleveland, and Humberside, their districts, and the district of York City were abolished, and 13 unitary authorities were created in their place. In 1997 13 further unitary authorities were established, and 19 in 1998, making a total of 46 unitary authorities in England, in addition to the existing London and Metropolitan boroughs, which already had unitary powers. For full details of these changes, see Office for National Statistics (1999). Given these changes in local area classifications, more than one concordance system was needed to link the regional identifiers over the time period of interest. The concordance system developed is detailed in Section 6.2. One system was established for the 1996q1-1998q4 data and another for the 1999q1+ data. After 1999q1, 13 extra unitary authorities were introduced into the data implying a discontinuity with respects to these regional classifications. Where possible, these were matched to previous years by district name¹³.

As Section 6.2 highlights, the match between the post-1998 local area geography and the LAUA classification is an improvement over the pre-1999 geography. The matching scheme developed (see Section 6.2) was applied to the UK Data Archive Local Area LFS, period: 1996q1 - 2006q1. This resulted in roughly 408 Local Authority matches, which varied across the years. Before 1998q4 there were 378 Local Authority matches, as it seems that the newly introduced Unitary Authorities were not accounted for in the pre-1999 waves of the quarterly survey.

5.2.3 Harmonization of the Waves

Small variable name changes over the waves of the Local Area QLFS led to the implementation of a standard system for variable labelling. Furthermore, there were cases in which regional names or codes were missing. Given the concordance system developed, this was a simple case of imputing the missing value. In other instances, districts wrongly coded. For example, in 1998q1 Norwich and North Norfolk we assigned each other's district codes instead of their own. This was a fairly arbitrary task, given the information in our concordance tables. In order to minimise problems when it came to matching the waves, a template of all possible local area regions was merged to all waves of interest.

The pre-1999 waves include occupational information according to the 1990 Standard Occupational Classification, whereas the post-1998 occupation data is only available according to the 2000 methodology (SOC2000). Given an inherent lack of comparability(Beerten et al., 2001), an attempt to match the two methodologies is not advised as the composition of 1-digit occupational groups has changed and detailed occupational data is unavailable. These compositional changes are within broadband occupational groups. However, a weak concordance is developed between the SOC90 and SOC2000 for the purposes of linking the pre- and post-1999q1 waves (see Table 22). Regardless, this issue does not affect the analysis in Ball & Wilke (2009) given the time

¹³Matching by district name would imply some inaccuracies in this procedure pertaining to Local Authority Districts that were split to form a Unitary Authority and a Local Authority.

period under observation: 1999q1 - 2005q4.

New variables introduced over period: Figure 6 illustrates the data structure aimed for. In this form, the raw Local Area QLFS presents one with 122 unique variables over the period of interest, 5 labels and 107 unique left hand side variables.

Figure 6: Data Structure of the QLFS.



The number of variables did not change between 1996q1 & 1998q4, and there was no large changes in the magnitudes of the variables over these quarters. Since no labels and codes were provided between 1996q1 & 1997q4, it was assumed that the variable labels didn't change over this period. In order to ease the merging process, it was desirable for all periods to have the same formatting, layout, variables & variable names.

The waves from 1996q1 to 1998q4 contained 102 variables: 2 labels (uk; ualad) and 104 regressors. The Local Authority (LAUA) was matched in using the concordance table developed in Section 6.2. An additional column was also added, indicating the quarter in which the wave occurred. Columns were added for the following variables, not included in these waves: ea18trt4 (persons economically active aged 18 to retirement, with NVQ level 3+) and ea18trt (persons economically active aged 18 to retirement, with NVQ level 4+) which were both introduced in 1999q1; and ea18trt (persons economically active aged 18 to retirement) which was introduced in 2001q2. In total this gave 112 variables.

Table 15: New variables

Time period	# Vars.	New Regressors Introduced
1996q1 - 1998q4	106	
1999q1 - 2001q1	107	ea18trt4 "pers. econ. active aged 18-retirement with
		nvq 4 or above"
		ea18trt3 "pers. econ. active aged 18-retirement with
		nvq 3 or above"
2001q2 - 2002q2	108	ea18trt "persons economically active aged 18-
		retirement"
		NB. alempuo "all in employment working in unskilled
		occupations", systematically missing from 2002q2 on-
		wards.
2002q3	109	
2004q4	107	
2005q1 - 2006q1	109	

The waves from 1999q1 to 2001q1 contained 107 variables: 1 label (uk) and 106 regressors. The Local Area District (pre-1996 geography) codes, and Local Authority (LAUA) codes and area names, were matched in using the concordance table developed in Section 6.2. An additional column was also added, indicating the quarter in which the wave occurred. An additional Column was added for the following variable, not included in these waves: ea18trt (persons economically active aged 18-retirement, with NVQ level 4+) which were both introduced in 1999q1; and ea18trt (persons economically active aged 18-retirement) which was introduced in 2001q2. In total this gave 112 variables.

The waves from 2001q2 to 2002q2 contained 108 variables: 1 label (uk) and 107 regressors. The 'person33' variable was renamed to 'ea18trt' as they had the same definition. The Local Area District (pre-1996 geography) codes, and Local Authority (LAUA) codes and area names, were matched in using the concordance table developed in Section 6.2. An additional column was also added, indicating the quarter in which the wave occurred. In total this gave 112 variables.

The 2002q4 wave contained 107 variables: 1 label (uk) and 106 regressors. The Local Area District (pre-1996 geography) codes, and Local Authority (LAUA) codes and area names, were

matched in using the concordance table developed in Section 6.2. An additional column was also added, indicating the quarter in which the wave occurred. The variable indicating the number of workers in the 'Unskilled' occupational category, 'alempuo', was missing from the dataset for this wave. This variable was added with values set to missing. Since this variable was present but contained missing values from 2001q2 to 2006q1, this increased confidence that this strategy was appropriate for the 2002q4 wave. In total this gave 112 variables.

2002q3 and the waves from 2003q1 to 2006q1 contained 109 variables: 2 labels (uk; code/ualad) and 107 regressors. The Local Area District (pre-1996 geography) codes, and Local Authority (LAUA) codes and area names, were matched in using the concordance table developed in Section 6.2. An additional column was also added, indicating the quarter in which the wave occurred. In total this gave 112 variables.

5.2.4 Matching waves

Identifiers used:

- uk Local Area Districts (pre-1996 geography).
- ualad Local Area District codes (pre-1996 geography).
- area Local Authority Areas (UKLADGB).
- laua Local Authority Unitary Authority codes.
- quarter Quarter in which the wave occured.

Given this common imposed underlying structure, it was a simple case of converting the 1996q1 to 2006q1 waves from wide to long format, and then stacking the datasets on top of each other using the 'append' command in Stata 10.0.

5.2.5 Variable Selection

Table 16 indicates the quality of the variables utilised. This indicator is calculated as the total number of missing observations as a fraction of the total number of observations. Breakdowns of the ILO unemployment rate by age are of some concern, as their quality is quite low. When compared to the NOMIS versions of these variables, available from the quarterly labour force survey (4 quarter averages), these statistics are relatively favourable. Before these variables were used, an imputation strategy was implemented that replaced missing values with the values in the preceding quarter. This approach is valid if one assumes that these observations are randomly missing. However, it is hard to justify this approach in the cases where the % of missing values was high (Greater than 5%: (see Cameron and Trivedi, 2005, chap. 26)).

	1999q1-2005q4		1995q1-2006q1	
Variable	Obs	% Missing	Obs	% Missing
ethmin	16368	0.222	11424	0.209
pworkage	16368	0.003	11424	0.003
resph16	16368	0.003	11424	0.003
alemmani	16368	0.006	11424	0.006
inemp16	16368	0.003	11424	0.003
alemanso	16368	0.004	11424	0.004
alemproo	16368	0.008	11424	0.007
alemptoc	16368	0.006	11424	0.005
alemasoc	16368	0.006	11424	0.006
alemstoc	16368	0.006	11424	0.006
ilo16t19	16368	0.325	11424	0.336
ilo20t24	16368	0.429	11424	0.461
ilo25t34	16368	0.323	11424	0.362
ilo35t49	16368	0.25	11424	0.28
ilou16	16368	0.035	11424	0.042

Table 16: Quality of Variables in the Local Area QLFS (1995q1-2006q1)

The variables in Table 16 are relevant as base variables for the construction of other indicators. The indicators constructed include: The fraction of New Deal Starters in the *eligible* population. This indicator was constructed for targets of the 18-24 as well as the 25-49 programmes. Two definitions of the numerator were used for this variable:

- 18-24 ILO unemployed population (residence-based).
- 18-24 Claimant Count (Claiming for \succeq 6 months).

Using definition 1 is likely to bias downwards results as not all ILO unemployed are eligible. Eligibility requires receipt of Jobseeker's Allowance (JSA) for 6 months (McVicar and Podivinsky, 2003). Furthermore, the Claimant Count-based denominator is relatively more attractive given that it is not affected by missing values and the low quality of the ILO-based alternative.

Lack of an average years of schooling indicator led to the use Skill Intensity as a proxy. This occupation-based indicator was defined as the fraction of people in the working population working in the following occupations: Managers & Senior Officials; Professionals; Associated Professionals & Technical; Admin. & Secretarial; & Skilled Trades.

Other indicators developed from the Local Area QLFS include: manufacturing industry employement as a proportion of total employment; the fraction of the working population with qualifications at NVQ level 3 and over; the fraction of the working population with qualifications at NVQ level 4 and over; and the fraction of Ethnic Minorities in the total population (aged 16+).

The initial motive for using the Local Area QLFS was to capture ILO unemployment. Four rates were constructed: the fraction of ILO unemployed in the total population (mid-year estimate from NOMIS); the fraction of total working-age population (mid-year estimate from NOMIS); the fraction of all aged 16+ (QLFS Local Area data); and the fraction of all working-age population (QLFS Local Area data).

5.2.6 Imputation Strategy

Imputation makes sense if it is reasonable to assume that the missing observations are missing at random. However, it is hard to justify this approach in the cases where the % of missing values was high (Greater than 5%: (see Cameron and Trivedi, 2005, chap. 26)).

Table 17 highlights the underlying data problems for the City of London local authority. This extract suggests that variables 'ilo16t19' is systematically 0, possibly due to low number of respondents, and can be assumed to be zero. However, the pattern of missing values for the other variables in Table 17 suggest a case of missing values.

In Table 17 variable 'ilo20t24' seems to be missing for 2004q3 to 2004q4 & 2005q3 to 2006q1 in City of London Local Authority. However, a change in magnitude from zero doesn't seem very realistic given its value of 875 in 2005q2. This is also the case with the variables in Table 18 for Rochdale Local Authority. It is well documented that data for the City of London and Isle of Scilly are affected by small sample sizes. This implies that censoring of the data for these sub-regions for confidentiality reasons will be common. However, it is hard to see how this is the

Code	Area	month	resph16	inemp16	pworkage	ilo16t19	ilo20t24
00AA	City of London	2004q3	9763	5894	6586	0	0
00AA	City of London	2004q4	7151	3423	4115	0	0
00AA	City of London	2005q1	9486	3697	6543	0	697
00AA	City of London	2005q2	11809	5493	8113	0	875
00AA	City of London	2005q3	9329	4576	5377	0	0
00AA	City of London	2005q4	11066	4877	6430	0	0
00AA	City of London	2006q1	8838	3960	5477	0	0

Table 17: Imputation issues: Local Area Quarterly Labour Force Survey

case in the above illustrated cases. The pattern is the same throughout the dataset. This issue is not well documented, since the documentation provided refers to the quarterly labour force survey and the annual local area QLFS which are both going to have larger sample sizes and thus higher thresholds (in terms of number of individual responses required to avoid data censorship).

Communications with the LFS helpdesk, as well as ONS, have so far come to the conclusion that the "0" values in the LAQLFS are actually zero. However, this is hard to believe in some cases and thus the issue is still being pursued. One example of an issue variable would be ethnic minority counts in Local Authorities. It may be that the high level of entries coded as zero (and subsequently treated as missing under the initial methodology) are truly zero, given relatively the thin spread of ethnic minorities across the UK. The current implementation of the dataset treats these zero values as missing and imputes accordingly (replacing missing values with the value in the preceding period).

Code	Area	month	resph16	inemp16	pworkage	ilo16t19	ilo20t24
00BQ	Rochdale	1997 q 4	168279	97545	133421	415	1475
00BQ	Rochdale	1998q1	172178	100473	137632	843	0
00BQ	Rochdale	1998q2	168914	94965	135611	2777	1460
$00 \mathrm{BQ}$	Rochdale	1998q3	173521	103829	141716	950	1463
$00 \mathrm{BQ}$	Rochdale	1998q4	167991	102250	133746	480	0
$00 \mathrm{BQ}$	Rochdale	1999q1	164732	99468	130745	849	485
00BQ	Rochdale	1999q2	161366	91266	125380	1196	481

Table 18: Imputation issues: Local Area Quarterly Labour Force Survey
5.2.7 Linking the Local Area Quarterly Labour Force Survey

The matched Local Area QLFS waves were matched to the existing Local Authority-level regional dataset, on a monthly basis. In order to achieve this, the matched waves were merged with a grid containing all possible Local Authorities on a yearly, quarterly, and monthly basis. This merger resulted in quarterly LFS waves being repeated for the relevant months within the 4 month interval.

6 Variable Tables

For full description of the variables included in the data set, availability, construction, as well as sources, see in the appendix, Table 25.

References

- Association of Port Health Authorities (2007). Port Directory. Available at: http://www.porthealth.co.uk/port_directory.asp. Accessed April 2009.
- Ball. Ρ. and Wilke, R. (2009).Job seeker's allowance in Great Britain: How does the regional labour market affect the duration until job finding? Nottingham University Discussion Paper No. 09/03.Available at: http://www.nottingham.ac.uk/economics/research/dp/school_dp/dp.09.03.pdf.
- Beerten, R., Rainford, L., and Jones, A. (2001). Changing to standard occupational classification (soc) 2000 - dual coding on the labour force survey. Labour Market Trends. Available at: http://findarticles.com/p/articles/mi_qa3999/is_/ai_n8955599.
- Cameron, A. and Trivedi, P. (2005). *Microeconometrics: Methods and Applications*. Cambridge University Press.
- DEFRA (2007). Defra classification of Local Authority Districts and Unitary Authorities in England: An introductory guide. Available at: http://www.defra.gov.uk/rural/ruralstats/rural-defn/LAClassifications_introguide.pdf.
- Economic & Social Data Service (2008). The labour force survey. Available at: http://www.esds.ac.uk/government/lfs/.
- Government Statistical Service (1999). Methodological Issues in the Production and Analysis of Longitudinal Data from the Labour Force Survey. Available at: http://www.statistics.gov.uk/downloads/theme_other/GSSMethodology_No_17_v2.pdf.
- Labour Force Survey (2003). Labour Force Survey User Guide Volume 1: Background & Methodology.
- Labour Force Survey (2006). Labour Force Survey User Guide Volume 5: LFS Classifications.
- McVicar, D. and Podivinsky, J. M. (2003). Unemployment duration before and after new deal. Royal economic society annual conference 2003, Royal Economic Society.
- National Statistics (2004).Beginners Guide UK Geography: Counto Non-metropolitan Districts and Unitary Authorities. Available ties. at: http://www.statistics.gov.uk/geography/counties_nonmet_ua.asp.
- NSPD (2007). National Statistics Postcode Directory 2007 User Guide. Available at: http://borders.edina.ac.uk/html/pcluts_download/pcluts_2007aug.html.

- Office for National Statistics (1999). Gazetteer of the old and new geographies of the United Kingdom. Available at: http://www.statistics.gov.uk/downloads/ons_geography/Gazetteer_v3.pdf.
- Office for National Statistics (2008a). TA beginners guide to the UK geography: Travel-to-Work Areas (TTWAs). Available at: http://www.statistics.gov.uk/geography/ttwa.asp.
- Office for National Statistics (2008b). Travel-To-Work Areas (TTWA). Available at: http://www.ons.gov.uk/about-statistics/user-guidance/lm-guide/availability/sub-natlm/ttwas/index.html.
- Petrongolo, B. (2001). Re-employment probabilities and returns to matching. *Journal of Labour Economics*, 19: 716–741.
- Pisati, M. (2007). Spmap: Stata module to visualize spatial data. Statistical Software Components, Boston College Department of Economics. Available at: http://ideas.repec.org/c/boc/bocode/s456812.html.
- Royal Aeronautical Society (2005). UK Airports List 2005. Available at: http://www.raes.org.uk/raes/careers/UK%20AIRPORTS%20LIST%202005.pdf. Accessed April 2009.
- Thomas, R. (1997). An integrated unemployment series and beyond. *Radical Statistics. Available at: http://www.radstats.org.uk/no066/thomas.pdf*, 66.
- Thomas, R. (1998). How enlarged travel to work areas conceal inner city unemployment. *Radical Statistics. Available at: http://www.radstats.org.uk/no067/thomas2.pdf*, 67.
- Thomas, R. (2005). Is the ilo definition of unemployment a capitalist conspiracy? Radical Statistics. Available at: http://www.countdownnet.info/archivio/teoria/463.pdf, 88.

Appendix

6.1 Tables

Table 19: NSPD Urban/Rural classification for Scotland.

No.	NSPD Area Classi-	Definition
	fication	
1	Large Urban Area:	Population $> 125,000$
2	Other Urban Area:	Population 10,000-125,000
3	Accessible Small	Population 3,000-10,000, <= 30 min-
	Town:	utes drive to settlement of $10,000+$
4	Remote Small Town:	Population 3,000-10,000, 30-60 minutes
		drive to settlement of $10,000+$
5	Very Remote Small	Population $3,000-10,000, > 60$ minutes
	Town:	drive to settlement of $10,000+$
6	Accessible Rural:	Population $< 3,000, <= 30$ minutes
		drive to settlement of $10,000+$
7	Remote Rural:	Population $< 3,000, 30-60$ minutes
		drive to settlement of $10,000+$
8	Very Remote Rural:	Population $< 3,000, > 60$ minutes drive
		to settlement of $10,000+$

Classification: 1,2 = Urban; 3-8 = Rural;

Source: National Statistics Postcode Directory (NSPD)

No.	NSPD	Classi-	No.	DEFRA Classification (England)
	fication:	(Eng-		
	land/Wale	$\mathbf{s})$		
1	Urban (Spar	rse) popu-	1	Major Urban: population $> 100,000$ or
	lation > 10 ,	000		50% of population in urban areas with
				population $> 750,000.$
2	Urban (Less	Sparse) >	2	Large Urban: population $> 500,000$ or
	10,000			50% of population in one of 17 urban
				areas with population between $250,000$
				& 750,000.
3	Town (Less	Sparse)	3	Other Urban: population $< 37,000$ or
				<~26% of population in rural settle-
				ments & larger market towns.
4	Town (Spars	se)	4	Significant Rural: population $> 37,000$
				or $>26\%$ of population in rural settle-
				ments & larger market towns.
5	Village (Les	s Sparse)	5	Rural-50: population \geq 50% but $<$
				80% of population in rural settlements
				& larger market towns.
6	Village (Spa	rse)	6	Rural-80: population $\geq 80\%$ of popula-
				tion in rural settlements & larger mar-
				ket towns.
7	Dispersed:	hamlets		
	& isolated	dwellings		
	(Less Sparse	e)		
8	Dispersed:	hamlets		
	& isolated	dwellings		
	(Sparse)			
NSP	D Classificati	on: $1,2 = U$	Jrban;	3,4,5,6,7,8 = Rural

Table 20: Comparison between the NSPD and DEFRA Urban/Rural classifications for England.

NSPD Classification: 1,2 = Urban; 3,4,5,6,7,8 = Rural DEFRA Classification: 1,2,3 = Urban; 4,5,6 = Rural; Source: Department of Environment, Food and Rural Affairs (DEFRA), www.defra.org.uk National Statistics Postcode Directory (NSPD)

No.	England & Wales	No.	Scotland
1	Urban (Sparse) population	1	Large Urban Area: Popula-
	> 10,000		tion > 125,000
2	Urban (Less Sparse) $>$	2	Other Urban Area: Popula-
	10,000		tion 10,000-125,000
3	Town (Less Sparse)	3	Accessible Small Town:
			Population 3,000-10,000,
			<= 30 minutes drive to
			settlement of $10,000+$
4	Town (Sparse)	4	Remote Small Town: Pop-
			ulation 3,000-10,000, 30-60
			minutes drive to settlement
			of 10,000+
5	Village (Less Sparse)	5	Very Remote Small Town:
			Population 3,000-10,000, $>$
			60 minutes drive to settle-
			ment of 10,000+
6	Village (Sparse)	6	Accessible Rural: Popula-
			tion < 3,000, <= 30 min-
			utes drive to settlement of
			10,000+
7	Dispersed: hamlets &	7	Remote Rural: Popula-
	isolated dwellings (Less		tion $< 3,000, 30-60$ min-
	Sparse)		utes drive to settlement of
			10,000+
8	Dispersed: hamlets & iso-	8	Very Remote Rural: Popu-
	lated dwellings (Sparse)		lation $< 3,000, > 60$ min-
			utes drive to settlement of
			10,000+

Table 21: Comparison between the England/Wales & Scottish Accessibility indicators.

England/Wales Classification: 1,2,3,5,7 = accessible; 4,6,8 = remoteScotland Classification: 1,2,3,6 = accessible; 4,5,7,8 = remoteSource: National Statistics Postcode Directory (NSPD)

1998q4-		1999q1 +	
alemanad	all in employment working as	alemanso	All in emp. working as managers
	managers & administrators		& senior officials
alemproo	all in employment working in pro-	alemproo	All in employment working in
	fessional occupations		professional occupations
alemptoc	all in employment working in as-	alemptoc	All in employment working assoc.
	soc. prof. & tech. occup.		prof. & technical occs.
alemcloc	all in employment working in cler-	alemasoc	All in emp. working in admin and
	ical occupations		secretarial occupations
alemcroc	all in employment working in	alemstoc	All in employment working in
	craft related occup.		skilled trades occups.
alemppo	all in employment working in per-	alempso	All in employment working in
	sonal & protective occup.		personal service occups.
alemseoc	all in employment working in sell-	alemsoc	All in employment working in
	ing occup.		sales customer serv occs
alempmo	all in employment working as	alempmo	All in employment working as
	plant & machine operators		plant & machine operators
alempoo	all in employment working in	alempoo	All in employment working in
	other occupations		other occupations
alemuno	all in employment working in un-	alempuo	All in Employment working in
	skilled occupations		Unskilled Occupations

Table 22: Weak Concordance Between SOC90 and SOC2000

reg1	Freq.	Percent	Cum.
1	2,953	55.03	55.03
2	1,596	29.74	84.77
3	627	11.68	96.46
4	155	2.89	99.35
5	30	0.56	99.91
6	4	0.07	99.98
7	1	0.02	100.00
Total	5,366	100.00	
reg2	Freq.	Percent	Cum.
1	2,953	71.48	71.48
2	993	24.04	95.52
3	173	4.19	99.71
4	11	0.27	99.98
5	1	0.02	100.00
Total	4,131	100.00	
reg3	Freq.	Percent	Cum.
1	2,953	54.87	54.87
2	1,606	29.84	84.71
3	632	11.74	96.45
4	156	2.90	99.35
5	30	0.56	99.91
6	4	0.07	99.98
7	1	0.02	100.00

Table 23: The number of unique regions that a postcode district falls into:

reg1 # of unique Local Authorities that a postcode district falls into.

 $\mathit{reg2}~\#$ of unique NUTS3 regions that a postcode district falls into.

reg3 # of unique level 1 Local Administrative Units (former NUTS4) that a postcode district falls into.

Format- uniqNT where: N == 1,2,3 (identifying the case above) T == Number of interest.

Reg#: the number of unique regions that the postcode district falls into.

uniq1	Freq.	Percent	Cum.
1	753,579	35.23	35.23
2	773,898	36.18	71.41
3	434,552	20.32	91.73
4	140,759	6.58	98.31
5	29,870	1.40	99.71
6	4,624	0.22	99.92
7	$1,\!637$	0.08	100.00
Total	2,138,919	100.00	
uniq2	Freq.	Percent	Cum.
1	1,276,065	59.66	59.66
2	703,105	32.87	92.53
3	146,493	6.85	99.38
4	12,569	0.59	99.97
5	687	0.03	100.00
Total	2,138,919	100.00	
uniq3	Freq.	Percent	Cum.
1	750,715	35.10	35.10
2	774,167	36.19	71.29
3	436,530	20.41	91.70
4	141,376	6.61	98.31
5	29,870	1.40	99.71
6	4,624	0.22	99.92
7	1,637	0.08	100.00
Total	2,138,919	100.00	

Table 24: Distribution of postcodes that fall into a postcode district that falls into T higher aggregation levels of interest:

uniq1~# of full postcodes that fall into a postcode district that falls into T Local Authorities.

 $uniq2 \ \#$ of full postcodes that fall into a postcode district that falls into T NUTS3 regions.

uniq3 # of full postcodes that fall into a postcode district that falls into T level 1 Local Administrative Units (former NUTS4).

Format- uniqNT where:

N == 1,2,3 (identifying the case above)

T == Number of interest.



SCOTLAND (NUTS 1 AREA): Breakdown to NUTS 2, 3 and LAU1 Areas

Source: ONS Geography



United Kingdom: Local Authority Districts, Counties and Unitary Authorities, 1998

Source: ONS Geography





YORKSHIRE AND THE HUMBER (NUTS 1 AREA): Breakdown to NUTS 2, 3 and LAU1 Areas

Source: ONS Geography



Figure 10: South West -England- NUTS3 regions:

Source: ONS Geography





Variable	Definition	Source	Aggregation	Availability:	% Missing:
Urban	Urban/Rural (see section 5.1.2 for more info.)	NSPD	Local Authority	1995-2007	0.000
Accessible	Accessibility indicator (see Section 5.1.5 for more info.)	NSPD	Local Authority	1995-2007	0.000
UniPresent	(See Section 5.1.1 for more info.)	HESA	Local Authority	1995-2007	0.000
UrbanDefra	DEFRA Urban-Rural clas- sification for England Local	DEFRA, NSPD	Local Authority	1995-2007	0.232
Urban1	Authorities DEFRA classification for England and NSPD defini-	DEFRA, NSPD	Local Authority	1995-2007	0.000
semp	tion for Scotland/Wales. Quarterly share of service sector employment in total	Labour Market Trends, NOMIS	Local Authority	1995q2-2005q2	0.075
dod	emloyment. Yearly residence-based to- tal mid-year population es- timates	NOMIS, ONS	Local Authority	1995-2006	0.000
registrations	Business Start-ups: Yearly	Department of Busi- ness & Regulatory Reform (BERR), NOMIS	Local Authority	1995-2006	0.000
Continued on ne	ext page				

Table 25: VARIABLE NAMES, SOURCES, AGGREGATION, AVAILABILITY & QUALITY.

Table $25 - con$	tinued from previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
deregistrations	Business Closures: yearly	Department of Busi- ness & Regulatory Reform (BERR), NOMIS	Local Authority	1995-2006	0.000
stock	Size of business community: yearly	Department of Busi- ness & Regulatory Reform (BERR), NOMIS	Local Authority	1995-2006	0.000
netchange	Change in the size of the business community (change in levels); yearly	Department of Busi- ness & Regulatory Reform (BERR), NOMIS	Local Authority	1995-2006	0.000
lunemp	Long-Term unemployment STOCK (duration>12 months)	Department of Work & Pensions (DWP) Work & Pensions Lon- gitudinal Study (100% sample of claimant); NOMIS	Local Authority	1995q2-2006q4	0.000
lunemprt	Long-Term unemploy- ment RATE (duration>12 months)	DWP Work & Pen- sions Longitudinal Study (100% sample of claimant); NOMIS	Local Authority	1995q2-2006q4	0.000
Continued on ne	xt page				

	age choire the indiana page				
Variable	Definition	Source	${f Aggregation}$	Availability:	% Missing:
unempoff	Unemployment Off-flows,	DWP Work & Pen-	Local Authority	1995q1-2007q4	0.001
	quarterly: source NOMIS	sions Longitudinal			
		Study $(100\% \text{ sample})$			
		of claimant); NOMIS			
unempon	Unemployment On-flows,	DWP Work & Pen-	Local Authority	1995q1-2007q4	0.001
	quarterly: source NOMIS	sions Longitudinal			
		Study $(100\% \text{ sample})$			
		of claimant); NOMIS			
dodm	Total working population:	Office of National	Local Authority	1996-2006	0.000
	15-65 (residence-based)	Statistics(ONS),			
		NOMIS			
dodwu	Male working population	Office of National	Local Authority	1996-2006	0.000
	(residence-based)	Statistics(ONS),			
		SIMON			
fwpop	Female working population	Office of National	Local Authority	1996-2006	0.000
	(residence-based)	Statistics(ONS),			
		SIMON			
mtpop	Total male population	Office of National	Local Authority	1996-2006	0.000
	(residence-based)	Statistics(ONS),			
		NOMIS			
ftpop	Total female population	Office of National	Local Authority	1996-2006	0.000
	(residence-based)	Statistics(ONS),			
		NOMIS			
Continued on ne	xt page				

Table 25 – cont	inued from	previous I	page					
Variable	De	finition		Source		Aggregation	Availability:	% Missing:
Qtrly_Unemp	Quarterly rate	unemployi	ment	Quarterly Lah Force Survey (L) NOMIS	bour FS),	Local Authority	1995q2-2005q2	0.723
Yrly_Unemp	Annual LFS, APS,	unemployn NOMIS	nent:	Labour Force Sur (LFS), Annual Pc lation Survey (Al NOMIS	rvey opu- PS),	Local Authority	1999-2003 (LFS); 2004- 2006 (APS)	0.349
IncomeSupport	Benefit Cl Support;	laims: Inc	come	DWP Work & I sions Longitud Study (100% san of claimant); NOM	Pen- linal nple AIS	Local Authority	1999q3-2007q2	0.074
BenClaims	Benefit Cl _i NUMBER	aims: TO	TAL	DWP Work & I sions Longitud Study (100% san of claimant); NOW	Pen- linal nple AIS	Local Authority	1999q3-2007q2	0.072
BenClaimsRate	Benefit Clai	ims: RATE		DWPWork & IsionsLongitudStudy(100% sanof claimant); NOW	Pen- linal nple AIS	Local Authority	1999q3-2007q2	0.072
JSA_Claims	JSA Claims	s: RATE		DWP Work & I sions Longitud Study (100% san of claimant); NOM	Pen- linal nple AIS	Local Authority	1999q3-2007q2	0.073
Continued on ney	tt page							

Table 20 - COI	Initiation ironi previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
JSA_Rate	JSA Claims: RATE	DWP Work & Pen-	Local Authority	1999q3-2007q2	0.073
		sions Longitudinal			
		Study $(100\%$ sample			
		of claimant); NOMIS			
nds18	New Deal for Young Peo-	DWP Tabulation Tool	Local Authority	1998m1-2007m8	0.002
	ple - Starters (Individuals):	(http://www.dwp.gov.u	ik/asd/tabtool.asp)		
	People starting (thousands)				
nd118	New Deal for Young People	DWP Tabulation Tool	Local Authority	1998m1-2007m5	0.135
	- Leavers (Individuals) Peo-	(http://www.dwp.gov.u	ik/asd/tabtool.asp)		
	ple leaving (thousands) :				
ndj18	New Deal for Young People	DWP Tabulation Tool	Local Authority	1998m1-2007m5	0.212
	- Jobs (Individuals) People	(http://www.dwp.gov.u	ik/asd/tabtool.asp)		
	gaining a job (thousands)				
nds25	New Deal 25plus - Starters	DWP Tabulation Tool	Local Authority	1998m7-2007m8	0.005
	(Individuals) People start-	(http://www.dwp.gov.u	ik/asd/tabtool.asp)		
	ing (thousands) : Local				
ndl25	New Deal 25plus - Leavers	DWP Tabulation Tool	Local Authority	$2001 \mathrm{m}3\text{-}2007 \mathrm{m}5$	0.516
	(Individuals) People leaving	(http://www.dwp.gov.u	ik/asd/tabtool.asp)		
	(thousands): Local				
ndj25	New Deal 25plus - Jobs (In-	DWP Tabulation Tool	Local Authority	$2001 \mathrm{m}3\text{-}2007 \mathrm{m}5$	0.456
	dividuals) People gaining a	(http://www.dwp.gov.u	1k/asd/tabtool.asp		
	job (thousands) : Local				
Continued on ne	ext page				

Table 25 – cont	tinued from previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
nds50	New Deal 50 plus - Starters	DWP Tabulation Tool	Local Authority	2004m1-2007m8	0.847
	(Individuals) since January	(http://www.dwp.gov.u	uk/asd/tabtool.asp)		
	2004 People starting				
nd150	New Deal 50 plus - Leavers	DWP Tabulation Tool	Local Authority	2004m2-2007m5	0.961
	(Individuals) from starters	(http://www.dwp.gov.u	ik/asd/tabtool.asp		
	since January 2004				
ndj50	New Deal 50 plus - Jobs (In-	DWP Tabulation Tool	Local Authority	2003m4-2007m5	0.820
	dividuals) since April 2003	(http://www.dwp.gov.u	uk/asd/tabtool.asp)		
	People gaining a job				
pay	Median gross weekly earn-	Annual Survey of	Local Authority	1998-2007	0.005
	ings.	Hours & Earnings			
		(ASHE), NOMIS			
JobDensity	Job Density, 2000 - 2005.	Labour Market	Local Authority	2000-2005	0.145
		Trends, NOMIS			
C_Qtrly_Unemp	(Qtrly_Unemp[_n] -		Local Authority		0.727
	$\operatorname{Qtrly_Unemp[.n-1]})$				
	$/Qtrly_Unemp[_n]$				
AvC_Qtrly_Unem	ıpAverage C_Qtrly_Unemp		Local Authority		0.473
C_Yrly_Unemp	(Yrly_Unemp[_n] -		Local Authority		0.362
	Yrly_Unemp[_n-1])				
	/Yrly_Unemp[_n]				
AvC_Yrly_Unemp	Average C_Qtrly_Unemp		Local Authority		0.002
NREG	registrations/(pop/1000)		Local Authority		0.000
Continued on nex	tt page				

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Table 25 – con	tinued from previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
NREG1	registrations/pop		Local Authority		0.000
FLUE	$\mathrm{unempon}/(\mathrm{wpop}/1000)$		Local Authority		0.001
FLUE1	unempon/wpop		Local Authority		0.001
resph16	persons 16	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
		Labour Force Survey			
inemp16	persons aged 16 in employ-	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
	ment	Labour Force Survey			
ilou16	ILO unemployed 16	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
		Labour Force Survey			
pworkage	persons of working age	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
		Labour Force Survey			
al16to19	all persons aged 16-19	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
		Labour Force Survey			
ilo16t19	persons aged 16-19 ILO un-	Local Area Quarterly	Local Authority	1995q1-2006q1	0.003
	employed	Labour Force Survey			
al20to24	all persons aged 20-24	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
		Labour Force Survey			
ilo20t24	persons aged 20-24 ILO un-	Local Area Quarterly	Local Authority	1995q1-2006q1	0.003
	employed	Labour Force Survey			
al25to34	all persons aged 25-34	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
		Labour Force Survey			
ilo25t34	persons aged 25-34 ILO un-	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
	employed	Labour Force Survey			
Continued on ne	ct page				

Table 20 - Cull	unueu irom previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
al35to49	all persons aged 35-49	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
		Labour Force Survey			
ilo35t49	persons aged 35-49 ILO un-	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
	employed	Labour Force Survey			
alemmani	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
	in manufacturing industries	Labour Force Survey			
alemseri	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
	in services industries	Labour Force Survey			
alemanso	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
	as managers $\&$ senior offi-	Labour Force Survey			
	cials				
alemproo	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
	in professional occupations	Labour Force Survey			
alemptoc	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
	in assoc. prof. & tech occu-	Labour Force Survey			
	pations				
alemasoc	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
	in admin and secretarial oc-	Labour Force Survey			
	cupations				
alemstoc	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
	in skilled trades occupations	Labour Force Survey			
Continued on ne	xt page				

Table 25 - con	tinued from previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
alempso	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
	in personal service occupa-	Labour Force Survey			
	tions				
alemsoc	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
	in sales & customer service	Labour Force Survey			
	occups				
alempmo	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
	as process plant & machine	Labour Force Survey			
	operatives				
alempoo	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
	in other occupations	Labour Force Survey			
alempuo	all in employment working	Local Area Quarterly	Local Authority	1995q1-2006q1	0.675
	in unskilled occupations	Labour Force Survey			
ethmin	persons in ethnic minorities	Local Area Quarterly	Local Authority	1995q1-2006q1	0.002
		Labour Force Survey			
wanvqlv3	persons of working age with	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
	NVQ level 3 or above	Labour Force Survey			
wanvqlv4	persons of working age who	Local Area Quarterly	Local Authority	1995q1-2006q1	0.000
	hold NVQ level 4 or above	Labour Force Survey			
nds18r	(nds18*1000)/(ilo16t19+ilo20))t24)	Local Authority		0.004
nds25r	(nds25*1000)/(ilo25t34+ilo35	5t49)	Local Authority		0.005
Continued on ne	xt page				

Table $25 - con$	ttinued from previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
nds18rel	(nds18*1000)/(18- 24 Claimant Count		Local Authority		0.000
	;=6months)				
GDPPH	Unadjusted (constrained to (unadjusted NUTS2) gross	SNC	NUTS3	1995-2005	0.000
	value added (GVA) per head, by NUTS3 area at				
	current basic prices.				
GDHI	Gross Domestic Household (SNC	NUTS3	1995-2005	0.000
	Income by NUTS3 at cur-				
	rent basic prices				
GDHIph	Gross Domestic Household (SNC	NUTS3	1995-2005	0.000
	Income per head by NUTS3				
	at current basic prices				
C_GDPPH	(GDPPH[_n] - GDPPH[_n -		NUTS3		0.000
	$1]) /(GDPPH[_n]$				
AvC_GDPPH	Average C_GDPPH		NUTS3		0.000
C_GDHIph	(GDHIph[_n] - GDHIph[_n-		NUTS3		0.000
	1]) /GDHIph[_n-1]				
AvC_GDHIph	Average C_GDHIph		NUTS3		0.000
ISrt	IncomeSupport/wpop		Local Authority		0.074
manemp	a lemani/inemp16		Local Authority		0.002
nvq3	wanvqlv3/pworkage		Local Authority		0.002
Continued on ne	xt page				

Table 20 - COI	umueu trom previous page				
Variable	Definition	ource	Aggregation	Availability:	% Missing:
nvq4	wanvqlv4/pworkage		Local Authority		0.002
ethmint	ethmin/resph16		Local Authority		0.002
ilou16mdrt	ilou16/pop (fraction of to-		Local Authority		0.002
	tal population: mid-year es-				
	timate)				
ilou16wrt	ilou16/wpop (fraction of		Local Authority		0.002
	working age population:				
	mid-year estimate)				
ilou16lrt	ilou16/resph16 (fraction of		Local Authority		0.002
	all aged $16+$)				
ilou15wlrt	ilou16/pworkage (fraction		Local Authority		0.002
	of working age population)				
SkillIntensity	(a leman so + a lem proo + a lem ptoc + a lem s	aso+alemstoc)	Local Authority		0.002
	/inemp16				
LGDHI	log(GDHI)		NUTS3		0.000
CLGDHI	Annual change in		NUTS3		0.000
	log(GDHI)				
CGDHI	Annual change in GDHI		NUTS3		0.000
cilou16	Annual change		Local Authority		0.002
cilou16mdrt	Annual change		Local Authority		0.002
cilou16wrt	Annual change		Local Authority		0.002
cilou16lrt	Annual change		Local Authority		0.002
cilou15wlrt	Annual change				0.002
Continued on ne	xt page				

Table $25 - cont$	tinued from previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
av12C_GDPPH	Rolling past 12 month aver- age C_GDPPH		NUTS3		0.000
av24C_GDPPH	Rolling past 24 month aver- age C_GDPPH	*Moving Average	NUTS3		0.000
av36C_GDPPH	Rolling post 36m av C_GDPPH	*Moving Average	NUTS3		0.000
av12CGDHI	Rolling past 12 month aver- age CGDHI	*Moving Average	NUTS3		0.000
av24CGDHI	Rolling past 24 month aver- age CGDHI	*Moving Average	NUTS3		0.000
av36CGDHI	Rolling past 36m av CGDHI	*Moving Average	NUTS3		0.000
av12C_GDHIph	Rolling past 12 month aver- age C_GDHIph	*Moving Average	NUTS3		0.000
av24C_GDHIph	Rolling past 24 month aver- age C_GDHIph	*Moving Average	NUTS3		0.000
av36C_GDHIph	Rolling past 36m av C_GDHIph	*Moving Average	NUTS3		0.000
av12cilou15wlrt	Rolling past 12 month aver- age ILO unemployment	*Moving Average	Local Authority		0.002
av24cilou15wlrt	Rolling past 24 month aver- age ILO unemployment	*Moving Average	Local Authority		0.002
av36cilou15wlrt	Rolling past 36m av ILO unemployment	*Moving Average	Local Authority		0.002
Continued on ney	tt page				

Table 25 – cont	tinued from previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
CJSA_Rate	Annual change in JSA_Rate		Local Authority		0.085
av36CJSA_Rate	Rolling past 36 month aver-		Local Authority		0.507
	age CJSA_Rate				
jsar	Indicator of the quintile		Local Authority		0.073
	of the overall distribution				
	a local authorities JSA				
	claimant rate falls into.				
ilouq1	Indicator of the quartile of		Local Authority		0.002
	the overall distribution a lo-				
	cal authorities ILO unem-				
	ployment rate falls into.				
ilouq2	Indicator of the quartile of		Local Authority		0.002
	the overall distribution a lo-				
	cal authorities ILO unem-				
	ployment rate falls into.				
ilouq3	Indicator of the quartile of		Local Authority		0.002
	the overall distribution a lo-				
	cal authorities ILO unem-				
	ployment rate falls into.				
ilouq4	Indicator of the quartile of		Local Authority		0.002
	the overall distribution a lo-				
	cal authorities ILO unem-				
	ployment rate falls into.				
Continued on nex	xt page				

TADIC 20 COL	minuca mom brevious page				
Variable	Definition	Source	${f Aggregation}$	Availability:	% Missing:
payq1	Indicator of the quartile		Local Authority		0.005
	of the overall distribution				
	a local authorities median				
	weekly income falls into.				
payq2	Indicator of the quartile		Local Authority		0.005
	of the overall distribution				
	a local authorities median				
	weekly income falls into.				
payq3	Indicator of the quartile of		Local Authority		0.005
	the overall distribution a lo-				
	cal authorities ILO unem-				
	ployment rate falls into.				
payq4	Indicator of the quartile		Local Authority		0.005
	of the overall distribution				
	a local authorities median				
	weekly income falls into.				
Std_pay	Standardised across regions,		Local Authority		0.005
	by month				
Std_SkillInte y	Standardised across regions,		Local Authority		0.002
	by month				
Std_GDPPH	Standardised across regions,		NUTS3		0.000
	by month				
Continued on ne	xt page				

Table 25 – cont	inued from previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
Std_C_GDPPH	Standardised across regions,		NUTS3		0.000
	by month				
Std_LGDHI	Standardised across regions,		NUTS3		0.000
	by month				
Std_GDHI	Standardised across regions,		NUTS3		0.000
	by month				
Std_CLGDHI	Standardised across regions,		NUTS3		0.000
	by month				
Std_CGDHI	Standardised across regions,		NUTS3		0.916
	by month				
Std_ISrt	Standardised across regions,		Local Authority		0.074
	by month				
Std_BenClaims e	Standardised across regions,		Local Authority		0.072
	by month				
Std_JSA_Rate	Standardised across regions,		Local Authority		0.073
	by month				
Std_ethminrt	Standardised across regions,		Local Authority		0.002
	by month				
Std_manemp	Standardised across regions,		Local Authority		0.002
	by month				
Std_nvq3	Standardised across regions,		Local Authority		0.002
	by month				
Continued on nex	t page				

12016 29 - CUIL	nineu irom previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
Std_nvq4	Standardised across regions,		Local Authority		0.002
	by month				
Std_cilou16	Standardised across regions,		Local Authority		0.002
	by month				
Std_ilou16mdrt	Standardised across regions,		Local Authority		0.002
	by month				
Std_ilou16wrt	Standardised across regions,		Local Authority		0.002
	by month				
Std_ilou16lrt	Standardised across regions,		Local Authority		0.002
	by month				
Std_ilou15wlrt	Standardised across regions,		Local Authority		0.002
	by month				
$Std_cilou16mdrt$	Standardised across regions,		Local Authority		0.002
	by month				
$Std_cilou16wrt$	Standardised across regions,		Local Authority		0.002
	by month				
$Std_cilou16lrt$	Standardised across regions,		Local Authority		0.002
	by month				
$Std_cilou15wlrt$	Standardised across regions,		Local Authority		0.002
	by month				
Std_FLUE1	Standardised across regions,		Local Authority		0.001
	by month				
Continued on nex	t page				

Table 20 - colle	inuea iroin previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
Std_NREG1	Standardised across regions,		Local Authority		0.000
	by month				
$Std_JobDensity$	Standardised across regions,		Local Authority		0.145
	by month				
Std_lunemprt	Standardised across regions,		Local Authority		0.000
	by month				
Std_av12C_GDPF	'IEtandardised across regions,		NUTS3		0.000
	by month				
Std_av24C_GDPF	'Etandardised across regions,		NUTS3		0.000
	by month				
Std_av36C_GDPF	'IEtandardised across regions,		NUTS3		0.000
	by month				
Std_av12CGDHI	Standardised across regions,		NUTS3		0.000
	by month				
Std_av24CGDHI	Standardised across regions,		NUTS3		0.000
	by month				
Std_av36CGDHI	Standardised across regions,		NUTS3		0.000
	by month				
Std_av12cilou t	Standardised across regions,		Local Authority		0.002
	by month				
Std_av24cilou t	Standardised across regions,		Local Authority		0.002
	by month				
Continued on nex	t page				

	ninueu ironi previous page				
Variable	Definition	Source	Aggregation	Availability:	% Missing:
Std_av36cilou t	Standardised across regions,		Local Authority		0.002
	by month				
Std_nds18	Standardised across regions,		Local Authority		0.002
	by month				
Std_nds25	Standardised across regions,		Local Authority		0.005
	by month				
Std_av12C_GDH	h Standardised across regions,		NUTS3		0.000
	by month				
Std_av24C_GDH	h Standardised across regions,		NUTS3		0.000
	by month				
Std_av36C_GDH	h Standardised across regions,		NUTS3		0.000
	by month				
Port	Whether a port or aiport	Association of Port	Postcode Dis-		0.000
	falls into the postcode dis-	Health Authorities	trict		
	trict in question (minus 3				
	Navy ports)				
Port_NUTS3	Whether a port or aport	Association of Port	NUTS3		0.000
	falls into the NUTS3 region	Health Authorities			
	in question (minus 3 Navy				
	ports)				
Continued on ney	xt page				

	Aggregation Availability: % Missing:	ocal Authority 0.000		
	Source	Association of Port I Health Authorities		
unued from previous page	Definition	Whether a port or aiport falls into the NUTS3 region in currention (minus 2 Manu-	ports)	
Table 25 - con	Variable	Port_LA		(237131 obs.)

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6.2 Concordance Tables

Concordance Table Developed between Local Authority Districts (pre-1996 geography) and the 1999 Unitary Authorities and Local Authority Districts methodology, available on NOMIS.

UK DATA ARCHIVE LFS LOCAL AREA DATASET (1996q1 - 1998q4) uk	ualad	UK DATA ARCHIVE LFS LOCAL AREA DATASET (1999q1 +) uk1	ualad1	NSPD District Names And Codes district	ONS	NOMIS UALADGB: area	laua
ABERCONWY	74A			Aberconwy	59UB		
ABERDEEN CITY	84A	ABERDEEN CITY ABERDEENSHIRE	QA QB			Aberdeen City Aberdeenshire	00QA 00QB
ADUR	37A	ADUR	45UB	Adur	45UB	Adur	45UB
ALLERDALE ALNWICK ALYN AND DEESIDE	02A 04A 71A	ALLERDALE ALNWICK	16UB 35UB	Allerdale Alnwick Alyn and Deeside	16UB 35UB 56UB	Allerdale Alnwick	16UB 35UB
AMBER VALLEY	12A 884	AMBER VALLEY	17UB 0C	Amber Valley	17UB	Amber Valley	17UB
ESKDALE	82A		QU	Artan	50110	Antrim	95T
ARFON	74C			Arron	59UC	Ardo	057
ARGYLE AND BUTE	87A	ARGYLL AND BUTE	QD			Argyll and Bute	95× 00QD
						Armagh	950
ARUN	37C	ARUN	45UC	Arun	45UC	Arun	45UC
ASHFIELD	15A	ASHFIELD	37UB	Ashfield	37UB	Ashfield	37UB
	32A	ASHFURD	290B	Ashford	290B	Ashford	290B
AYLESBURY VALE BABERGH	46A 20A	AYLESBURY VALE BABERGH	11UB 42UB	Aylesbury Vale Babergh	11UB 42UB	Aylesbury Vale Babergh	11UB 42UB
						Ballymena Ballymoney Banbridge	95G 95D
BADENOCK & STRATHSPEY	85A					Banbhuge	900
BANEE AND BUCHAN	84C						
BARKING AND		BARKING AND		Barking and		Barking and	
DAGENHAM	28A	DAGENHAM	AB	Dagenham	00AB	Dagenham	00AB
BARNET	25A	BARNET	AC	Barnet	00AC	Barnet	00AC
BARNSLEY	16A	BARNSLEY	CC	Barnsley	00CC	Barnsley	00CC
BARROW-IN- FURNESS BASILDON	02C 27A	BARROW-IN-FURNESS BASILDON	16UC 22UB	Barrow-in- Furness Basildon	16UC 22UB	Barrow-in-Furness Basildon	16UC 22UB
BASINGSTOKE &				Basingstoke and		Basingstoke and	
DEANE	41A	DEANE	24UB	Deane	24UB	Deane	24UB
BASSETLAW	15C	BASSETLAW	37UC	Bassetlaw	37UC	Bassetlaw	37UC
BATH	50A	SOMERSET UA	HA	Bath	08UB	Somerset	00HA
MILNGAVIE BEDFORDSHIRE	87B	BEDFORD	09UD			Bedford	09UD
		BEDI OKDONIKE				Belfast	95Z
BERKSHIRE BERWICK-UPON- TWEED	04B	BERWICK-UPON-TWEED	35UC	Berwick-upon- Tweed	35UC	Berwick-upon- Tweed	35UC
BERWICKSHIRE BEVERLEY	80A 07A		2000				
BEXLEY	33A	BEXLEY	AD	Bexley	00AD	Bexley	00AD
BIRMINGHAM	61A	BIRMINGHAM	CN	Birmingham	00CN	Birmingham	00CN
BLABY	13A	BLABY	31UB	Blaby	31UB	Blaby	31UB

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		BLACKBURN WITH				Blackburn with	
BLACKBURN	68A	DARWEN UA	EX	Blackburn	30UB	Darwen	00EX
BLACKPOOL	68B	BLACKPOOL UA	EY	Blackpool	30UC	Blackpool	00EY
BLAENAU GWENT	73A	BLAENAU GWENT	PL	Blaenau Gwent	58UB	Blaenau Gwent	00PL
BLYTH VALLEY	04C	BLYTH VALLEY	35UD	Blyth Valley	35UD	Blyth Valley	35UD
BOLSOVER	12C	BOLSOVER	17UC	Bolsover	17UC	Bolsover	17UC
BOLTON	67A	BOLTON	BL	Bolton	00BL	Bolton	00BL
BOOTHFERRY	07C			Boothferry	27UB		
BORDERS				,			
BOSTON	14A	BOSTON	32UB	Boston	32UB	Boston	32UB
BOURNEMOUTH	40A	BOURNEMOUTH UA	HN	Bournemouth	19UB	Bournemouth	00HN
BRACKNELL FOREST	45A	BRACKNELL FOREST UA	MA	Bracknell Forest	10UB	Bracknell Forest	00MA
BRADFORD	09A	BRADFORD	СХ	Bradford	00CX	Bradford	00CX
BRAINTREE	27C	BRAINTREE	22UC	Braintree	22UC	Braintree	22UC
BRECKLAND	19A	BRECKLAND	33UB	Breckland	33UB	Breckland	33UB
BRECKNOCK	76A			Brecknock	61UB		
BRENT	25C	BRENT	AE	Brent	00AE	Brent	00AE
BRENTWOOD	27D	BRENTWOOD	22UD	Brentwood	22UD	Brentwood	22UD
		BRIDGEND	PB			Bridgend	00PB
BRIDGNORTH	58A	BRIDGNORTH	39UB	Bridgnorth	39UB	Bridgnorth	39UB
BRIGHTON	31A	UA	ML	Brighton	21UB	Brighton and Hove	00ML
BRISTOL	50C	BRISTOL CITY OF UA	НВ	Bristol	08UC	Bristol. City of	00HB
BROADLAND	19C	BROADLAND	33UC	Broadland	33UC	Broadland	33UC
BROMLEY	33E	BROMLEY	AF	Bromley	00AF	Bromley	00AF
BROMSGROVE	57A	BROMSGROVE	47UB	Bromsgrove	25UB	Bromsgrove	47UB
BROXBOURNE	24A	BROXBOURNE	26UB	Broxbourne	26UB	Broxbourne	26UB
BROXSTOWE	15E	BROXTOWE	37UD	Broxtowe	37UD	Broxtowe	37UD
BUCKINGHAMSHIRE		BUCKINGHAMSHIRE					
BURNLEY	68C	BURNLEY	30UD	Burnlev	30UD	Burnlev	30UD
BURY	67B	BURY	BM	Burv	00BM	Burv	00BM
-		CAERPHILLY	PK			Caerphilly	00PK
CAITHNESS	85C						
CALDERDALE	09C	CALDERDALE	CY	Calderdale	00CY	Calderdale	00CY
CAMBRIDGE	18A	CAMBRIDGE	12UB	Cambridge	12UB	Cambridge	12UB
CAMBRIDGESHIRE		CAMBRIDGESHIRE		0		0	
CAMDEN	28C	CAMDEN	AG	Camden	00AG	Camden	00AG
CANNOCK CHASE	59A	CANNOCK CHASE	41UB	Cannock Chase	41UB	Cannock Chase	41UB
CANTERBURY	32B	CANTERBURY	29UC	Canterbury	29UC	Canterbury	29UC
CARADON	51A	CARADON	15UB	Caradon	15UB	Caradon	15UB
CARDIFF	77A	CARDIFF	PT	Cardiff	62UB	Cardiff	00PT
CARLISLE	02E	CARLISLE	16UD	Carlisle	16UD	Carlisle	16UD
CARMARTHEN	72A	CARMARTHENSHIRE	NU	Carmarthen	57UB	Carmarthenshire	00NU
CARRICK	51C	CARRICK	15UC	Carrick	15UC	Carrick	15UC
						Carrickfergus	95V
CASTLE MORPETH	04D	CASTLE MORPETH	35UE	Castle Morpeth	35UE	Castle Morpeth	35UE
CASTLE POINT	27E	CASTLE POINT	22UE	Castle Point	22UE	Castle Point	22UE
						Castlereagh	95Y
CENTRAL							
CEREDIGION	72C	CEREDIGION	NQ	Ceredigion	57UC	Ceredigion	00NQ
CHARNWOOD	13E	CHARNWOOD	31UC	Charnwood	31UC	Charnwood	31UC
CHELMSFORD	27F	CHELMSFORD	22UF	Chelmsford	22UF	Chelmsford	22UF
CHELTENHAM	53A	CHELTENHAM	23UB	Cheltenham	23UB	Cheltenham	23UB
CHERWELL CHESHIRE	48A	CHERWELL CHESHIRE	38UB	Cherwell	38UB	Cherwell	38UB
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CHESTER	63A	CHESTER	13UB	Chester	13UB	Chester	13UB
CHESTERFIELD	03A	CHESTERFIELD	17UD	Chesterfield	17UD	Chesterfield	17UD
CHESTER-I E-STREET	37F	CHESTER-LE-STREET	20UB	Chester-le-Street	201 IB	Chester-le-Street	20118
	125			Chichostor		Chichostor	200D
			4500	Chichester	4500	Chichester	4500
CHILIERN	46E	CHILTERN	110C	Chiltern	1100	Chiltern	1100
CHORLEY	68D	CHORLEY	300E	Chorley	300E	Chorley	300E
CHRISTCHURCH	40C	CHRISTCHURCH	19UC	Christchurch	19UC	Christchurch	19UC
CITY OF LONDON	28E	CITY OF LONDON	AA	City of London	00AA	City of London	00AA
WESTMINSTER	25T						
CLACKMANNAN	81A	CLACKMANNANSHIRE	QF			Clackmannanshire	00QF
CLEETHORPES	07E			Cleethorpes	27UC		
CLEVELAND							
CLWYD							
CLYDEBANK	87C						
CLYDESDALE	87S						
COLCHESTER	27G	COLCHESTER	22UG	Colchester	22UG	Colchester	22UG
						Coleraine	95C
COLWYN	71C			Colwvn	56UC		
CONGLETON	63C	CONGLETON	13UC	Congleton	13UC	Congleton	13UC
		CONWY	NE	5		Conwy	00NE
						Cookstown	951
COPELAND	02G	COPELAND	16UE	Copeland	16UF	Copeland	16UF
CORBY	47A	CORBY	34UB	Corby	34UB	Corby	34UB
CORNWALL		ISLES OF SCILLY	0100	COLDY	0100	CONSY	0100
	53C		23110	Cotswold	23110	Cotswold	23110
	61D	COVENTRY	2300	Coventry	2000	Coventry	2000
OOVENIN	010	COVENTIA	UQ	Covernity	0000	Craigavon	000Q
	084		361 IB	Craven	361 IB	Crayen	36HR
	370		15UE	Crawlov	45UE	Crawlov	15UE
ORAWLLI	5/6	CINAWEET	430L	Crowe and	430L	Clawley	430L
CREWE & NANTWICH	63E		13110	Nantwich	13110	Crewe and Nantwich	13110
	387		лы Л	Crovdon	0000	Crowdon	0010
	30A	CROTDON		Cityddii	UUAII	Cityuun	UUAN
KII OVTU	97D						
	010						
	075	COMBRIA					
	0/E						
	0/ F			0			
	75A	DAGODUNA	00110	Cynon valley	600B	D	~~~~
DACORUM	240	DACORUM	2600	Dacorum	2600	Dacorum	2600
DARLINGTON	030	DARLINGTON UA	EH	Darlington	2000	Darlington	OUEH
DARTFORD	320	DARTFORD	290D	Dartford	290D	Dartford	290D
DAVENIRY	47C	DAVENTRY	34UC	Daventry	34UC	Daventry	34UC
DELYN	71E			Delyn	56UD		
		DENBIGHSHIRE	NG			Denbighshire	00NG
DERBY	12G	DERBY UA	FK	Derby	17UE	Derby	00FK
DERBYSHIRE		DERBYSHIRE					
		DERBYSHIRE DALES	17UF	Derbyshire Dales	17UF	Derbyshire Dales	17UF
						Derry City	95A
DERWENTSIDE	03E	DERWENTSIDE	20UD	Derwentside	20UD	Derwentside	20UD
DEVON		DEVON					
DINEFWR	72E			Dinefwr	57UD		

DONCASTER DORSET	16C	DONCASTER DORSET	CE	Doncaster	00CE	Doncaster	00CE
DOVER	32D	DOVER	29UE	Dover	29UE	Dover Down	29UE 95R
DUDLEY DUMBARTON	61F 87G	DUDLEY	CR	Dudley	00CR	Dudley	00CR
DUMFRIES & GALLOWAY		DUMFRIES AND GALLOWAY	QH			Dumfries and Galloway	00QH
DUNDEE CITY DUNFERMLINE	88C 83A	DUNDEE CITY	QJ			Dundee City	00QJ
DURHAM	03G	DURHAM		2		Dungannon	95M
DURHAM DWYFOR DVEED	74E	DURHAM	200E	Durnam Dwyfor	200E 59UD	Durnam	200E
FALING	25F	FALING	ΔΙ	Faling	0041	Faling	004 1
EASINGTON	03J	EASINGTON EAST	20UF	Easington	20UF	Easington	20UF
EAST ANGLIA		EAST AYRSHIRE	QK			East Ayrshire	00QK
EAST				East		East	
CAMBRIDGESHIRE	18C	EAST CAMBRIDGESHIRE	12UC	Cambridgeshire	12UC	Cambridgeshire	12UC
EAST DEVON	52A	EAST DEVON	18UB	East Devon	18UB	East Devon	18UB
EAST DORSET	40P	EAST DORSET	19UD	East Dorset	19UD	East Dorset	19UD
		EAST DUNBARTONSHIRE	QL			East Dunbartonshire	00QL
EAST HAMPSHIRE EAST	41H	EAST HAMPSHIRE	24UC	East Hampshire East	24UC	East Hampshire	24UC
HERTFORDSHIRE EAST KILBRIDE	24E 87H	EAST HERTFORDSHIRE	26UD	Hertfordshire	26UD	East Hertfordshire	26UD
EAST LINDSEY	14C	EAST LINDSEY	32UC	East Lindsey	32UC	East Lindsey	32UC
EAST LOTHIAN	86A	EAST LOTHIAN	QM			East Lothian	00QM
EAST MIDLANDS EAST		EAST MIDLANDS EAST		East		East	
NORTHAMPTONSHIR	47E	NORTHAMPTONSHIRE EAST RENFREWSHIRE YORKSHIRE UA	34UD QN FB	Northamptonshire	34UD	Northamptonshire East Renfrewshire Yorkshire	34UD 00QN 00FB
EAST							
STAFFORDSHIRE	59C	EAST STAFFORDSHIRE	41UC	East Staffordshire	41UC	East Staffordshire	41UC
EAST SUSSEX	071	EAST SUSSEX					
EAST WOOD	87J						
	07P			Borough of	270D 27UE		
EASTBOURNE	31C	EASTBOURNE	21UC	Eastbourne	21UC	Eastbourne	21UC
EASTLEIGH	41B	EASTLEIGH	24UD	Eastleigh	24UD	Eastleigh	24UD
EDEN	02J		160F	Eden	160F	Eden	16UF
	86C	EILEAN SIAR	RJ			Eilean Siar	00QP 00RJ
ELLESMERE PORT & NESTON	63G	ELLESMERE PORT AND NESTON	13UE	Ellesmere Port and Neston	13UE	Ellesmere Port & Neston	13UE
ELMBRIDGE	36A	ELMBRIDGE	43UB	Elmbridge	43UB	Elmbridge	43UB
ENFIELD	28L	ENFIELD ENGLAND	AK	Enfield	00AK	Enfield	00AK
EPPING FOREST	27H	EPPING FOREST	22UH	Epping Forest	22UH	Epping Forest	22UH
EPSOM & EWELL	36C	EPSOM AND EWELL	43UC	Epsom and Ewell	43UC	Epsom and Ewell	43UC
EREWASH ESSEX	12J	EREWASH ESSEX	17UG	Erewash	17UG	Erewash	17UG

ETTRICK & LAUDERDALE EXETER FALKIRK FAREHAM FENLAND	80C 52C 81C 41C 18E	E F. FI
FIFE		F
FOREST HEATH FOREST OF DEAN FYLDE GATESHEAD GEDLING GILLINGHAM GLANFORD GLASGOW CITY GLOUCESTER	20C 53E 68E 05A 15G 32E 07G 87K 53G	F F F G G G G G
GLOUCESTERSHIRE	71G	G
GORDON GOSPORT GRAMPIAN	84E 41D	G
GRAVESHAM GREAT BRITAIN	32F	G
GREAT GRIMSBY	07J	0
GREAT YARMOUTH	19E	G
MANCHESTER		(1)
GREENWICH	33C	G
GUILDFORD	36E	G
GWENT		~
	28F	ы
HALTON	63J	н
HAMBLETON	08C	н
HAMILTON	87L	
HAMMERSMITH &		н
FULHAM	25H	F
HAMPSHIRE		н
HARBOROUGH	13G	н
	28P	н
	27J 08E	п
HARROW	25E	н
HART	41F	н
HARTLEPOOL	01A	Н
HASTINGS	31E	н
HAVANT	41F	н
HAVERING	28B	Н
HEREFORD	57C	С
HEREFORD &		
WORCESTER		

EXETER FALKIRK FAREHAM FENLAND	18L QQ 24L 12L
FIFE FLINTSHIRE FOREST HEATH FOREST OF DEAN FYLDE GATESHEAD GEDLING	QR NJ 42L 23L 30L CH 37L
GLASGOW CITY GLOUCESTER GLOUCESTERSHIRE	QS 23L
GOSPORT	24L
GRAVESHAM GREAT BRITAIN	29U
GREAT YARMOUTH	33U
(MET COUNTY) GREENWICH GUILDFORD	AL 43L
GWYNEDD HACKNEY HALTON UA HAMBLETON	NC AM ET 36L
HAMMERSMITH AND FULHAM HAMPSHIRE HARBOROUGH HARINGEY HARLOW HARROGATE HARROW HART HARTLEPOOL UA HASTINGS HAVANT HAVERING COUNTY OF UA	AN 31L AP 22L 36L 24L 24L 24L 24L AR GA

18UC	Exeter	18UC	Exeter	18UC
24UE	Fareham	24UE	Fareham	24UE
12UD	Fenland	12UD	Fenland Fermanagh	12UD 95L
QR			Fife	00QR
NJ 42UC	Forest Heath	42UC	Flintshire Forest Heath	00NJ 42UC
23UD	Forest of Dean	23UD	Forest of Dean	23UD
30UF CH	Fylde Gateshead	30UF 00CH	Fylde Gateshead	300F 00CH
37UE	Gedling	37UE	Gedling	37UE
	Gillingham Glanford	29UF 27UF		
QS	Clamora	2.0.	Glasgow City	00QS
23UE	Gloucester	23UE	Gloucester	23UE
	Glyndwr	56UE		
24UF	Gosport	24UF	Gosport	24UF
29UG	Gravesham	29UG	Gravesham	29UG
	Great Grimsby	27UG		
33UD	Great Yarmouth	33UD	Great Yarmouth	33UD
AL	Greenwich	00AL	Greenwich	00AL
43UD	Guildford	43UD	Guildford	43UD
NC			Gwynedd	00NC
AM	Hackney	00AM	Hackney	00AM
EI 36UC	Halton Hambleton	36UC	Hanton Hambleton	36UC
	11		11	
AN	and Fulham	00AN	Fulham	00AN
31UD	Harborough	31UD	Harborough	31UD
AP	Haringey	00AP	Haringey	00AP
22UJ	Harlow	22UJ	Harlow	22UJ
36UD	Harrogate	36UD	Harrogate	36UD
AQ	Harrow	00AQ	Harrow	24UC
Z40G FR	Hartlenool	240G 14HB	Hartlenool	240G
21UD	Hastings	21UD	Hastings	21UD
24UH	Havant	24UH	Havant	24UH
AR	Havering	00AR	Havering	00AR
GA			County of	00GA
	Hereford	25UC		

HERTFORDSHIRE		HERTFORDSHIRE					
HERTSMERE	24G	HERTSMERE	26UE	Hertsmere	26UE	Hertsmere	26UE
HIGH PEAK	12L	HIGH PEAK	17UH	High Peak	17UH	High Peak	17UH
HIGHI ANDS		HIGHLAND	OT	5	-	Highland	00OT
HILLINGDON	25N	HILLINGDON	AS	Hillingdon	00AS	Hillingdon	00AS
BOSWORTH	130	BOSWORTH	311 IE	Bosworth	311 IE	Bosworth	311 IE
	071	Besweittin	SIGE	Holdornoss	27110	Doswonth	510L
HOLDERINESS	071		45115	Howehem		Llorohom	45115
	375		450F	Horsnam	450F	Horsnam	450F
HOUNSLOW	25K	HOUNSLOW	AI	Hounslow		Hounslow	00A I
HUVE	316			Hove	210E		
HUMBERSIDE							
HUNTINGDONSHIRE	18G	HUNTINGDONSHIRE	120E	Huntingdonsnire	120E	Huntingdonsnire	120E
HYNDBURN	68F	HYNDBURN INNER LONDON	30UG	Hyndburn	30UG	Hyndburn	30UG
INVERCLYDE	87N	INVERCLYDE	QU			Inverclyde	00QU
INVERNESS	85E						
IPSWICH	20E	IPSWICH	42UD	Ipswich	42UD	Ipswich	42UD
		ISLE OF ANGLESEY	NA			Isle of Anglesey	00NA
ISLE OF WIGHT		ISLE OF WIGHT UA	MW			Isle of Wight	00MW
ISLES OF SCILLY	51N	ISLES OF SCILLY	15UH	Scilly, Isles of	15UH	Isles of Scilly	15UH
ISLINGTON	28D	ISLINGTON	AU	Islington	00AU	Islington	00AU
ISLWYN	73C		-	Islwvn	58UC	- J**	
KENNET	43A	KENNET	46UB	Kennet	46UB	Kennet	46UB
	25R	CHELSEA		Chelsea	004W	Chelsea	004W
KENT	2010	KENT	/	onologu	00/111	Choloda	00/111
KERRIER	51E	KERRIER	15UD	Kerrier	15UD	Kerrier	15UD
	47G	KETTERING	34115	Kottoring	34115	Kottoring	34115
KILMARNOCK &	470	RETTERING	340L	Reliening	340L	Rettering	340L
LOUDOUN KINCARDINE &	87P						
DEESIDE	84G						
KINGS LYNN & WEST		KINGS LYNN AND WEST		Kings Lynn and		King's Lynn and	
NORFOL	19N	NORFOLK	33UE	West Norfolk	33UE	West Norfolk	33UE
KINGSTON-UPON-		KINGSTON UPON HULL		Kingston upon		Kingston upon Hull,	
HULL	07N	CITY OF UA	FA	Hull	27UJ	City of	00FA
KINGSTON-UPON-		KINGSTON UPON		Kingston upon		Kingston upon	
THAMES	38C	THAMES	AX	Thames	00AX	Thames	00AX
KINGSWOOD	50E			Kingswood	08UD		
KIRKCALDY	83C			0			
KIRKLEES	09E	KIRKLEES	CZ	Kirklees	00CZ	Kirklees	00CZ
KNOWSLEY	64A	KNOWSLEY	BX	Knowslev	00BX	Knowslev	00BX
KYLE AND CARRICK	87R			,			
IAMBETH	33G	LAMBETH	AY	Lambeth	00AY	Lambeth	00AY
				24.110011	00/11	Lambour	00/11
	68G		30UH	Lancaster	30UH	Lancaster	30UH
	000	EXITORIOTEIX	00011	Landbaurgh-on-	00011	Landaster	00011
TEES	010			Toos	1/110		
	010			1663	1400	Lorno	055
	000			Laada	0004	Lame	905
	09G			Leeus		Leeus	
LEIGESTER	13J		FIN	Leicester	310F	Leicester	UUFIN
LEIGESTERSHIRE		LEIGESTERSHIRE			05115		
LEOMINSTER	5/E		o	Leominster	25UD		o
LEVVES	31J	LEWES	210F	Lewes	21UF	Lewes	21UF
LEWISHAM	33J	LEWISHAM	AZ	Lewisham	00AZ	Lewisham	00AZ
LICHFIELD	59E	LICHFIELD	41UD	Lichfield	41UD	Lichfield	41UD
						Limavady	95B

LINCOLN LINCOLNSHIRE	14E	LINCOLN LINCOLNSHIRE	32UD	Lincoln	32UD	Lincoln	32UD
						Lisburn	95S
LIVERPOOL	64C	LIVERPOOL LONDON	BY	Liverpool	00BY	Liverpool	00BY
LLANELLI	72G			Llanelli	57UE		
LLIW VALLEY	78C			Lliw Valley	63UB		
LOCHABER	85G			,			
LOTHIAN							
LUTON	23C	LUTON UA	KA	Luton	09UB	Luton	00KA
MACCI ESFIELD	631	MACCI ESFIELD	13UG	Macclesfield	13UG	Macclesfield	13UG
						Magherafelt	95H
MAIDSTONE	32G	MAIDSTONE	29UH	Maidstone	29UH	Maidstone	29UH
	27K	MALDON	221 IK	Maldon	221 IK	Maldon	221 IK
	57G		17UC	Malvorn Hills	25UE	Malvern Hills	4700
MANCHESTER	67C	MANCHESTER	BN	Manchester		Manchester	00BN
	151		371 IE	Manefield	371 IF	Manefield	371 IE
	100	MANSITEED	5701	Madina	20110	Manshelu	3701
IVIEDINA	42A			IVIEUITIA	2000	Modwov	001 C
	740	MEDWAT DA	LC	Mairianaudd		Meuway	UULC
	140		24110	Melter	090E	Maltan	24110
		MENDID	40110	Manalia	40110		3100
	54A		400B	wenaip	400B	Menaip	400B
	750		DU	Mantha a Taalfil	00110	Mantha a Taalfi	
	750		PH	Merthyr Tydrii	600C	Merthyr Tydfii	OUPH
MERION	38G	MERION	BA	Merton	00BA	Merton	00BA
MID BEDFORDSHIRE	23E	MID BEDFORDSHIRE	0900	Mid Bedfordshire	0900	Mid Bedfordshire	0900
	52N	MID DEVON	180D	Mid Devon	180D	Mid Devon	180D
MID GLAMORGAN							
MID SUFFOLK	20G	MID SUFFOLK	420E	Mid Suffolk	42UE	Mid Suffolk	420E
MID SUSSEX	37L	MID SUSSEX	45UG	Mid Sussex	45UG	Mid Sussex	45UG
MIDDLESBROUGH	01E	MIDDLESBROUGH UA	EC	Middlesbrough	14UD	Middlesbrough	00EC
MIDLOTHIAN	86E	MIDLOTHIAN	QW			Midlothian	00QW
MILTON KEYNES	46G	MILTON KEYNES UA	MG	Milton Keynes	11UD	Milton Keynes	00MG
MOLE VALLEY	36G	MOLE VALLEY	43UE	Mole Valley	43UE	Mole Valley	43UE
MONKLANDS	87T						
MONMOUTH	73E	MONMOUTHSHIRE	PP			Monmouthshire	00PP
				Monmouth	58UD		
MONTGOMERYSHIRE	76C			Montgomeryshire	61UC		
MORAY	84J	MORAY	QX			Moray	00QX
MOTHERWELL	87W						
						Moyle	95E
NAIRN	85J						
				Neath	63UC		
NEATH	78E	NEATH PORT TALBOT	NZ			Neath Port Talbot	OONZ
NEW FOREST	41G	NEW FOREST	240J	New Forest	24UJ	New Forest	24UJ
NEWARK &		NEWARK AND		Newark and		Newark and	
SHERWOOD	15L	SHERWOOD	37UG	Sherwood	37UG	Sherwood	37UG
NEWBURY	45C			Newbury	10UC		
NEWCASTLE-UPON-		NEWCASTLE UPON		Newcastle upon		Newcastle upon	
IYNE	05B	IYNE	CJ	lyne	00CJ	lyne	00CJ
NEWCASTLE-UNDER-		NEWCASTLE-UNDER-		Newcastle-under-		Newcastle-under-	
LYME	59G	LYME	41UE	Lyme	41UE	Lyme	41UE
NEWHAM	28G	NEWHAM	BB	Newham	00BB	Newham	00BB

NEWPORT	73G	NEWPORT	PR	Newport	58UE	Newport Newry and Mourne Newtownabbey	00PR 95P 95U
NITHSDALE NORFOLK NORTH	82C	NORFOLK					
		NORTH AYRSHIRE	QY			North Ayrshire	00QY
BEDFORDSHIRE	23A		15115	Bedfordshire	09UD	North Corputal	45115
	57G		18UE	North Devon	18UE	North Devon	18UE
NORTH DORSET	40E	NORTH DORSET	19UE	North Dorset	19UE	North Dorset North Down	19UE 95W
		NORTH EAST					
DERBYSHIRE NORTH EAST FIFE	12N 83E	DERBYSHIRE	17UJ	Derbyshire	17UJ	Derbyshire	17UJ
	041		FC	Llortfordobiro		Lincolnshire	00FC
	24J 1/G		200F	North Kesteven	200F	North Kesteven	200F
NORTHREOTEVEN	140	NORTH LANARKSHIRE	QZ	North Resteven	520L	North Lanarkshire	00QZ
		UA	FD			North Lincolnshire	00FD
NORTH NORFOLK	19G	NORTH NORFOLK	33UF	North Norfolk	33UF	North Norfolk	33UF
NORTH SHROPSHIRE	58C	NORTH SHROPSHIRE	39UC	North Shropshire	39UC	North Shropshire	39UC
	050	NORTH SOMERSET UA	HC	North Truesside	0001	North Somerset	00HC
	05C	NORTH WARWICKSHIRE		North Tyneside		North Tyneside	
NORTH WEST	004	NORTH WEST	4400	WarwickShile	4400	North Warwickshille	4400
LEICESTERSHIRE	13N	LEICESTERSHIRE	31UH	Leicestershire	31UH	Leicestershire	31UH
NORTH WILTSHIRE	43C	NORTH WILTSHIRE	46UC	North Wiltshire	46UC	North Wiltshire	46UC
NORTH YORKSHIRE		NORTH YORKSHIRE	o 41 15		o 41 1 E		o 41 15
NORTHAMPTON	47J	NORTHAMPTON	34UF	Northampton	340F	Northampton	34UF
F		NORTHAMPTONSHIRE					
NORTHAVON	50G			Northavon	08UE		
		NORTHERN IRELAND					
NORTHUMBERLAND		NORTHUMBERLAND					
NORWICH	19J	NORWICH	33UG	Norwich	33UG	Norwich	33UG
	15N		FΥ	Nottingham	37UH	Nottingham	00FY
NUNFATON &		NUNFATON AND		Nuneaton and		Nuneaton and	
BEDWORTH	60C	BEDWORTH	44UC	Bedworth	44UC	Bedworth	44UC
OADBY & WIGSTON	13P	OADBY AND WIGSTON	31UJ	Wigston	31UJ	Oadby and Wigston	31UJ
OGWR	75E			Ogwr	60UD		
OLDHAM	67F	OLDHAM	BP	Oldham	00BP	Oldham	00BP
	804		D۸			Omagn Orknov Islands	95K
OSWESTRY	58E	OSWESTRY	39UD	Oswestrv	39UD	Oswestry	39UD
		OUTER LONDON					
OXFORD	48C	OXFORD	38UC	Oxford	38UC	Oxford	38UC
OXFORDSHIRE		OXFORDSHIRE					
	6011		NS	Bondlo	20111	Pembrokeshire	00NS
PENULE	00H 51.I	PENULE	300J 15UF	Penwith	300J 15UF	Penwith	300J
	510		1001		1001		1001

PERTH AND KINROSS	88E	PERTH AND KINROSS	RB			Perth and Kinross	00RB
PETERBOROUGH	18J	PETERBOROUGH UA	JA	Peterborough	12UF	Peterborough	00JA
PLYMOUTH	52G	PLYMOUTH UA	HG	Plymouth	18UF	Plymouth	00HG
POOLE	40G	POOLE UA	HP	Poole	19UF	Poole	00HP
PORT TALBOT	78A			Port Talbot	63UD		
PORTSMOUTH	41J	PORTSMOUTH UA	MR	Portsmouth	24UK	Portsmouth	00MR
POWYS		POWYS	NN			Powys	00NN
PRESELI				Preseli			
PEMBROKESHIRE	72J			Pembrokeshire	57UF		
PRESTON	68J	PRESTON	30UK	Preston	30UK	Preston	30UK
PURBECK	40J	PURBECK	19UG	Purbeck	19UG	Purbeck	19UG
RADNORSHIRE	76E			Radnorshire	61UD		
READING	45E	READING UA	MC	Reading	10UD	Reading	00MC
REDBRIDGE	281	REDBRIDGE	BC	Redbridge	00BC	Redbridge	OOBC
						Redcar and	0055
	F7 1	CLEVELAND UA	EE	D. LINI	05115	Cleveland	OUEE
	57J		470D	Redditch	250F	Redditch	470D
	201		40115	Reigate and	40115	Reigate and	40115
	36J	BANSTEAD	430F	Banstead	430F	Banstead	43UF
	0/A			Destarmal	15110	Renirewsnire	
RESTORIVIEL	SIL	RESTORMEL	150G	Restonner	150G	Resionner Rhonddo, Cynon	150G
	75C		DE	Phondda	60UE	Toff	OODE
	730	RHONDDA CTINON TAIT	FI	Rhuddlan	56115	Tall	UUFI
	751			Rhymney Valley	60UE		
RIBBLE VALLEY	68K	RIBBLE VALLEY	3011	Ribble Valley	3001	Ribble Valley	3011
RICHMOND-UPON-	0011	RICHMOND UPON	0002	Richmond upon	OUDL	Richmond upon	0002
THAMES	38F	THAMES	BD	Thames	00BD	Thames	00BD
RICHMONDSHIRE	08G	RICHMONDSHIRE	36UF	Richmondshire	36UF	Richmondshire	36UF
ROCHDALE	67G	ROCHDALE	BQ	Rochdale	00BQ	Rochdale	00BQ
ROCHESTER-UPON-				Rochester upon			
MEDWAY	32H			Medway	29UJ		
ROCHFORD	27L	ROCHFORD	22UL	Rochford	22UL	Rochford	22UL
ROSS AND							
CROMARTY	85L						
ROSSENDALE	68L	ROSSENDALE	30UM	Rossendale	30UM	Rossendale	30UM
ROTHER	31L	ROTHER	21UG	Rother	21UG	Rother	21UG
ROTHERHAM	16E	ROTHERHAM	CF	Rotherham	00CF	Rotherham	00CF
ROXBURGH	80E						
RUGBY	60E	RUGBY	44UD	Rugby	44UD	Rugby	44UD
RUNNYMEDE	36L	RUNNYMEDE	43UG	Runnymede	43UG	Runnymede	43UG
RUSHCLIFFE	15P	RUSHCLIFFE	37UJ	Rushcliffe	37UJ	Rushcliffe	37UJ
RUSHMOOR	41L	RUSHMOOR	24UL	Rushmoor	24UL	Rushmoor	24UL
RUTLAND	13R	RUTLAND UA	FP	Rutland	31UK	Rutland	00FP
RYEDALE	08J	RYEDALE	36UF	Ryedale	36UF	Ryedale	36UF
SALFORD	67H	SALFORD	BR	Salford	00BR	Salford	00BR
SALISBURY	43E	SALISBURY	46UD	Salisbury	46UD	Salisbury	46UD
SANDWELL	61H	SANDWELL	CS	Sandwell	00CS	Sandwell	00CS
SCARBOROUGH	08L	SCARBOROUGH	36UG	Scarborough	36UG	Scarborough	36UG
SCOTLAND		SCOTLAND					
		SCOTTISH BORDERS	0-				
		IHE	QE	0 1	07111/	Scottish Borders	OUQE
	07R		20110	Scuntnorpe	27UK	Codeofield	20110
	03L		2000	Sedgemeer	2000	Sedgemeet	200G
	54U		4000	Seugemoor	4000	Setton	4000
	04J			Sellon		Sellon	
SELDI	221		20UH	Selby	2011	Selby	2011
SL V LINUARS	JZJ	SEVENUARS	290K	Sevenuars	290K	Sevenuars	290N

SHEFFIELD SHEPWAY	16G 32K	SHEFFIELD SHEPWAY	CG 29UL	Sheffield Shepway	00CG 29UL	Sheffield Shepway	00CG 29UL
SHETLAND ISLANDS SHREWSBURY & ATCHAM SHROPSHIRE	90A 58G	SHETLAND ISLANDS SHREWSBURY AND ATCHAM SHROPSHIRE	RD 39UE	Shrewsbury and Atcham	39UE	Shetland Islands Shrewsbury and Atcham	00RD 39UE
SKYE AND LOCHALSH SLOUGH SOLIHULL SOMERSET	85N 45G 61K	SLOUGH UA SOLIHULL SOMERSET SOLITH AYRSHIRE	MD CT RE	Slough Solihull	10UE 00CT	Slough Solihull South Avrshire	00MD 00CT
SOUTH BEDFORDSHIRE SOUTH	23G	SOUTH BEDFORDSHIRE	09UE	South Bedfordshire	09UE	South Bedfordshire	09UE
BUCKINGHAMSHIRE SOUTH CAMBRIDGESHIRE	46C 18L	SOUTH BUCKS SOUTH CAMBRIDGESHIRE	11UE 12UG	South Bucks South Cambridgeshire	11UE 12UG	South Bucks South Cambridgeshire	11UE 12UG
SOUTH DERBYSHIRE SOUTH EAST	12P	SOUTH DERBYSHIRE SOUTH EAST	17UK	South Derbyshire	17UK	South Derbyshire	17UK
SOUTH GLAMORGAN							
SOUTH HAMS SOUTH	52J	SOUTH GLOUCESTERSHIRE UA SOUTH HAMS	HD 18UG	South Hams South	18UG	South Gloucestershire South Hams	00HD 18UG
HEREFORDSHIRE SOUTH HOLLAND SOUTH KESTEVEN SOUTH LAKELAND	57L 14J 14L 02L	SOUTH HOLLAND SOUTH KESTEVEN SOUTH LAKELAND SOUTH LANARKSHIRE	32UF 32UG 16UG RF	Herefordshire South Holland South Kesteven South Lakeland	25UG 32UF 32UG 16UG	South Holland South Kesteven South Lakeland South Lanarkshire	32UF 32UG 16UG 00RF
SOUTH NORFOLK SOUTH	19L	SOUTH NORFOLK	33UH	South Norfolk	33UH	South Norfolk	33UH
NOR THAMPTONSHIR E	47L	SOUTH NORTHAMPTONSHIRE	34UG	South Northamptonshire	34UG	South Northamptonshire	34UG
OXFORDSHIRE SOUTH	48G	SOUTH OXFORDSHIRE	38UD	South Oxfordshire South	38UD	South Oxfordshire	38UD
PEMBROKESHIRE SOUTH RIBBLE	72L 68N	SOUTH RIBBLE	30UN	Pembrokeshire South Ribble	57UG 30UN	South Ribble	30UN
SOUTH SHROPSHIRE SOUTH SOMERSET	58J 54J	SOUTH SHROPSHIRE SOUTH SOMERSET	39UF 40UD	South Shropshire South Somerset	39UF 40UD	South Shropshire South Somerset	39UF 40UD
STAFFORDSHIRE SOUTH TYNESIDE SOUTH WEST	59J 05G	SOUTH STAFFORDSHIRE SOUTH TYNESIDE SOUTH WEST	41UF CL	Staffordshire South Tyneside	41UF 00CL	South Staffordshire South Tyneside	41UF 00CL
SOUTH WIGHT	42C	SOUTH YORKSHIRE		South Wight	28UC		
SOUTHAMPTON	41N	SOUTHAMPTON UA	MS	Southampton	24UM	Southampton	00MS
SOUTHEND-ON-SEA	27N	SOUTHEND-ON-SEA UA	KF	Southend-on-Sea	22UM	Southend-on-Sea	00KF

SOUTHWARK SPELTHORNE ST ALBANS	33L 36N 24L	SOUTHWARK SPELTHORNE ST. ALBANS	BE 43UH 26UG	Southwark Spelthorne St Albans	00BE 43UH 26UG	Southwark Spelthorne St Albans	00BE 43UH 26UG
ST EDMUNDSBURY ST HELENS STAFFORD STAFFORDSHIRE	20J 64G 59L	ST. EDMUNDSBURY ST. HELENS STAFFORD STAFFORDSHIRE	42UF BZ 41UG	St. Edmundsbury St. Helens Stafford	42UF 00BZ 41UG	St Edmundsbury St. Helens Stafford	42UF 00BZ 41UG
STAFFORDSHIRE		STAFFORDSHIRE		Staffordshire		Staffordshire	
MOORLANDS	59N	MOORLANDS	41UH	Moorlands	41UH	Moorlands	41UH
STEVENAGE	24N	STEVENAGE	26UH	Stevenage	26UH	Stevenage	26UH
	82E		PC			Stirling	
STOCKPORT	67K	STOCKPORT	RS	Stocknort	00BS	Stockport	00RG
	0/10		bo	Otoexport	0000	Otockport	0000
STOCKTON-ON-TEES STOKE-ON-TRENT	01G 59P	STOCKTON-ON-TEES UA STOKE-ON-TRENT UA	EF GL	Stockton-on-Tees Stoke-on-Trent	14UE 41UJ	Stockton-on-Tees Stoke-on-Trent Strabane	00EF 00GL 95J
STRATFORD-ON-							
AVON STRATHCLYDE	60G	STRATFORD-ON-AVON	44UE	Stratford-on-Avon	44UE	Stratford-on-Avon	44UE
STRATHKELVIN	0/1 53	STROUD	231 IF	Stroud	231 IF	Stroud	231 IF
SUFFOLK	000	SUFFOLK	2001	Olloud	2001	Stroud	2001
SUFFOLK COASTAL	20L	SUFFOLK COASTAL	42UG	Suffolk Coastal	42UG	Suffolk Coastal	42UG
SUNDERLAND SURREY	05J	SUNDERLAND SURREY	СМ	Sunderland	00CM	Sunderland	00CM
SURREY HEATH	36P	SURREY HEATH	43UJ	Surrey Heath	43UJ	Surrey Heath	43UJ
SUTHERLAND	85P						
SUTTON	38J	SUTTON	BF	Sutton	00BF	Sutton	00BF
SWALE	32L	SWALE	29UM	Swale	29UM	Swale	29UM
SWANSEA	78G	SWANSEA	NX	Swansea	630E	Swansea	00NX
	751	SWINDON UA	пл	Toff-Elv	6011G	Swindon	
	67P	TAMESIDE	BT	Tameside	000G	Tameside	OOBT
TAMWORTH	59R	TAMWORTH	41UK	Tamworth	41UK	Tamworth	41UK
TANDRIDGE	36R	TANDRIDGE	43UK	Tandridge	43UK	Tandridge	43UK
TAUNTON DEANE	54E	TAUNTON DEANE	40UE	Taunton Deane	40UE	Taunton Deane	40UE
TAYSIDE							
TEESDALE	03N	TEESDALE	20UH	Teesdale	20UH	Teesdale	20UH
TEIGNBRIDGE	52L	TEIGNBRIDGE TELFORD AND WREKIN	18UH	Teignbridge	18UH	Teignbridge	18UH
THE WREKIN	58L	UA	GF	The Wrekin	39UG	Telford and Wrekin	00GF
TENDRING	27R	TENDRING	22UN	Tendring	22UN	Tendring	22UN
TEST VALLEY	41R	TEST VALLEY	24UN	Test Valley	24UN	Test Valley	24UN
TEWKESBURY	53L	TEWKESBURY	230G	lewkesbury	230G	Tewkesbury	230G
	43G 22N	THANET	201101	Thamesdown	46UE	Thonot	201101
	JZIN	THANET	2901	manet	2901	Indiet	2901
DALES	12R						
		THE VALE OF				The Vale of	
		GLAMORGAN	PD			Glamorgan	00PD
THREE RIVERS	24P	THREE RIVERS	26UJ	Three Rivers	26UJ	Three Rivers	26UJ
THURROCK	27T	THURROCK UA	KG	Thurrock	22UP	Thurrock	00KG

TONBRIDGE &		TONBRIDGE AND		Tonbridge and		Tonbridge and	
MALLING	32P	MALLING	29UP	Malling	29UP	Malling	29UP
TORBAY	52P	TORBAY UA	HH	Torbay	18UJ	Torbay	00HH
TORFAEN	73J	TORFAEN	PM	Torfaen	58UF	Torfaen	00PM
TORRIDGE	52R	TORRIDGE	18UK	Torridae	18UK	Torridae	18UK
TOWER HAMLETS	28.1	TOWER HAMI ETS	BG	Tower Hamlets	00BG	Tower Hamlets	00BG
TRAFFORD	67R	TRAFFORD	BU	Trafford	00BU	Trafford	00BU
TUNBRIDGE WELLS	32R	TUNBRIDGE WELLS	29UQ	Tunbridge Wells	29UQ	Tunbridge Wells	29UQ
TWEEDALE	80G						
		TYNE AND WEAR (MET					
IYNE AND WEAR		COUNTY)					
IYNEDALE	04E	IYNEDALE	35UF	l ynedale	35UF	lynedale	35UF
UTTLESFORD	27Y	UTTLESFORD	22UQ	Uttlesford	22UQ	Uttlesford	22UQ
VALE OF				Vale of			
GLAMORGAN	77C			Glamorgan	62UC		
VALE OF WHITE				Vale of White			
HORSE	48E	VALE OF WHITE HORSE	38UE	Horse	38UE	Vale of White Horse	38UE
VALE ROYAL	63N	VALE ROYAL	13UH	Vale Royal	13UH	Vale Royal	13UH
WAKEFIELD	09J	WAKEFIELD	DB	Wakefield	00DB	Wakefield	00DB
WALES		WALES					
WALSALL	61N	WALSALL	CU	Walsall	00CU	Walsall	00CU
WALTHAM FOREST	28Y	WALTHAM FOREST	BH	Waltham Forest	00BH	Waltham Forest	00BH
WANDSWORTH	38L	WANDSWORTH	BJ	Wandsworth	00BJ	Wandsworth	00BJ
WANSBECK	04F	WANSBECK	35UG	Wansbeck	35UG	Wansbeck	35UG
WANSDYKE	50J			Wansdvke	08UF		
WARRINGTON	63P	WARRINGTON UA	EU	Warrington	13UJ	Warrington	00EU
WARWICK	60J	WARWICK	44UF	Warwick	44UF	Warwick	44UF
WARWICKSHIRE		WARWICKSHIRE					
WATFORD	24R	WATFORD	26UK	Watford	26UK	Watford	26UK
WAVENEY	20N	WAVENEY	42UH	Wavenev	42UH	Waveney	42UH
WAVERLEY	36T	WAVERIEY	4311	Waverley	4301	Waverley	4301
	31N		2111H	Wealden	-100L 21∐H	Wealden	21111
	030		20011	Weatuen	20111	Wear Vallov	2001
	47N		2005	Wellinghorough	2003	Wellinghorough	2005
	4/IN 2/T		2600	Wellingbolough	2611	Wellingborougn	2611
WELWIN HATFIELD	241		200L	weiwyn natheiu	200L	West Derkshire	
	FOT	WEST BERKSHIRE UA			40111	West Derksnille	
WEST DEVON	521	WEST DEVON	180L	West Devon	180L	West Devon	180L
WEST DORSET	40L	WEST DORSET	190H	West Dorset	190H	West Dorset	190H
			00			West	0000
WEST GLAMORGAN		DUNBARTONSHIRE	QG			Duribartoristille	00000
WEST GLAWONGAN							
WEST LANCASHIRE	68P	WESTLANCASHIRE	30UP	West Lancashire	30UP	West Lancashire	30UP
WESTLINDSEY	14N	WESTLINDSEY	321 IH	West Lindsev	321 IH	West Lindsev	3211H
WESTLOTHIAN	860	WESTLOTHIAN	RH	West Endsey	02011	West Lothian	00RH
	000	WEST MIDLANDS				West Lothan	00111
WEST WIDEANDS							
WEST MIDLANDS							
		000111)					
WEST OXFORDSHIRE	48.1	WEST OXFORDSHIRE	38UE	West Oxfordshire	38UF	West Oxfordshire	38UE
WEST SOMERSET	54G	WEST SOMERSET	40UF	West Somerset	40UF	West Somerset	40UF
WEST SUSSEX	010	WEST SUSSEX	1001		1001		1001
WEST WILTSHIRE	431	WEST WILTSHIRE	46UF	West Wiltshire	46UF	West Wiltshire	461 IF
WEST WETSTIKE	400		4001	West Willshire	4001	West Willshile	4001
	014						
WEDI LINN IOLEO	JIA	WESTMINSTED	BK	Westminstor	OORK	Westminstor	OUBK
			DI	Wovmouth and	JUDK	Wovmouth and	UUDI
	40N		10111	Portland	10111	Portland	10111
	-+01N 67T		190J	Wigon	1900	Wigon	1901
WIGTON	92C	WIGAN	DVV	vvigari	00000	vvigan	UUDVV
	020						
WILLOHIKE		WILLOHIKE					

WINCHESTER WINDSOR AND	41T	WINCHESTER WINDSOR AND	24UP	Winchester Windsor and	24UP	Winchester Windsor and	24UP
MAIDENHEAD	45J	MAIDENHEAD UA	ME	Maidenhead	10UF	Maidenhead	00ME
WIRRAL	64L	WIRRAL	СВ	Wirral	00CB	Wirral	00CB
WOKING	36Y	WOKING	43UM	Woking	43UM	Woking	43UM
WOKINGHAM	45L	WOKINGHAM UA	MF	Wokingham	10UG	Wokingham	00MF
WOLVERHAMPTON	61R	WOLVERHAMPTON	CW	Wolverhampton	00CW	Wolverhampton	00CW
WOODSPRING	50L			Woodspring	08UG		
WORCESTER	57N	WORCESTER WORCESTERSHIRE	47UE	Worcester	25UH	Worcester	47UE
WORTHING	37N	WORTHING	45UH	Worthing	45UH	Worthing	45UH
WREXHAM MAELOR	71L	WREXHAM	NL	Wrexham Maelor	56UG	Wrexham	00NL
WYCHAVON	57P	WYCHAVON	47UF	Wychavon	25UJ	Wychavon	47UF
WYCOMBE	46J	WYCOMBE	11UF	Wycombe	11UF	Wycombe	11UF
WYRE	68R	WYRE	30UQ	Wyre	30UQ	Wyre	30UQ
WYRE FOREST	57R	WYRE FOREST	47UG	Wyre Forest Ynys Mon-Isle of	25UK	Wyre Forest	47UG
ANGLE	74.1			Anglesev	59UF		
YORK YORKSHIRE AND HUMBERSIDE	08P	YORK UA YORKSHIRE AND THE HUMBER	FF	York	36UJ	York	00FF