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Spatial Concentration in Institutional Investment in the UK: Some comparisons between the Retail and Office Sectors

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Abstract

Geographic diversity is a fundamental tenet in portfolio management. Yet there is evidence from the US that institutional investors prefer to concentrate their real estate investments in favoured and specific areas as primary locations for the properties that occupy their portfolios. The little work done in the UK draws similar conclusions, but has so far focused only on the office sector; no work has examined this issue for the retail sector. This paper therefore examines the extent of real estate investment concentration in institutional Retail portfolios in the UK at two points in time; 1998 and 2003, and presents some comparisons with equivalent concentrations in the office sector. The findings indicate that retail investment correlates more closely with the UK urban hierarchy than that for offices when measured against employment, and is focused on urban areas with high populations and large population densities which have larger numbers of retail units in which to invest.

Keywords: *Retail, Institutional Investment, Spatial Concentration*.

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Spatial Concentration in Institutional Investment in the UK: Some comparisons between the Retail and Office Sectors

1. Introduction

In a recent paper Byrne and Lee (2006) examined the geographical concentration of institutional office investment in England and Wales and concluded that *"commercial Office portfolios are concentrated in very few urban areas …. which display a limited set of economic characteristics; a large number of big offices spaces, and a heavy concentration of FIRE employment. In other words, institutional investment is concentrated in the biggest (most liquid) financial office market areas".* This largely confirmed previous studies in the UK which showed that office investment displays a significant geographical component (see Cullen, 1993; Hoesli *et al*., 1997; Key *et al*., 1998; Hamelink *et al*., 2000 and Andrew *et al*., 2005). The UK office sector results are also supported by findings in the US (see Shilton and Stanley, 1995; Shilton *et al*., 1996; Malpezzi and Shilling, 2000; Byrne *et al*., 2002; Smith *et al*., 2004 and Frost *et al*., 2005).

Previous emphasis has been largely directed towards the office sector, and there has been little work focusing on the retail sector. Such work as there has been shows that retail markets in the UK show little or no geographical component, whereas office markets clearly do. (Cullen, 1993; Hoesli *et al*., 1997 and Hamelink *et al*., 2000). Only one study to date has compared market classifications of the retail and office sectors. Jackson and White (2005), using clustering methods, find that a classification of markets based on the UK Government's Standard Regions or those used by IPD, do not conform to retail clusters developed from local market rental data. In contrast, office market clusters closely follow the IPD three super-region classification of the UK office market (i.e. London, Rest of the South East and the Rest of the UK).

This suggests that institutional investors' retail holdings are likely to be spread more evenly than their office holdings across England and Wales and are expected to be in both the largest and smallest urban areas. This paper examines this proposition at two dates; 1998 and 2003, using two real estate data sources; floor space and rateable value statistics at the Unitary Authority and District level (ODPM, 2005) and the institutional real estate investment data from the Investment Property Databank (IPD) *"UK Local Markets 2004"* (IPD, 2004a). Using these two data sets this paper is able to report complete coverage for both taxation data and the IPD universe of retail investment for all LAs at both of these dates. The IPD data represents approximately 40 % of institutional investment in UK real estate.

The remainder of the paper is organised as follows. The principal datasets used are discussed in the next section. Sections 3 and 4 present the results and the last section concludes the paper and suggests future areas of research.

2. Data

In order to examine the spatial concentration of institutional retail investment in the England and Wales two datasets are used at two dates, 1998 and 2003. The analysis is confined to England and Wales because of data considerations relating to the availability of comparable data for the rest of the UK.

The first dataset relates to floor space and rateable value statistics for the so called 'bulk classes' of commercial property at Unitary Authority and District (local authority

area, LA) level (ODPM, 2005)[1]. Rateable values are the basis for the national commercial real estate tax in England and Wales - the 'Business Rate'. This tax is based on an assessment of 'rateable value' (RV), which in turn is derived from a hypothetical rental valuation of a unit of real estate known as an 'hereditament'. At the time of valuation the RV is often close to the open market rental value. The valuation assessment is carried out at regular intervals of five years. The latest relates to values in 2003, and came into legal force in 2005, but were unavailable in a form suitable for this study. The data used in this paper are from the previous re-assessment carried out in 1998, which actually came into force for the determination of the Business Rate in 2000. Although the rental valuation is carried out as at the base year, the aggregate statistics are updated annually and change as new hereditaments enter the database, and some drop out. The data are broken down by sector; the data used here are for the retail sector only. There are several significant features of these data. First, they are, with some qualifications, a strong proxy for rental value, at least at points in time, and from the rental value the overall capital value may be estimated. Secondly, the RV of any hereditament in England and Wales is a rare public real estate statistic, which can be obtained online or from the relevant local authority. Finally, and perhaps in the context of this paper most important, the data are defined spatially, providing complete coverage for LAs in England and Wales. The hereditament as a spatial unit is difficult to define, but it is essentially a legal entity consisting of one taxable occupancy. This means that in some cases a building with several tenants may have multiple hereditaments. Given this complication, these data are used here mainly to set a context for comparing the scale of institutional activity in particular LAs, since they do present good measures of the totality of relevant retail space in a LA, even if an element of multiple counting may be present.

In 2003 there were 562712 retail hereditaments in England and Wales with a total floor space of 109.7m square metres; a total RV of £10.66bn and an estimated capital value of about £200bn (Key and Law, 2005). Many of the 'properties' in this aggregation will be very small and serving local retail demand, but any property of interest to an institutional investor is also there.

The more specific institutional real estate investment data for this study come from the IPD analysis "*UK Local Markets 2004*" (IPD, 2004, with modifications). This provides a detailed view of the performance, in the previous year, of institutional real estate investment, by sector, in a number of localities across the UK.

The results are published annually for all LAs with four or more properties in institutional ownership. Thus in 2003, for all Retail in England and Wales, there were data for 202 LAs, from a total of 376 (53.7%). For the purposes of this study, IPD made data available showing (but with much less detail) other LAs where the number of properties held was greater than zero, but less than the four required normally for disclosure. In 2003 there were 107 of these, making a total of 309 (82.2%) with *some* institutional ownership. In the IPD universe in 2003 there were 4054 retail properties in England and Wales with a total floor space of about 17.9m square metres (16% of the total retail space) and an estimated capital value of approximately £54bn. Thus, although this institutional ownership was less than 1% of the total number of taxable units, that ownership was worth about 27% of the estimated capital value of the sector.

The comparator year is 1998, chosen because this is the year to which the rateable value data relates directly. There are considerable differences between the *Local Markets* in the two years. In 1998 there were 6719 retail units with a total floor space of about 15.7m square metres and an estimated capital value of approximately £40bn. Hence, the number of retail properties in the IPD database fell between 1998

and 2003 by 40%, but the overall amount of space increased by 14.5%, and the capital value rose by 33.6%. The average size of each holding also increased from 2337 sq. metres in 1998 to 4415 sq. metres in 2003. By way of comparison, the number of offices in the IPD database also fell, but by only 23% between 1998 and 2003, and the overall amount of space increased by 7.5%, with capital value rising by 12.4%.

As the figures for these two years suggest, this was a period when substantial 'adjustments' were taking place in the shape (and scale) of institutional real estate investment. The changes in the retail sector across the study period can be seen at an aggregate level in Table 1 which uses the categorisation of retail property employed by IPD to segment the sector. The data in this table are subdivided geographically using the IPD 'super-regional' groupings, which divide the UK into rather few areas, dependent upon the sector being considered. The segments used are also the IPD standard set.

Table 1: IPD Universe: Retail
Net Investment as % of Capital Value by Sector/Segment: 1998 – 2003

	1998	1999	2000	2001	2002	2003
Standard Shops	**6.49**	**-1.18**	**1.29**	**-5.42**	**-1.73**	**-5.48**
Central London	13.23	0.60	2.74	-2.91	-1.13	-3.63
Rest of London	3.66	-5.02	-2.29	-6.17	-0.14	-1.52
Southern England	2.41	-0.06	-0.63	-7.14	-3.14	-7.47
Rest of UK	7.04	-2.05	2.47	-5.66	-1.57	-6.27
Shopping Centres	**9.53**	**6.10**	**4.25**	**-0.16**	**0.72**	**1.90**
London	-0.22	6.03	6.39	2.70	9.64	1.36
Southern England	7.27	12.20	3.77	-2.66	-1.69	4.92
Rest of UK	14.48	1.52	3.98	1.03	-0.27	-0.54
Retail Warehouses	**9.99**	**11.59**	**10.32**	**6.37**	**6.81**	**7.15**
London	5.09	15.99	20.79	12.38	5.25	16.10
Southern England	7.86	9.88	6.73	9.62	5.45	6.38
Rest of UK	12.85	11.78	10.28	2.83	8.18	5.11
Dept / Variety Stores	**0.51**	**3.58**	**-0.70**	**-32.54**	**-10.34**	**-5.85**
Supermarkets	**2.38**	**-2.42**	**-2.39**	**-6.69**	**-18.65**	**-9.05**
Other Retail	**9.51**	**6.47**	**-1.92**	**-12.25**	**-15.90**	**-5.60**
Total	**8.13**	**4.63**	**4.42**	**-1.40**	**1.11**	**1.14**

Source: IPD (2004b)

Examining these groupings, it is possible to see something of the pattern of main structural changes that were taking place in institutional retail investment between the two dates. Generally this remained one of continuing investment in the sector as a whole, but with marked variations. Standard shops, department stores, supermarkets and minor retailing saw net disinvestment after 2000, and in 2001 this was massively so for Standard shops and department stores. 2001 was the only year to show net disinvestment in the retail sector overall. Indeed this is the only year to show this feature since the start of the IPD record. For all sectors 2001 was a poor year for investment; a year that was characterised by fund managers seeking principally to sell against a perceived need to rebalance their portfolios (IPD, 2002). The only segment with positive net investment in all years was Retail Warehousing, reflecting the changing emphasis in the UK at that time towards out of town retail parks. While Table 1 uses aggregated data, the rest of this study uses data compiled at the LA level.

3. The Pattern of Institutional Retail Investment in England and Wales

In order to discover whether institutional investors concentrate their real estate portfolios in a relatively small number of (urban) areas (which is clearly the case in the office sector) the number of retail properties in the IPD database in each of 376 LAs in England and Wales in 1998 and 2003 was established. The results are presented in Figures 1, 2 and 3 and Tables 2 and 3.

Figures 1 and 2 show the spatial distribution of retail numbers across England and Wales in 1998 and 2003 respectively and both Figures show a considerable degree of coverage! The nature of this spread is discussed below. Figure 3 shows the spatial difference between Figures 1 and 2, demonstrating those areas where institutions changed the numbers of investments held between the two years. This map should be viewed alongside Tables 2 and 3.

Table 2: Retail Concentration in England and Wales: 1998 and 2003

Num. of Retail Holdings	England		Wales		E&W	
	1998	2003	1998	2003	1998	2003
0	31	62	0	5	31	67
1-3	55	101	7	6	62	107
4-9	78	72	5	7	83	79
10-19	68	55	6	2	74	57
20-39	82	45	2	1	84	46
40-59	24	10	1	1	25	11
60-79	12	8	1	0	13	8
80-99	3	0	0	0	3	0
100-199	0	0	0	0	0	0
200-399	1	1	0	0	1	1
>400	0	0	0	0	0	0
Total	354	354	22	22	376	376

Note: For comparability Table 2 uses the same categorisations as in Byrne and Lee (2006)

Table 2 shows a number of features of interest. Of the 376 LAs in England and Wales, the IPD data show that in 1998 only 31 (8%) had no institutional retail investment, while 62 (17.5%) had three or fewer retail holdings and 176 (47%) had less than 10 retail holdings. In Wales, there were no LAs without retail investment but seven (32%) had three or less, while two LAs had more than 40 properties. England had one LA (Westminster, which includes Oxford Street) with more than 200 retail holdings in 1998; and there were 232 (66%) with less than 10 properties, but only 31 (9%) of 354 authorities show no institutional retail investment.

Table 2 also shows that in the intervening period institutional retail investment became somewhat more concentrated. By 2003, 67 (18%) of the LAs in England and Wales had no institutional retail investment, a result reflected across both countries. England had 62 (18%) authorities with no institutional retail investment. The comparable figures for Wales show that there were five LAs (23%) with no institutional investment by 2003. The number of English LAs with three or fewer retail holdings had almost doubled by 2003 (163 compared with 86 in 1998), while the number with 4-9 properties remained essentially the same. Wales shows a similar movement. Thus, in the five years to 2003 institutional investors dramatically reduced their retail holdings in most LAs.

The comparable figures for institutional *office* investment present a completely different picture. Of the 376 LAs in England and Wales, 168 (45%) had no

institutional office investment in 1998, and 260 (68%) had three or less office holdings and 334 (89%) had less than 20 offices. By 2003, 209 (56%) of the LAs in England and Wales had no institutional office investment. The number of LAs with three or fewer office holdings fell by 2003, while the number with 4-9 properties had increased. In other words, institutional investors engaged in a major rationalisation of their office investments, eliminating many of those locations where they had small amounts of investment previously, and increased their investment by focusing on certain other areas (Byrne and Lee, 2006).

The changes in retail allocation between 1998 and 2003 in Table 3 show that there was a wide ranging reduction of holdings in 86% of LAs, with 36 seeing a reduction to zero. Only eight LAs show an increase and just three saw an allocation for the first time. This is seen clearly in Figure 3.

Table 3: Changes in Retail Allocation: 1998 to 2003

Changes: 1998 to 2003	England	Wales	E & W
Unchanged:	**44**	**1**	**45**
of which no holding on either date	**28**	**0**	**28**
Reduced holding:	**302**	**21**	**323**
of which holding reduced to zero	**31**	**5**	**36**
Increased holding:	**8**	**0**	**8**
of which new allocation	**3**	**0**	**3**

Table 4 shows the concentration of institutional retail investment in the top 30 LAs in 1998 and 2003; as measured by the number of properties (No.), capital value (CV) and floor space (FS).

Table 4: Concentration in Top 30 Local Authorities: 1998 and 2003

	1998			2003		
	No.	CV	FS	No.	CV	FS
Top 5	**11%**	**17%**	**12%**	**13%**	**17%**	**17%**
Top 10	**16%**	**26%**	**20%**	**21%**	**27%**	**25%**
Top 15	**21%**	**33%**	**26%**	**27%**	**35%**	**31%**
Top 20	**25%**	**39%**	**30%**	**32%**	**41%**	**36%**
Top 25	**29%**	**43%**	**34%**	**37%**	**46%**	**41%**
Top 30	**33%**	**48%**	**39%**	**41%**	**51%**	**45%**

Table 4, like Table 2 and Figure 1, shows that in 1998 institutional investment was quite evenly spread across LAs of England and Wales, with the top five markets accounting for only 11% and 12% of the institutional retail investment, as measured by number of properties or floor space, but 17% by value. The top 10 markets accounted for less than 20% by the number of properties and floor space, but more than quarter of the value, while the top 30 LAs accounted for about one-third of the investment, by number and floor space, and just under half by value. The figures for 2003 show very little change from those for 1998, if spatial spread is measured by the number of properties or floor space. This again supports the observation from Table 2 that the *spread* of institutional retail investment is really quite similar in both periods, but the scale changes. It suggests that institutions invest in fewer retail buildings in each LA and that these tend to become larger, higher value and quality investments.

In contrast, institutional *office* investment was considerably more concentrated. In 1998 the top five markets accounting for just over 40% of institutional sector investment, as measured by number of properties or floor space, but 58% by value. The top 10 markets accounted for about half the number of properties and

floor space, but more than two-thirds of the value, while the top 30 LAs accounted for three-quarters of the investment, by number and floor space, and 84% by value. The figures for 2003 show a very similar picture.

While Tables 2 to 4 show that investors focus on a limited number of LAs when investing in retail and that this focus has become slightly more concentrated over time, they do not show the extent to which their investment is an over- or under-representation of retail investment in a particular local authority relative to spatial spread across England and Wales. In order to do this, Location Quotients (LQs) are calculated using the following (generalised) formula (see, Isard, *et al.*, 1960):

$$LQ = \frac{\textit{Spatial}\ \text{Measure of Interest}}{\textit{Alternative Measure}\ \text{of Spatial Spread}}$$

An LQ of 1.0 would imply that the number of retail holdings in the local authority was proportional to the alternative measure of spatial dispersion; thus an LQ greater than 1.0 suggests over-representation and an LQ less than 1.0 suggests under-representation relative to the population in a given local authority.

Several different LQs are calculated for each of the 375^2 LAs in England and Wales for which data were available: the number of retail properties; the market value; floor-space. The first three approaches use data in the numerator and denominator that are as close as possible to each other in each case. So for example, when the number of institutional retail property holdings from IPD is used in the numerator the number of hereditaments is the denominator. The second LQ uses the IPD market values of the retail properties in the numerator and rateable value (as a proxy for capital value) in the denominator. The third LQ uses institutional (IPD estimated) floor-space and Local Authority floor-space. These three sets of LQ estimates therefore provide a more detailed view of the results presented in Tables 2 to 4. The results of each LQ calculation for the 1998 and 2003 data are given in Table 5.

Table 5: Retail LQs in England and Wales: 1998 and 2003

Panel A Including zeros	Average	SD	Skew	T-stat.	Count
1998					
No. of properties	**1.01**	**0.99**	**1.65**	**0.15**	**375**
Capital value	**0.86**	**1.42**	**5.14**	**-1.95**	**375**
Floor space	**0.91**	**1.32**	**6.05**	**-1.28**	**375**
2003					
No. of properties	**0.91**	**1.13**	**2.11**	**-1.58**	**375**
Capital value	**0.97**	**3.34**	**14.07**	**-0.20**	**375**
Floor space	**0.93**	**2.76**	**14.94**	**-0.47**	**375**
Panel B Excluding zeros	**Average**	**SD**	**Skew**	**T-stat.**	**Count**
1998					
No. of properties	**1.10**	**0.98**	**1.66**	**1.80**	**345**
Capital value	**0.93**	**1.45**	**5.04**	**-0.87**	**345**
Floor space	**1.00**	**1.35**	**6.04**	**-0.03**	**343**
2003					
No. of properties	**1.10**	**1.15**	**1.99**	**1.59**	**308**
Capital value	**1.18**	**3.66**	**12.95**	**0.85**	**308**
Floor space	**1.15**	**3.02**	**13.83**	**0.85**	**305**

Note: Floor space data is not available from IPD for all LAs

Table 5 presents summary statistics for the LQ calculations in 1998 and 2003. As shown in Table 2, there are a number of LAs that have no institutional retail investment. Therefore Table 5 presents two sets of statistics for each variable. The

first set is based on all observations including markets which have zero investment (Panel A). A second set of complementary statistics (Panel B) are presented for the subset of LAs which have non-zero institutional retail real estate investment.

Panel A of Table 5 shows that all the LQ measures are close to one and are insignificantly less than one, except for the capital value LQ. This indicates that institutional investors were fully diversified in 1998. Nonetheless, all the LQs show significant positive skewness. This points to some very large LQ values in some LAs, and this indicates that a restricted number of LAs are the preferred locations for institutional investment.

The results in Panel B of Table 5, which exclude those LAs with no institutional allocation, generally have higher average LQs compared with Panel A, and suggest that institutional real estate portfolios are still diversified, except by the number of properties held. In addition, the positive skewness statistics indicate that even within the LAs which are favoured by institutions there are some markets that are more preferred to others. In other words, institutions are fussy about the type of retail units that they purchase in each LA. The Spearman rank correlation between the various LQ statistics is high (in excess of 0.8) and suggests that, with a few exceptions, the different data sets provide similar measures of institutional retail concentration across the UK.

To make these LQ calculations comparable with those in the previous study by Byrne and Lee (2006) and previous studies in the US, the LQs are recalculated using employment and population as the denominator. The employment data for this analysis are taken from the UK Office of National Statistics (ONS) *Nomis Labour Market Profile* database. The data used are Annual Business Inquiry Employee Analysis numbers of employee (available) jobs in each employment category. They do not therefore relate directly to the employed population living in an LA, but are a measure of net employment for each of these kinds of activity in each LA (see Table 8). The population figures come from the ONS's *Neighbourhood Statistics: Topics* database. [http://neighbourhood.statistics.gov.uk/dissemination/]. The results are presented in Tables 6 and 7.

Table 6 gives the summary statistics for the LQ calculations in 1998 and 2003, using employment in the denominator. The equivalent figures for population are presented in Table 7. For reasons already discussed, both tables present two sets of statistics for each variable, one based on all observations including markets which have zero investment (Panel A) and a second set for the subset of LAs that have non-zero institutional investment (Panel B).

Table 6: Retail LQs in England and Wales: 1998 and 2003: Employment

Panel A Including zeros	Average	SD	Skew	T-stat.	Count
1998					
No. of properties	**0.94**	**0.83**	**1.41**	**-1.38**	**375**
Capital value	**0.76**	**1.02**	**3.74**	**-4.58**	**375**
Floor space	**0.84**	**0.90**	**2.12**	**-3.49**	**375**
2003					
No. of properties	**0.80**	**0.86**	**1.73**	**-4.44**	**375**
Capital value	**0.74**	**1.17**	**4.14**	**-4.33**	**375**
Floor space	**0.78**	**1.07**	**4.81**	**-3.95**	**375**
Panel B Excluding zeros	**Average**	**SD**	**Skew**	**T-stat.**	**Count**
1998					
No. of properties	**1.02**	**0.82**	**1.45**	**0.52**	**345**
Capital value	**0.83**	**1.04**	**3.71**	**-3.13**	**345**
Floor space	**0.92**	**0.90**	**2.11**	**-1.72**	**343**
2003					
No. of properties	**0.98**	**0.86**	**1.70**	**-0.50**	**308**
Capital value	**0.90**	**1.23**	**3.95**	**-1.44**	**308**
Floor space	**0.96**	**1.11**	**4.87**	**-0.62**	**305**

Panel A of Table 6 shows a different picture to that in Table 5. Using employment as the divisor shows that in 1998 and 2003 institutional retail investment is significantly under-diversified and that UK investors focus on a small number of preferred markets. In contrast, when zeros are excluded the results are not under-diversified. Nonetheless, the skewness statistics still suggest that institutions concentrate on some preferred LAs. In addition, the average employment LQs in Table 6 are generally smaller than their equivalent values in Table 5. This implies that institutional retail investment is spread less evenly across England and Wales in terms of employment than the retail hereditament data seem to suggest.

Panels A and B of Table 7 show that using population as the divisor presents a different picture to that in Table 6 and more like that in Table 5, i.e. in 1998 and 2003 all LQs are insignificantly different from one except for the floor-space when zeros are included. The positive skewness statistics still imply that institutions focus on some preferred LAs. Thus, institutional retail investment is evenly spread across England and Wales in terms of population.

Table 7: Retail LQs in England and Wales: 1998 and 2003 Population

Panel A Including zeros	Average	SD	Skew	T-stat.	Count
1998					
No. of properties	**1.04**	**1.93**	**10.67**	**0.40**	**375**
Capital value	**0.88**	**1.72**	**7.31**	**-1.35**	**375**
Floor space	**0.88**	**1.09**	**2.58**	**-2.16**	**375**
2003					
No. of properties	**0.96**	**2.14**	**10.19**	**-0.39**	**375**
Capital value	**0.87**	**1.79**	**5.71**	**-1.46**	**375**
Floor space	**0.85**	**1.37**	**5.15**	**-2.19**	**375**
Panel B Excluding zeros	**Average**	**SD**	**Skew**	**T-stat.**	**Count**
1998					
No. of properties	**1.13**	**1.99**	**10.51**	**1.23**	**344**
Capital value	**0.96**	**1.78**	**7.13**	**-0.43**	**344**
Floor space	**0.96**	**1.10**	**2.53**	**-0.63**	**342**
2003					
No. of properties	**1.16**	**2.31**	**9.62**	**1.24**	**308**
Capital value	**1.05**	**1.92**	**5.32**	**0.49**	**308**
Floor space	**1.04**	**1.45**	**4.97**	**0.47**	**305**

The Spearman rank correlation between the LQ statistics based on employment and population data in Tables 6 and 7 and those based the number of hereditaments, rateable value, and floor-space shown in Table 5 is again high (in excess of 0.8) and suggests that the employment data LQs can be used as an appropriate measure of retail concentration.

In contrast to the retail LQs, all the LQ measures for UK institutional *office* investment are significantly less than one, which indicates that institutional investors were not fully diversified in either 1998 or 2003 (Byrne and Lee, 2006). These are results that compare well with those for the US (see Shilton and Stanley, 1995; Shilton *et al.,* 1996; Liang and McIntosh, 2000; and Frost *et al.,* 2005).

Figure 4 complements the earlier Figures and provides at least a partial explanation of the patterns of holdings seen in those maps. In Figure 4, the darker the shading, the higher the capital value/employment LQ.

The top two institutional retail markets are Dartford in Kent (11.6) and Thurrock UA in Essex (8.9). The institutional investment, by value, in these areas is more than 8 times that implied by the LA's employment. They therefore represent the first tier of institutional retail investment and interestingly, they each contain a major shopping complex, Bluewater and Lakeside respectively.

There is then a clear break to the next market, Watford (6.1), with this LA showing an LQ level well above the next group but clearly below the top two; again with a new large shopping centre coming on-stream during the period of study. The next level is made up of 11 LAs with LQs above 3 but below 6. Below this are a further 84 LAs with LQs above 1 but well below 3. It is this set of LQs (22% of the LAs) which, in effect, indicates that institutional retail investment is quite evenly spread across the LAs in England and Wales, as suggested in Table 5.

There are 50 LAs with LQs below 1 but greater than 0.5. Under this there are 161 LAs with LQs below 0.5. These are locales in which, for whatever reason, the institutions have a presence but one that cannot be justified by the area's employment level. This leaves 67 LAs with no institutional retail holdings.

4. Institutional Market Characteristics

Previous studies in the US and UK show that the preferred markets for institutional *Office* investment have distinctive economic features such as urban areas with high business services employment and a concentration on the largest cities. In contrast, the results in Table 8 for 2003 show that there are really no significant features that distinguish institutional retail allocations as far as the structural employment characteristics of the LAs are concerned.

Table 8: The Characteristics of Institutional Retail Investment Markets: 2003 Employment LQs

Characteristic / LQ	Zero	<0.5	0.5-0.99	1-2.99	3-4.99	>5
Average Rateable Value (£ 000)	847	1330	2002	2045	1635	936
Average No. of Hereditaments	11578	20664	35400	48515	53973	44852
Average Floor Space (000m^2)	1.50	2.42	3.85	4.39	3.53	2.69
Average Total Employment	30434	58192	82476	98528	93199	55486
% in Manufacturing	17	15	12	11	7	9
% in Construction	5	5	4	4	4	7
% in Tourism	9	8	8	7	8	6
% in Distribution, Hotels & Restaurants	23	24	24	24	28	33
% in Transport & Communications	5	5	5	6	6	8
% in Finance, IT, Other Business Activities	12	15	16	18	22	14
% in Public Admin, Education & Health	24	23	26	26	21	18
% in Other	5	5	5	5	5	4
Average Type of Employment						
% Large Employer High Managerial	4	3	4	3	4	4
% High Professional	5	5	5	5	6	7
% Low Managerial/Professional	21	21	22	20	21	21
% Intermediate	11	12	11	10	10	9
% Small Employer or Own Business	7	7	7	9	9	8
% Low Supervisory/Technical	8	8	7	8	6	6
% Semi-Routine	12	13	11	12	10	10
% Routine	9	9	8	8	7	6
% Not Worked	2	2	2	1	2	2
% Long-term Unemployed	1	1	1	1	1	1
% Students	5	5	5	5	7	7
% Not Classified	14	16	16	19	17	18
Average Population	79,758	127,192	179,597	180,117	163,795	102,922
Population Density	3	11	16	23	25	19

However, as Kateley (1996) argues, demographics are the most important factors for retail activity (see also Gordon *et al*. 1998 and Sullivan, 1990). Additionally, institutional investors are likely to prefer to invest in markets with a large number of properties which can be a proxy for liquidity. It is not surprising therefore to see that the population and hereditament data present a clear picture of institutional retail thinking. First, institutional investors avoid LAs which have very low populations and more importantly, LAs with very low population densities which will have few retail units of a small size worth less than about £1m. Secondly, for an LA to attract a reasonable (0.5 to 0.99) or substantial allocation (>1 but <3) the LA needs a population of at least 180000; a population density (persons per hectare) of at least 16; an average floor space of about 4000 sq. metres and a large number of retail hereditaments with an average RV of about £2m. Third, the preferred LAs with LQs greater than 3 but less than 5 have the highest population densities with the largest number of hereditaments. Nonetheless, for the LA to accommodate the largest retail outlets it may display a much lower population than that in the preferred LAs of about 100000 but it must still show a high population density (19).

On this basis therefore, regression, with 2003 capital value LQ as the dependent variable, was used on the independent variables from Table 8 to see if institutional office and retail investment strategies are driven by different economic and population characteristics. The results are presented in Table 9.

Table 9: Regression Results

	Office		Retail	
Independent Variable	**Coeff.**	**T-stat**	**Coeff.**	**T-stat**
Constant	**0.292**	**0.80**	**-11.73**	**6.58**
Average Rateable Value (£ 000)	**0.000**	**5.75**		
Average No. of Hereditaments			**-0.000**	**4.39**
Average Floor Space (000m^2)	**-0.001**	**2.18**	**0.004**	**5.31**
% in Manufacturing			**0.042**	**2.33**
% in Construction			**0.107**	**3.14**
% in Distribution, Hotels & Restaurants			**0.171**	**6.73**
% in Transport & Communications	**0.050**	**3.43**	**0.085**	**3.96**
% in Finance, IT, Other Business Activities	**0.104**	**12.18**	**0.076**	**4.14**
% in Public Admin, Education & Health			**0.088**	**4.71**
% High Professional	**0.214**	**5.26**		
% Low Managerial/Professional	**-0.133**	**5.43**	**0.100**	**3.46**
% Routine			**0.103**	**2.55**
Average Population	**-0.000**	**2.38**		
Population Density			**0.012**	**3.77**
Adjusted R-Sq	**58.3%**		**32.5%**	

Table 9 shows that both office and retail investment are significantly influenced by only a few variables. However, they are not the same variables. Office investment tends to be significantly related to the local authorities' employment characteristics, especially service sector employment (Finance, IT, Other Business Activities and in Transport & Communications), the availability of large high value office space and the proportion of high professionals in the LA. Office investment is focused on LAs with large office space leased to service sector employers.

In contrast, retail investment is more related to the population density of the LA, together with areas with large floor space shops, i.e. institutional retail investment is focussed on urban areas with more large shop units and a large population. The types of workers who live in the LA do also impact on the investment decision but the effect is spread across almost all job types, i.e. retail investment is made in almost all areas. The retail model is also less successful at explaining the institutions' investment strategy than that for offices with an adjusted R-squared of 33% compared with 58% for Offices.

5. Conclusions

This analysis of the IPD property data from 1998 and 2003 indicates that the retail holdings of UK institutional investors are spread more evenly across England and Wales than their office holdings and that retail holdings are present in both the largest and smallest urban areas, i.e. there is no really significant difference in the employment characteristics of these urban areas. However, these results are subject to a number of caveats. First, the IPD data cover both small and large institutional investors, but previous research in the US and UK suggests that the retail allocations of the smallest investors are significantly different to those of the largest investors in that smaller investors cannot gain access to the largest urban areas because of their smaller capital base and the existing presence of the major institutional investors in the largest metropolitan areas (Holden and Redding, 1994). Consequently, smaller institutions focus on property-types that have lower lot sizes and that are available in

smaller urban areas (retail) and allocate less to the more expensive property-types concentrated in the largest urban areas (offices). In a similar vein, Byrne and Lee (2003) examining 136 UK real estate portfolios found that, in 1994, the smallest UK institutional investor group (with an average value of £19m held 37% of their holdings in standard retail and only 22% in the offices. Additionally, the majority of these retail and office investments were outside the largest conurbation (London and the South East of England). In contrast, the largest investor group (with an average size of £1.2bn typically held 34% in offices and only 17% in standard retail, with the majority of their investment in London and the South East of England. This suggests that smaller institutional investors' holdings are likely to be more widely distributed than those of largest investors, an impression confirmed by Malpezzi and Shilling (2000), Smith *et al.* (2004) and Hess and Liang (2005) in the US. In this context it would be useful therefore to be able to examine the spatial spread of UK institutional investors of different type and size in more detail.

Also, research in the US has shown that risk differences exist between retail property types (Litt *et al*., 1999). Bers and Springer (1997), studying economies of scale, find that geographic diversification does not contribute to scale economies in REITs. Indeed, Anderson and Springer (2005) find that within the retail property type, geographic diversification increases the total risk of retail REITs. Nonetheless, Anderson and Springer (2005) find that REITs which across retail property sub-types such as community centres and malls, have less total risk than REITs that focus on one property sub-type. To an extent therefore, the effects of geographic and property type diversification within a single property type are counterbalancing. Hence it would also be of interest to investigate the spatial spread of the different retail property-type (standard retail, retail warehouses and shopping centres) in the UK, especially by the smallest and largest institutions.

This paper has considered the extent of real estate investment concentration in institutional Retail portfolios in the UK at two points in time; 1998 and 2003, and presented some comparisons with equivalent concentrations in the office sector. The findings indicate that retail investment correlates more closely with the urban hierarchy of England and Wales than that for offices when measured against employment, and is focused on urban areas with high populations and large population densities which have larger numbers of retail units in which to invest. To some degree this is an inevitable consequence of the ubiquitous nature of the retailing process (shopping!), but as is usually the case with larger scale institutional investment, the criteria which govern the form that investment takes do not automatically follow theoretical requirements, but adopt a far greater degree of market pragmatism. As a consequence the dynamics of the investment market for retail are far more extensive than might be expected, even if they do not match those of the office market in scale or intensity, at least in the period studied in this paper.

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Figure 1: England and Wales
IPD Universe: Number of Retail Holdings 1998
By Local Authority

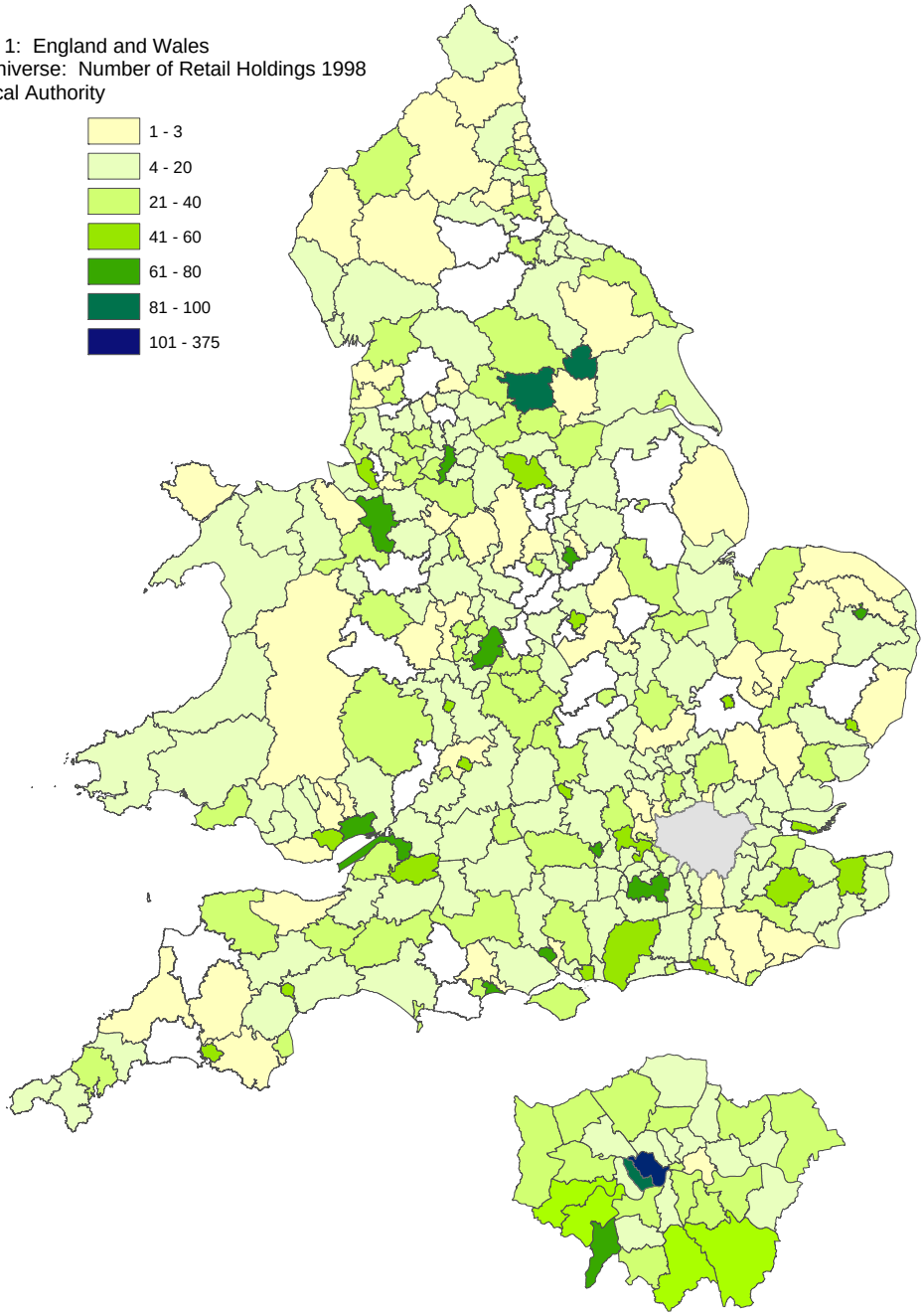


Figure 2: Engalnd and Wales
IPD Universe: Number of Retail Holdings 2003
By Local Authority

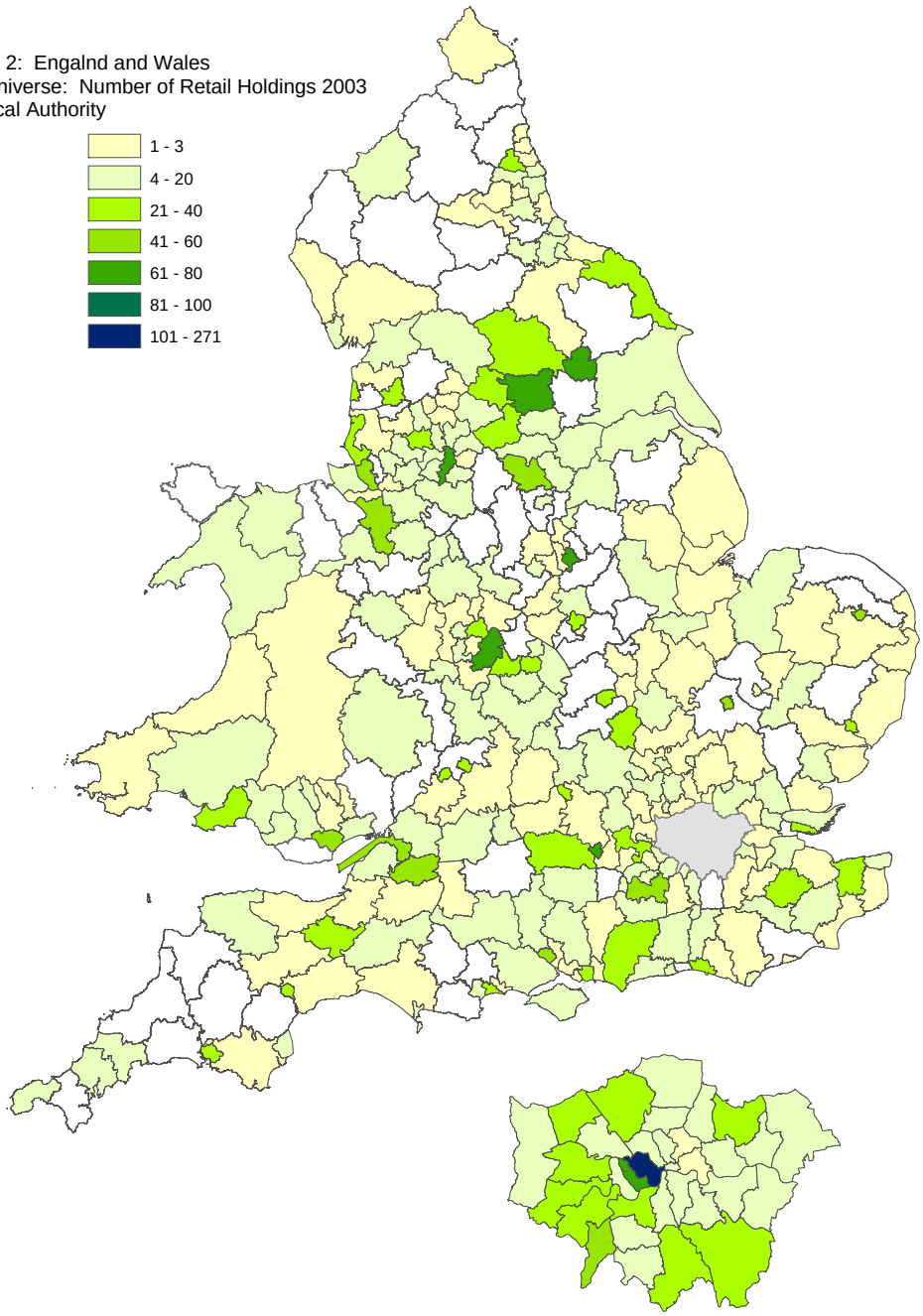


Figure 3: England and Wales
IPD Universe: Change in Retail Holdings 1998-2003
By Local Authority

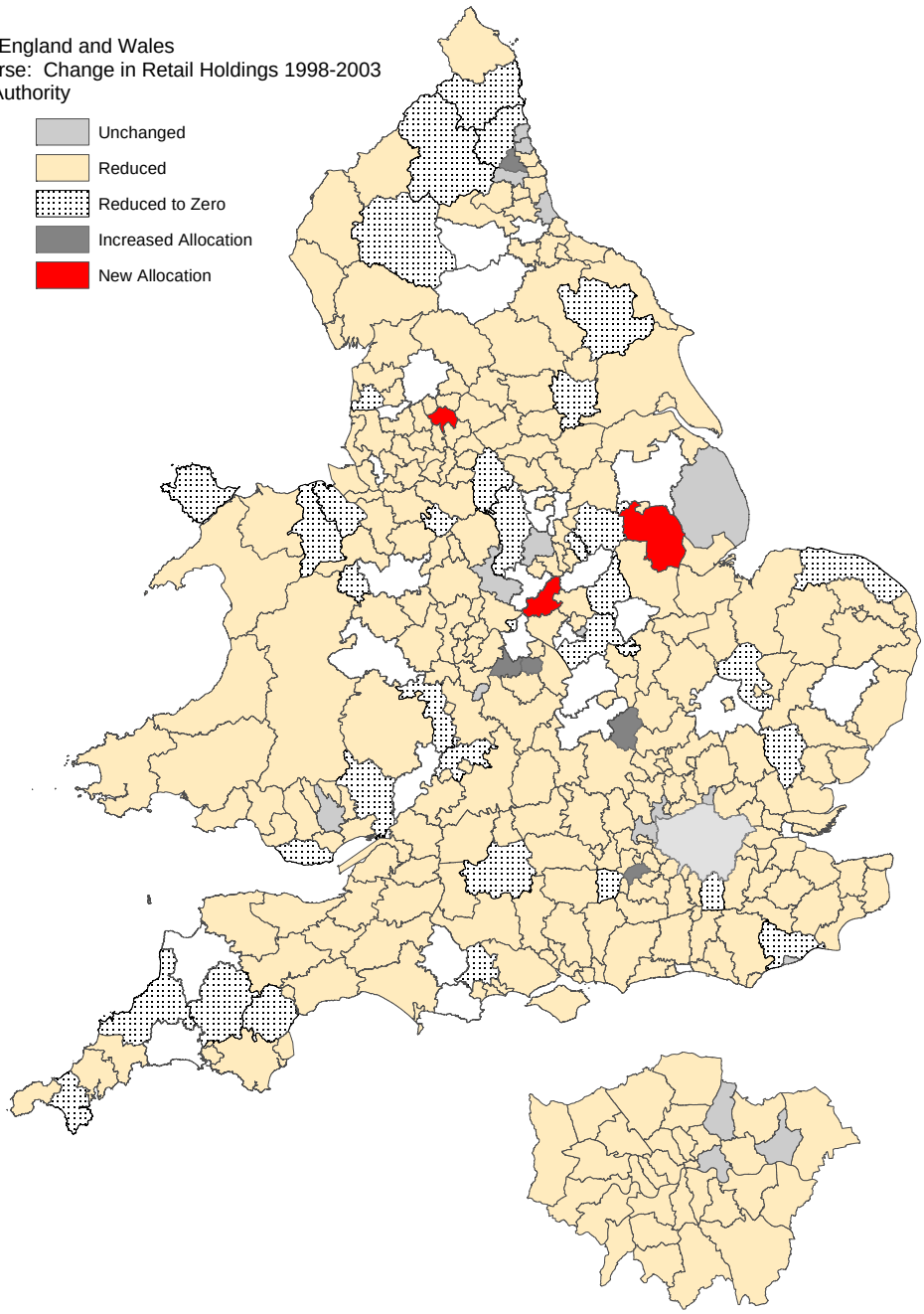
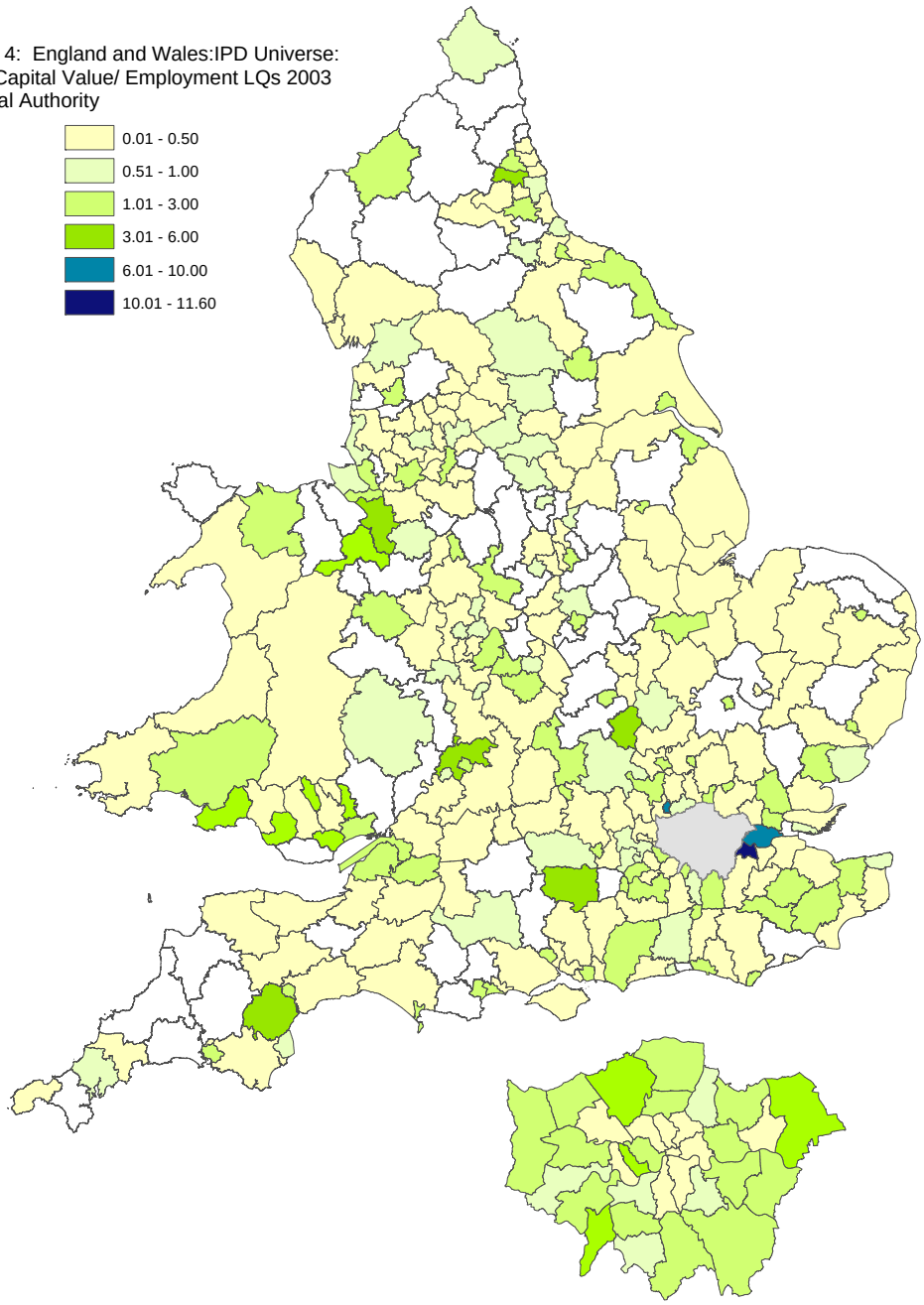


Figure 4: England and Wales:IPD Universe:
Retail Capital Value/ Employment LQs 2003
By Local Authority



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Footnotes

[1] These data were compiled by the UK Government through the Office of the Deputy Prime Minister; (ODPM) now called the Department for Communities and Local Government, on its own behalf and also on behalf of the Valuation Office Agency (VOA) in England and Wales (ODPM, 2005). The data are now available though the UK Office of National Statistics (ONS) Neighbourhood Statistics (NeSS) website:

[http://www.neighbourhood.statistics.gov.uk/dissemination/].

The data are found via the NeSS homepage under 'Topics', in 'Physical Environment' - 'Key Regeneration Related Statistics', at various levels of aggregation.

[2] The Isles of Scilly are not included in the analysis.