

**Detailed Analysis of Housing
Association Rents and Rental Rates
of Return: 1998/99 to 2006/07**

Source document for the Dataspring
Report to the Housing Corporation

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Key findings

Housing association (HA) rents across England

- In 2006/07 the average HA net rent for England, was £66.86 per week.
- Rents increased from £52.39 per week in 1998/99 (the beginning of the observation period). This implies an increase of £14.47 (27.6%) in eight years or an annual increase of about 3.0%.
- In real terms, the increase in rents was 4.9% in eight years. This implies an annual increase of about 0.6%.
- In 2006/07, the average of assured rents was £66.94 per week and the equivalent for secure rents was £66.11. Both averages have increased over the past eight years while narrowing their gaps.
- The latest stock for assured rents shared 91.5%, and thus, the remaining 8.5% was stock proportion for secure rents. Over the observation period, assured stock has expanded its share, which means a decline in secure stock fraction.
- Across regions in 2006/07, London had the highest rents (£82.15 per week), while Yorkshire & the Humber had the lowest (£54.97).
- The fastest percentage growth during the period was seen in London (36.3% or an annual rate of 3.9%), while the slowest growth was observed in Yorkshire & the Humber (17.4% or an annual rate of 2.0%).
- In real terms, London's rents increased by 12.0% in eight years (or an annual rate of 1.4%). At the other extreme, in Yorkshire & the Humber rents decreased by 3.5% (or an annual rate of 0.5%).
- At local authority (LA) level, in 2006/07 the highest average rent was found in Wokingham (£91.56 per week). This was followed by Woking (£89.52) and Three Rivers (£88.78).
- In the same year, Newcastle-under-Lyme had the lowest (£48.48 per week). This was followed by Derwentside (£49.78) and North Lincolnshire (£50.09).
- The fastest growth was experienced in Wyre (66.0% or in real terms 36.4% in eight years). This was followed by and Congleton (57.0% or in real terms 29.0%) and Stratford-upon-Avon (56.9% or in real terms 28.9%).
- At the other extreme, Maidstone kept its average rent almost unchanged over the eight years (from £64.18 in 1998/99 to £67.16 in 2006/07 – the growth rate was thus 0.0% in nominal terms and -17.9% in real terms). This was followed by Newcastle-under-Lyme 0.8% or in real terms -17.2%) and North Norfolk (2.3% or in real terms -15.9%).
- In 2006/07, the average rent across urban areas was £66.90 per week. The equivalent for rural areas was £66.79.

- The rents in urban areas increased by 26.4% (or in real terms by 3.9%) from 1998/99 to 2006/07, while rents in the rural areas rose by 29.8% (or in real terms 6.6%) over the same period.

House prices across England

- The lower quartile (LQ) house price in England (the most relevant comparator for social rents and rental rates of return) was £124,200 in 2006/07.
- The national LQ house price increased from £46,500 in 1998/99. This implies an increase of some £78,000 or 167.1%. The average annual rate of increase was therefore 13.1%.
- In real terms, the increase in the national LQ house prices was 119.5% in the eight years. This implies an annual increase of 10.3%.
- Across regions in 2006/07, London had the highest LQ prices (£190,000), while the North East had the lowest (£85,000).
- The fastest growth in percentage terms during the period was in the South West (186.3% or an annual rate of 14.1%), while the slowest growth was shared by the South East and the West Midlands (161.9% or an annual rate of 12.8% for both).
- In real terms, the South West experienced an increase of 135.2% in eight years (or an annual rate of 11.3%). At the other extreme LQ house prices in the South East and the West Midlands increased by 115.2% (or an annual rate of 10.1%).
- At LA area level, in 2006/07, the highest LQ house prices were observed in Kensington & Chelsea (£360,000), followed by Westminster (£292,375) and Hammersmith & Fulham (£266,000).
- In the same year, Burnley had the lowest (£47,000). This was followed by Pendle (£58,000), Kingston upon Hull and Hyndburn (both £64,000).
- The fastest growth was seen in Manchester (268.5% or in real terms 202.8%) over the eight year period. This was followed by Penwith (260.5% or in real terms 196.2%) and Newham (250.0% or in real terms 187.6%).
- Burnley had the slowest growth (108.9% or in real terms 71.6%) in eight years, followed by Surrey Heath (112.0% or in real terms 74.2%) and Richmond upon Thames (117.4% or in real terms 78.7%).
- In 2006/07, the estimated LQ house price in urban areas was £132,500 and the equivalent for rural areas was £139,961.
- The LQ house price in urban areas increased by 181.9% (or in real terms 131.6%) from 1998/99 to 2006/07, while the rural price increased by 185.6% (or in real terms 134.7%).

Relationship between HA rents and house prices across England

- There was a positive correlation between HA rents and LQ house prices across the LA areas in England throughout the observation period. However in 1998/99, the correlation coefficient (an indicator of the magnitude of correlation) between rents and

house prices was only 0.604 at the national level. There was a sudden increase to 0.740 in 2002/03 and by 2006/07 it had risen to 0.793.

- Despite this development, the content of the relationship between rents and house prices did not change drastically at a year-on-year base, presumably because the rent regulatory framework is organised to prevent too rapid rent hikes.
- Prior to 2002, before the introduction of target rents, there was very little evidence of a relationship between rents and house prices in London and the North East. After the introduction of target rents, the two regions showed positive relationships between HA rents and house prices. Correlation coefficients increased from 0.003 to 0.344 in London and from 0.041 to 0.481 in the North East.
- In the remaining seven regions, there was a positive relationship between HA rents and house prices prior to 2002 and the significance of the relationship increased after the introduction of target rents.

HA rental rates of return across England

- The HA rental rate of return (measured by annual rent as a percentage of the relevant LQ house price; i.e. taking no account of the costs of letting and maintaining the property) was 2.80% for England in 2006/07.
- This rental rate of return compares with 5.86% in 1998/99. The rental rate of return has decreased throughout the observation period. This is mainly because house prices increased so rapidly over the period at rates far above the rate of inflation across the country, while HA rents were constrained by a formula allowing only very small real rises.
- In 2006/07, the North East had the highest average rental rate of return (3.42%) while London had the lowest (2.25%).
- The rental rates of return for the other regions were, in descending order, 3.29% in the North West, 2.98% in Yorkshire & the Humber, 2.91% in the East Midlands, 2.88% in the West Midlands, 2.55% both in the East and in the South East, and 2.43% in the South West.
- Compared with 1998/99, Yorkshire & the Humber experienced the largest reduction in rental rates of return (a decline of 3.78 percentage points). London saw the lowest decline, of 2.23 points.
- The decline in average rental rates of return continued in 2006/07. This can be explained by deceleration in house prices especially in more expensive areas. However it is also the result of consistent rises in HA rents.
- Among the LA areas, the latest median rental rate was 2.60%. This means a decline of 3.10 points from 5.70% in 1998/99.
- The range of the rental rates across LA areas widened in the first half of the observation period, peaking at 20.54 points in 2002/03. It has narrowed afterwards – the latest figure of 5.47 points.

- In 2006/07, the LA area with the highest rate was Burnley (6.63%). This was followed by Barrow-in-Furness (5.18%) and Pendle (4.83%).
- In the same year, Kensington & Chelsea had the lowest (1.16%), followed by Westminster (1.53%) and Hammersmith & Fulham (1.60%).
- Compared to 1998/99, the largest decline in rental rates of return was seen in Pendle (7.83 percentage points). This was followed by Hyndburn (6.73 points) and Easington (6.27 points).
- At the other extreme, Kingston & Chelsea had the minimum decline (0.74 points), followed by Surrey Heath (0.91 points) and Hammersmith & Fulham (0.96 points).
- In 2006/07, the estimated rental rate of return in urban areas was 2.63% and the equivalent for rural areas was 2.48%.
- The rental rate in urban areas decreased by 3.23 percentage points from 1998/99 to 2006/07, while the rural price dropped by 2.98 points.

1. Introduction

Last year, Dataspring undertook a detailed analysis of the spatial pattern of HA rents and rental rates of return from 1998/97 to 2005/06 particularly in the context of the introduction of the rent restructuring regime. This paper both updates this analysis to 2006/07 and examines the pattern of change since the beginning of the observation period at national, regional and local levels.

In April 2002, the Government introduced a rent restructuring framework which required HAs to adjust their existing rents to target rents based on a formula taking account of both the capital value of the property and local incomes. It also set out the procedures by which the adjustment was to be achieved. The rent restructuring regime was first set out in the Housing Green paper (DETR, 2000) with the objectives of bringing greater coherence to rent structures across the whole HA sector and relating rents more closely to fundamentals.

Prior to the introduction of the framework, the 1998 Housing Act guided each housing association (HA) to set rents to reflect property values and to raise sufficient rental income to meet their expenditures. This gave HAs considerable freedom to set rents according to their own criteria.

Over the period since April 2002, rents have been allowed to increase on average by Retail Price Index (RPI) + 0.5%. For each property, additional adjustments of up to £2 per week have been allowed with the objective of achieving target rents by 2011. The impact of these adjustments has been analysed in a number of papers (Solomou *et al.*, 2005; Solomou, 2006; Udagawa, 2007). In this context, it is useful to analyse the relationship between HA rents and house prices. The relationship is important for the viability of the sector in that rents are the only form of return available to the social landlord (unlike in the private sector where capital gains are relevant). They must be adequate to cover the costs of managing and maintaining the stock and to help support investment. In equity terms, it is also important to understand the extent to which economic subsidy, reflected in varying rental rates of return, varies between different areas as a result of the rent structures that have been put in place.

This paper reports the first stage of research aimed at understanding how HA rents relate to market prices. It includes three elements:

1. A detailed description of the spatial patterns of HA rents and house prices and of the relationship between the two over the period 1998/99 to 2006/07;
2. Analysis of the correlation between HA rents and house prices for the corresponding period at national as well as at lower geographical levels;
3. Analysis of the ways that rental rates of return on HA housing vary between regions.

The paper is structured as follows: Section 2 describes the pattern of HA rents. The analysis is based on weekly average rents at national and regional as well as local authority (LA) levels and by rural and urban classifications. Section 3 presents a similar analysis of house prices concentrating on lower quartile (LQ) prices as these are most likely to be comparable to the HA sector. Section 4 examines the strength of the relationship between HA rents and house prices and clarifies how HA rents vary in relation to house prices. Section 5 investigates HA rental rates of return, gross of management and maintenance costs – i.e. measured by rents divided by house prices. Section 6 summarises some of the key points arising from the above analyses and draws some conclusions.

2. HA rents across England 1998/99 – 2006/07

2.1 Source and definition of HA rents

The HA rent data examined in this paper are taken from the Housing Corporation's Regulatory and Statistical Return (RSR), which identifies HA rent levels as at March 31 each year. The period of analysis is from 1998/99 to 2006/07.¹ We use weekly average rents for HAs by LA areas in England. Weekly average rents are based on net rents of self-contained properties, that is, the rents of bedsits have been excluded. All rents in the data are for general needs assured and secure tenancies combined. They include general needs housing including Estate Renewal Challenge Fund stock, but exclude all supported housing and housing for older people.² LA areas where there are few cases and/or some geographical or socio-economic peculiarity have been excluded from the analyses, so as to maintain comparability with analyses of private sector rental rates of return and rents. This applies for example to the City of London and the Isles of Scilly. Figures are not adjusted for inflation except where specified.

2.2 The national trend of HA rents

Table 2.1 sets out HA rents for England from 1998/99 to 2006/07. For the observation period, national average rents increased steadily, rising from £52.39 per week in 1998/99 to £66.86 in 2006/07, a rise of 27.6% for the period, or an annual average increase of 3.1%. This increase is above the rise in the RPI. In real terms, the rent change was 4.9% for the period or an annual rate of 0.6% (Table 2.2).³

Table 2.1 Weekly average rent: England, 1998/99 – 2006/07

	Rent (£)	Change
1998/99	52.39	
1999/00	53.60	2.3%
2000/01	54.36	1.4%
2001/02	56.28	3.5%
2002/03	57.09	1.4%
2003/04	58.79	3.0%
2004/05	61.82	5.2%
2005/06	64.51	4.4%
2006/07	66.86	3.6%
1998/99 – 2006/07		27.6%
Estimated annual change		3.1%

Note: Excludes City of London and Isles of Scilly.

Source: Calculation based on the RSR.

¹ The data were derived from all HAs that completed the long version of the RSR and made a valid return (In general, those HAs that own or manage more than 250 dwellings and/or bedspaces, including shared ownership dwellings, complete the long version of the RSR until 2005/06. In 2006/07, the threshold was raised to 1,000 dwellings.)

² From 2005, the definition of 'general needs' as reported in the RSR was changed. Prior to this, general needs housing included some dwellings classified as sheltered housing for older people. From 2005, the sheltered housing classification was eliminated and dwellings that met certain design criteria transferred from general needs into a new category, housing for older people. For further information, see Housing Corporation circular 03/04.

³ RPI (all items) change, (first row: annual; second row: as in September over the preceding 12 months: %)

1998	1999	2000	2001	2002	2003	2004	2005	2006	Change (98-06)	(Annualised)
3.4	1.5	3.0	1.8	1.7	2.9	3.0	2.8	3.2	21.7	2.5
3.2	1.1	3.3	1.7	1.7	2.8	3.1	2.7	3.6	21.8	2.5

Source: ONS and Dataspring's calculation.

Table 2.2 Weekly average rent in real terms (base year = 1998/99): England, 1998/99 – 2006/07

	Rent (£)	Change
1998/99	52.39	
1999/00	53.02	1.2%
2000/01	52.07	-1.8%
2001/02	52.99	1.8%
2002/03	52.86	-0.3%
2003/04	52.96	0.2%
2004/05	54.04	2.0%
2005/06	54.90	1.6%
2006/07	54.94	0.1%
1998/99 – 2006/07		4.9%
Estimated annual change		0.6%

Note: Excludes City of London and Isles of Scilly. The deflators are as Footnote 3.

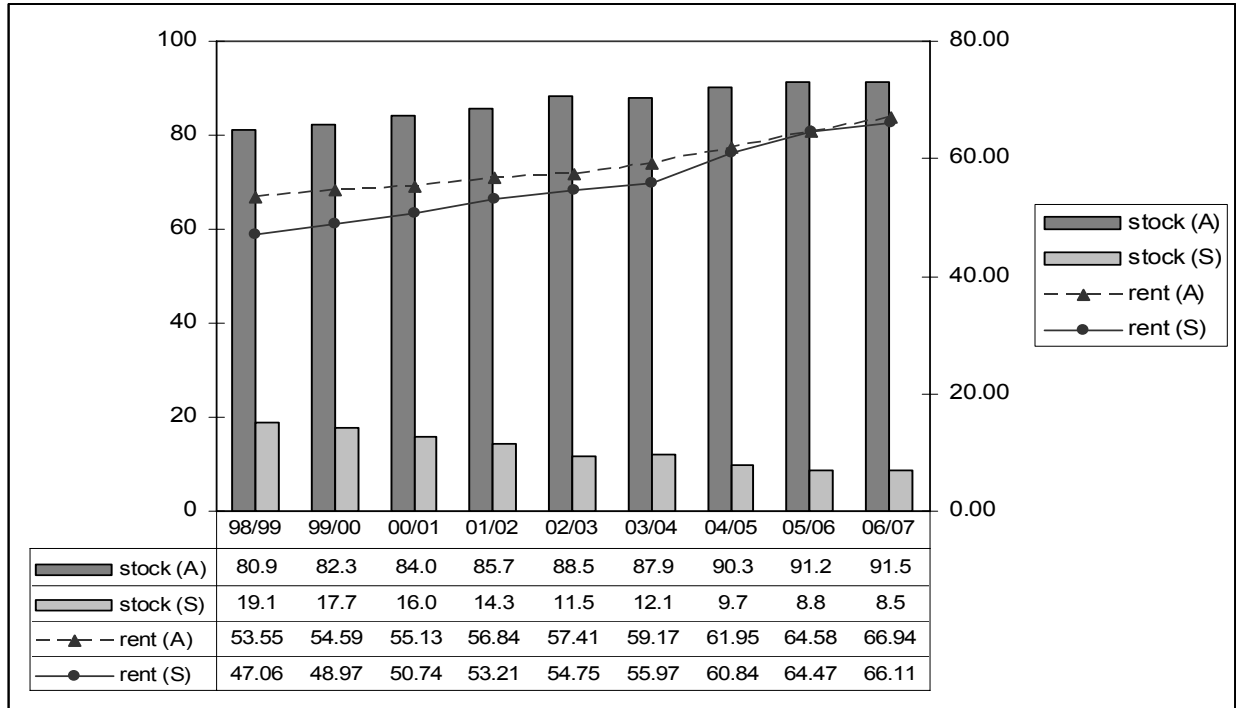
Source: Calculation based on the RSR.

Disaggregating HA rents into two categories, rents for assured tenancy and secure tenancy, Figure 2.1 set outs the developments of their national averages and stock proportions for all property sizes over the past eight years.⁴ In 2006/07, the average assured rent was £66.94 per week and the equivalent for secure rents was £66.11, which means that a gap between the two averages was £0.83. Both averages have increased over the past eight years while narrowing their gap. The average of assured rents grew by 25.0% since 1998/99 (or 2.7% in real terms; Table 2.3) while that of secure rents rose by 42.7% (or 15.4% in real terms).

In 2006/07, stock for assured rents shared 91.5%, and thus, the remaining 8.5% was stock proportion for secure rents. At the beginning of the observation period, the equivalent proportions were 80.9% and 19.1% respectively. Throughout the period, assured stock has expanded its share, which means a decline in secure stock fraction. These trends of the two types of rents and their stock proportions were observed across property sizes (Figures 2.3 to 2.5).

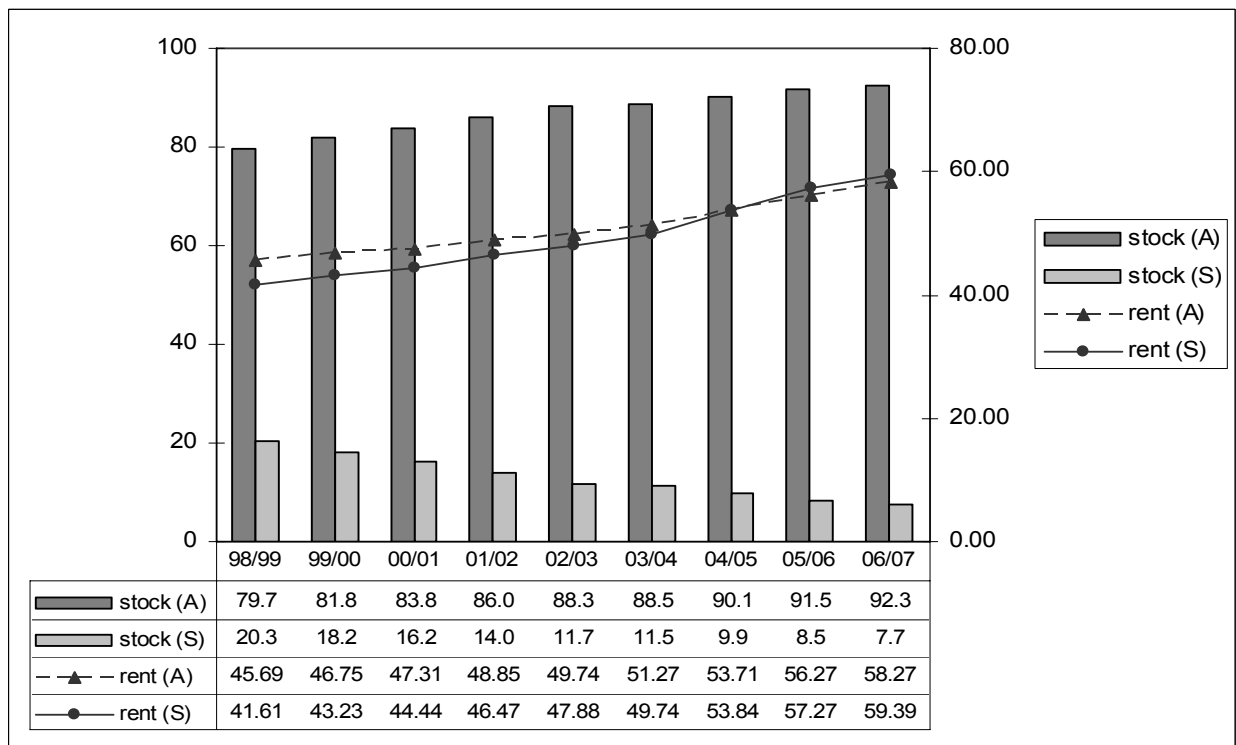
⁴ Assured tenants have fewer rights than secure tenants, although the HC's guidance requires some of these rights written into assured tenancy agreements. Since January 1989, all new tenants of HAs have assured tenancies.

Figure 2.1 Assured and secure rents and stock proportions: all property sizes, 1998/99 – 2006/07



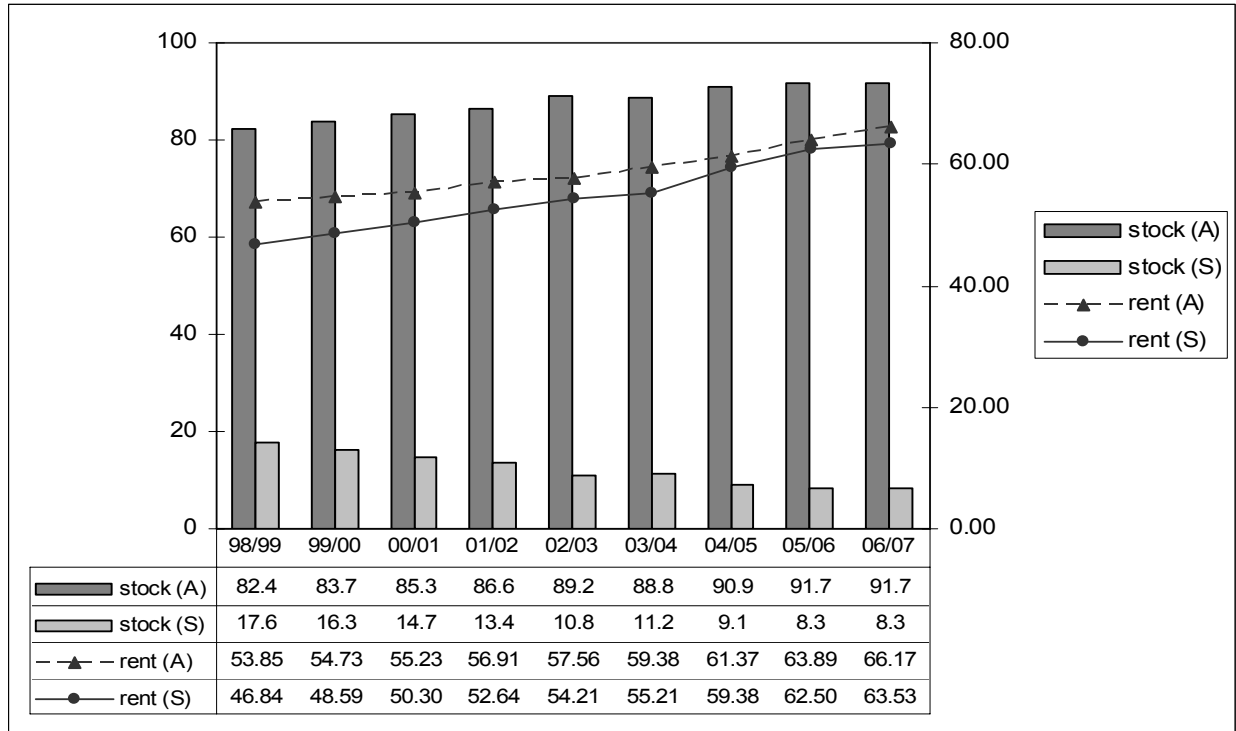
Note: Excluding bedspaces and bedsits. The combined average of the two types of rents might not fully agree with Table 2.1, which has excluded two LA areas' data.

Figure 2.2 Assured and secure rents and stock proportions: one bedroom properties, 1998/99 – 2006/07



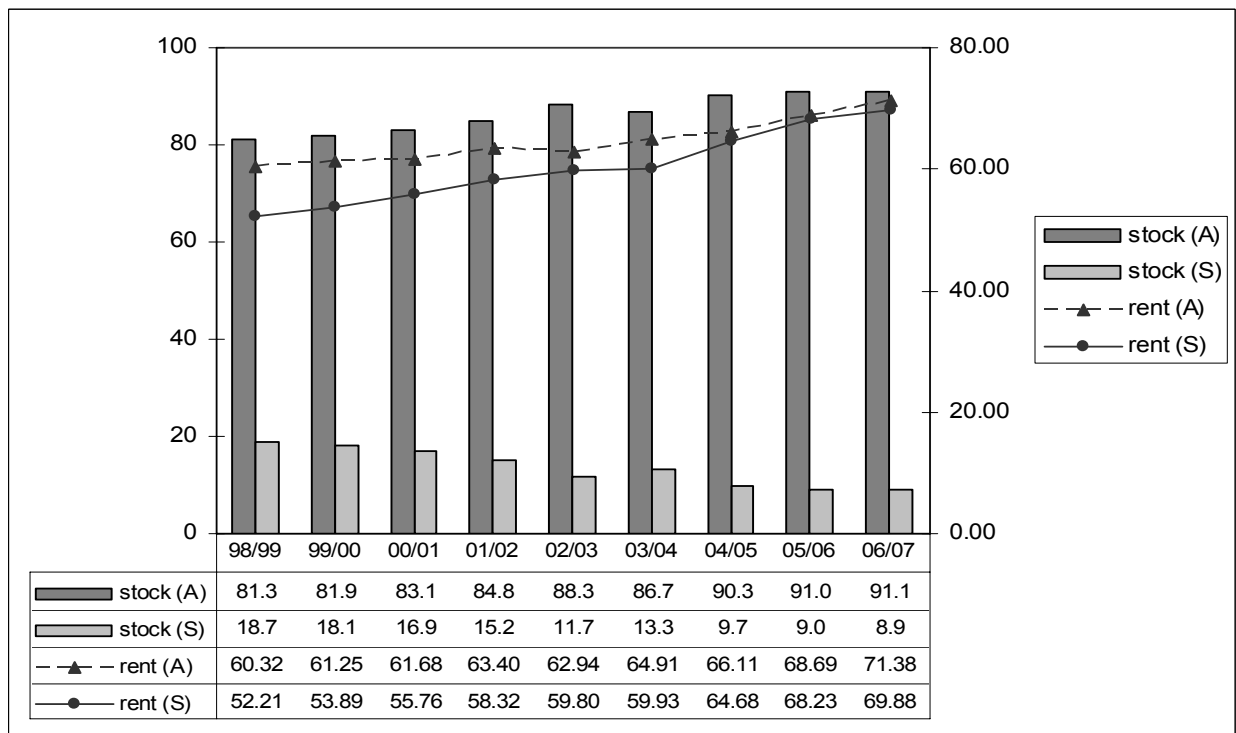
Note: As Figure 2.1.

Figure 2.3 Assured and secure rents and stock proportions: two bedroom properties, 1998/99 – 2006/07



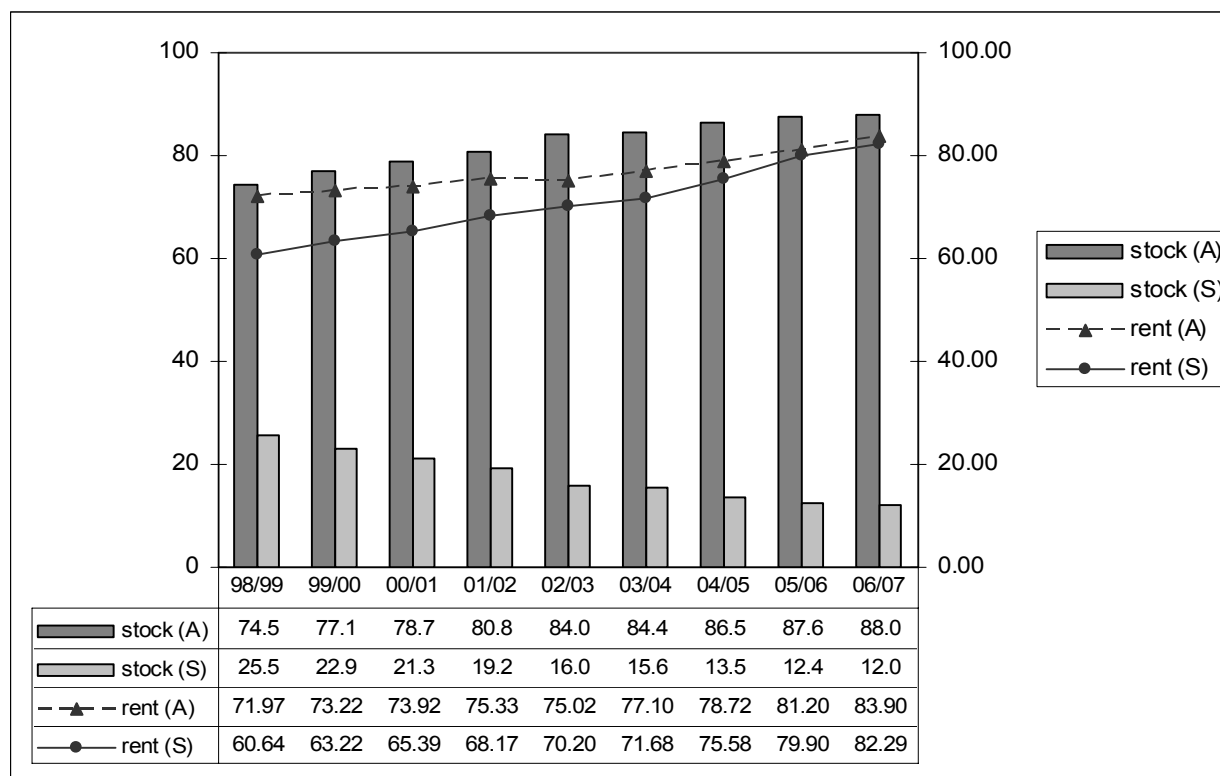
Note: As Figure 2.1.

Figure 2.4 Assured and secure rents and stock proportions: three bedroom properties, 1998/99 – 2006/07



Note: As Figure 2.1.

Figure 2.5 Assured and secure rents and stock proportions: four or more bedroom properties, 1998/99 – 2006/07



Note: As Figure 2.1.

Table 2.3 Assured and secure rents real terms (base year = 1998/99), 1998/99 – 2006/07

	1 bed		2 bed		3 bed		4+ bed		Total	
	Assured	Secured	Assured	Secured	Assured	Secured	Assured	Secured	Assured	Secured
98/99	45.69	41.61	53.85	46.84	60.32	52.21	71.97	60.64	53.55	47.06
99/00	46.24	42.76	54.13	48.06	60.59	53.30	72.42	62.53	53.99	48.44
00/01	45.32	42.57	52.90	48.18	59.08	53.41	70.80	62.63	52.81	48.60
01/02	46.00	43.76	53.59	49.56	59.70	54.92	70.93	64.19	53.53	50.10
02/03	46.06	44.33	53.30	50.19	58.28	55.37	69.46	65.00	53.16	50.70
03/04	46.19	44.81	53.49	49.74	58.48	53.99	69.46	64.58	53.31	50.42
04/05	46.95	47.06	53.64	51.91	57.79	56.54	68.81	66.06	54.15	53.19
05/06	47.89	48.74	54.38	53.19	58.46	58.07	69.11	68.00	54.96	54.87
06/07	47.88	48.80	54.37	52.20	58.65	57.42	68.94	67.62	55.01	54.32

Note: As Figure 2.1.

2.3 The regional trends of HA rents

Table 2.4 sets out HA rents by Government Office Region (GOR) over the period 1998/99 to 2006/07. For each year, the highest rent region is highlighted in yellow and the lowest in blue. In 2006/07, the highest average rent was observed in London (£82.15 per week), and the lowest was in Yorkshire & the Humber (£54.97). London has maintained its position as the region with the highest average rent over the observation period. The lowest average rent was the North East from 1998/99 until 2003/04. However, for the last three years, Yorkshire & the Humber had the lowest average rent.

Over the period, HA rents increased in all nine regions. The fastest growth in percentage terms was observed in London (36.3% or an annual rate of 3.9%). This was followed by the North West (33.8% or an annual rate of 3.7%) and the South East (31.9% or an annual rate of 3.5%). The slowest growth was in Yorkshire & the Humber (17.4% or an annual rate of 2.0%), followed by the East Midlands (25.8% or an annual rate of 2.9%) and the West Midlands (26.6% or an annual rate of 3.0%). All the regional annual rent increases for the period were above the RPI except Yorkshire & the Humber. This therefore shows a real decline in rents over the eight year period (Table 2.5).

Table 2.4 Weekly average rents by region, 1998/99 – 2006/07

	East	E Mid	Lon	NE	NW	SE	SW	W Mid	Y & H	Max – Min.
1998/99	52.99	48.92	60.27	44.11	44.17	58.93	50.91	48.08	46.83	16.16
1999/00	54.74	48.96	62.32	45.19	46.04	60.80	52.58	47.94	48.87	17.13
2000/01	56.30	49.81	63.55	46.25	46.78	62.06	53.57	47.91	48.02	17.30
2001/02	57.96	50.46	66.17	46.65	49.47	64.54	55.83	50.19	49.78	19.52
2002/03	59.61	51.65	68.52	47.70	50.32	66.37	57.50	51.11	49.26	20.82
2003/04	61.14	52.99	70.93	49.19	51.95	67.69	58.77	52.71	50.94	21.74
2004/05	63.94	56.25	75.36	51.78	54.82	71.86	62.29	55.74	51.31	24.05
2005/06	66.48	59.09	78.72	54.55	56.63	75.01	64.76	58.32	54.05	24.67
2006/07	69.11	61.54	82.15	55.98	59.11	77.71	66.94	60.86	54.97	27.18
change:										%-point
98/99 – 06/07	30.4%	25.8%	36.3%	26.9%	33.8%	31.9%	31.5%	26.6%	17.4%	18.9
Estimated annual	3.4%	2.9%	3.9%	3.0%	3.7%	3.5%	3.5%	3.0%	2.0%	1.9

Source: As Table 2.1.

Table 2.5 Weekly average rents by region in real terms (base year = 1998/99), 1998/99 – 2006/07

	East	E Mid	Lon	NE	NW	SE	SW	W Mid	Y & H	Max – Min.
1998/99	52.99	48.92	60.27	44.11	44.17	58.93	50.91	48.08	46.83	16.16
1999/00	54.14	48.43	61.64	44.70	45.54	60.14	52.01	47.42	48.34	16.94
2000/01	53.93	47.71	60.87	44.30	44.81	59.44	51.31	45.89	46.00	16.57
2001/02	54.58	47.51	62.31	43.93	46.58	60.77	52.57	47.26	46.87	18.38
2002/03	55.19	47.82	63.44	44.17	46.59	61.45	53.24	47.32	45.61	19.28
2003/04	55.08	47.74	63.90	44.32	46.80	60.98	52.95	47.49	45.89	19.59
2004/05	55.89	49.17	65.87	45.26	47.92	62.81	54.45	48.72	44.85	21.02
2005/06	56.58	50.29	67.00	46.43	48.20	63.84	55.11	49.63	46.00	21.00
2006/07	56.79	50.57	67.50	46.00	48.57	63.85	55.00	50.01	45.17	22.33
change:										%-point
98/99 – 06/07	7.2%	3.4%	12.0%	4.3%	10.0%	8.3%	8.0%	4.0%	-3.5%	15.5
Estimated annual	0.9%	0.4%	1.4%	0.5%	1.2%	1.0%	1.0%	0.5%	-0.5%	1.9

Source: As Table 2.2.

2.4 HA rents at LA level

Range of weekly average rents

Table 2.6 describes HA rents at the LA level over the period 1998/99 to 2006/07.⁵ In 2006/07, the median rent was £66.73 per week, compared with £52.32 in 1998/99, an increase of 27.5%. For the observation period, the distribution of rents across LA areas has widened. In 1998/99, the lowest rent was £39.06, while the highest was £72.58, a range of £33.52. The standard deviation for the year was £7.23. In 2006/07, the range increased to £43.08 while the highest

⁵ LA areas are based on the boundaries as of April 1998.

average rent was £91.56 and the lowest was £48.48. The standard deviation also increased to £9.86.

Table 2.6 Range of weekly average rents at LA level, 1998/99 – 2006/07

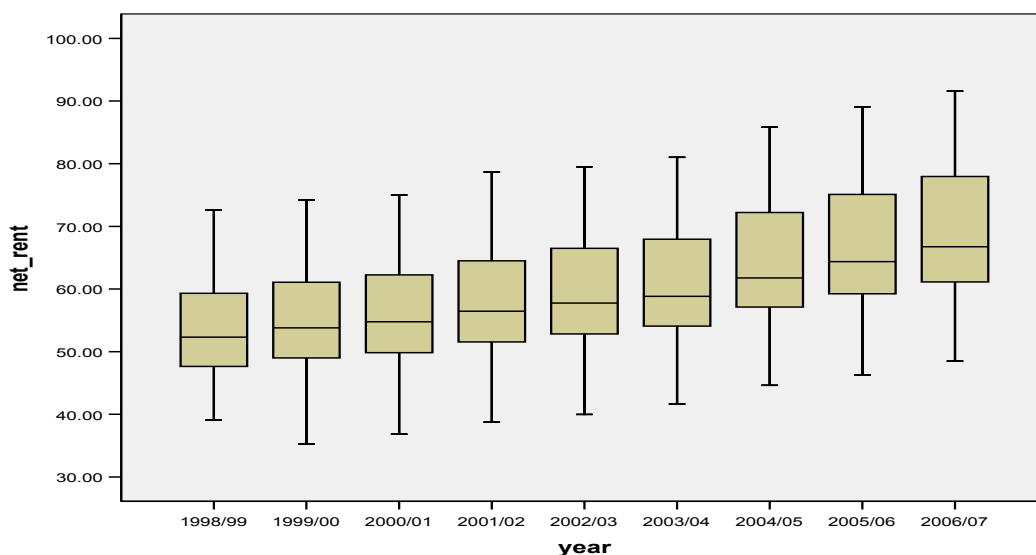
	Median	Std. Deviation	Minimum	Maximum	Max. – Min.
1998/99	52.32	7.23	39.06	72.58	33.52
1999/00	53.80	7.42	35.28	74.19	38.91
2000/01	54.76	7.65	36.84	74.98	38.14
2001/02	56.47	7.94	38.76	78.69	39.93
2002/03	57.76	8.13	39.97	79.52	39.55
2003/04	58.82	8.26	41.66	81.03	39.37
2004/05	61.75	8.98	44.64	85.81	41.17
2005/06	64.38	9.36	46.30	89.10	42.80
2006/07	66.73	9.86	48.48	91.56	43.08
Change: 98/99 – 06/07	27.5%	36.4%	24.1%	26.2%	28.5%
Estimated annual	3.1%	4.0%	2.7%	2.9%	3.2%

Source: As Table 2.1.

Figure 2.6 is a box plot illustrating the distribution pattern of rents at the LA level for each year in the observation period. In the figures, each box explains an inter-quartile (i.e., from the 25th to 75th percentile) range of the rents across LA areas. The line in the boxes represents the median of the rents. The whiskers, which extend from the boxes, show the highest and lowest rents within a range of 1.5 times the box length. Extreme values outside the ends of the whiskers (i.e., rents more than 1.5 box lengths from the upper or lower edge of the box) would be expressed as a circle or asterisk in a box plot, but there were no such outliers of HA rents across LA areas in any year.

All the key rent levels – median, the highest, the lowest, the 25th percentile, and the 75th percentile, have increased steadily over the observation period, except for a decline in the lowest rent in 1999/00. Roughly speaking, there was no skew (either positive or negative) to the data, as the lengths of the upward and downward whiskers extending from the box were not significantly different from one another in each year. Together with the fact that there were no extreme values, this suggests that the regulatory framework has prescribed HA rents quite significantly and has been effective and harmonises rent movements across LA areas.

Figure 2.6 Distribution of weekly average HA rents across LA areas, 1998/99 – 2006/07



Source: As Table 2.1.

LA areas with a high/low weekly average rent

Table 2.7 lists the ten LA areas in England with the highest average weekly rents in 1998/99 and in 2006/07. In 1998/99, Wokingham had the highest average rent (£72.58), followed by Croydon (£70.57) and Gosport (£69.49). Of the ten LA areas on the list, four were in London and four in the South East and two in the East. Eight LA areas were classified as urban areas while two were rural as defined by the Department for Environment, Food and Rural Affairs (2005).⁶

Three LA areas on the list in 1998/99 remained in 2006/07. The highest average rent was in Wokingham (£91.56) followed by Woking (£89.52) and Three Rivers (£88.78). By region, five were in London, four in the South East, and the remaining one was in the East. All ten LA areas were classified as urban areas except Tandridge.

Table 2.7 Ten LA areas with the highest weekly average rents, 1998/99 and 2006/07

1998/99 LA area	GOR	Rural/ Urban	Rent (£)	2006/07 LA area	GOR	Rural/ Urban	Rent (£)
Wokingham	SE	Urban	72.58	Wokingham	SE	Urban	91.56
Croydon	Lon	Urban	70.57	Woking	SE	Urban	89.52
Gosport	SE	Urban	69.49	Three Rivers	E	Urban	88.78
Barking and Dagenham	Lon	Urban	69.10	Mole Valley	SE	Urban	88.74
Epping Forest	E	Urban	68.05	Croydon	Lon	Urban	88.73
Mid Sussex	SE	Rural	67.52	Tandridge	SE	Rural	88.17
Maidstone	SE	Rural	67.18	Camden	Lon	Urban	88.12
Castle Point	E	Urban	66.91	Hillingdon	Lon	Urban	87.74
Hounslow	Lon	Urban	66.65	Redbridge	Lon	Urban	87.69
Redbridge	Lon	Urban	66.51	Kingston upon Thames	Lon	Urban	87.62

Source: As Table 2.1.

⁶ DEFRA (2006) 'Rural Definition and Local Authority Classification', available from <http://www.defra.gov.uk/rural/ruralstats/rural-definition.htm#defn>, accessed in September 2006.

Henceforward in this paper, all analysis based on the urban/rural classification uses this deficit which is a snapshot as 2005.

Table 2.8 lists the ten LA areas in England with the lowest average weekly rents in 1998/99 and 2006/07. In 1998/99, Warrington had the lowest average rent (£39.06), followed by East Lindsey (£39.18) and Hambleton (£39.31). Of the ten LA areas, four were in the North West, four in the North East, and one each in the East Midlands and Yorkshire & the Humber. Seven were categorised as rural areas while three were urban. Three LA areas on the list in 1998/99 remained in 2006/07. Newcastle-under-Lyme (£48.48) had the lowest, average rent followed by Derwentside (£49.78) and North Lincolnshire (£50.09). By region, five were in Yorkshire & the Humber, four in the North East, and the remaining one in the West Midlands. Six were urban while four were rural areas.

Table 2.8 Ten LA areas with the lowest weekly average rents, 1998/99 and 2006/07

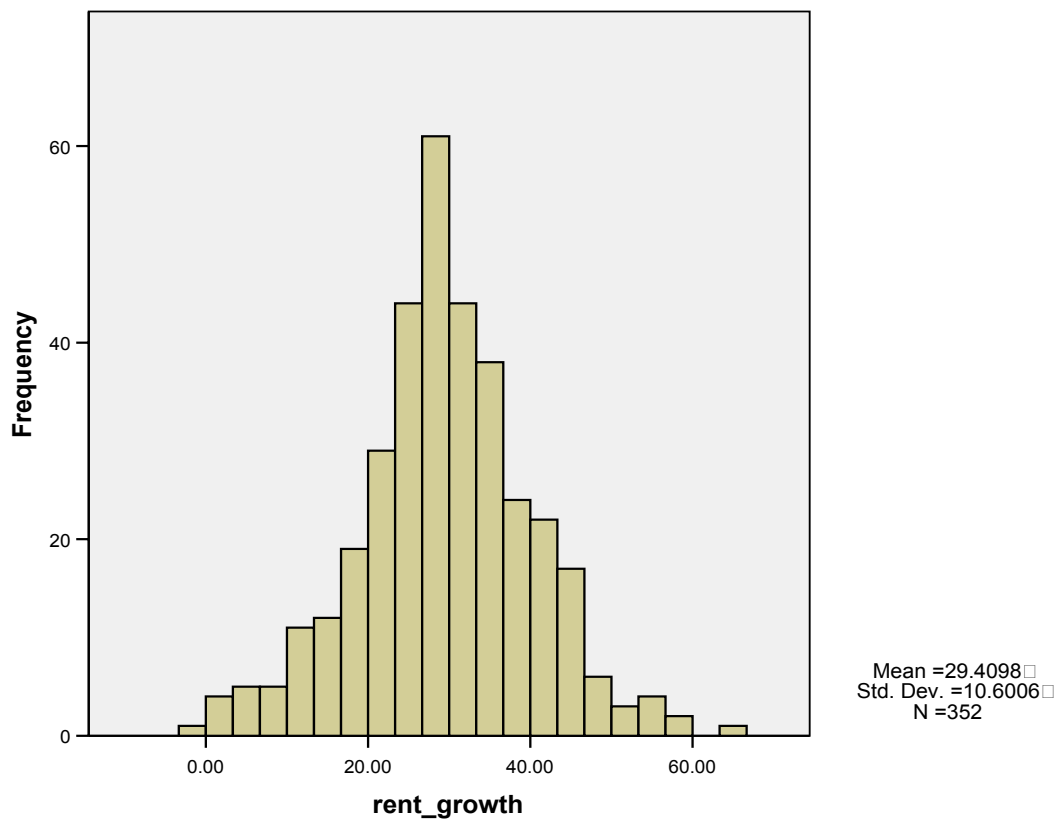
1998/99 LA area	GOR	Rural/ Urban	Rent (£)	2006/07 LA area	GOR	Rural/ Urban	Rent (£)
Warrington	NW	Urban	39.06	Newcastle-under-Lyme	W Mid	Urban	48.48
East Lindsey	E Mid	Rural	39.18	Derwentside	NE	Rural	49.78
Hambleton	Y & H	Rural	39.31	North Lincolnshire	Y & H	Rural	50.09
Congleton	NW	Rural	39.36	Calderdale	Y & H	Rural	50.47
Copeland	NW	Rural	39.62	Wakefield	Y & H	Urban	51.24
Allerdale	NW	Rural	40.78	North East Lincolnshire	Y & H	Urban	51.65
Chester-le-Street	NE	Urban	41.01	Wansbeck	NE	Rural	51.69
Newcastle upon Tyne	NE	Urban	41.21	Bradford	YH	Urban	52.82
South Tyneside	NE	Urban	41.71	Chester-le-Street	NE	Urban	53.49
Wansbeck	NE	Rural	41.83	Newcastle upon Tyne	NE	Urban	53.53

Source: As Table 2.1.

LA areas with fast/slow rent growth

Compared with 1998/99, almost all LA areas experienced increases in HA rents over the period to 2006/07. The average growth was 29.4% and the majority experienced growth of around 25% (Figure 2.7). Table 2.9 clarifies the number of LA areas with the largest increases in average weekly rents (35.52% or more, i.e. the upper quartile with respect to rental growth) by region. Of 88 LA areas in the table, approximately two thirds (59 LA areas) were from southern England – 19 in the South East, 17 in London, 13 in the East and ten in the South West. Forty three were urban while 45 were rural areas.

Figure 2.7 Distribution of rent growth from 1998/99 to 2006/07 of all LA areas



Median	Lower quartile	Upper quartile	Min.	Max.	Max. – Min.
29.43	23.37	35.52	-0.03	66.03	66.06

Source: As Table 2.1.

Table 2.9 No. of LA areas with average weekly rents increasing by 35.52% or more from 1998/99 to 2006/07

By region			By urban/rural		
East	13	14.8%	Urban	43	48.9%
East Midlands	2	2.3%	Rural	45	51.1%
London	17	19.3%	England	88	100.0%
North East	-	-			
North West	15	17.0%			
South East	19	21.6%			
South West	10	11.4%			
West Midlands	9	10.2%			
Yorkshire and the Humber	3	3.4%			
England	88	100.0%			

Source: As Table 2.1.

Table 2.10 lists the ten LA areas with the highest growth in average rents between 1998/99 to 2006/07. Wyre had the largest increase of 66.0% – from £42.24 per week in 1998/99 to £70.13 in 2006/07, followed by Congleton (57.0% – from £39.36 in 1998/99 to £61.80 in 2006/07) and Stratford-on-Avon (56.9% – from £43.22 in 1998/99 to £67.83). By region, four of the ten LA areas were in the North West, two in the South East, and one each in the West Midlands, Yorkshire & the Humber and the South West and the East. Six were rural LA areas while four were urban.

Table 2.10 Ten LA areas with the highest increase in weekly average rents (in parentheses, real terms based on 1998/99 figures) from 1998/99 to 2006/07

LA area	GOR	Urban/Rural	1998/99	2006/07	Change	
Wyre	NW	Urban	42.24	70.13	(57.62)	66.0% (36.4%)
Congleton	NW	Rural	39.36	61.80	(50.78)	57.0% (29.0%)
Stratford-on-Avon	W Mid	Rural	43.22	67.83	(55.73)	56.9% (28.9%)
Epsom and Ewell	SE	Urban	53.71	83.54	(68.64)	55.5% (27.8%)
Hambleton	Y & H	Rural	39.31	61.01	(50.13)	55.2% (27.5%)
Bath and North East Somerset	SW	Rural	41.99	64.95	(53.37)	54.7% (27.1%)
Vale of White Horse	SE	Rural	48.01	73.84	(60.67)	53.8% (26.4%)
Hertsmere	E	Rural	52.29	80.01	(65.74)	53.0% (25.7%)
South Ribble	NW	Urban	43.05	65.76	(54.03)	52.8% (25.5%)
Warrington	NW	Urban	39.06	58.73	(48.26)	50.4% (23.6%)

Source: As Table 2.2.

Table 2.11 clarifies the number of LA areas with the lowest rates of growth (23.37% or less, i.e., the lower quartile in terms of growth) by region. Of the 88 LA areas in the table, 16 were in the South West, accounting for 18.2% of the total. This was followed by the East Midlands and the South East (13 or 14.8% for each). Fifty two LA areas were categorised as urban areas while 36 were rural.

Table 2.11 No. of LA areas with the average weekly rents changes by 23.37% or less from 1998/99 to 2006/07

By region			By urban/rural		
East	10	11.4%	Urban	52	59.1%
East Midlands	13	14.8%	Rural	36	40.9%
London	1	1.1%	England	88	100.0%
North East	5	5.7%			
North West	8	9.1%			
South East	13	14.8%			
South West	16	18.2%			
West Midlands	11	12.5%			
Yorkshire and the Humber	11	12.5%			
England	88	100.0%			

Source: As Table 2.1.

Table 2.12 lists the ten LA areas with the lowest rent growth from 1998/99 to 2006/07. Maidstone experienced almost no growth – from £67.18 per week in 1998/99 to £67.16 in 2006/07. The second lowest growth was observed in Newcastle-under-Lyme (0.8% – from £48.08 to £48.48) and this was followed by North Norfolk (2.3% – from £54.62 to £55.90). Of the ten LA areas on the list, two each were in the East Midlands, the South East and Yorkshire & the Humber, while one each in the South East, the West Midlands, the East and the North West. Six were urban LA areas and four were rural.

Table 2.12 Ten LA areas with the lowest increase in weekly average rents (in parentheses, real terms based on 1998/99 figures) from 1998/99 to 2006/07

LA area	GOR	Urban/Rural	1998/99	2006/07	Change	
Maidstone	SE	Rural	67.18	67.16	(55.18)	0.0% (-17.9%)
Newcastle-under-Lyme	W Mid	Urban	48.08	48.48	(39.83)	0.8% (-17.2%)
North Norfolk	E	Rural	54.62	55.90	(45.93)	2.3% (-15.9%)
Fylde	NW	Urban	56.13	57.51	(47.25)	2.5% (-15.8%)
South Gloucestershire	SW	Urban	61.51	63.13	(51.87)	2.6% (-15.7%)
Erewash	E Mid	Urban	54.56	56.49	(46.42)	3.5% (-14.9%)
North Lincolnshire	Y & H	Rural	47.76	50.09	(41.16)	4.9% (-13.8%)
Wakefield	Y & H	Urban	48.22	51.24	(42.10)	6.3% (-12.7%)
Derbyshire Dales	E Mid	Rural	55.98	59.62	(48.99)	6.5% (-12.5%)
Weymouth and Portland	SW	Urban	58.63	62.51	(51.36)	6.6% (-12.4%)

Source: As Table 2.2.

2.5 HA rents by urban and rural areas

Table 2.13 sets out HA rents for rural and urban areas over the period of 1998/99 to 2006/07. In 2006/07, the average HA rent was £66.90 per week for urban areas and £66.76 for rural areas. Through the observation period, HA rents in both groups continuously increased. Compared with 1998/99, the average urban rent rose by £11.53 or 21.8% (in real terms 3.9%; Table 2.14) in 2006/07, while the average rural rent increased by £15.32 or 29.8% (in real terms 6.6%). Urban average has been above the rural equivalent for the observation period except in 2004/05 and the following year.

Table 2.13 Weekly average rents by urban/rural classification, 1998/99 – 2006/07

	Urban		Rural		Urban – rural	
	Rent	Change	Rent	Change	Rent	Change (%-point)
1998/99	52.93		51.47		1.46	
1999/00	54.05	2.1%	52.84	2.7%	1.21	-0.5
2000/01	55.00	1.8%	53.32	0.9%	1.68	0.8
2001/02	56.77	3.2%	55.47	4.0%	1.30	-0.8
2002/03	57.39	1.1%	56.56	2.0%	0.83	-0.9
2003/04	59.15	3.1%	58.17	2.8%	0.98	0.2
2004/05	61.77	4.4%	61.93	6.5%	-0.16	-2.0
2005/06	64.46	4.4%	64.62	4.3%	-0.16	0.0
2006/07	66.90	3.8%	66.79	3.4%	0.11	0.4
1998/99 – 2006/07		26.4%		29.8%		-3.4
Estimated annual change		3.0%		3.3%		-0.3

Note: Weighted average of LA areas' weekly average rents. For the definition of urban and rural LA areas, see Footnote 6. Errors might be allowed due to rounding. City of London and Isle of Scilly were excluded.

Source: As Table 2.1.

Table 2.14 Weekly average rents by urban/rural classification in real terms (base year = 1998/99), 1998/99 – 2006/07

	Urban		Rural		Urban – rural	
	Rent	Change	Rent	Change	Rent	Change (%-point)
1998/99	52.93		51.47		1.46	
1999/00	53.46	1.0%	52.27	1.5%	1.20	-0.5
2000/01	52.68	-1.5%	51.07	-2.3%	1.61	0.8
2001/02	53.46	1.5%	52.23	2.3%	1.22	-0.8
2002/03	53.14	-0.6%	52.37	0.3%	0.77	-0.9
2003/04	53.29	0.3%	52.41	0.1%	0.88	0.2
2004/05	53.99	1.3%	54.13	3.3%	-0.14	-2.0
2005/06	54.86	1.6%	55.00	1.6%	-0.14	0.0
2006/07	54.97	0.2%	54.88	-0.2%	0.09	0.4
1998/99 – 2006/07		3.9%		6.6%		-2.7
Estimated annual change				0.8%		-0.3

Source: As Tables 2.2 and 2.11.

Table 2.15 sets out the breakdown of average weekly rents into six categories of rural or urban LA areas. The highest figures (both for rents and annual changes) among the six categories are highlighted in yellow while the lowest in blue. For the observation period, the most urban category, Major Urban, has experienced the highest rent, except in 2004/05 when the Rural-50 category was the highest. By contrast the second most urban group, Large Urban, had the lowest rent over the period, except in the first two years when the most rural category, Rural-80, had the lowest. With respect to growth in average rents, Rural-80 had the highest growth for the period (31.9% or an annual rate of 3.5% in real terms 8.4% or an annual rate of 1.0%; Table 2.16). This was followed by Rural-50 (29.7% or an annual rate of 3.3%, in real terms 6.6% or an annual rate of 0.8%). The lowest growth was observed in Large Urban areas (22.0% or an annual rate of 2.5%, in real terms 0.3% and an annual rate appeared almost no growth).⁷

⁷ For reference, using a numerical explanatory variable representing urban/rural characteristics, instead of the categorical ones used above, the correlations between urban/rural feature and HA rents across all LA areas were examined. The results in the table below showed no strong correlation with respect to either rent or rental growth.

The correlation coefficient with % of rural population in each LA (2005)	
Net rents in 2006/07	Net rents growth 98/99 – 06/07
-0.096	-0.016

Table 2.15 Weekly average rents by six urban/rural classifications, 1998/99 – 2006/07

	Major urban		Large urban		Other urban		Rural-26	
	Rent	Change	Rent	Change	Rent	Change	Rent	Change
1998/99	53.61		51.41		52.26		53.32	
1999/00	55.27	3.1%	51.66	0.5%	52.63	0.7%	54.24	1.7%
2000/01	56.62	2.4%	51.14	-1.0%	54.03	2.7%	53.21	-1.9%
2001/02	58.08	2.6%	53.21	4.0%	56.32	4.2%	55.21	3.8%
2002/03	58.12	0.1%	54.51	2.4%	57.83	2.7%	56.48	2.3%
2003/04	60.16	3.5%	56.27	3.2%	58.62	1.4%	58.08	2.8%
2004/05	62.82	4.4%	58.53	4.0%	61.41	4.8%	62.39	7.4%
2005/06	65.96	5.0%	60.50	3.4%	63.42	3.3%	65.21	4.5%
2006/07	68.58	4.0%	62.74	3.7%	65.53	3.3%	67.72	3.8%
Change:								
1998/99 – 2006/07		27.9%		22.0%		25.4%		27.0%
Estimated annual change		3.1%		2.5%		2.9%		3.0%

	Rural-50		Rural-80		Max. – min.	
	Rent	Change	Rent	Change	Rent	Change (%-point)
1998/99	51.91		49.54		4.07	
1999/00	53.96	3.9%	50.86	2.7%	4.41	3.5
2000/01	54.99	1.9%	52.17	2.6%	5.48	4.6
2001/02	57.56	4.7%	54.21	3.9%	4.87	2.1
2002/03	57.49	-0.1%	55.87	3.1%	3.61	3.2
2003/04	59.14	2.9%	57.50	2.9%	3.89	2.1
2004/05	63.08	6.7%	60.56	5.3%	4.55	3.4
2005/06	65.81	4.3%	63.08	4.2%	5.46	1.7
2006/07	67.34	2.3%	65.36	3.6%	5.84	1.7
Change:						
1998/99 – 2006/07		29.7%		31.9%		9.9
Estimated annual change		3.3%		3.5%		1.0

Table 2.16 Weekly average rents by six urban/rural classifications in real terms (base year = 1998/99), 1998/99 – 2006/07

	Major urban		Large urban		Other urban		Rural-26	
	Rent	Change	Rent	Change	Rent	Change	Rent	Change
1998/99	53.61		51.41		52.26		53.32	
1999/00	54.67	2.0%	51.10	-0.6%	52.06	-0.4%	53.65	0.6%
2000/01	54.23	-0.8%	48.98	-4.1%	51.75	-0.6%	50.97	-5.0%
2001/02	54.69	0.8%	50.10	2.3%	53.03	2.5%	51.99	2.0%
2002/03	53.81	-1.6%	50.47	0.7%	53.55	1.0%	52.30	0.6%
2003/04	54.20	0.7%	50.69	0.4%	52.81	-1.4%	52.32	0.1%
2004/05	54.91	1.3%	51.16	0.9%	53.68	1.6%	54.54	4.2%
2005/06	56.14	2.2%	51.49	0.6%	53.97	0.5%	55.50	1.8%
2006/07	56.35	0.4%	51.55	0.1%	53.84	-0.2%	55.65	0.3%
Change:								
1998/99 – 2006/07		5.1%		0.3%		3.0%		4.4%
Estimated annual change		0.6%		0.0%		0.4%		0.5%

	Rural-50		Rural-80		Max. – min.	
	Rent	Change	Rent	Change	Rent	Change (%-point)
1998/99	51.91		49.54		4.07	
1999/00	53.37	2.8%	50.31	1.5%	4.36	3.4
2000/01	52.67	-1.3%	49.97	-0.7%	5.25	4.4
2001/02	54.20	2.9%	51.05	2.1%	4.59	2.1
2002/03	53.23	-1.8%	51.73	1.3%	3.34	3.1
2003/04	53.28	0.1%	51.80	0.1%	3.50	2.1
2004/05	55.14	3.5%	52.94	2.2%	3.98	3.3
2005/06	56.01	1.6%	53.69	1.4%	4.65	1.7
2006/07	55.33	-1.2%	53.70	0.0%	4.80	1.6
Change:						
1998/99 – 2006/07		6.6%		8.4%		8.1
Estimated annual change		0.8%		1.0%		1.0

Source: As Table 2.14.

3. House prices across England 1998/99 – 2006/07

3.1 House prices as indices for HA property values

There is no time-series statistics evidence on what would be the market prices of HA housing which could form the basis for estimating HA rental rates of return. As a substitute, we use LQ house prices provided by the Communities and Local Government (CLG)/Land Registry.⁸ The reason for choosing the LQ, rather than the median, is mainly because the rents examined in the previous section reflect the lower part of the rental market.⁹ Thus, LQ house prices are more likely to be an appropriate comparator.¹⁰ The annual term for LQ house prices in this section is defined as April 1st to March 31st of the following year, and the figures are not unadjusted for inflation. LA areas with some geographical or socio-economic peculiarity have been excluded from the analyses at LA level. This applies for example to the City of London and the Isles of Scilly.

3.2 The national trend of the LQ house price

Table 3.1 sets out LQ house prices in England from 1998/99 to 2006/07. Over the observation period, national LQ house prices have increased considerably. In 1998/99, the average house price was £46,500. By 2006/07, it had risen to £124,200. This implies a growth rate of 167.1% or 13.1% per annum. In real terms, the increase was 119.5% or an annual rate of 10.3% (Table 3.2). The LQ house price increased particularly rapidly from 2002/03 to 2004/05, but prices increased more moderately afterwards (the latest annual growth was 7.5% or in real terms 3.8%), possibly partly reflecting, with some time lags, the Bank of England's tightening monetary policy, which affected borrowers' cost (Appendices 1 and 2).

Table 3.1 LQ house prices: England, 1998/99 – 2006/07

	LQ house price	Change
1998/99	46,500	
1999/00	51,000	9.7%
2000/01	54,950	7.7%
2001/02	60,000	9.2%
2002/03	74,250	23.8%
2003/04	89,000	19.9%
2004/05	108,000	21.3%
2005/06	115,500	6.9%
2006/07	124,200	7.5%
1998/99 – 2006/07		167.1%
Estimated annual change		13.1%

Source: DCLG/Land Registry. Dataspring calculation for changes.

⁸ Formerly the data were provided by the Office of the Deputy Prime Minister.

⁹ According to the DWP *Family Resource Survey* available from CLG (2006), 49% of social housing renters had gross annual income (of house reference person and partner) of less than £10K in 2004/05, whereas the proportion for private housing renters was 22%.

¹⁰ In calculating of the LQ house prices, CLG did not include sales at below market price (e.g., Right To Buy), sales below £1,000 and sales above £20m.

Table 3.2 LQ house prices in real terms (base year = 1998/99): England, 1998/99 – 2006/07

	LQ house price	Change
1998/99	46,500	
1999/00	50,445	8.5%
2000/01	52,634	4.3%
2001/02	56,497	7.3%
2002/03	68,750	21.7%
2003/04	80,180	16.6%
2004/05	94,406	17.7%
2005/06	98,298	4.1%
2006/07	102,054	3.8%
1998/99 – 2006/07		119.5%
Estimated annual change		10.3%

Note: The deflators are as Footnote 3.

Source: As Table 3.2.

3.3 The regional trend of the LQ house prices

Table 3.3 sets out LQ house prices by GOR over the period between 1998/99 and 2006/07. In 2006/07, the highest price was observed in London (£190,000), and the lowest in the North East (£85,000). London had the highest LQ house prices, and the North East had the lowest throughout the observation period. The range between the lowest to highest priced regions widened from £38,000 in 1998/99 to £105,000 in 2006/07.

Table 3.3 LQ house price by region, 1998/99 – 2006/07

	East	E. Mid,	London	NE	NW
1998/99	50,000	39,000	70,000	32,000	35,000
1999/00	55,950	42,000	83,500	34,000	37,000
2000/01	63,500	44,500	99,000	33,500	37,000
2001/02	74,000	50,000	115,000	35,000	39,950
2002/03	92,500	62,950	140,000	38,000	44,000
2003/04	112,500	80,000	157,000	49,950	56,000
2004/05	127,000	95,000	172,000	65,000	73,000
2005/06	130,000	102,000	179,000	76,500	83,500
2006/07	140,000	109,950	190,000	85,000	93,500
Change:					
96/97 – 06/07	180.0%	181.9%	171.4%	165.6%	167.1%
Estimated annual	13.7%	13.8%	13.3%	13.0%	13.1%

	SE	SW	W. Mid.	Y & H	Max. – Min.
1998/99	59,950	49,950	42,000	36,000	38,000
1999/00	68,000	56,000	45,000	38,000	49,500
2000/01	79,500	64,000	48,000	38,907	65,500
2001/02	90,000	74,950	54,000	40,000	80,000
2002/03	114,000	92,500	65,000	45,500	102,000
2003/04	129,950	112,675	80,000	59,950	107,050
2004/05	144,000	129,000	95,000	77,000	107,000
2005/06	148,500	132,000	104,000	86,000	102,500
2006/07	157,000	143,000	110,000	96,000	105,000
Change:					(%-point)
96/97 – 06/07	161.9%	186.3%	161.9%	166.7%	20.0
Estimated annual	12.8%	14.1%	12.8%	13.0%	1.0

Source: As Table 3.1.

LQ house prices rose in all nine regions between 1998/99 and 2006/07. The fastest growth, in percentage terms, was seen in the South West (186.3% or an annual rate of 14.1% and in real terms 135.2% or 11.3%; Table 3.4); followed by the East Midlands (181.9% or an annual rate of 13.8%, in real terms 131.7% or 11.1%); and the East (160.0% or an annual rate of 14.6%, in real terms 121.3% or 12.0%). The South East and the West Midlands, on the other hand, showed the slowest growth but the expansions were still considerable – 161.9% or an annual rate of 12.8%, in real terms 115.2% or 10.1% for each. The third slowest was the North East (165.6% or an annual rate of 13.0%, in real terms 118.3% or 10.2%). Therefore in all regions real house prices were significant over the period.

Table 3.4 LQ house price by region in real terms (base year = 1998/99), 1998/99 – 2006/07

	East	E. Mid,	London	NE	NW
1998/99	50,000	39,000	70,000	32,000	35,000
1999/00	55,341	41,543	82,591	33,630	36,597
2000/01	60,824	42,625	94,828	32,088	35,441
2001/02	69,680	47,081	108,286	32,957	37,618
2002/03	85,648	58,287	129,630	35,185	40,741
2003/04	101,351	72,072	141,441	45,000	50,450
2004/05	111,014	83,042	150,350	56,818	63,811
2005/06	110,638	86,809	152,340	65,106	71,064
2006/07	115,037	90,345	156,122	69,844	76,828
change:					
96/97 – 06/07	130.1%	131.7%	123.0%	118.3%	119.5%
Estimated annual	11.0%	11.1%	10.5%	10.2%	10.3%

	East	E. Mid,	London	NE	NW
1998/99	59,950	49,950	42,000	36,000	38,000
1999/00	67,260	55,391	44,510	37,587	48,961
2000/01	76,149	61,303	45,977	37,267	62,739
2001/02	84,746	70,574	50,847	37,665	75,330
2002/03	105,556	85,648	60,185	42,130	94,444
2003/04	117,072	101,509	72,072	54,009	96,441
2004/05	125,874	112,762	83,042	67,308	93,531
2005/06	126,383	112,340	88,511	73,191	87,234
2006/07	129,006	117,502	90,386	78,882	86,278
change:					(%-point)
96/97 – 06/07	115.2%	135.2%	115.2%	119.1%	16.5
Estimated annual	10.1%	11.3%	10.1%	10.3%	1.0

Source: As Table 3.3.

3.4 HA house prices at LA level

LQ house prices across LA areas

Table 3.5 describes LA areas' LQ house prices over the period 1998/99 to 2006/07.¹¹ In 2006/07 the median of LQ prices was £137,500, compared with £48,747.50 in 1998/99, providing growth of 182.1%. Over the observation period, the distribution of LQ house prices across LA areas widened. In 1998/99, the lowest LQ house price was £19,950, while the

¹¹ LA areas are based on the boundaries as of April 1998. Figures for any "new" re-organised areas have been estimated retrospectively applying the new boundaries back to 1996, making appropriate assumptions for any county re-organisation which involved cutting across districts (CLG/Land Registry).

highest £150,000, a range of £130,050. The standard deviation for the year was £18,969.49. In 2006/07, the range had increased to £213,000 with the highest £360,000 and the lowest £47,000. Even so, the standard deviation did not show a drastic expansion over the past five years.

Table 3.5 Range of the LQ house prices over the last four years house price at LA level, 1998/99 – 2006/07

	Median	Std. Deviation	Minimum	Maximum	Max. – min.
1998/99	48,747.50	18,969.49	19,950.00	150,000.00	130,050.00
1999/00	53,531.25	24,007.28	21,000.00	190,000.00	169,000.00
2000/01	60,000.00	30,197.55	17,500.00	222,500.00	205,000.00
2001/02	71,000.00	34,336.16	16,500.00	240,000.00	223,500.00
2002/03	87,972.50	40,654.48	12,000.00	260,000.00	248,000.00
2003/04	109,000.00	42,091.16	19,000.00	270,000.00	251,000.00
2004/05	125,000.00	41,513.34	22,500.00	300,000.00	277,500.00
2005/06	129,281.25	40,715.51	34,000.00	322,250.00	288,250.00
2006/07	137,500.00	42,681.80	47,000.00	360,000.00	313,000.00
Change: 96/97 – 06/07	182.1%	125.0%	135.6%	140.0%	140.7%

Note: Excluding City of London and Isles of Scilly.

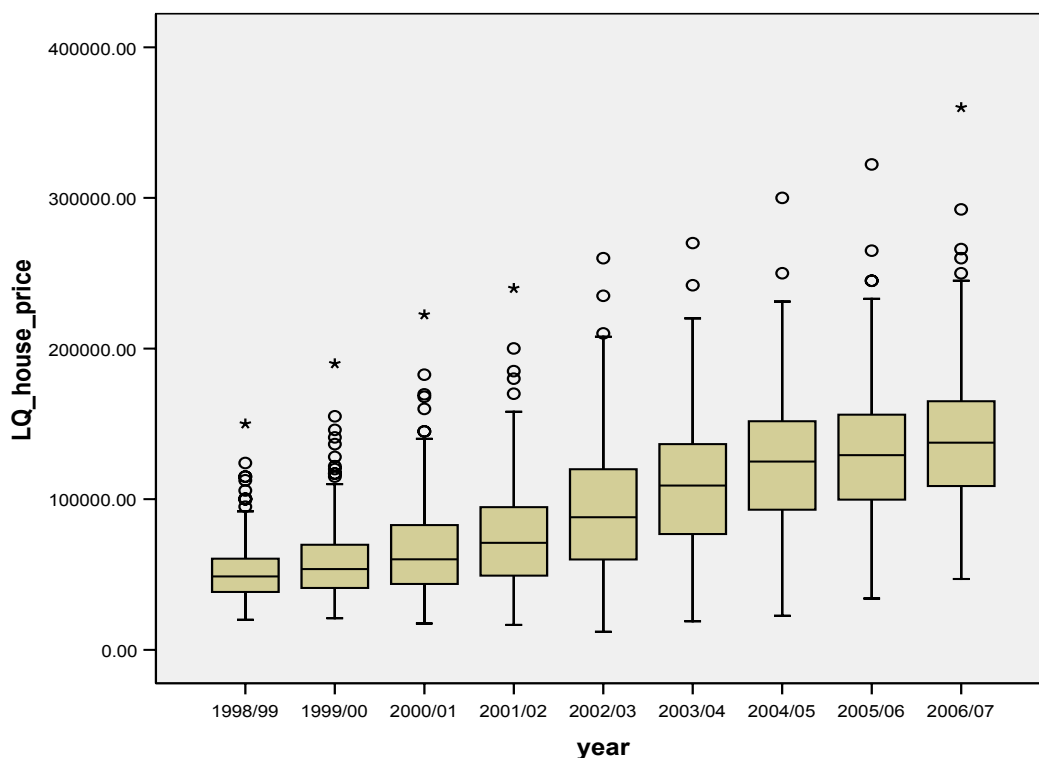
Source: As Table 3.1.

Figure 3.1 illustrates the distribution of LQ house prices across all LA areas from 1998/99 to 2006/07. In the figures, each box explains an inter-quartile (i.e. from the 25th to 75th percentile) range of LQ house prices for LA areas across England, and a line in the boxes represents the median prices. The whiskers, which extend from the boxes, show the highest and lowest prices within a range of 1.5 times the box length. Values outside the ends of the whiskers are outliers of LQ house prices, which appear as circles (LQ house prices between 1.5 and 3 box lengths from the upper or lower edge of the box) or asterisks (LQ house prices more than 3 box lengths from the upper or lower edge of the box).

The graph explains that in each year there was a positive skew in the data; that is, the range of the upper half of LQ house prices was broader than the lower half. The overall range at the upper end has increased over for the period, and all the outliers in LQ house prices each year are at the upper end of the scale.

In 2002/03, on the other hand, an extreme high outlier (shown as an asterisk) disappeared while only a few high outliers (shown as circles) were observed. Instead, the range of the middle cohort (i.e., length of a box) grew obviously in the year – this reflects a sharp increase in the standard deviation (£6,318.32) for the year. The latest dataset had one extreme value but the regional discrepancy in the middle cohort remained stable.

Figure 3.1 Distribution of LQ house prices of all LA areas, 1998/99 – 2006/07



Source: As Table 3.3.

LA areas with a high/low LQ house price

Table 3.6 lists the ten LA areas with the highest LQ house prices among all LA areas in 1998/99 and 2006/07 respectively. In 1998/99, Kensington & Chelsea had the highest LQ house price (£150,000), followed by Westminster (£124,000) and Hammersmith & Fulham (£115,000). Of the highest ten LA areas, eight were in the London region while four in the South East. Eight LA areas were classified as urban areas while two were rural.

The proportion displayed in 2006/07 was fairly similar. Of the ten LA areas, nine were already in the 1998/99 list, and the highest three LA areas were the same – Kensington & Chelsea (£360,000), Westminster (£292,375) and Hammersmith & Fulham (£266,000). By region, seven were in London, and three in the South East, eight were urban with two rural areas.

Table 3.6 LA areas with the highest LQ house price, 1998/99 and 2006/07

1998/99				2006/07			
LA area	GOR	Rural/Urban	LQ house prices	LA area	GOR	Rural/Urban	LQ house prices
Kensington and Chelsea	Lon	Urban	150,000.00	Kensington and Chelsea	Lon	Urban	360,000.00
Westminster	Lon	Urban	124,000.00	Westminster	Lon	Urban	292,375.00
Hammersmith and Fulham	Lon	Urban	115,000.00	Hammersmith and Fulham	Lon	Urban	266,000.00
Richmond upon Thames	Lon	Urban	114,950.00	Camden	Lon	Urban	259,987.50
Camden	Lon	Urban	112,500.00	Richmond upon Thames	Lon	Urban	249,950.00
South Bucks	SE	Rural	105,750.00	Wandsworth	Lon	Urban	245,000.00
Chiltern	SE	Rural	100,375.00	South Bucks	SE	Rural	244,950.00
Islington	Lon	Urban	100,000.00	Elmbridge	SE	Urban	240,000.00
Windsor and Maidenhead	SE	Urban	100,000.00	Chiltern	SE	Rural	235,000.00
Elmbridge	SE	Urban	100,000.00	Islington	Lon	Urban	234,000.00

Source: As Table 3.5.

Table 3.7 lists the ten LA areas with the lowest LQ house prices among all LA areas in 1998/99 and 2006/07. In 1998/99, Pendle had the lowest LQ house price (£19,950), followed by Easington (£21,950) and Hyndburn (£22,000). Of the ten LA areas, five were in the North West, three in the North East, one in Yorkshire & the Humber and one in the West Midlands.

Seven were categorised as urban areas while three were rural. Eight LA areas on the list in 1998/99 remained there in 2006/07. Burnley (£47,000) had the lowest LQ house prices, followed by Pendle (£58,000), Kingston upon Hull and Hyndburn (both £64,000). By region, five were in the North West, three in the North East and one each in Yorkshire & the Humber and the West Midlands. Eight were urban while two were rural.

Table 3.7 Ten LA areas with the lowest LQ house price, 1998/99 and 2006/07

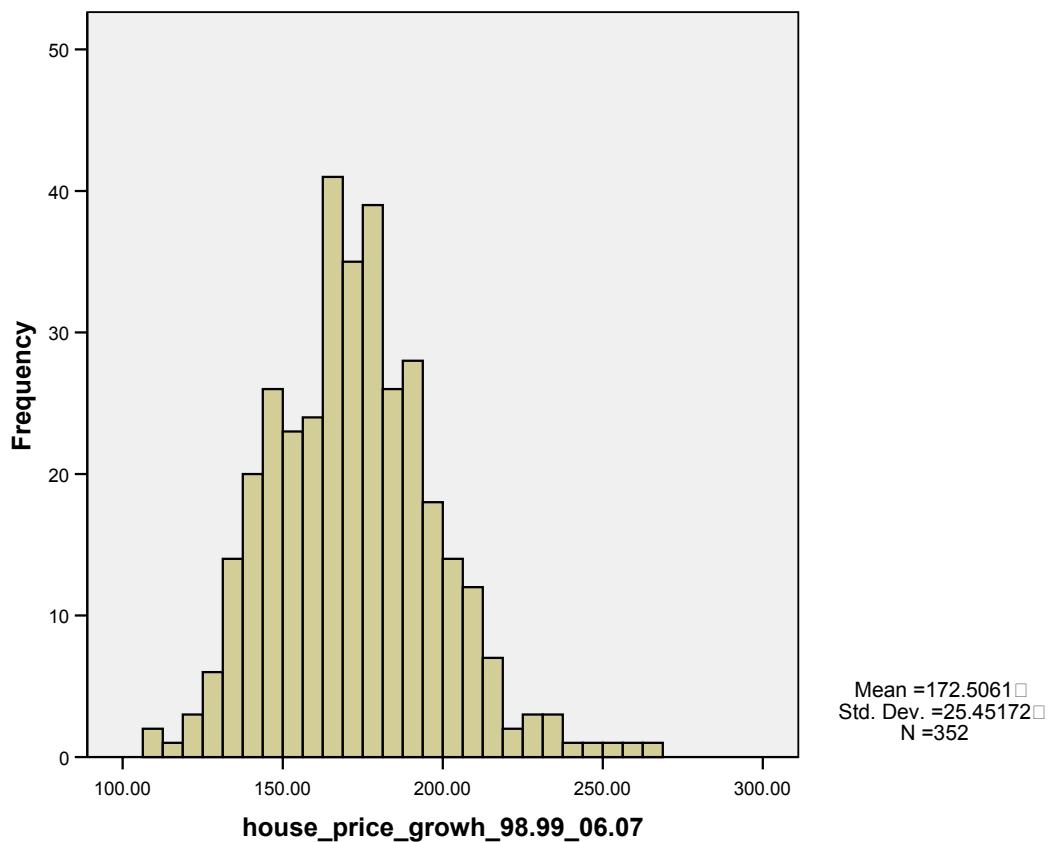
1998/99				2006/07			
LA area	GOR	Rural/Urban	LQ house prices	LA area	GOR	Rural/Urban	LQ house prices
Pendle	NW	Urban	19,950.00	Burnley	NW	Urban	47,000.00
Easington	NE	Rural	21,950.00	Pendle	NW	Urban	58,000.00
Hyndburn	NW	Urban	22,000.00	Kingston upon Hull	YH	Urban	64,000.00
Burnley	NW	Urban	22,500.00	Hyndburn	NW	Urban	64,000.00
Barrow-in-Furness	NW	Urban	23,500.00	Barrow-in-Furness	NW	Urban	64,500.00
Blackburn with Darwen	NW	Urban	25,000.00	Hartlepool	NE	Urban	65,000.00
Kingston upon Hull	Y & H	Urban	25,000.00	Stoke-on-Trent	WM	Urban	67,000.00
Stoke-on-Trent	W Mid	Urban	25,000.00	Sedgefield	NE	Rural	67,000.00
Wansbeck	NE	Rural	25,000.00	Easington	NE	Rural	67,962.50
Derwentside	NE	Rural	26,500.00	Blackburn with Darwen	NW	Urban	69,000.00

Source: As Table 3.5.

LA areas with a fast /slow growth of LQ house price

All the LA areas experienced increases in LQ house prices between 1998/99 and 2006/07. The average growth was 172.5% and the majority of the LA areas grew at around this rate (Figure 3.2). Table 3.8 sets out the number of LA areas with the highest growth (188.70% or more, i.e. the upper quartile measured by growth) by region. The largest provider of the LA areas was the South West (24 or 27.3%). This was followed by the East (15 or 17.0%) and the East Midlands (11 or 12.5%). By contrast, the West Midlands had only two LA areas in the table. Forty seven LA areas (53.4%) were categorised as urban while 41 (46.6%) were rural.

Figure 3.2 Distribution of LQ house price growth from 1998/99 to 2006/07 of all LA areas



Median	Lower quartile	Upper quartile	Min.	Max.	Max. – min.
171.87	154.15	188.70	108.89	268.52	159.63

Source: As Table 3.3.

Table 3.8 The number of LA areas where LQ house prices increased by 188.70% or more from 1998/99 to 2006/07

By region			By urban/rural		
East	15	17.0%	Urban	47	53.4%
East Midlands	11	12.5%	Rural	41	46.6%
London	7	8.0%	England	88	100.0%
North East	6	6.8%			
North West	9	10.2%			
South East	8	9.1%			
South West	24	27.3%			
West Midlands	2	2.3%			
Yorkshire& the Humber	6	6.8%			
England	88	100.0%			

Source: As Table 3.5.

Table 3.9 lists ten LA areas with the highest increases in LQ house prices between 1998/99 to 2006/07. Manchester had the highest increase of 268.5% or in real terms 202.8%. The second highest was in Penwith (260.5% or in real terms 196.2%); followed by Newham (250.0% or in real terms 187.6%). By region, five LA areas were in the South West, two in the South East, and one each in London, the East and the North West. Six were urban and four were rural.

Table 3.9 LA areas with the highest LQ house price growth (In parentheses, real terms based on 1998/99 figures) from 1998/99 to 2006/07

	GOR	Urban/rural	1998/99	2006/07		Change	
Manchester	NW	Urban	27,000.00	99,500.00	(81,756.73)	268.5%	(202.8%)
Penwith	SW	Rural	43,000.00	155,000.00	(127,359.72)	260.5%	(196.2%)
Newham	Lon	Urban	49,995.00	175,000.00	(143,793.24)	250.0%	(187.6%)
Kerrier	SW	Rural	40,325.00	140,000.00	(115,034.59)	247.2%	(185.3%)
Restormel	SW	Rural	42,987.50	145,950.00	(119,923.56)	239.5%	(179.0%)
Brighton and Hove	SE	Urban	49,000.00	165,000.00	(135,576.48)	236.7%	(176.7%)
Norwich	E	Urban	37,000.00	123,500.00	(101,476.94)	233.8%	(174.3%)
Hastings	SE	Urban	33,000.00	109,500.00	(89,973.48)	231.8%	(172.6%)
Weymouth and Portland	SW	Urban	45,500.00	150,000.00	(123,251.35)	229.7%	(170.9%)
Carrick	SW	Rural	51,000.00	167,000.00	(137,219.83)	227.5%	(169.1%)

Note: Excluding City of London and Isle of Scilly.

Source: As Table 3.5.

Table 3.10 lists the number of LA areas with the lowest LQ house price growth (154.15% or less, i.e. the lower quartile of the growth) by region. Of those, the majority, 38, were in the South East, accounting for 43.2% of the total, followed by the East (12 or 13.6%), the North West and the West Midlands (9 or 10.2% for each). As LA areas of the South East already had high LQ house prices for the base year, the growth for these LA areas appeared moderate in percentage terms, although large in absolute terms. Forty two (47.7%) LA areas were categorised as urban while 46 (52.3%) were rural.

Table 3.10 The number of LA areas with the LQ house price increasing by 154.15% or less from 1998/99 to 2006/07

By region			By urban/rural		
East	12	13.6%	Urban	42	47.7%
East Midlands	1	1.1%	Rural	46	52.3%
London	8	9.1%	England	88	100.0%
North East	5	5.7%			
North West	9	10.2%			
South East	38	43.2%			
South West	4	4.5%			
West Midlands	9	10.2%			
Yorkshire& the Humber	2	2.3%			
England	88	100.0%			

Source: As Table 3.5.

Table 3.11 lists the ten LA areas with the lowest LQ house price growth from 1998/99 to 2006/07. Burnley had the lowest increase of 108.9% for the period (in real terms 71.6%). The second lowest growth was observed in Surrey Heath (112.0% or 74.2% in real terms); followed by Richmond upon Thames (117.4% or 78.7%). Of the ten LA areas on the list, six were in the South East; two were in the North West and one each in London and the West Midlands. Seven were categorised as urban areas while three were rural.

Table 3.11 LA areas with the lowest LQ house price growth (In parentheses, real terms based on 1998/99 figures) from 1998/99 to 2006/07

	GOR	Urban/rural	1998/99	2006/07		Change	
Burnley	NW	Urban	22,500.00	47,000.00	(38,618.75)	108.9%	(71.6%)
Surrey Heath	SE	Urban	92,000.00	195,000.00	(160,226.75)	112.0%	(74.2%)
Richmond upon Thames	Lon	Urban	114,950.00	249,950.00	(205,377.82)	117.4%	(78.7%)
Bracknell Forest	SE	Urban	78,000.00	171,987.50	(141,317.94)	120.5%	(81.2%)
West Lancashire	NW	Rural	48,500.00	108,500.00	(89,151.81)	123.7%	(83.8%)
Hart	SE	Rural	87,000.00	195,000.00	(160,226.75)	124.1%	(84.2%)
Windsor and Maidenhead	SE	Urban	100,000.00	225,000.00	(184,877.02)	125.0%	(84.9%)
Wokingham	SE	Urban	91,950.00	207,500.00	(170,497.69)	125.7%	(85.4%)
Mole Valley	SE	Urban	95,000.00	218,000.00	(179,125.29)	129.5%	(88.6%)
Stratford-on-Avon	W Mid	Rural	72,000.00	166,125.00	(136,500.86)	130.7%	(89.6%)

Source: As Table 3.9.

3.5 HA house prices of rural and urban areas

Table 3.12 lists the estimated LQ house prices for rural and urban areas over the period between 1998/99 to 2006/07. In 2006/07, LQ house prices were £132,500 for the urban areas and £139,961.25 for the rural area. Throughout the observation period, LQ house prices for both groups increased continuously. Urban LQ house prices rose by 110,050 or 181.9% between 1998/99 and 2006/07 (in real terms 131.16%; Table 3.13) while rural LQ house prices increased by £90,961.25 or 185.6% (in real terms 134.7%). Rural LQ house prices have outperformed urban areas over the observation period.

Table 3.12 Estimated LQ house price by the urban/rural classification: 1998/99 – 2006/07

	Urban		Rural		Urban – rural	
	LQ house price	Change	LQ house price	Change	LQ house price	Change (%-point)
1998/99	47,000.00		49,000.00		-2,000.00	
1999/00	51,000.00	8.5%	54,500.00	11.2%	-3,500.00	-2.7
2000/01	59,950.00	17.5%	61,975.00	13.7%	-2,025.00	3.8
2001/02	69,995.00	16.8%	72,000.00	16.2%	-2,005.00	0.6
2002/03	86,500.00	23.6%	88,950.00	23.5%	-2,450.00	0.1
2003/04	105,000.00	21.4%	109,995.00	23.7%	-4,995.00	-2.3
2004/05	121,000.00	15.2%	127,000.00	15.5%	-6,000.00	-0.3
2005/06	124,000.00	2.5%	131,000.00	3.1%	-7,000.00	-0.6
2006/07	132,500.00	6.9%	139,961.25	6.8%	-7,461.25	0.1
1998/99 – 2006/07		181.9%		185.6%		-3.7
Estimated annual change		13.8%		14.0%		-0.2

Source: Dataspring estimation based on LA areas' LQ house prices from CLG/Land Registry. The estimation method produced errors ranging from 2.0% to 10.2%, when we estimate LQ house prices at the GOR level.

Table 3.13 Estimated LQ house prices by urban/rural classification in real terms (base year = 1998/99), 1998/99 – 2006/07

	Urban		Rural		Urban – rural	
	LQ house price	Change	LQ house price	Change	LQ house price	Change (%-point)
1998/99	47,000.00		49,000.00		-2,000.00	
1999/00	50,445.10	7.3%	53,907.02	10.0%	-3,461.92	-2.7
2000/01	57,423.37	13.8%	59,363.03	10.1%	-1,939.66	3.7
2001/02	65,908.66	14.8%	67,796.61	14.2%	-1,887.95	0.6
2002/03	80,092.59	21.5%	82,361.11	21.5%	-2,268.52	0.0
2003/04	94,594.59	18.1%	99,094.59	20.3%	-4,500.00	-2.2
2004/05	105,769.23	11.8%	111,013.99	12.0%	-5,244.76	-0.2
2005/06	105,531.91	-0.2%	111,489.36	0.4%	-5,957.45	-0.6
2006/07	108,874.28	3.2%	115,005.14	3.2%	-6,130.85	0.0
1998/99 – 2006/07		131.6%		134.7%		-3.1
Estimated annual change				11.3%		-0.2

Source: As Table 3.12.

Table 3.14 sets out the breakdown of the above table into six urban and rural categories. The highest figures (both for LQ house prices and for annual changes) among the six categories are highlighted in yellow while the lowest are in blue. For the observation period, the most urban category, Major Urban, has the highest LQ prices, whereas one of the two remaining urban categories (Large Urban or Other Urban) had the lowest prices. In terms of annual changes expressed as percentages, Major Urban and Large Urban were conversely related when Major Urban showed the highest growth rate in 1999/00 and 2000/01. Large Urban experienced the lowest growth. When Major Urban had the lowest growth in 2003/04 and 2004/05, Large Urban had the highest.¹²

¹² For reference, using a numerical explanatory variable representing urban/rural characteristics, instead of the categorical ones used above, the correlations between urban/rural feature and LQ house prices across all LA areas are examined. The results in the table below showed no strong correlation between the urban/rural feature and LQ house prices or with increases in prices.

The correlation coefficient with % of rural population in each LA (2005):

LQ house prices in 2006/07	LQ house price growth 98/99 – 06/07
-0.003	0.077

Note: % of rural population was based on DEFA (2006) 'Rural Definition and Local Authority Classification', available from <http://www.defra.gov.uk/rural/ruralstats/rural-definition.htm#defn>, accessed in September 2006. Recall that the classification was a snap-shot as in 2005.

Table 3.14 Estimated LQ house price by six urban/rural classifications: 1998/99 – 2006/07

	Major urban		Large urban		Other urban		Rural-26	
	LQ house price	Change	LQ house price	Change	LQ house price	Change	LQ house price	Change
1998/99	59,950.00		45,000.00		42,500.00		49,000.00	
1999/00	69,500.00	15.9%	49,000.00	8.9%	47,500.00	11.8%	54,000.00	10.2%
2000/01	80,000.00	15.1%	52,000.00	6.1%	55,000.00	15.8%	60,000.00	11.1%
2001/02	96,000.00	20.0%	58,500.00	12.5%	63,612.50	15.7%	71,000.00	18.3%
2002/03	120,000.00	25.0%	73,950.00	26.4%	77,000.00	21.0%	87,995.00	23.9%
2003/04	140,000.00	16.7%	93,000.00	25.8%	91,000.00	18.2%	105,000.00	19.3%
2004/05	154,950.00	10.7%	112,748.00	21.2%	108,000.00	18.7%	124,000.00	18.1%
2005/06	160,000.00	3.3%	118,000.00	4.7%	112,500.00	4.2%	128,250.00	3.4%
2006/07	170,000.00	6.3%	124,950.00	5.9%	123,500.00	9.8%	135,000.00	5.3%
96/97 – 06/07		183.6%		177.7%		190.6%		175.5%
Estimated annual		13.9%		13.6%		14.3%		13.5%

	Rural-50		Rural-80		Max. – min.	
	LQ house price	Change	LQ house price	Change	LQ house price	Change (%-point)
1998/99	49,500.00		49,250.00		17,450.00	4.1
1999/00	56,475.00	14.1%	54,187.50	10.0%	22,000.00	7.0
2000/01	63,000.00	11.6%	60,000.00	10.7%	28,000.00	9.7
2001/02	73,000.00	15.9%	71,750.00	19.6%	37,500.00	7.5
2002/03	87,975.00	20.5%	89,225.00	24.4%	46,050.00	5.9
2003/04	109,975.00	25.0%	110,000.00	23.3%	49,000.00	9.1
2004/05	125,500.00	14.1%	129,950.00	18.1%	46,950.00	10.6
2005/06	129,747.50	3.4%	133,750.00	2.9%	47,500.00	1.7
2006/07	139,250.00	7.3%	143,125.00	7.0%	46,500.00	4.5
96/97 – 06/07		181.3%		190.6%		15.1
Estimated annual		13.8%		14.3%		0.8

Source: As Table 3.12.

Table 3.14 Estimated LQ house price by 6 urban/rural classifications in real terms (base year = 1998/99), 1998/99 – 2006/07

	Major urban		Large urban		Other urban		Rural-26	
	LQ house price	Change	LQ house price	Change	LQ house price	Change	LQ house price	Change
1998/99	56,080.45		42,095.42		39,756.78		45,837.23	
1999/00	64,292.32	14.6%	45,328.40	7.7%	43,940.80	10.5%	49,953.75	9.0%
2000/01	71,684.59	11.5%	46,594.98	2.8%	49,283.15	12.2%	53,763.44	7.6%
2001/02	84,581.50	18.0%	51,541.85	10.6%	56,046.26	13.7%	62,555.07	16.4%
2002/03	103,896.10	22.8%	64,025.97	24.2%	66,666.67	18.9%	76,186.15	21.8%
2003/04	117,944.40	13.5%	78,348.78	22.4%	76,663.86	15.0%	88,458.30	16.1%
2004/05	126,696.65	7.4%	92,189.70	17.7%	88,307.44	15.2%	101,390.02	14.6%
2005/06	127,388.54	0.5%	93,949.04	1.9%	89,570.06	1.4%	102,109.87	0.7%
2006/07	130,668.72	2.6%	96,041.51	2.2%	94,926.98	6.0%	103,766.33	1.6%
96/97 – 06/07		133.0%		128.2%		138.8%		126.4%
Estimated annual		11.2%		10.9%		11.5%		10.8%

	Rural-50		Rural-80		Max. – min.	
	LQ house price	Change	LQ house price	Change	LQ house price	Change (%-point)
1998/99	46,304.96		46,071.09		16,323.67	
1999/00	52,243.29	12.8%	50,127.20	8.8%	20,351.53	7.0
2000/01	56,451.61	8.1%	53,763.44	7.3%	25,089.61	9.4
2001/02	64,317.18	13.9%	63,215.86	17.6%	33,039.65	7.4
2002/03	76,168.83	18.4%	77,251.08	22.2%	39,870.13	5.8
2003/04	92,649.54	21.6%	92,670.60	20.0%	41,280.54	8.8
2004/05	102,616.52	10.8%	106,255.11	14.7%	38,389.21	10.2
2005/06	103,302.15	0.7%	106,488.85	0.2%	37,818.47	1.7
2006/07	107,033.05	3.6%	110,011.53	3.3%	35,741.74	4.4
96/97 – 06/07		131.1%		138.8%		12.4
Estimated annual		11.0%		11.5%		0.7

Source: As Table 3.13.

4. The relationship between HA rents and house prices across England 1998/99 – 2006/07

This section examines how HA rents vary in relation to house prices – particularly, in terms of how strongly HA rents are correlated with house prices at the national as well as at the lower geographical levels. Annual analyses are also presented.

4.1 Data, methodology and hypothesis

The data sets analysed are as those used in the previous two sections (for details, Table 4.1).

Table 4.1 Data for the tests

Variable	Description	£	Period	Source
HA rent	Average weekly net rent for HAs in LA areas across England	'0	Annual (1998/99 – 2006/07)	as in Section 2
House price	LQ house price for LA areas across England	'000	Annual (1998/99 – 2006/07)	as in Section 3

In our tests, first, correlation coefficients between HA rents and house prices are entered to see the degree of relationships between the two variables. We then run the following simple linear regression to examine how significantly HA rents are influenced by house prices.

$$\text{Model: Weekly rent}_t (\text{£s}) = \alpha + \beta * \text{LQ house price}_t ('000 \text{ £s}) + u_t;$$

where α is a constant term,

β is a coefficient with respect to price

u is an error term, and

t represents a year term, which takes 1(=1998/99) to 9(=2006/07).¹³

HA rents, unlike private rents are regulated and thus, the rents have been restricted for public welfare purposes. If this regulatory constraint is significant, the correlation between HA rents and house prices will be small and HA rents will not be explained to any great degree by house prices. The introduction of the rent restructuring framework, which partly aims to develop links between rents and property values, can be expected to have increased the positive relationship between HA rents and LQ house prices.¹⁴ If this is the case, correlation coefficients will be positive and at the limit rise towards unity, and in the regression β will appear positive and be statistically significant.

4.2 The relationship between HA rents and LQ house prices: England, 1998/99 to 2006/07

First we examine this relationship for LA areas across England from 1998/99 to 2006/07.

The correlation coefficient between rents and LQ house prices was 0.801. This suggests that HA rents and house prices had a reasonably strong positive relationship for the observation period.

¹³ Year dummy variables are not included (neither for intercepts nor for slope coefficients). This is because we are interested in annual changes not only of house price impacts on HA rents but also of how likely house prices can be a solo determinant for HA rents (i.e. model fitness). Therefore, we will run the same regressions for each year's sub-set separately.

¹⁴ For details of the social rent restructuring, see DETR (2000).

The regression results were:

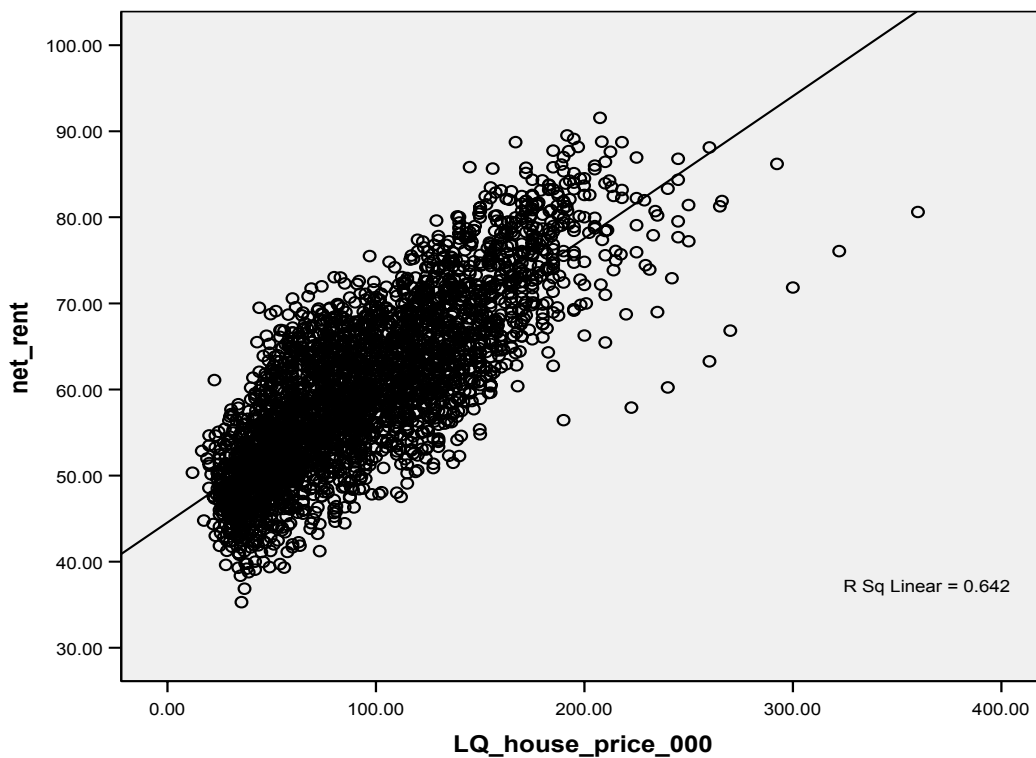
$$\text{Weekly rent} = 44.556 + 0.165 * \text{LQ house price.}$$

$$(193.75)^{***} (75.37)^{***}$$

t-value in parenthesis, $R^2 = 0.642$, Adjusted $R^2 = 0.642$
 $N = 3,168$
 *** 1-% significance level

The equation confirms a positive and significant relationship between rents and house prices. The coefficient on house price was significantly positive (0.165). The adjusted R^2 (0.642) implies that there are other important determinates of HA rents.¹⁵ The linear model and the scatter patterns of LA areas relating rents to house prices during the eight year period are presented in Figure 4.1.

Figure 4.1 Relationship between HA rents and house prices: England, 1998/99 – 2006/07



For reference, we have examined the same relationship with respect to ‘real’ net rents and ‘real’ LQ house prices. The real values are derived by deflating the two variable sets based on the RPI (September 1998) = 100.¹⁶ The correlation coefficient between rents and house prices is

¹⁵ R^2 (adjusted R^2) is an indicator for the goodness of fit of a model, i.e., it indicates how well the regression line approximates the real data points. $R^2 = 1.0$ means that the regression line perfectly fits the data. In this case, the reasonably high but moderate R^2 (0.642) suggests some explanatory variables other than house prices to raise the goodness of fit of the model. That is, house prices are a critical but not sole determinant for HA rents.

¹⁶ The deflator for each year is as below.

1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
1.000	1.011	1.044	1.062	1.080	1.110	1.144	1.175	1.217

Source: Datasprint’s calculation base on ONS.

0.657. This means that HA rents and house prices were positively related over the observation period but the degree of relationship is lower than that in nominal terms.

The regression results were:

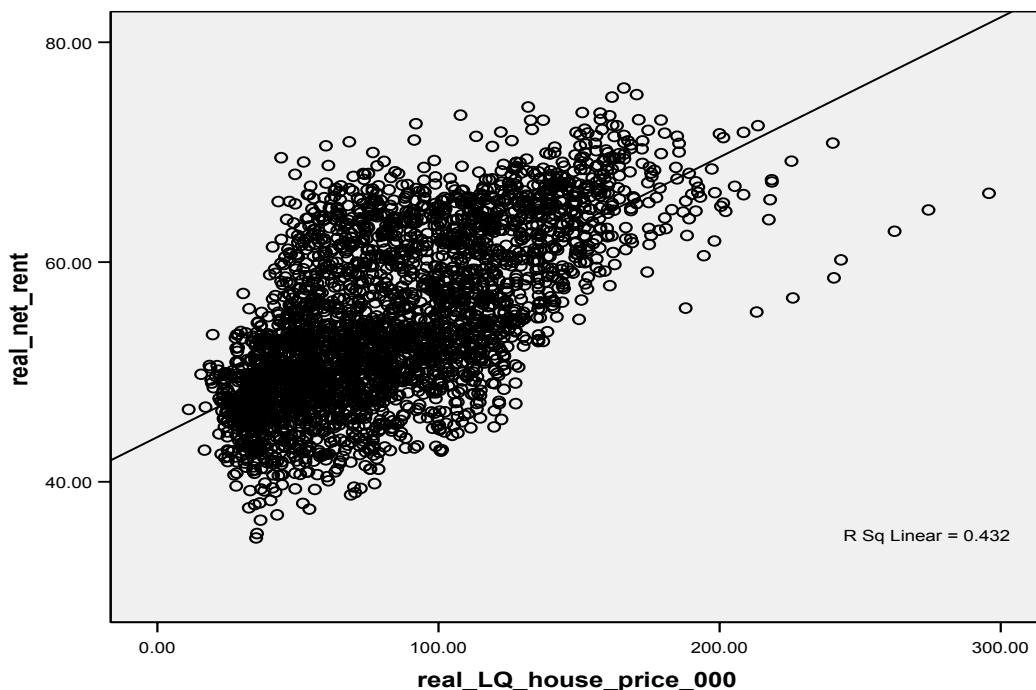
$$\text{Weekly rent} = 44.081 + 0.127 * \text{LQ house price.}$$

(182.42)^{***} (49.04)^{***}

t-value in parenthesis, $R^2 = 0.432$, Adjusted $R^2 = 0.431$
N = 3,168
*** 1-% significance level

The equation confirms the significantly positive relationship between rents and house prices. The coefficient on house prices was significantly positive (0.127) although slightly lower than the equivalent for the nominal values. The adjusted R^2 (0.431) again shows that there are other determinants explaining HA rents more precisely. The linear model and the scatters patterns of LA areas relating rents to house prices during the eight year period are presented in Figure 4.2.

Figure 4.2 Relationship between HA rents and house prices in real terms: England, 1998/99 – 2006/07



Annual changes in relationship

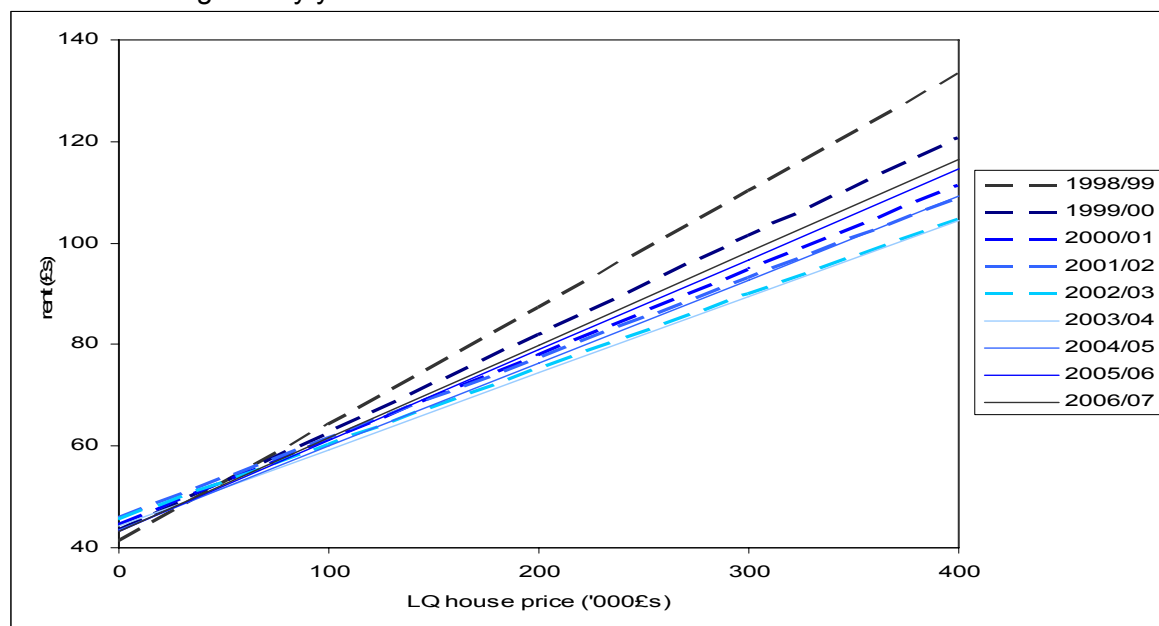
We now examine the relationship between HA rents and house price across England for each year of the observation period using the same approach. The empirical test results are summarised in Table 4.2. In the regression results, the coefficient on house prices is consistently significantly positive, confirming the positive relationship between HA rents and house prices (the regression lines are displayed in Figure 4.3). The adjusted R^2 are low implying missing variables.

Table 4.2 Correlation coefficients and the test results for each year, 1998/99 – 2006/07

	Correlation coefficient	Regression results				
		Constant		Coefficient for LQ house price	Adjusted R ²	
1998/99	0.604	41.329	***	0.230	***	0.364
1999/00	0.626	43.502	***	0.193	***	0.390
2000/01	0.657	44.645	***	0.167	***	0.430
2001/02	0.683	45.862	***	0.158	***	0.466
2002/03	0.740	45.605	***	0.148	***	0.546
2003/04	0.763	44.366	***	0.150	***	0.581
2004/05	0.760	43.525	***	0.164	***	0.576
2005/06	0.780	43.116	***	0.179	***	0.607
2006/07	0.793	43.320	***	0.183	***	0.627

N = 352 for each year. *** 1-% significance level.

Figure 4.3 Relationship between private sector rents and house prices for LA areas across England by year: 1998/99 to 2006/07



The adjusted R², however, has been increasing for the observation period, except a marginal decline for 2004/05. And therefore, the correlation coefficients between the two variables appeared positive for all years and have grown steadily except a slight setback in 2004/05. This means that the extent to which house prices are a sole determinant for HA rents have grown and that HA rents are becoming more associated with house prices.

Particularly in 2002/03, the correlation coefficient rose to 0.740 from the previous year's 0.683. This suggests an impact of the introduction of target rents on April 1st 2002. Target rents, which actual net rents are required to approach over a ten-year period, partly reflect rental property values. Therefore the rent restructuring framework seems to be making actual net rents relate more closely to house prices.

Impacts of the regulatory framework were also seen in Figure 4.3, which illustrates each year's regression line. Looking at house prices of around £70,000 or over, the corresponding rents decreased till 2002/03. Having been steady in the following year, however, they rose for the recent three years. Taking into account that majority of target rents introduced by the

framework were higher than actual rents, the increasing pattern since around 2002/03 implies achievements of actual rents toward targets.

Looking further at the impacts of the rent restructuring framework at year-on-year base, we compared two consecutive years' regressions by adding dummy variables for years as below.

Model: Weekly rent $_t = \alpha_1 + \alpha_2 * D_t + \beta_1 * \text{LQ house price}_t + \beta_2 (D_t * \text{LQ house price}_t) + u_t$

where α is a constant term,

β is a coefficient for house price

$D = 0$ for the first year

$= 1$ for the second year

u is an error term, and

t represents a year term, which takes 1998/99 to 2006/07.

For example (a test for a sample of the 1998/99 and 1999/00 figures) the model could be expressed as:

For 1998/99: Weekly rent $_t = \alpha_1 + \beta_1 * \text{LQ house price}_t + u_t$

For 1999/00: Weekly rent $_t = (\alpha_1 + \alpha_2) + (\beta_1 + \beta_2) * \text{LQ house price}_t + u_t$

If relationships between house prices and rents significantly changed from 1998/99 to 1999/00, then α_2 and/or β_2 in the second equation would be significantly different from zero. The test results are summarised in Table 4.3. Despite magnifying correlation between rents and house prices and increases in rents corresponding to the same house prices since the introduction of the rent restructuring regime, the content of the relationship between rents and house prices did not change drastically at a year-on-year base. The results in the table showed that neither α_2 nor β_2 appeared significantly different from zero in any two-year samples (except the first group). For example, although β_2 turned to positive from 2003/04 (this can be seen in that slopes of the regression lines in Figure 4.3 became steeper from the year), the relationship of the two variables in the year did not drastically change from the previous year. In short, social rents developed clearly but the developments have been gradual. This gradualism could be interpreted as another achievement of the regulatory framework, because it impulsive rent increases, notably, by means of the guideline limit for annual rent changes and rent caps in high-price areas.

Table 4.3 Test results for two consecutive years, 1998/99 – 2006/07

Sampled years			α_1	α_2	β_1	β_2	Adjusted R^2	N
1998/99	and	1999/00	41.329	2.173 *	0.230	-0.037 *	0.382	704
1999/00	and	2000/01	43.502	1.143	0.193	-0.027	0.431	704
2000/01	and	2001/02	44.645	1.217	0.167	-0.008	0.457	704
2001/02	and	2002/03	45.862	-0.257	0.158	-0.010	0.509	704
2002/03	and	2003/04	45.605	-1.239	0.148	0.002	0.566	704
2003/04	and	2004/05	44.366	-0.841	0.150	0.015	0.594	704
2004/05	and	2005/06	43.525	-0.409	0.164	0.015	0.599	704
2005/06	and	2006/07	43.116	0.204	0.179	0.004	0.623	704

* indicates 10 % significance level respectively.

Source: As Figure 4.1.

4.3 The relationship between HA rents and house prices by region

This sub-section examines whether similar relationships can be found at regional level.

East

The correlation coefficient between HA rents and LQ house prices in the East was 0.741. This suggests a positive relationship between HA rents and house prices over the period.

The regression results were:

$$\text{Weekly rent} = 46.007 + 0.165 * \text{LQ house price}$$

$$(57.54)^{***} \quad (22.86)^{***}$$

t -value in parenthesis, $R^2 = 0.549$, Adjusted $R^2 = 0.548$
 $N = 432$, *** 1-% significance level

The coefficient on house prices was significantly positive (0.165). The adjusted R^2 was moderate (0.548), implying that there are missing variables. Figure 4.4 illustrates the relationship and the scatter patterns across the region's LA areas.

To look at the relationship before and after the introduction of target rents, we divided the dataset into two groups (1998/99 to 2001/02 and 2002/03 to 2006/07), and implemented the same test. The results are presented in Table 4.4. The correlation coefficient increased from 0.520 for the first group to 0.734 for the second, implying that HA rents became more closely related to house prices as a result of the rent restructuring framework.

Figure 4.4 Relationship between HA rents and house prices in the East, 1998/99 – 2006/07

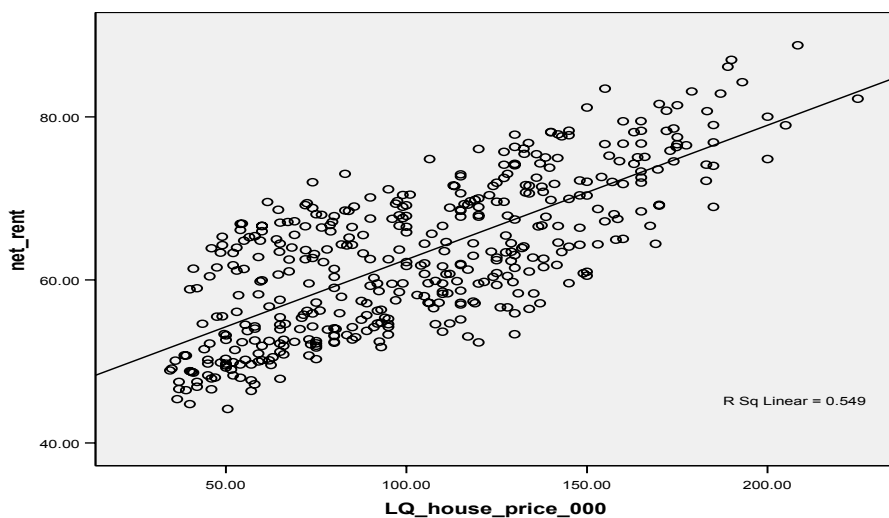


Table 4.4 Correlation coefficients and the test results before and after the April 2002 rent restructuring: East

	Correlation coefficient	Regression results				
		Constant		Coefficient for LQ house price	Adjusted R^2	
1998/99 ~ 2001/02	0.520	45.770	***	0.181	***	0.266
2002/03 ~ 2006/07	0.734	40.553	***	0.012	***	0.538

$N = 192$ and 240 for the first and second periods respectively. *** 1-% significance level.

East Midlands

The correlation coefficient between HA rents and LQ house prices in the East Midlands was 0.680. This suggests a positive relationship between the two variables over the period.

The regression results were:

$$\text{Weekly rent} = 46.758 + 0.126 * \text{LQ house price}$$

(81.02)***(17.56)***

t-value in parenthesis, $R^2 = 0.463$, Adjusted $R^2 = 0.461$
 N=360
 *** 1-% significance level

The coefficient on house prices was significantly positive (0.126). The adjusted R^2 was low at 0.461. Figure 4.5 illustrates the relationship and the scatter patterns across the region's LA areas.

Looking at the relationship before and after the introduction of target rents, the correlation coefficient increased from 0.363 to 0.527 (Table 4.5), implying that HA rents became more closely related to house prices as a result of the rent restructuring framework.

Figure 4.5 Relationship between HA rents and house prices in the East Midlands, 1998/99 – 2006/07

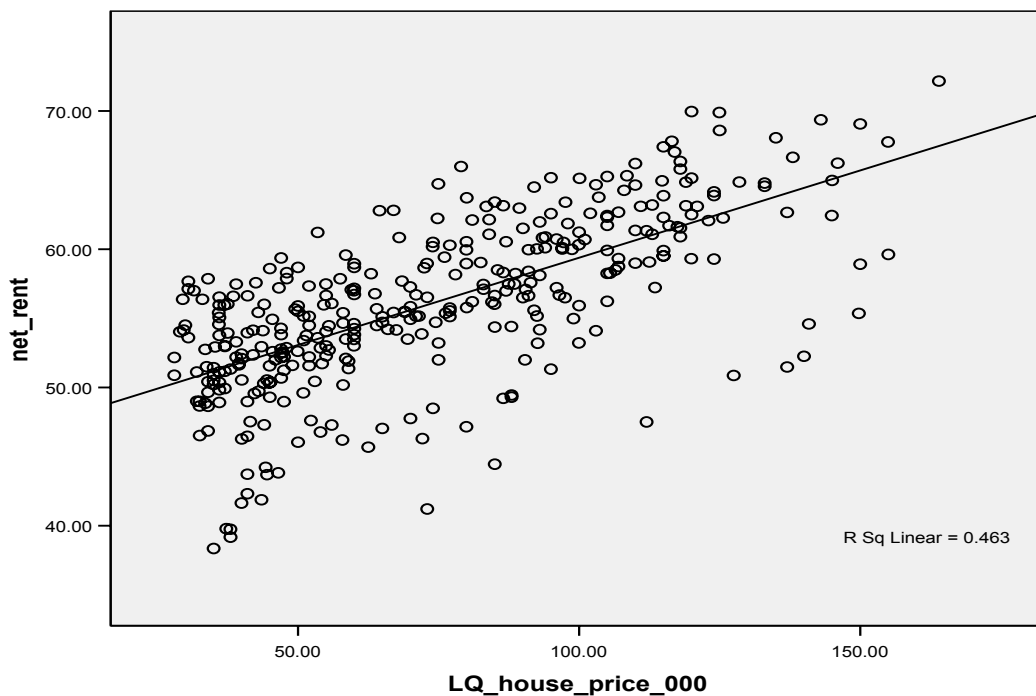


Table 4.5 Correlation coefficients and the test results before and after the April 2002 rent restructuring: East Midlands

	Correlation coefficient	Regression results				
		Constant		Coefficient for LQ house price	Adjusted R^2	
1998/99 ~ 2001/02	0.363	46.731	***	0.120	***	0.126
2002/03 ~ 2006/07	0.527	48.617	***	0.109	***	0.274

N = 192 and 200 for the first and second periods respectively. *** 1-% significance level

London

The correlation coefficient between HA rents and LQ house prices in London was 0.632. This suggests a positive relationship between the two variables.

The regression results were:

$$\text{Weekly rent} = 57.435 + 0.092 * \text{LQ house price}$$

$$(55.47)^{***}(13.80)^{***}$$

t-value in parenthesis, $R^2 = 0.400$, Adjusted $R^2 = 0.398$
 $N=288$
 *** 1-% significance level

The coefficient on house prices was significantly positive (0.092) but lower than in other regions. The adjusted R^2 (0.398) was the lowest among nine English regions, suggesting that the model should include other factors. Figure 4.6 illustrates the relationship and the scatter patterns across the region's LA areas.

Before the introduction of target rents, London's HA rents failed to show a positive relationship with house prices. For the period of 1998/99 to 2001/02, the correlation coefficient was close to zero and the coefficient on house prices was statistically insignificant (Table 4.6). For the period from 2002, the relationship was significant. This suggests that a positive relationship between HA rents and house prices in London has developed as a result of the rent restructuring framework.

Figure 4.6 Relationship between HA rents and house prices in London, 1998/99 – 2006/07

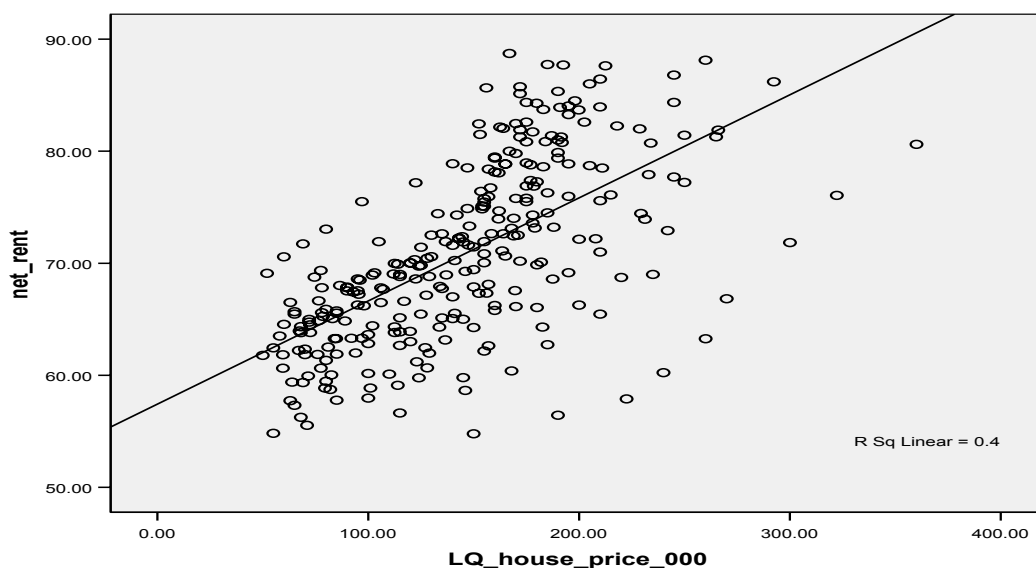


Table 4.6 Correlation coefficients and the test results before and after the April 2002 rent restructuring: London

	Correlation coefficient	Regression results		
		Constant	Coefficient for LQ house price	Adjusted R^2
1998/99 ~ 2001/02	0.003	64.180 ***	0.000	0.000
2002/03 ~ 2006/07	0.344	67.015 ***	0.051 ***	0.113

$N = 128$ and 160 for the first and second periods respectively. *** 1-% significance level

North East

The correlation coefficient between HA rents and LQ house prices in the North East was 0.664. This suggests a positive relationship between the two variables over the period.

The regression results were:

$$\text{Weekly rent} = 43.58 + 0.116 * \text{LQ house price}$$

$$(80.73)^{***}(12.71)^{***}$$

t -value in parenthesis, $R^2 = 0.441$, Adjusted $R^2 = 0.438$
 $N = 207$
 *** 1-% significance level

The coefficient on house prices was significantly positive (0.116) but the second lowest across the regions. The adjusted R^2 (0.438) also appeared the second lowest, after London. Figure 4.7 illustrates the relationship and the scatter patterns across the region's LA areas.

Similarly to London, the North East failed to show a positive relationship between HA rents and house prices before the introduction of target rents. For the period of 1998/99 to 2001/02, the correlation coefficient was very small (0.041) and the coefficient on house price was insignificant (Table 4.7). For the second period, however, the relationship became significantly positive. This suggests that a positive relationship between HA rents and house prices in the North East has developed as result of the rent restructuring framework.

Figure 4.7 Relationship between HA rents and house prices in the North East, 1998/99 – 2006/07

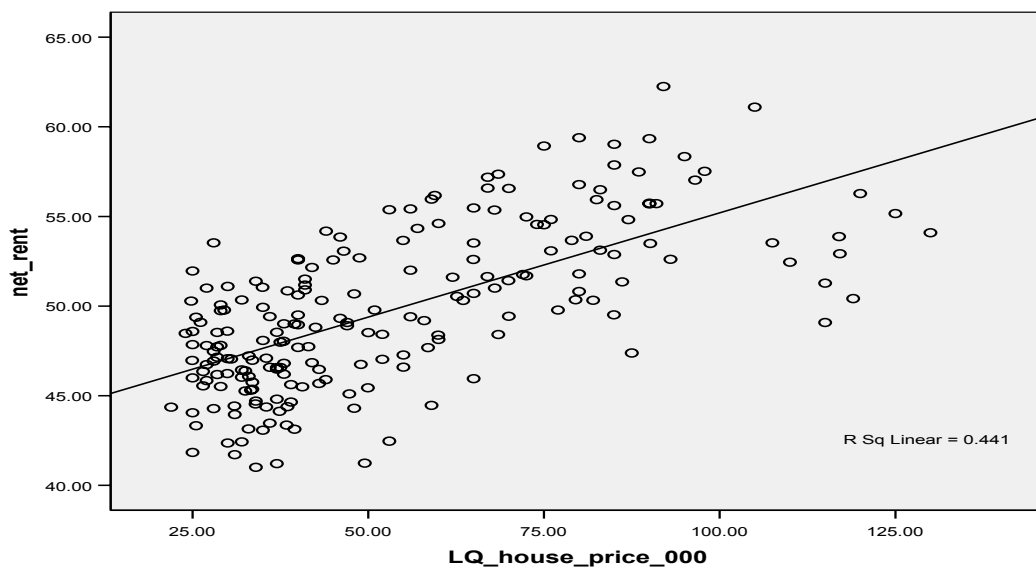


Table 4.7 Correlation coefficients and the test results before and after the April 2002 rent restructuring: North East

	Correlation coefficient	Regression results			
		Constant		Coefficient for LQ house price	Adjusted R^2
1998/99 ~ 2001/02	0.041	45.893	***	0.013	0.000
2002/03 ~ 2006/07	0.481	47.861	***	0.069	0.225

$N = 92$ and 115 for the first and second periods respectively. *** 1-% significance level

North West

The correlation coefficient between HA rents and LQ house prices in the North West was 0.672. This suggests a positive relationship between the two variables over the period.

The regression results were:

$$\text{Weekly rent} = 44.358 + 0.135 * \text{LQ house price}$$

(87.164)^{***} (17.801)^{***}

t-value in parenthesis, $R^2 = 0.451$, Adjusted $R^2 = 0.450$
 N=387
 *** 1-% significance level

The coefficient on house prices was significantly positive (0.135). The adjusted R^2 appeared low at 0.450. Figure 4.8 illustrates the relationship and the scatter patterns across the region's LA areas.

For the period of 1998/99 to 2001/02, the correlation coefficient was small (0.187) but increased to 0.549 for the second period (Table 4.8). This suggests a positive relationship between HA rents and house prices in the North West has developed as a result of the rent restructuring framework.

Figure 4.8 Relationship between HA rents and house prices in the North West, 1998/99 – 2006/07

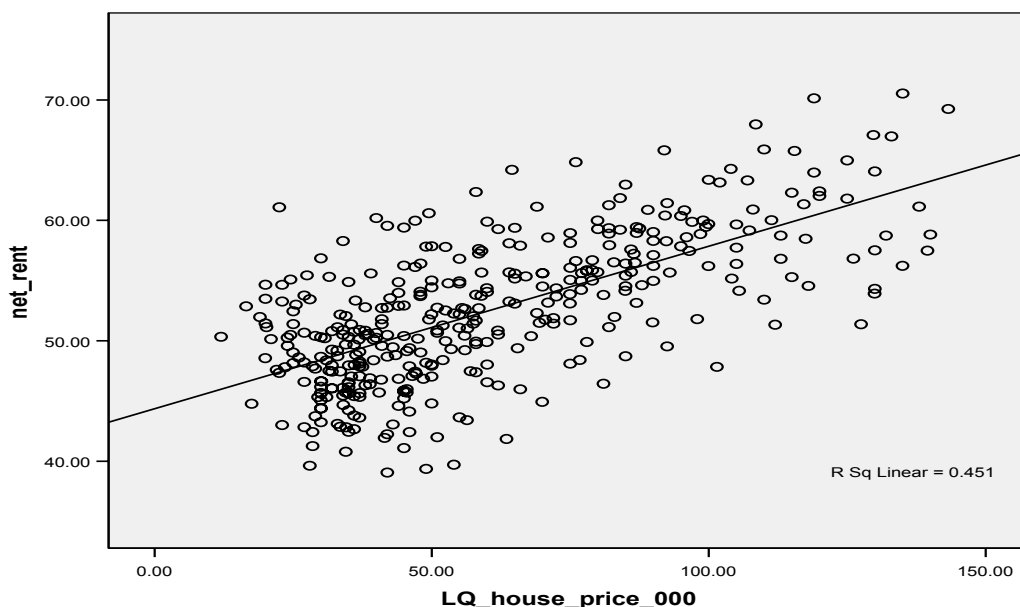


Table 4.8 Correlation coefficients and the test results before and after the April 2002 rent restructuring: the North West

	Correlation coefficient	Regression results				
		Constant		Coefficient for LQ house price	Adjusted R^2	
1998/99 ~ 2001/02	0.187	45.555	***	0.065	**	0.029
2002/03 ~ 2006/07	0.549	49.038	***	0.090	***	0.298

N = 172 and 215 for the first and second periods respectively. *** and ** denote 1-% and 5-% significance levels respectively.

South East

The correlation coefficient between HA rents and LQ house prices in the South East was 0.731. This suggests a positive relationship between the two variables over the period.

The regression results were:

$$\text{Weekly rent} = 53.339 + 0.125 * \text{LQ house price}$$

(87.38)*** (26.29)***

t -value in parenthesis, $R^2 = 0.535$, Adjusted $R^2 = 0.534$
 $N = 536$
 *** 1-% significance level

The coefficient on house prices was significantly positive (0.125). The adjusted R^2 was low at 0.465. Figure 4.9 illustrates the relationship and the scatter patterns across the region's LA areas.

Looking at the relationship before and after the introduction of target rents, the correlation coefficient increased from 0.316 to 0.579 (Table 4.9), implying that HA rents became more closely related to house prices as a result of the rent restructuring framework.

Figure 4.9 Relationship between HA rents and house prices in the South East, 1998/99 – 2006/07

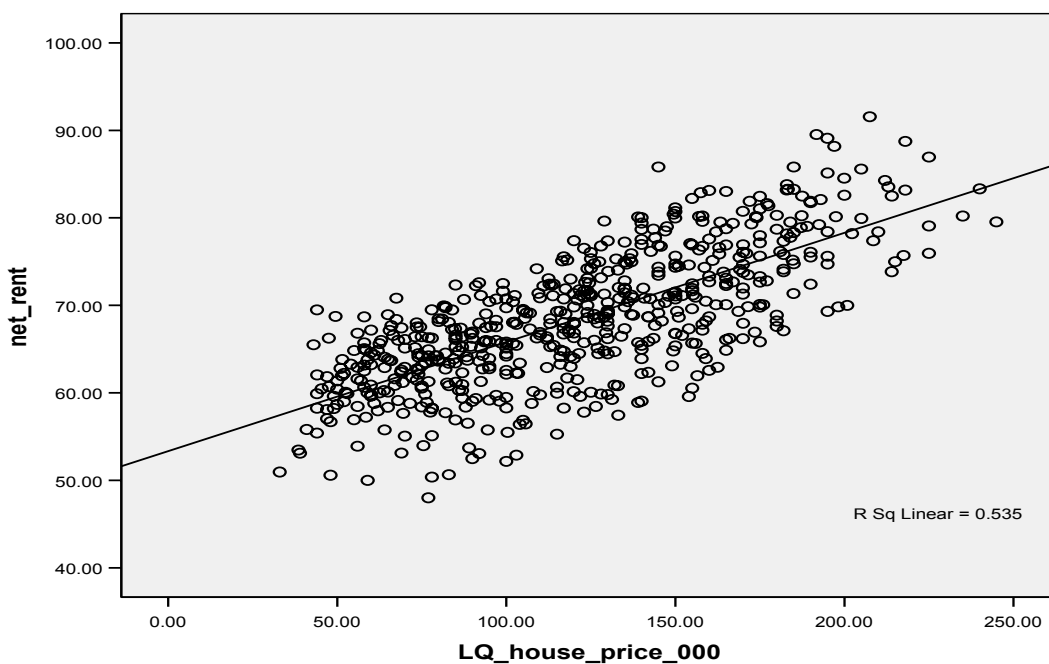


Table 4.9 Correlation coefficients and the test results before and after the April 2002 rent restructuring: the South East

	Correlation coefficient	Regression results		
		Constant	Coefficient for LQ house price	Adjusted R^2
1998/99 ~ 2001/02	0.316	57.872 ***	0.060 ***	0.029
2002/03 ~ 2006/07	0.579	56.176 ***	0.111 ***	0.333

$N = 268$ and 396 for the first and second periods respectively. *** 1-% significance level

South West

The correlation coefficient between HA rents and LQ house prices in the South West was 0.748. This suggests a positive relationship between the two variables over the period.

The regression results were:

$$\text{Weekly rent} = 46.424 + 0.132 * \text{LQ house price}$$

(73.75)^{***} (22.39)^{***}

t-value in parenthesis, R² = 0.560, Adjusted R² = 0.559
 N=396
 *** 1-% significance level

The coefficient on house prices was significantly positive (0.132). The adjusted R² was 0.559. Figure 4.10 illustrates the relationship and the scatter patterns across the region’s LA areas.

Looking at the relationship before and after the introduction of target rents, the correlation coefficient increased from 0.459 to 0.642 (Table 4.10), implying that HA rents became more closely related to house prices as a result of the rent restructuring framework.

Figure 4.10 Relationship between HA rents and house prices in the South West, 1998/99 – 2006/07

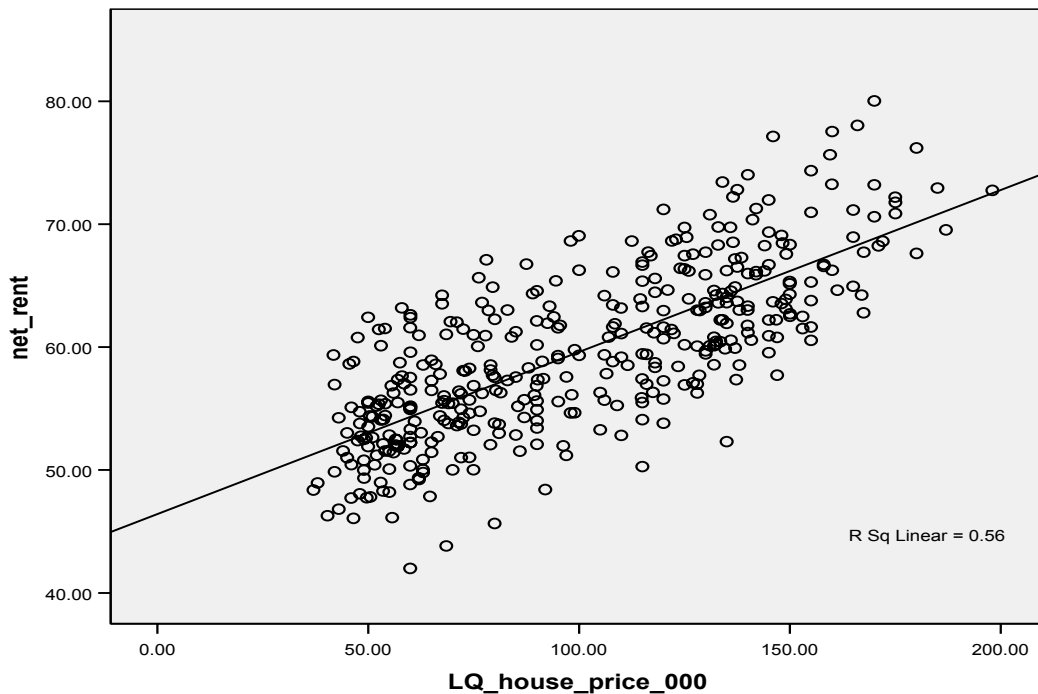


Table 4.10 Correlation coefficients and the test results before and after the April 2002 rent restructuring: the South West

	Correlation coefficient	Regression results				
		Constant		Coefficient for LQ house price	Adjusted R ²	
1998/99 ~ 2001/02	0.459	45.461	***	0.151	***	0.207
2002/03 ~ 2006/07	0.642	43.750	***	0.151	***	0.410

N = 176 and 220 for the first and second periods respectively. *** 1-% significance level

West Midlands

The correlation coefficient between HA rents and LQ house prices in the West Midlands was 0.687. This suggests a positive relationship between the two variables over the period.

The regression results were:

$$\text{Weekly rent} = 43.886 + 0.131 * \text{LQ house price}$$

(62.66)*** (16.49)***

t -value in parenthesis, $R^2 = 0.472$, Adjusted $R^2 = 0.470$
 $N=306$
 *** 1-% significance level

The coefficient on house prices was significantly positive (0.131). The adjusted R^2 was low at 0.470. Figure 4.11 illustrates the relationship and the scatter patterns across the region's LA areas.

Looking at the relationship before and after the introduction of target rents, the correlation coefficient increased from 0.248 to 0.567 (Table 4.11), implying that HA rents became more closely related to house prices as a result of the rent restructuring framework.

Figure 4.11 Relationship between HA rents and house prices in the West Midlands, 1998/99 – 2006/07

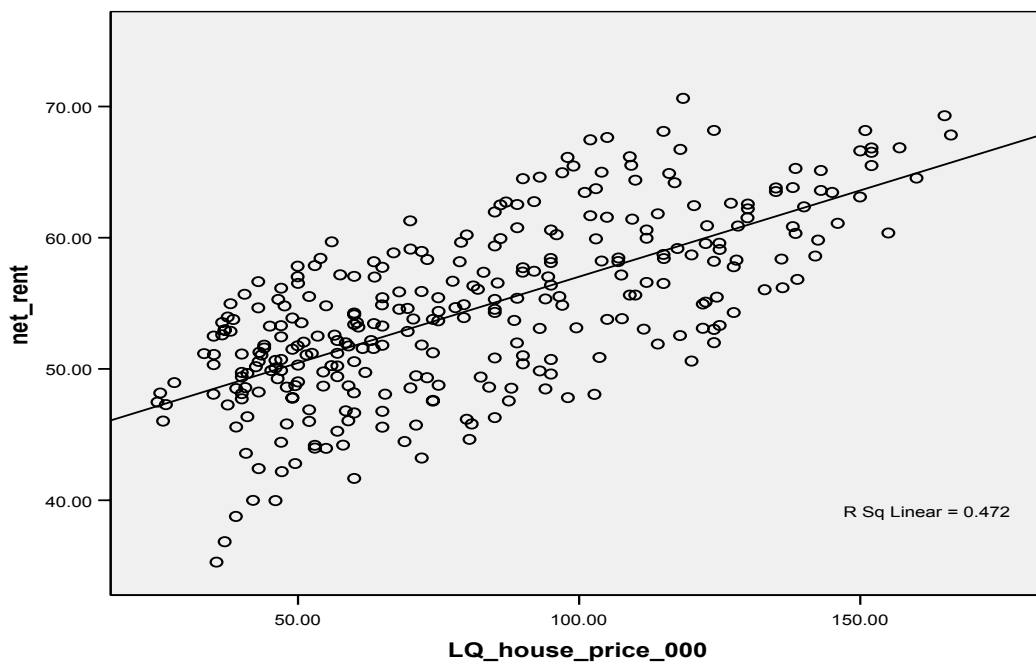


Table 4.11 Correlation coefficients and the test results before and after the April 2002 rent restructuring: the West Midlands

	Correlation coefficient	Regression results				
		Constant		Coefficient for LQ house price	Adjusted R^2	
1998/99 ~ 2001/02	0.248	46.545	***	0.073	***	0.055
2002/03 ~ 2006/07	0.567	45.300	***	0.121	***	0.318

$N = 136$ and 170 for the first and second periods respectively. *** 1-% significance level

Yorkshire & the Humber

The correlation coefficient between HA rents and LQ house prices in Yorkshire and the Humber was 0.685. This suggests a positive relationship between the two variables over the period.

The regression results were:

$$\text{Weekly rent} = 45.768 + 0.126 * \text{LQ house price}$$

(63.16)^{***} (12.84)^{***}

t -value in parenthesis, $R^2 = 0.469$, Adjusted $R^2 = 0.466$
 $N = 189$
^{***} 1-% significance level

The coefficient on house prices was significantly positive (0.126). The adjusted R^2 was low at 0.466. Figure 4.12 illustrates the relationship and the scatter patterns across the region's LA areas.

Looking at the relationship before and after the introduction of target rents, the correlation coefficient increased from 0.277 to 0.631 (Table 4.12), implying that HA rents became more closely related to house prices as a result of the rent restructuring framework.

Figure 4.12 Relationship between HA rents and house prices in Yorkshire & the Humber, 1998/99 – 2006/07

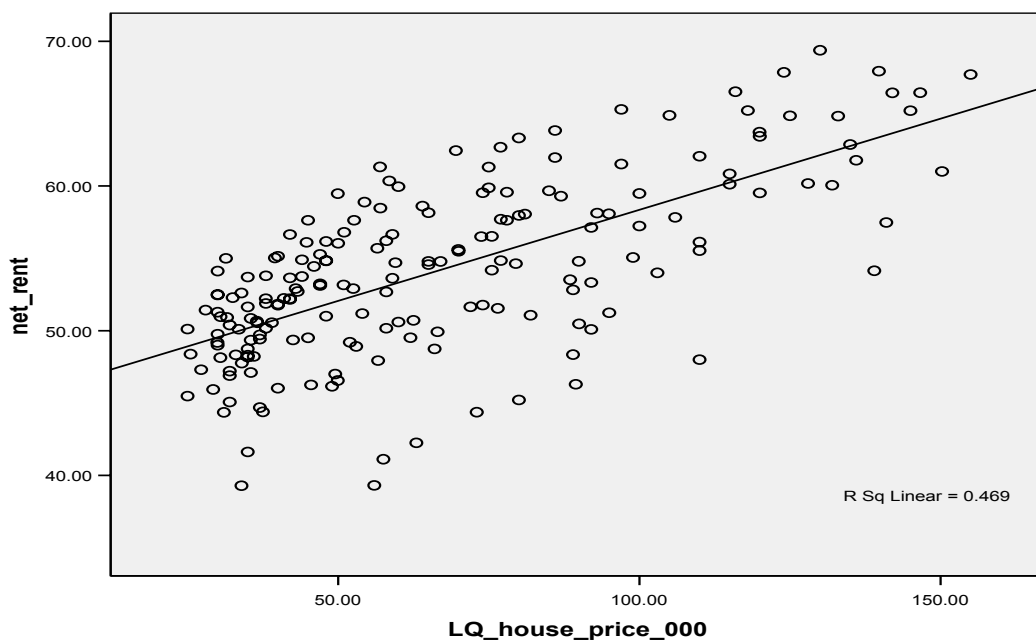


Table 4.12 Correlation coefficients and the test results before and after the April 2002 rent restructuring: Yorkshire & the Humber

	Correlation coefficient	Regression results				
		Constant		Coefficient for LQ house price	Adjusted R^2	
1998/99 ~ 2001/02	0.277	46.321	***	0.102	**	0.065
2002/03 ~ 2006/07	0.631	47.195	***	0.113	***	0.393

$N = 84$ and 105 for the first and the second periods respectively. *** and ** denote 1-% and 5-% significance levels respectively.

4.4 Relationship between HA rents and house prices by urban/rural classification

Using the definition of rural and urban areas described in Section 2, the same tests were undertaken for rural and urban areas and the results are as below.

Urban LA areas

The correlation coefficient between HA rents LQ house prices was 0.829. This suggests a positive relationship between the two variables over the period.

The regression results were:

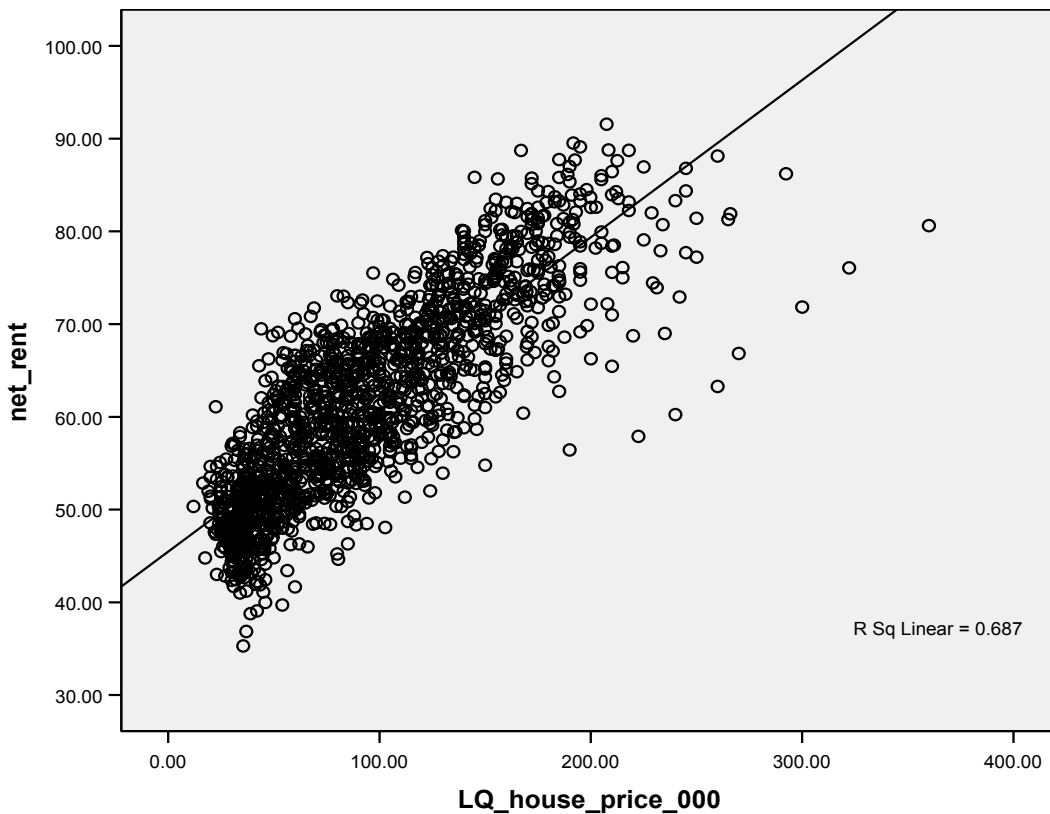
$$\text{Weekly rent} = 45.466 + 0.169 * \text{LQ house price}$$

(147.31)^{***} (58.81)^{***}

t -value in parenthesis, $R^2 = 0.687$, Adjusted $R^2 = 0.687$
 $N = 1,575$
^{***} 1-% significance level

The coefficient on house prices was significantly positive (0.169). The adjusted R^2 0.687 was marginally larger than the rural equivalent. Figure 4.13 illustrates the relationship and the scatter patterns across the urban LA areas.

Figure 4.13 Relationship between HA rents and house prices in urban areas, 1998/99 – 2006/07



Rural LA areas

The correlation coefficient between HA rents LQ house prices was 0.778. This suggests a positive relationship between the two variables over the period.

The regression results were:

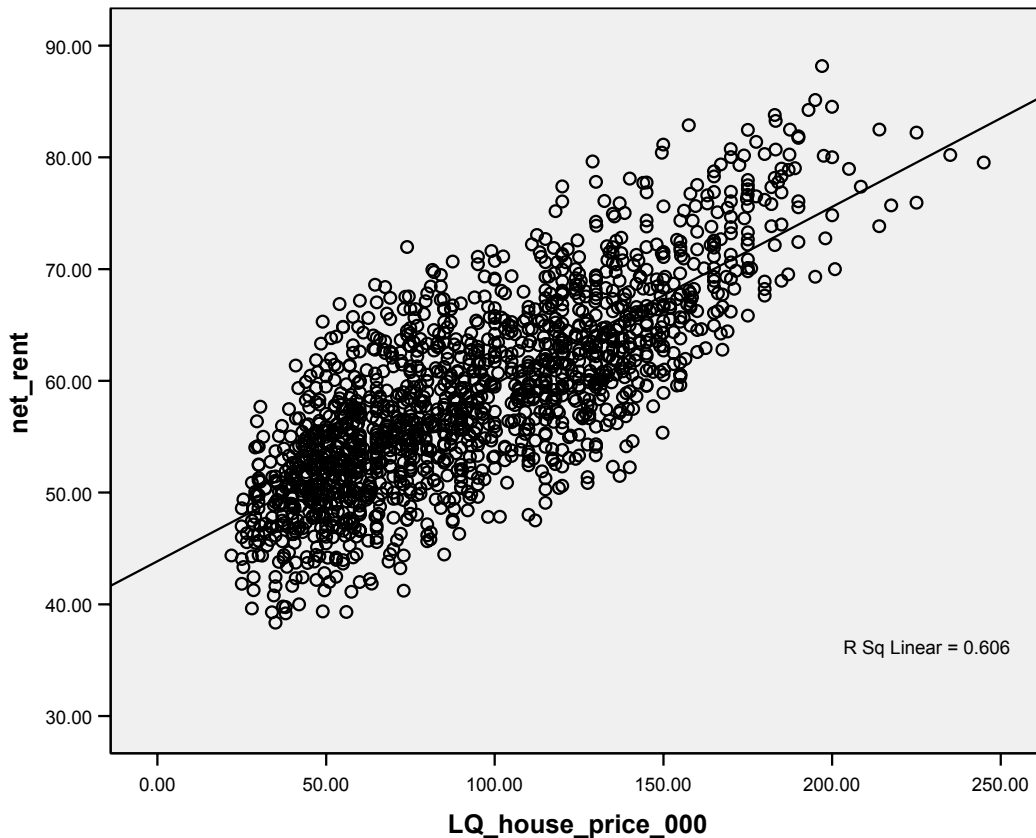
$$\text{Weekly rent} = 43.854 + 0.159 * \text{LQ house price}$$

(126.90)*** (41.83)***

t-value in parenthesis, $R^2 = 0.606$, Adjusted $R^2 = 0.606$
 N=1,416
 *** 1-% significance level

The coefficient on house prices was significantly positive (0.159). The adjusted R^2 was low at 0.606. Figure 4.14 illustrates the relationship and the scatter patterns across the rural LA areas.

Figure 4.14 Relationship between HA rents and house prices in rural areas, 1998/99 – 2006/07



4.5 The relationship between HA rents and house prices for areas with high/low increases in rents and house prices

As reported in Sections 2 and 3, changes in HA rents and house prices varied across England over the period of 1998/99 to 2006/07. Looking at LA areas with high and low increases in HA rents and house prices respectively for the observation period, the same empirical tests were estimated. The definition of LA areas with a high (low) increase is whether the increase for a LA was in the (lower) quartile cohort, and thus each category has around 89 LA areas' for each

year. The distributions of such LA areas across the regions are reported in Table 4.13 for rent increases and in Table 4.14 for house price increases.¹⁷

Table 4.13 The number of LA areas with high/low rent increases by region

	Growth of weekly average rents from 1998/99 to 2006/07			
	High	Middle	Low	Total
East	13	25	10	48
East Midlands	2	25	13	40
London	17	14	1	32
North East	0	18	5	23
North West	15	20	8	43
South East	19	35	13	67
South West	10	18	16	44
West Midlands	9	14	11	34
Yorkshire & the Humber	3	7	11	21
England	88	176	88	352

Source: As Table 2.1.

Table 4.14 The number of LA areas with high/low house price increases by region

	Growth of LQ house prices from 1998/99 to 2006/07			
	High	Middle	Low	Total
East	15	21	12	48
East Midlands	11	28	1	40
London	7	17	8	32
North East	6	12	5	23
North West	9	25	9	43
South East	8	21	38	67
South West	24	16	4	44
West Midlands	2	23	9	34
Yorkshire & the Humber	6	13	2	21
England	88	176	88	352

Source: As Table 3.1.

LA areas with high rent increases

The correlation coefficient between HA rents and LQ house prices in LA areas was 0.853. This suggests a positive relationship between the two variables over the period.

¹⁷ The sampled LA areas in the two tables are not identical for the high/low categorisation. See the distribution of LA areas by rent and house price growths as below.

		LQ house price growth			Total
		High	Middle	Low	
Rent growth	high	18	34	36	88
	middle	39	95	42	176
	low	31	47	10	88
Total		88	176	88	352

The regression results were:

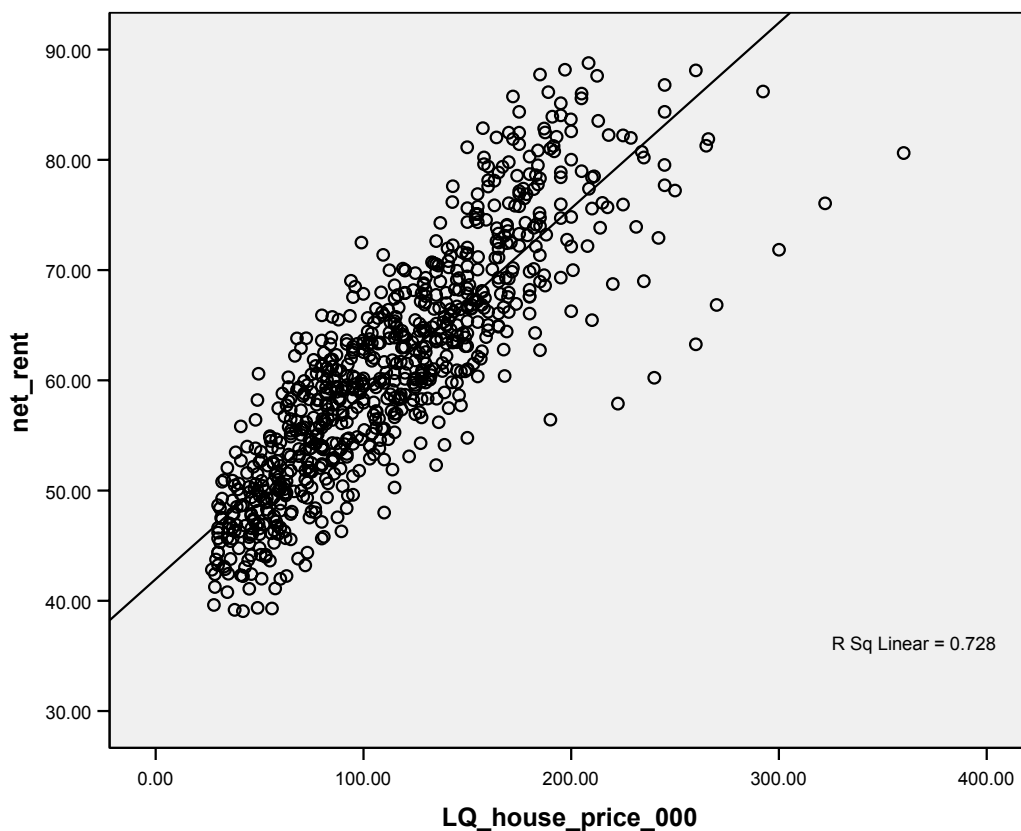
$$\text{Weekly rent} = 41.969 + 0.168 * \text{LQ house price}$$

(91.50)^{***} (45.99)^{***}

t -value in parenthesis, $R^2 = 0.728$, Adjusted $R^2 = 0.728$
 $N = 792$
^{***} 1-% significance level

The coefficient on house prices was significantly positive (0.168). The adjusted R^2 , 0.728, was much larger than the equivalent for the low rent increase group. This indicates that an extent to which HA rents are explained solely by house prices is greater in high rent increase areas than in slow areas. One possible explanation for this is that high rent developments are owing to the rent restructuring regime, one of whose objectives is to reflect rental property values more precisely in rents. Figure 4.15 illustrates the relationship and the scatter patterns across the LA areas with high rent increases.

Figure 4.15 Relationship between HA rents and house prices in LA areas with high rent increases, 1998/99 – 2006/07



LA areas with low rent increases

The correlation coefficient between the social rents and LQ house prices in LA areas was 0.640. This suggests a positive relationship between the two variables over the period.

The regression results were:

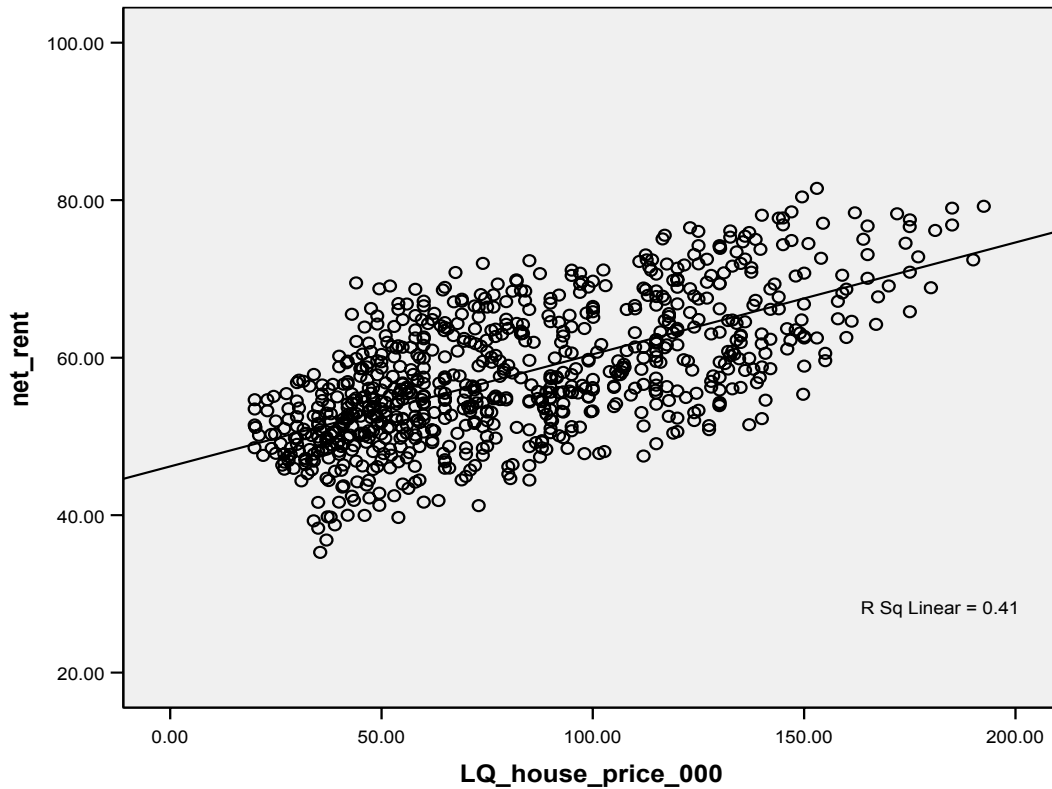
$$\text{Weekly rent} = 46.202 + 0.142 * \text{LQ house price}$$

(84.11)^{***} (23.44)^{***}

t -value in parenthesis, $R^2 = 0.410$, Adjusted $R^2 = 0.409$
 $N = 792$
^{***} 1-% significance level

The coefficient on house prices was significantly positive (0.142). The adjusted R^2 was low at 0.409, suggesting that HA rents have some other determinants than house prices. Figure 4.16 illustrates the relationship and the scatter patterns across the LA areas with low rent increases.

Figure 4.16 Relationship between HA rents and house prices in LA areas with low rent increases, 1998/99 – 2006/07



LA areas with high house price increases

The correlation coefficient between HA rents and LQ house prices was 0.755. This suggests a positive relationship between the two variables over the period.

The regression results were:

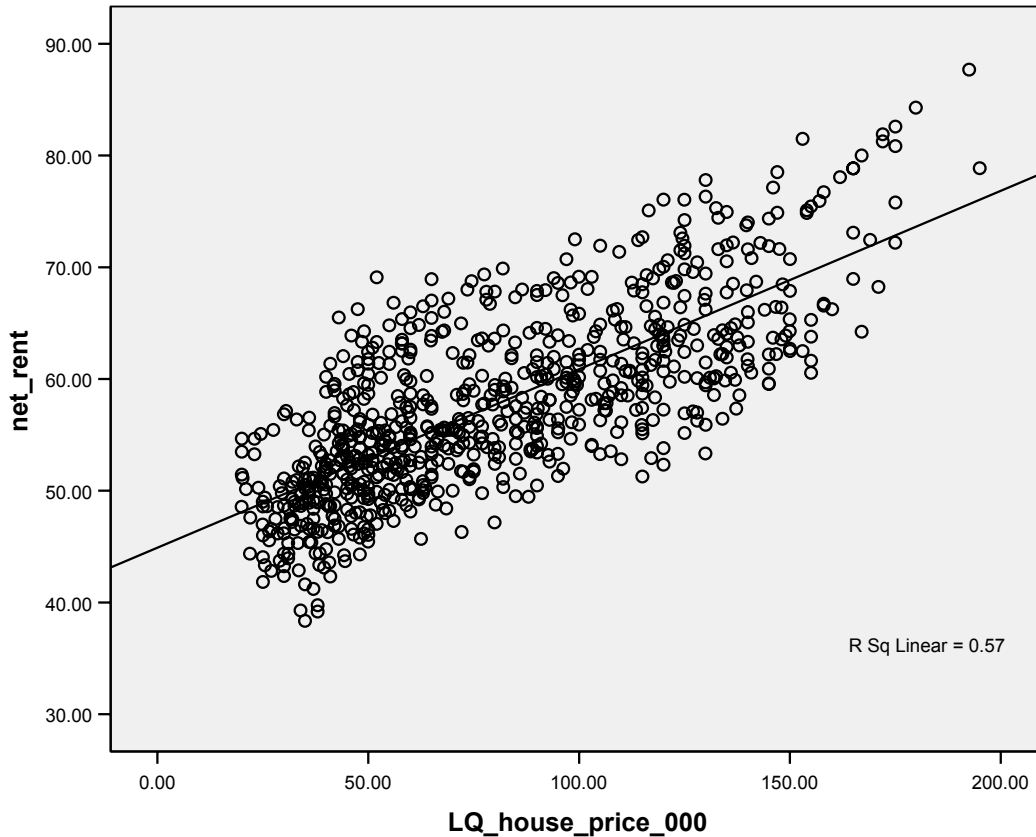
$$\text{Weekly rent} = 44.903 + 0.160 * \text{LQ house price}$$

(102.13)^{***} (32.36)^{***}

t -value in parenthesis, $R^2 = 0.570$, Adjusted $R^2 = 0.569$
 $N = 792$
^{***} 1-% significance level

The coefficient on house prices was significantly positive (0.160). The adjusted R^2 was low at 0.569. Figure 4.17 illustrates the relationship and the scatter patterns across all LA areas with high house price increases.

Figure 4.17 Relationship between HA rents and house prices in LA areas with high house price increases, 1998/99 – 2006/07



LA areas with low house price increases

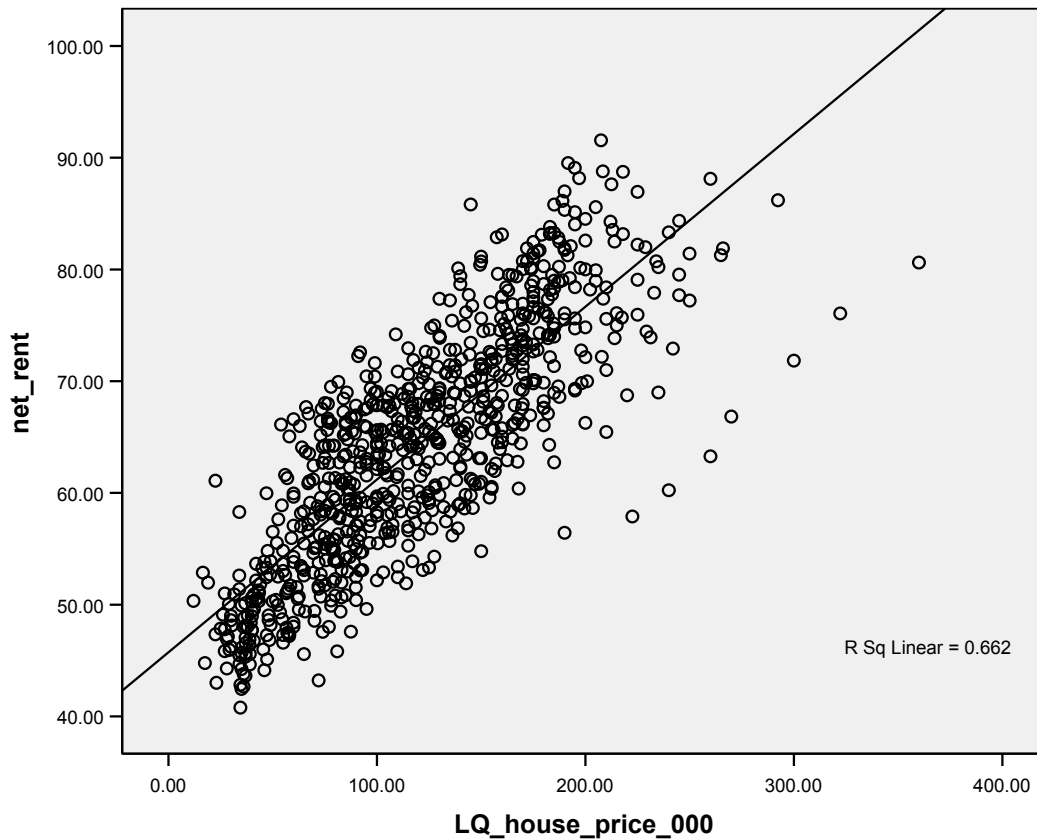
The correlation coefficient between HA rents and LQ house prices was 0.813, suggesting that there was a positive relationship between the two variables.

The regression results were:

$$\begin{aligned} \text{Weekly rent} &= 45.742 + 0.155 * \text{LQ house price} \\ &\quad (87.81)^{***} \quad (39.31)^{***} \\ t\text{-value in parenthesis, } R^2 &= 0.662, \text{ Adjusted } R^2 = 0.661 \\ N &= 792 \\ *** & \text{ 1-\% significance level} \end{aligned}$$

The coefficient on house prices was significantly positive (0.155). The adjusted R^2 was 0.661, hinting that house prices are not a sole determinant for HA rents. Figure 4.18 illustrates the relationship and the scatter patterns across all LA areas with low house price increases.

Figure 4.18 Relationship between HA rents and house prices in LA areas with low house price increases, 1998/99 – 2006/07



5. HA rental rates of return across England 1998/99 – 2006/07

5.1 Definition of HA rental rates of return

This section examines the pattern of HA rental rates of return from 1998/99 to 2006/07 at various geographical levels. Rental rates of return in the analysis is measured by the HA annual average rent, converted from the weekly average, as a percentage of LQ house prices for each LA area across England. The data sources for the numerators and denominators are the same as those in the previous sections.

5.2 The national trend in HA rental rates of return

Table 5.1 sets out HA rental rates of return for England over the period 1998/99 to 2006/07. In 2006/07, the rate was 2.90%, 2.96 below that for 1998/99. The rate declined continuously throughout the observation period as LQ house prices grew higher (in percentage terms) than HA rents. In particular, the large increase in house prices from 2002/03 to 2004/05 resulted in a sharp decline in the rental rates of return.

Table 5.1 Rental rate of return (% , %-point for change from the previous year), 1998/99 – 2006/07

	Rental rate of return	Change
1998/99	5.86	
1999/00	5.47	-0.39
2000/01	5.14	-0.32
2001/02	4.88	-0.27
2002/03	4.00	-0.88
2003/04	3.43	-0.56
2004/05	2.98	-0.46
2005/06	2.90	-0.07
2006/07	2.80	-0.10
1998/99 – 2006/07		-3.06

Note: Excluding City of London and Isles of Scilly from the rent component.

Source: As Tables 2.1 and 3.1.

5.3 Regional trends in HA rental rates of return

Table 5.2 sets out rental rates of return by region for the same period. In 2006/07, the highest rental rate of return was in the North East (3.42%), followed by the North West (3.29%) and Yorkshire & the Humber (2.98). The lowest was in London (2.25%), followed by the South West (2.43%), the East and the South East (2.55% for each). Rental rates of return declined across the regions through the observation period except for the southern England regions in 2006/07. The largest drop was in Yorkshire & the Humber (3.78 points) followed by the North East (3.75 points). The smallest was in London (2.23 points) followed by the South East (2.54 points).

Table 5.2 Rental rate of return by region (% , %-point for change and range), 1998/99 – 2006/07

	East	E Mid	Lon	NE	NW	SE	SW	W Mid	Y & H	Max. – Min.
1998/99	5.51	6.52	4.48	7.17	6.56	5.11	5.30	5.95	6.76	2.69
1999/00	5.09	6.06	3.88	6.91	6.47	4.65	4.88	5.54	6.69	3.03
2000/01	4.61	5.82	3.34	7.18	6.57	4.06	4.35	5.19	6.42	3.84
2001/02	4.07	5.25	2.99	6.93	6.44	3.73	3.87	4.83	6.47	3.94
2002/03	3.35	4.27	2.55	6.53	5.95	3.03	3.23	4.09	5.63	3.98
2003/04	2.83	3.44	2.35	5.12	4.82	2.71	2.71	3.43	4.42	2.77
2004/05	2.62	3.08	2.28	4.14	3.90	2.59	2.51	3.05	3.47	1.86
2005/06	2.66	3.01	2.29	3.71	3.53	2.63	2.55	2.92	3.27	1.42
2006/07	2.57	2.91	2.25	3.42	3.29	2.57	2.43	2.88	2.98	1.17
Change:										
98/99 – 06/07	-2.94	-3.61	-2.23	-3.75	-3.27	-2.54	-2.87	-3.07	-3.78	-1.52

Source: As Table 5.1.

Compared with the national picture, London, the South West, the East and the South East showed low rental rates of return in 2006/07, while in the North East, the North West, Yorkshire & the Humber, the East Midlands and the West Midlands the rates were high.

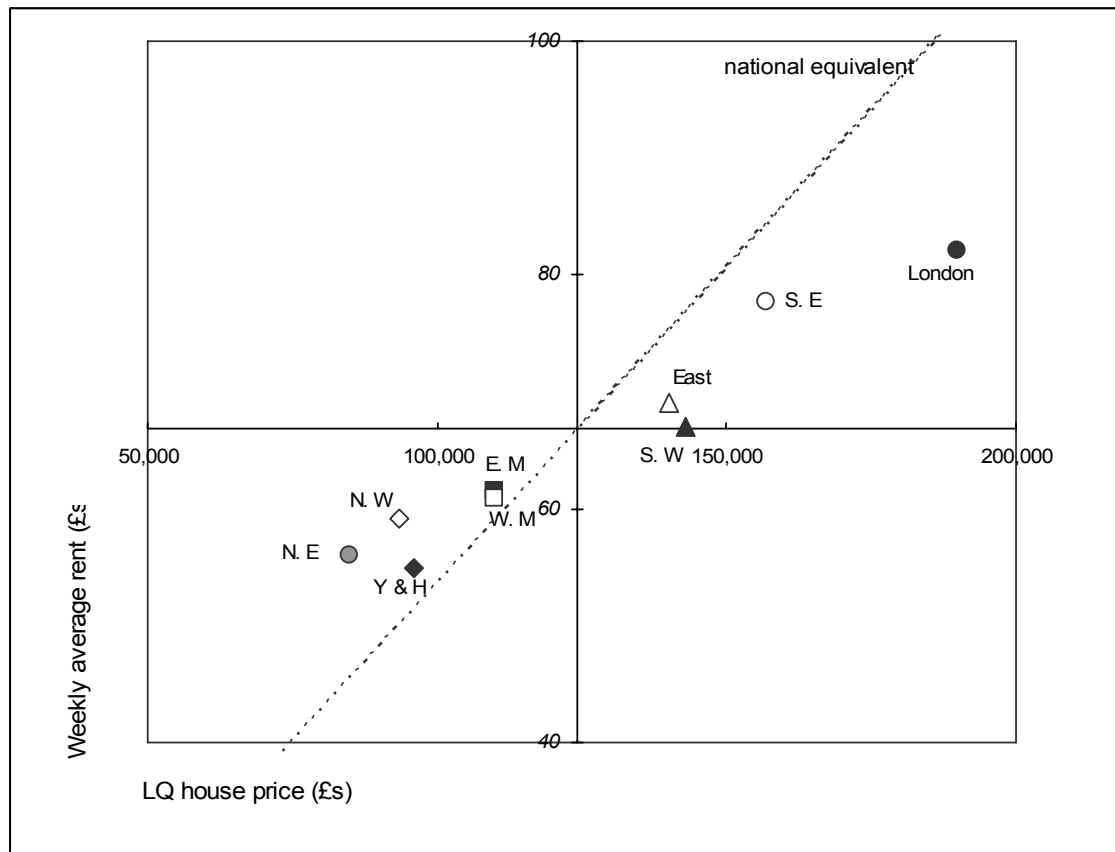
To examine the impact of HA rent levels on rental rates of return, we plotted the nine regions according to rents and house prices for 2006/07 (Figure 5.1). In the figure, the X and Y axes relates to LQ house prices and weekly average rents respectively, crossing each other at the English average. Therefore regions with higher (lower) rents than the national average will be

situated above (below) the X axis, while those with higher (lower) house prices than the national level will be located in the right (left) side of the Y axis.

In addition, the figure plots a line showing the rent level necessary to sustain the national rental rate of return for corresponding house prices (the dotted line named ‘national equivalent’ in the figure). A region above (below) the line has an actual rent higher (lower) than the rent, which would bring the rental rate of return to the national level for a given LQ house price. Therefore, regions with higher rental rates of return than national average (the North East, the North West, Yorkshire & the Humber and the East Midlands) appear above the national equivalent line, whereas those with lower rental rates of return (London, the South West, the East and the South East) were below the line. The West Midlands, with a rental rate of return close to the national average, was almost on the line.

The vertical distance between each region to the national equivalent line shows the difference between the region’s actual rent and equivalised rent. For example, if London had a rental rate of return equivalent to the national standard, the region’s rent should be at the point where the vertical line from London crosses the national equivalent line. By contrast, the North East would have to decrease its rent level, if the region were to have the national rental rate of return.

Figure 5.1 Position of the nine regions with respect to rent and house prices: 2006/07

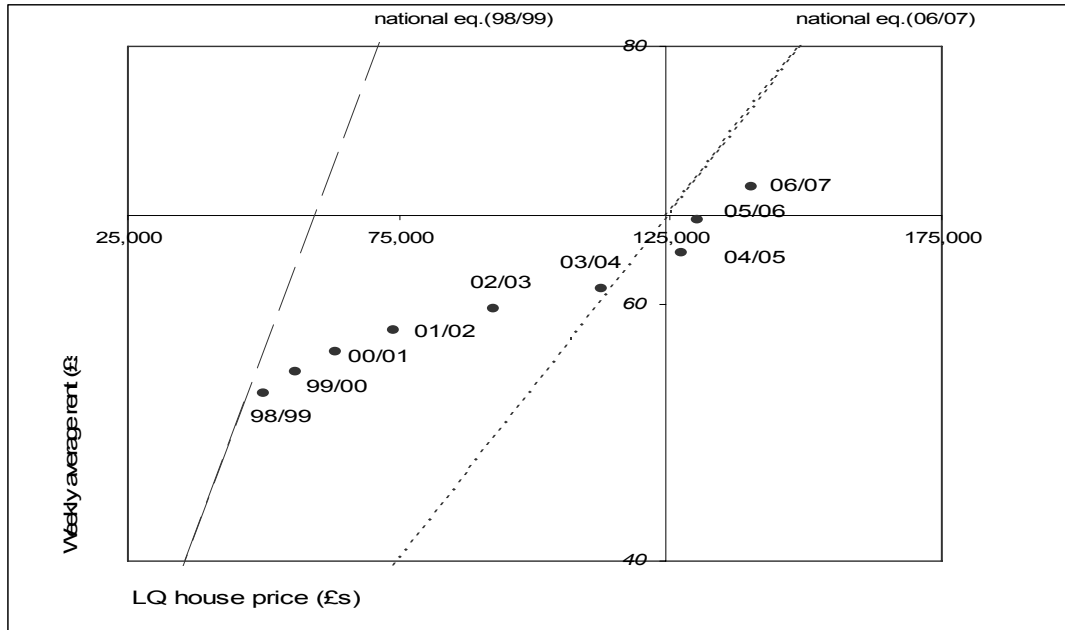


Source: As Table 5.1.

Figures 5.2 to 5.9 show the annual changes of each region’s position with respect to rents and house prices. The notation of the figures is the same as that in the previous figure, except in having a national equivalent line for 1998/99. The figures show that the regions above the national equivalence line in 2006/07 were already above in 1998/99.

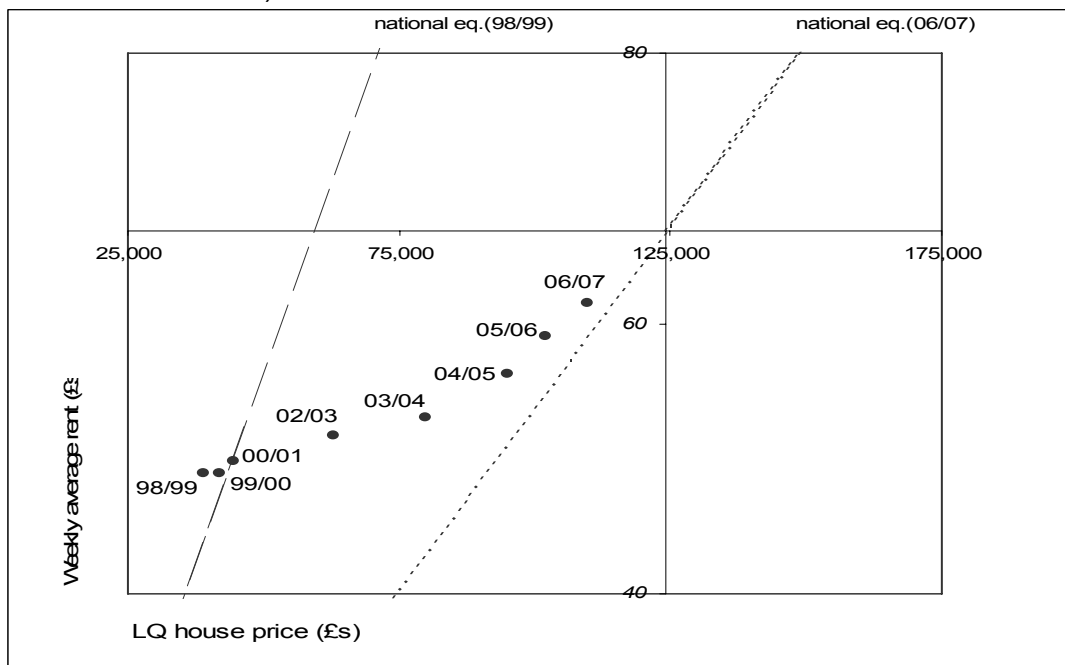
As both rents and house prices increased over the whole (or almost the whole) observation period across regions, the position of each region shifts upwards to the right in all figures, except that for the West Midlands from 1998/99 to 2000/01 and Yorkshire & the Humber from 1999/00 to 2000/01.

Figure 5.2 Position of the nine regions with respect to rents and house prices (1998/99 – 2006/07): the East



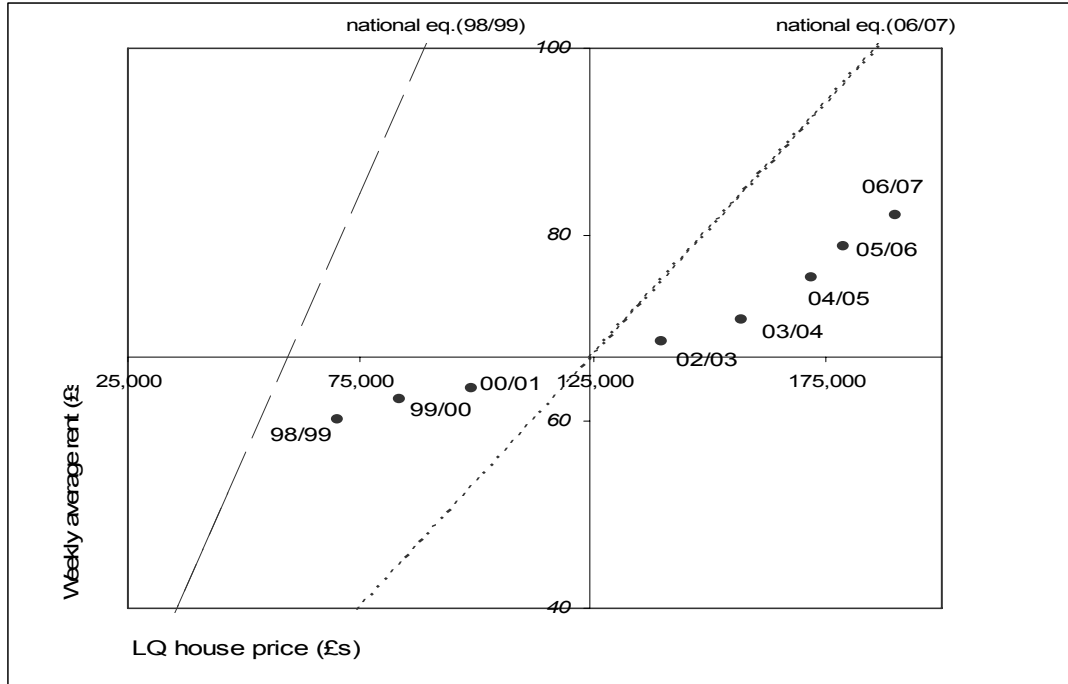
Source: As Table 5.1.

Figure 5.3 Position of the nine regions with respect rent sand house prices (1998/99 – 2006/07): the East Midlands



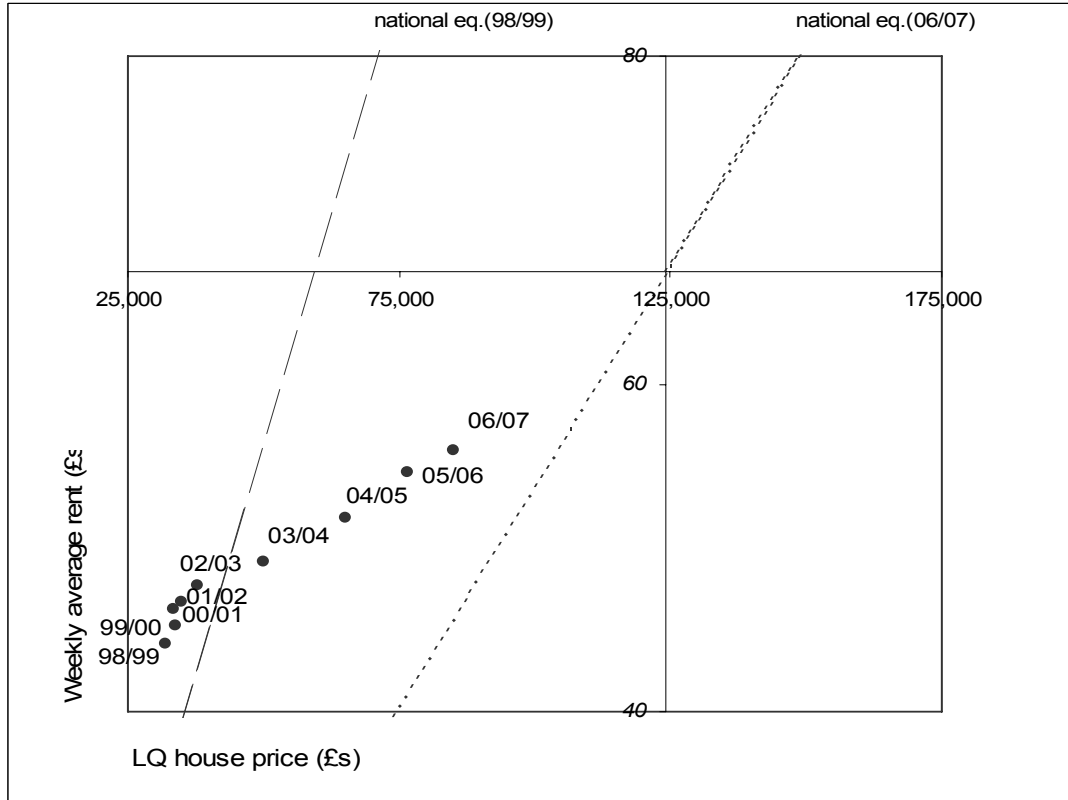
Source: As Table 5.1.

Figure 5.4 Position of the nine regions with respect to rents and house prices (1998/99 – 2006/07): London



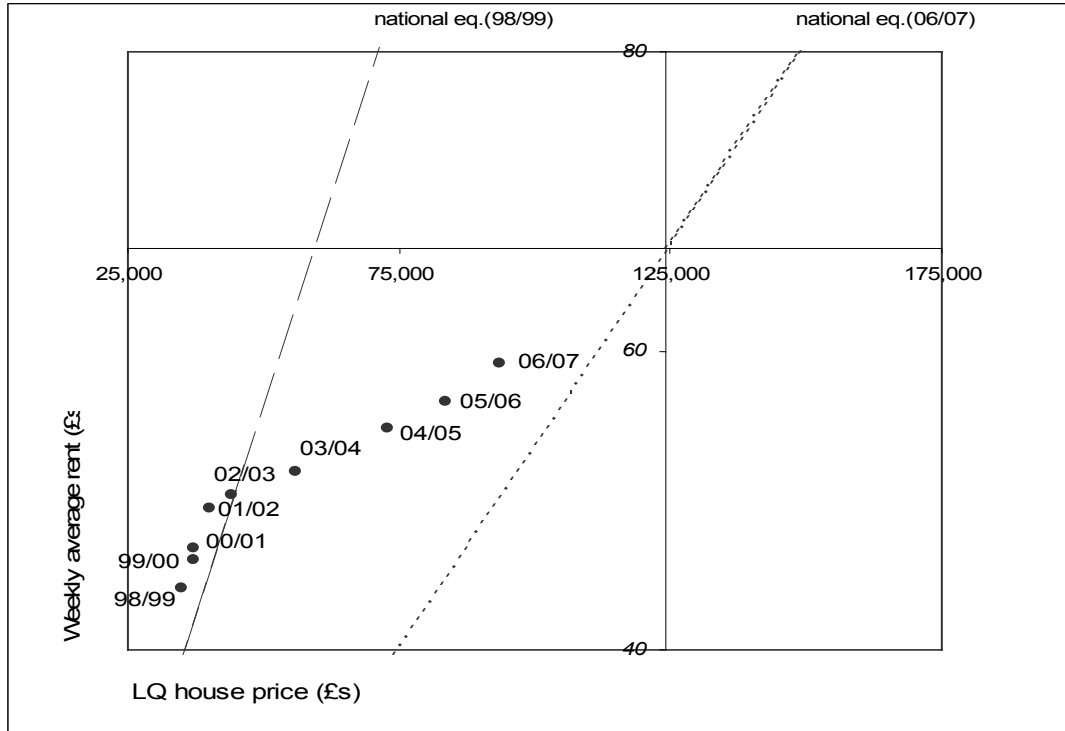
Source: As Table 5.1.

Figure 5.5 Position of the nine regions with respect to rents and house prices (1998/99 – 2006/07): the North East



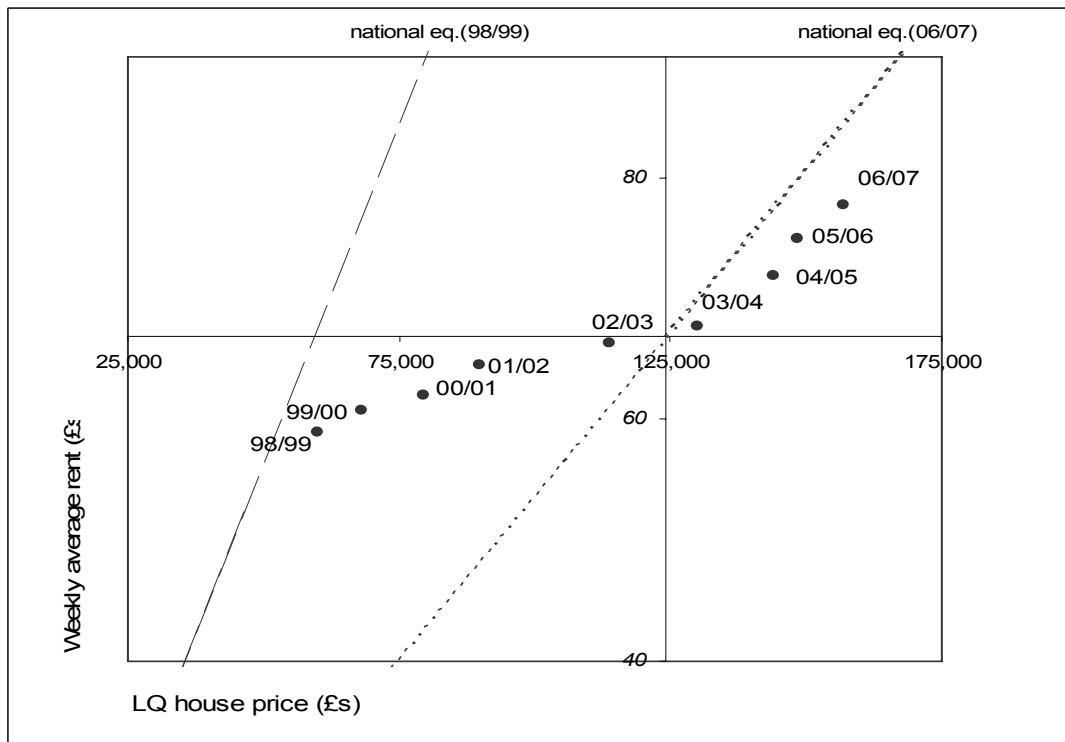
Source: As Table 5.1.

Figure 5.6 Position of the nine regions with respect to rents and house prices (1998/99 – 2006/07): the North West



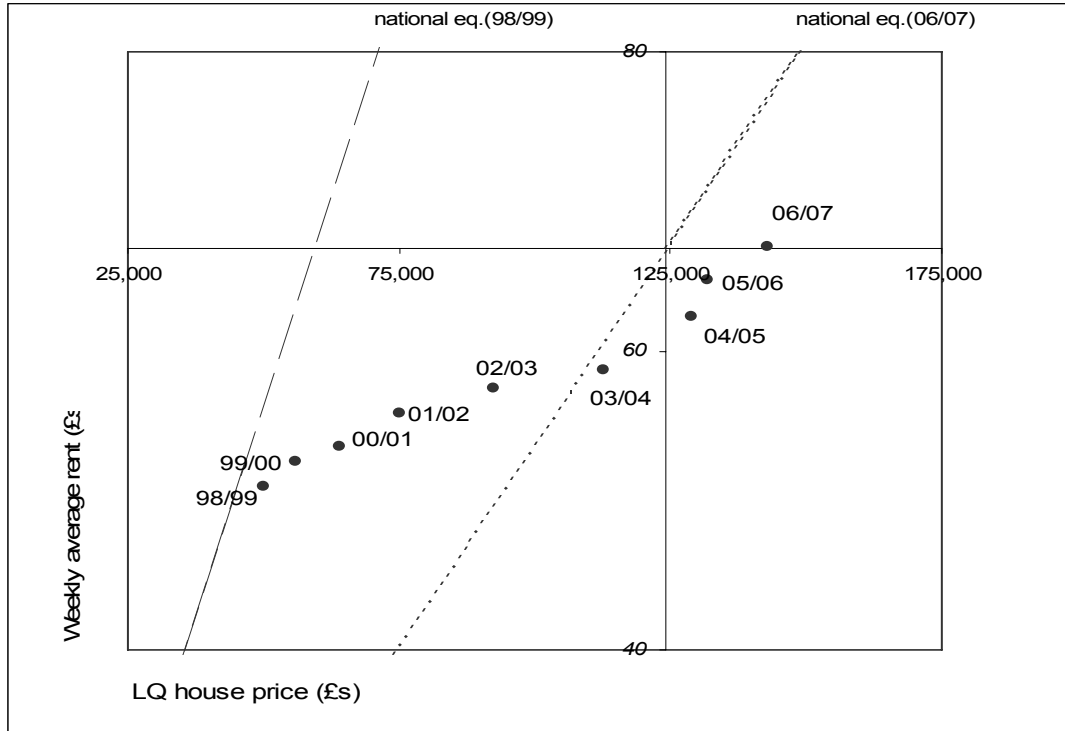
Source: As Table 5.1.

Figure 5.7 Position of the nine regions with respect to rents and house prices (1998/99 – 2006/07): the South East



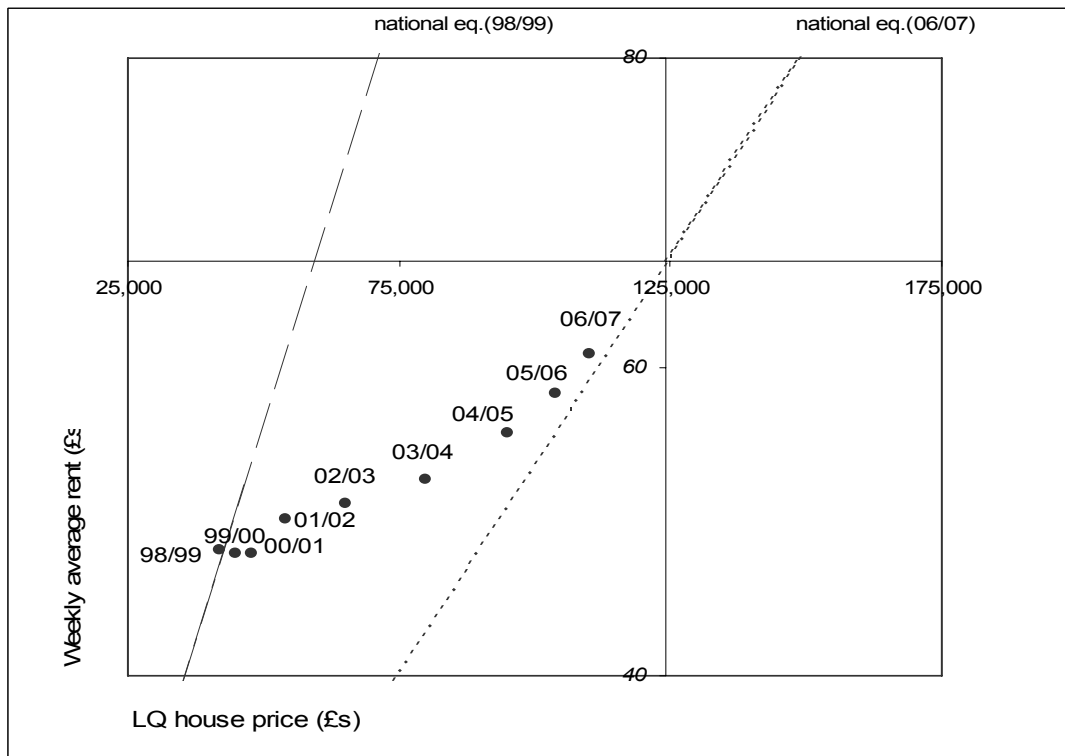
Source: As Table 5.1.

Figure 5.8 Position of the nine regions with respect to rents and house prices (1998/99 – 2006/07): the South West



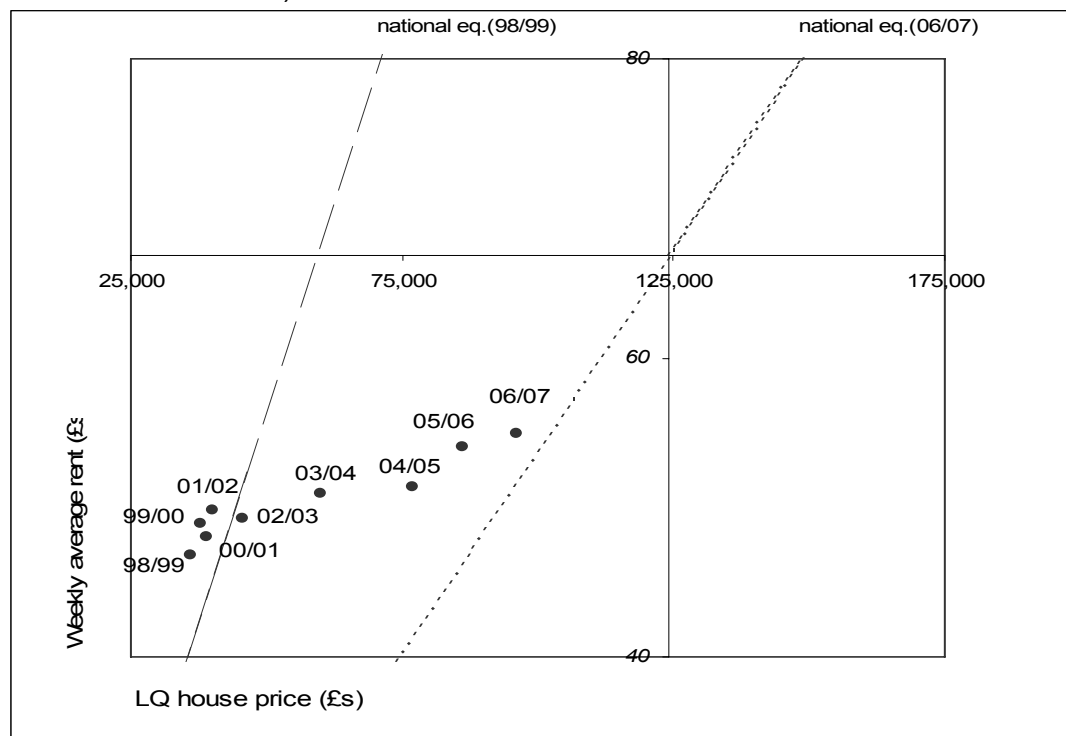
Source: As Table 5.1.

Figure 5.9 Position of the nine regions with respect to rents and house prices 1998/99 – 2006/07): the West Midlands



Source: As Table 5.1.

Figure 5.10 Position of the nine regions with respect to rent and house prices (1998/99 – 2006/07): Yorkshire & the Humber



Source: As Table 5.1.

5.4 HA rental rates of return at LA level

The range of rental rates of return

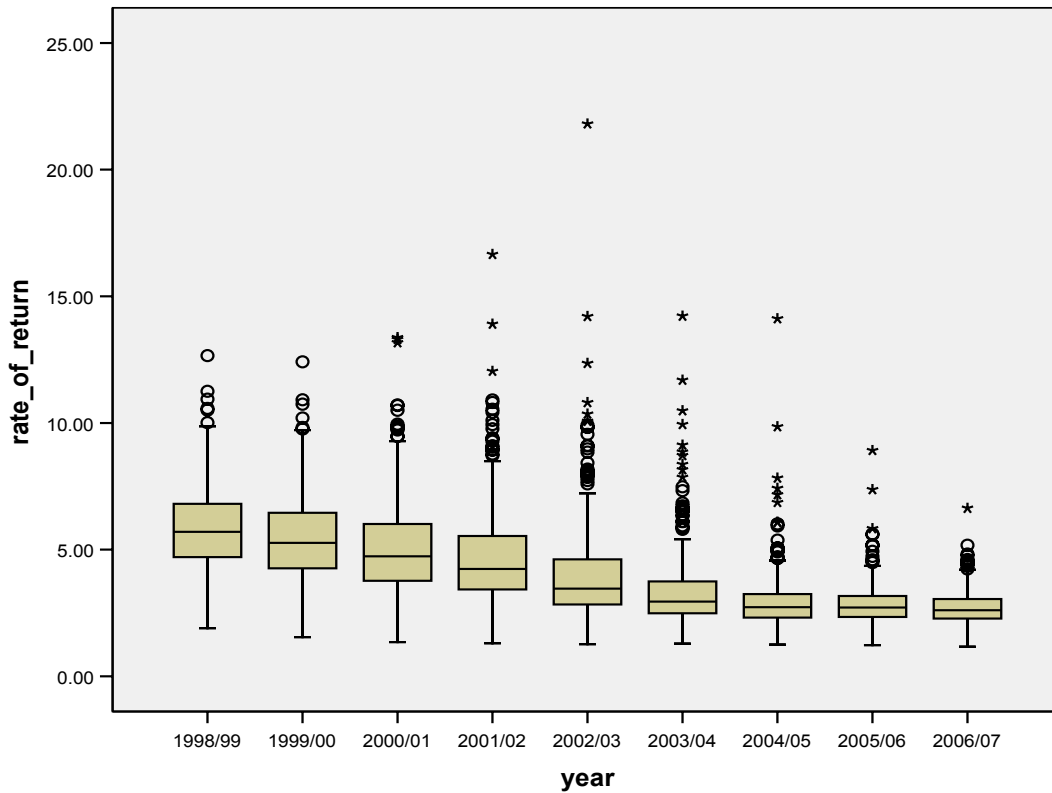
Table 5.3 sets out the range of the rental rates of return for the 354 LA areas of England from 1998/99 to 2006/07. The median of rental rates of return was 2.60% in 2006/07. This was 3.10 points lower than in 1998/99 when it was 5.70%. The variation across LA areas was lower in 2006/07. The standard deviation was 0.63, as compared to 1.60 in 1998/99, while the range from the lowest to the highest declined to 5.47 points from 10.76 in 1998/99. Figure 5.11 illustrates how the variation across LA areas has declined.

Table 5.3 The range of rental rates of return at LA level: % and %-point for range and change, 1998/99 – 2006/07

	Median	Std. Deviation	Maximum	Minimum	Range (Max. – min.)
1998/99	5.70	1.60	12.66	1.90	10.76
1999/00	5.27	1.66	12.42	1.54	10.88
2000/01	4.74	1.92	13.37	1.35	12.02
2001/02	4.24	2.02	16.66	1.31	15.35
2002/03	3.46	2.10	21.81	1.27	20.54
2003/04	2.94	1.57	14.22	1.29	12.93
2004/05	2.72	1.15	14.12	1.25	12.87
2005/06	2.71	0.80	8.91	1.23	7.68
2006/07	2.60	0.63	6.63	1.16	5.47
Change: 99/99 – 06/07	-3.10	-0.97	-6.03	-0.74	-5.29

Source: As Table 2.1 and Table 3.1.

Figure 5.11 Distribution of LQ house prices among all LA areas, 1998/99 – 2006/07

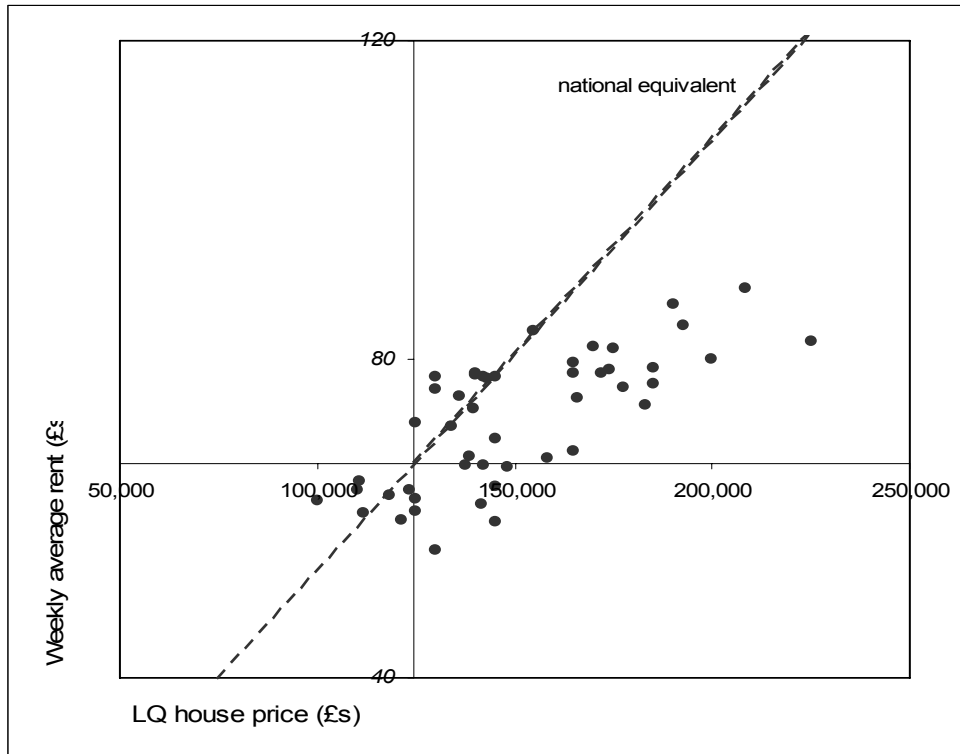


Source: As Table 5.3.

Note: The extreme value for 2002/03 was from Burnley whose LQ house price and net rent were £12,000 and £50.33 respectively.

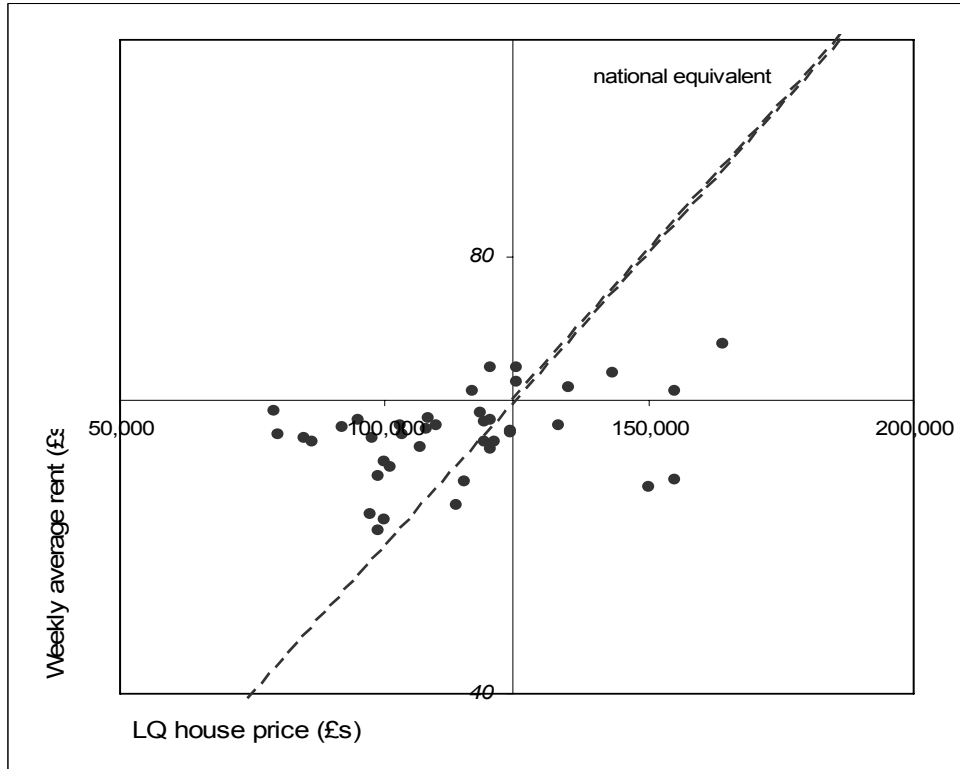
Figures 5.12 to 5.20 plot HA rents and LQ house prices across LA areas in 2006/07. The notation for the figures follows that for Figure 5.1. Overall, LA areas with LQ house prices higher (lower) than the national average (i.e. LA areas on the right (left) side of the Y axis) had lower (higher) rental rates of return than the national average (i.e. locating below (above) the national equivalent line). This means that LA areas with high house prices generally have relatively low HA rents compared to their house prices.

Figure 5.12 The position of LA areas with respect to rents and house prices 2006/07: the East



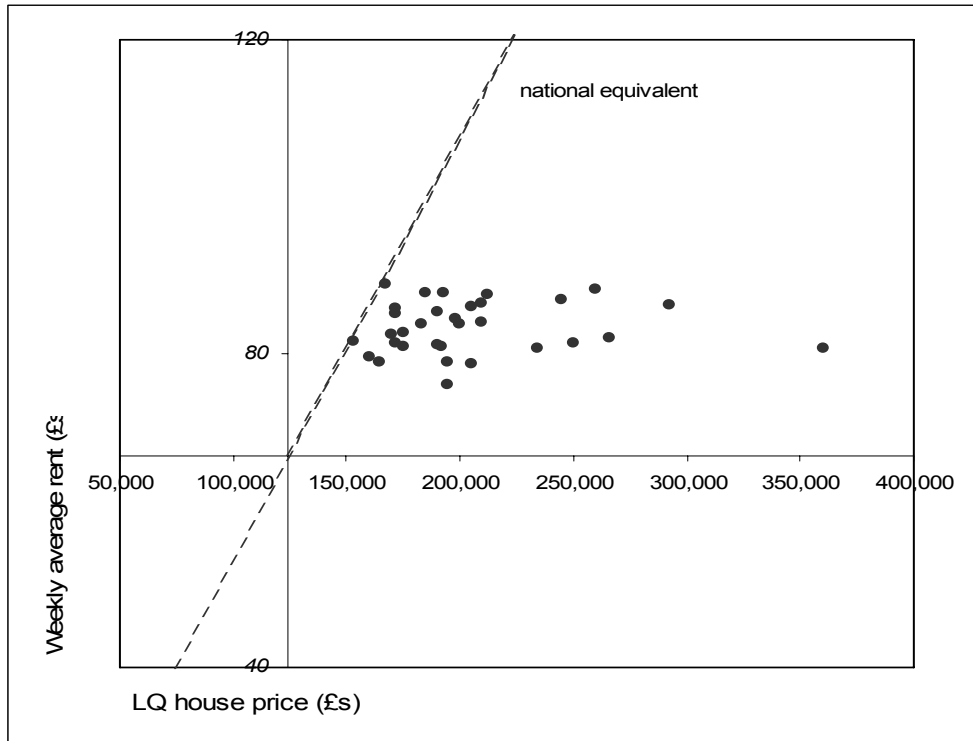
Source: As Table 5.1.

Figure 5.13 The position of LA areas by rent and house prices 2006/07: the East Midlands



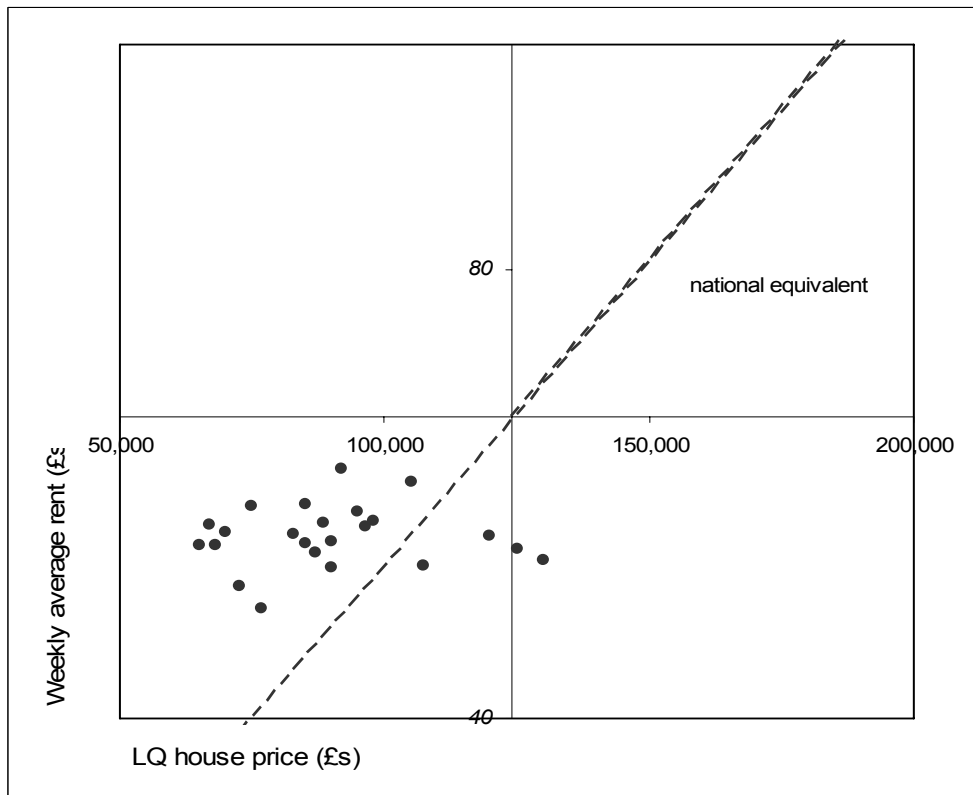
Source: As Table 5.1.

Figure 5.14 The position of LA areas with respect to rent and house prices 2006/07: London



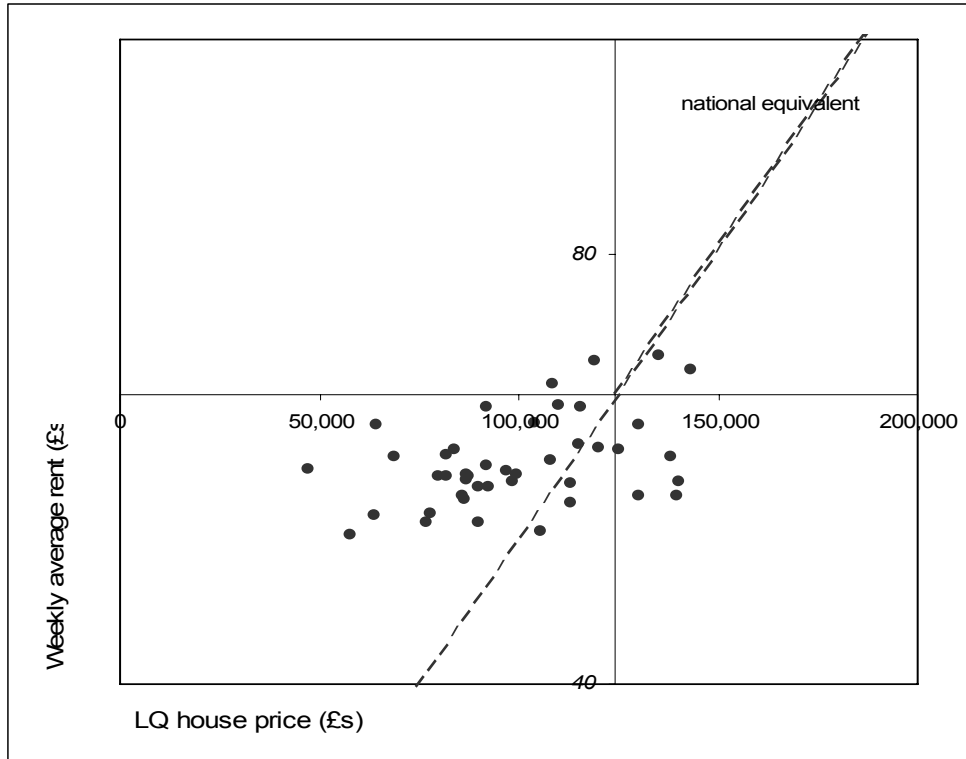
Source: As Table 5.1.

Figure 5.15 The position of LA areas with respect to rent and house prices 2006/07: the North East



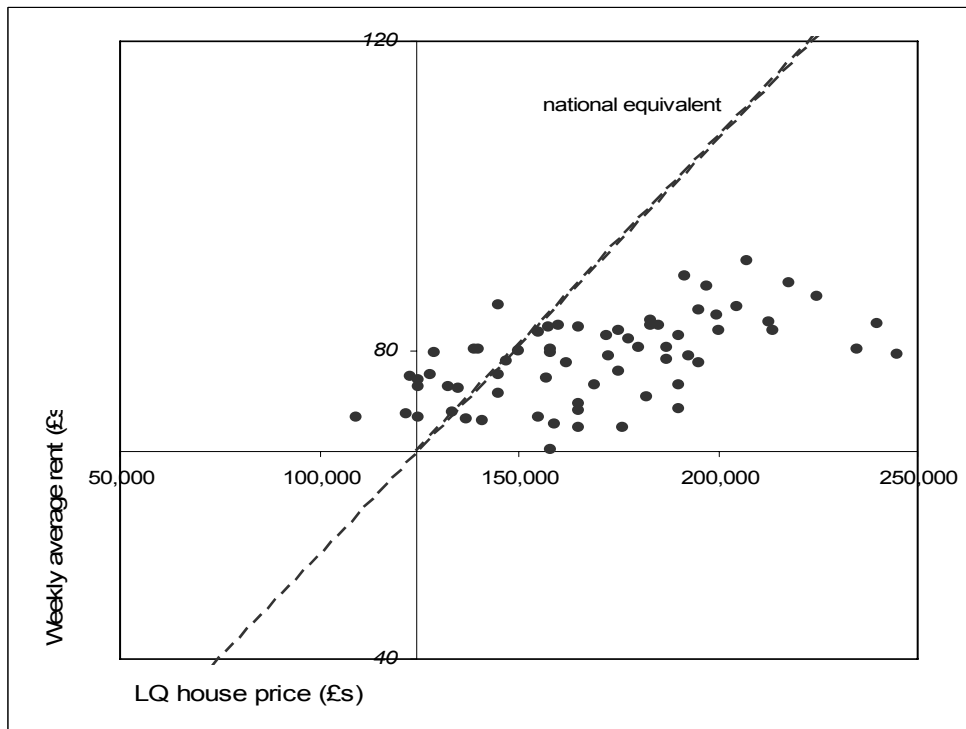
Source: As Table 5.1.

Figure 5.16 The position of LA areas with respect to rent and house prices 2006/07: the North West



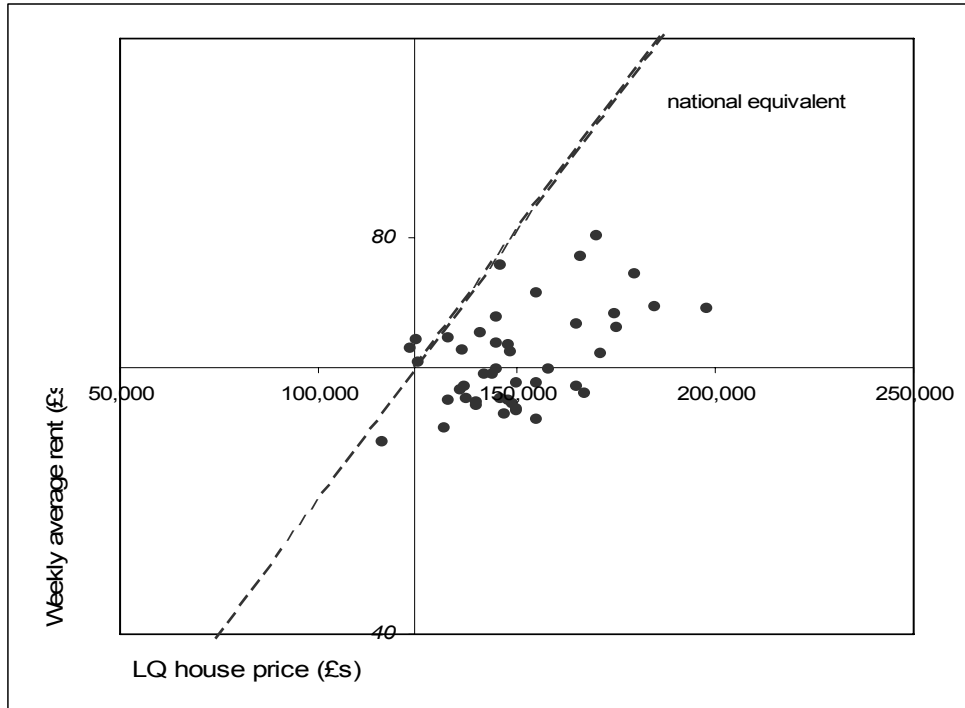
Source: As Table 5.1.

Figure 5.17 The position of LA areas with respect to rent and house prices 2006/07: the South East



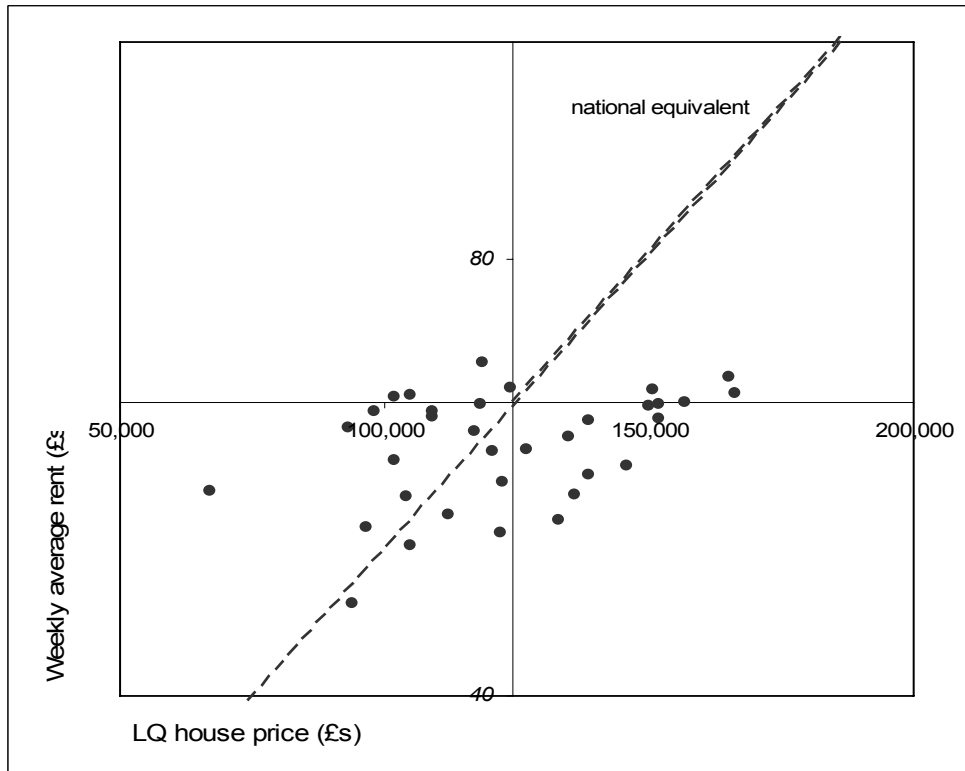
Source: As Table 5.1.

Figure 5.18 The position of LA areas with respect to rent and house prices 2006/07: the South West



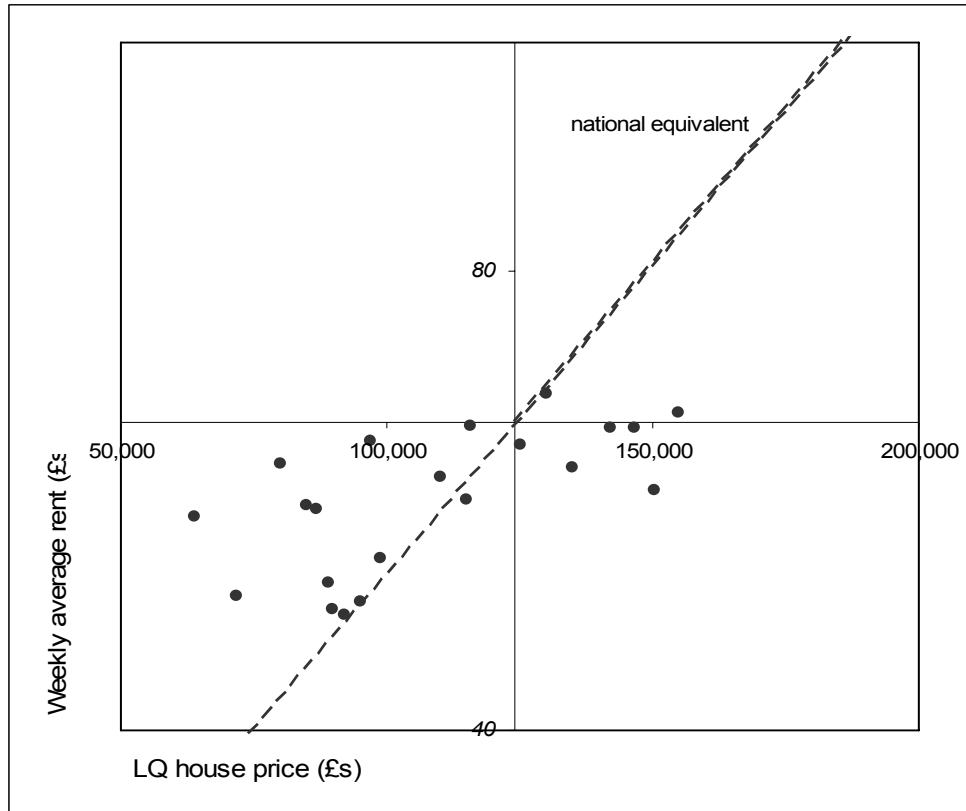
Source: As Table 5.1.

Figure 5.19 The position of LA areas with respect to rent and house prices 2006/07: the West Midlands



Source: As Table 5.1.

Figure 5.20 The position of LA areas with respect to rent and house prices 2006/07: Yorkshire & the Humber



Source: As Table 5.1.

LA areas with high/low rental rates of return

Table 5.4 lists the ten LA areas with the highest rental rates of return in 1998/99 and 2006/07 respectively. In 1998/99, Pendle had the highest rental rate of return (12.66%), followed by Hyndburn (11.25%) and Burnley (10.94%). Of the ten LA areas, eight were on the list of the LA areas with the lowest LQ house prices (Table 3.7). By region, five in the North West, two in the East Midlands, while there was one each in the North East, the West Midlands and Yorkshire & the Humber. Nine were categorised as urban LA areas and the remaining one was rural.

Seven LA areas on the list in 1998/99 were still there in 2006/07, with Burnley (6.63%), Barrow-in-Furness (5.18%) and Pendle (4.83%) as the three highest. Nine of the ten LA areas in the table were on the list of LA areas with the lowest LQ house prices. By region, five were in the North West; two were in the North East and one each in Yorkshire & the Humber, the West Midlands and the East Midlands. Eight were urban while two were rural LA areas.

Table 5.4 Ten LA areas with the highest rental rate of return, 1998/99 and 2006/07

LA area 1998/99	GOR	Rural/ urban	Rental rate of return %	LQ house price £	Rent £
Pendle	NW	Urban	12.66	19950.00	48.56
Hyndburn	NW	Urban	11.25	22000.00	47.59
Burnley	NW	Urban	10.94	22500.00	47.34
Barrow-in-Furness	NW	Urban	10.58	23500.00	47.80
Easington	NE	Rural	10.51	21950.00	44.36
Blackburn with Darwen	NW	Urban	10.01	25000.00	48.14
Stoke-on-Trent	W Mid	Urban	9.87	25000.00	47.47
Corby	E Mid	Urban	9.74	30500.00	57.14
Mansfield	E Mid	Urban	9.69	28000.00	52.17
Kingston upon Hull	Y & H	Urban	9.46	25000.00	45.48
2006/07					
Burnley	NW	Urban	6.63	47000.00	59.97
Barrow-in-Furness	NW	Urban	5.18	64500.00	64.19
Pendle	NW	Urban	4.83	58000.00	53.82
Kingston upon Hull	Y & H	Urban	4.76	64000.00	58.61
Blackburn with Darwen	NW	Urban	4.61	69000.00	61.13
Stoke-on-Trent	W Mid	Urban	4.57	67000.00	58.85
Hyndburn	NW	Urban	4.52	64000.00	55.68
Sedgefield	NE	Rural	4.44	67000.00	57.19
Hartlepool	NE	Urban	4.44	65000.00	55.47
Bolsover	E Mid	Rural	4.34	79000.00	65.98

Source: As Table 5.1.

Table 5.5 lists the ten LA areas with the lowest rental rate of return in 1998/99 and 2006/07 respectively. In 1998/99, Kensington & Chelsea had the lowest rental rate of return (1.90%); followed by Westminster (2.51%) and Hammersmith & Fulham (2.56%). Of the ten LA areas, eight were on the list of LA areas with the highest LQ house prices (Table 3.6). By region, six were in London, three in the South East and the remaining one in the West Midlands. Seven were categorised as urban LA areas while three were rural.

Eight LA areas from 1998/99 remained in the list in 2006/07. The lowest three were unchanged – Kensington & Chelsea (1.16%), Westminster (1.53%) and Hammersmith & Fulham (1.60%). All ten LA areas were in the list of LA areas with the highest LQ house prices. By region, seven were in London and three in the South East. Eight were urban while two were rural LA areas.

Table 5.5 Ten LA areas with the lowest rental rate of return, 1998/99 and 2006/07

LA area 1998/99	GOR	Rural/ urban	Rental rate of return %	LQ house price £	Rent £
Kensington and Chelsea	Lon	Urban	1.90	150000.00	54.78
Westminster	Lon	Urban	2.51	124000.00	59.77
Hammersmith and Fulham	Lon	Urban	2.56	115000.00	56.64
South Bucks	SE	Rural	2.78	105750.00	56.46
Richmond upon Thames	Lon	Urban	2.83	114950.00	62.66
Chiltern	SE	Rural	2.87	100375.00	55.49
Camden	Lon	Urban	2.95	112500.00	63.82
Surrey Heath	SE	Urban	3.00	92000.00	53.06
Islington	Lon	Urban	3.01	100000.00	57.96
Stratford-on-Avon	W Mid	Rural	3.12	72000.00	43.22
2006/07					
Kensington and Chelsea	Lon	Urban	1.16	360000.00	80.62
Westminster	Lon	Urban	1.53	292375.00	86.20
Hammersmith and Fulham	Lon	Urban	1.60	266000.00	81.89
South Bucks	SE	Rural	1.69	244950.00	79.54
Richmond upon Thames	Lon	Urban	1.69	249950.00	81.42
Camden	Lon	Urban	1.76	259987.50	88.12
Chiltern	SE	Rural	1.77	235000.00	80.21
Islington	Lon	Urban	1.79	234000.00	80.73
Elmbridge	SE	Urban	1.81	240000.00	83.32
Wandsworth	Lon	Urban	1.84	245000.00	86.79

Source: As Table 5.1.

LA areas with the largest/smallest declines in rental rates of return

Between 1998/99 and 2006/07, all LA areas experienced decreases in their rental rates of return but with varying extents of change. Table 5.6 lists ten LA areas with the largest decline in rental rates of return for the observation period. Pendle had the sharpest drop, at 7.83 points – from 12.66% in 1998/99 to 4.83 in 2006/07; followed by Hyndburn (6.73 points or 11.25% to 4.52%) and Easington (6.27 points or 10.51% to 4.23%). The rapid reductions in rental rates of return in the listed LA areas were mainly the result of sharp increases in house prices. However in some cases, notably Derwentside, modest rises in rents also contributed to sharp drops. Eight of the ten LA areas in the table were listed as those with the highest rental rates of return at the beginning of the observation period (Table 5.4), suggesting that their rental rates of return had greater room to be reduced at that time. By region, five LA areas were in the North West, two each in the East Midlands and the North East, and the remaining one in the West Midlands. Eight were categorised as an urban area while two were rural.

Table 5.6 Ten LA areas with the largest decline in rental rate of return, 1998/99 – 2006/07

	GOR	Rural/ urban	Rental rate of return (%)		Change in		
			1998/99	2006/07	Rental rate of return (%-point)	House price (%)	Rent (%)
Pendle	NW	Urban	12.66	4.83	-7.83	190.73	10.83
Hyndburn	NW	Urban	11.25	4.52	-6.73	190.91	17.00
Easington	NE	Rural	10.51	4.24	-6.27	209.62	24.80
Corby	E Mid	Urban	9.74	3.65	-6.09	201.64	12.86
Manchester	NW	Urban	8.97	3.11	-5.86	268.52	27.65
Derwentside	NE	Rural	9.10	3.36	-5.74	190.57	7.40
Mansfield	E Mid	Urban	9.69	4.14	-5.55	185.71	22.14
Blackburn with Darwen	NW	Urban	10.01	4.61	-5.40	176.00	26.98
Barrow-in-Furness	NW	Urban	10.58	5.18	-5.40	174.47	34.29
Stoke-on-Trent	W Mid	Urban	9.87	4.57	-5.30	168.00	23.97

Source: As Table 5.1.

Table 5.7 lists the ten LA areas with the smallest declines in rental rates of return for the same period. Kensington & Chelsea had the smallest decline at 0.74 points – from 1.90% in 1998/99 to 1.16% in 2006/07; followed by Surrey Heath (0.91 points or 3.00% to 2.09%), and Hammersmith & Fulham (0.96 points or 2.56% to 1.60%). These LA areas saw relatively moderate increases in house prices (in percentage terms), because prices were already high at the beginning of the observation period. This was the cause of their fairly moderate reductions in rental rates of return. In addition, eight of the ten in the table appeared in the list of lowest rental rates of return as in 1998/99 (Table 5.4). This means that their rates were already too low to drop drastically. By region, five were in the South East, four in London and the remaining one in the West Midlands. Six were categorised as urban area while four were rural.

Table 5.7 Ten LA areas with the smallest decline in rental rate of return, 1998/99 – 2006/07

	GOR	Rural/ urban	Rental rate of return (%)		Change in		
			1998/99	2006/07	Rental rate of return (%-point)	House price (%)	Rent (%)
Kensington and Chelsea	Lon	Urban	1.90	1.16	-0.74	140.00	47.17
Surrey Heath	SE	Urban	3.00	2.09	-0.91	111.96	47.79
Hammersmith and Fulham	Lon	Urban	2.56	1.60	-0.96	131.30	44.58
Westminster	Lon	Urban	2.51	1.53	-0.98	135.79	44.22
Stratford-on-Avon	W Mid	Rural	3.12	2.12	-1.00	130.73	56.94
South Bucks	SE	Rural	2.78	1.69	-1.09	131.63	40.88
Chiltern	SE	Rural	2.87	1.77	-1.10	134.12	44.55
Epsom and Ewell	SE	Urban	3.14	2.04	-1.10	139.33	55.54
Vale of White Horse	SE	Rural	3.24	2.11	-1.13	136.52	53.80
Richmond upon Thames	Lon	Urban	2.83	1.69	-1.14	117.44	29.94

Source: As Table 5.1.

5.5 The trends in HA rental rates of return for urban and rural areas

Table 5.8 sets out the estimated rental rates of return for urban and rural LA areas. In 2006/07, rental rates were 2.63% for the urban group and 2.48% for the rural group. This compares with 5.86 % and 5.46 % in 1998/99 for the two groups. The decline in rental rates of return was 3.23 points for the urban group and 2.98 points for the rural group. Although the estimation could contain some errors (see the note for Table 3.12), the declining trend lost momentum in the latest period in both groups of areas. Comparisons between the two groups show that the rural rental rate of return has been lower than the urban equivalent for the whole period but the difference has been below 0.20 for the recent years.

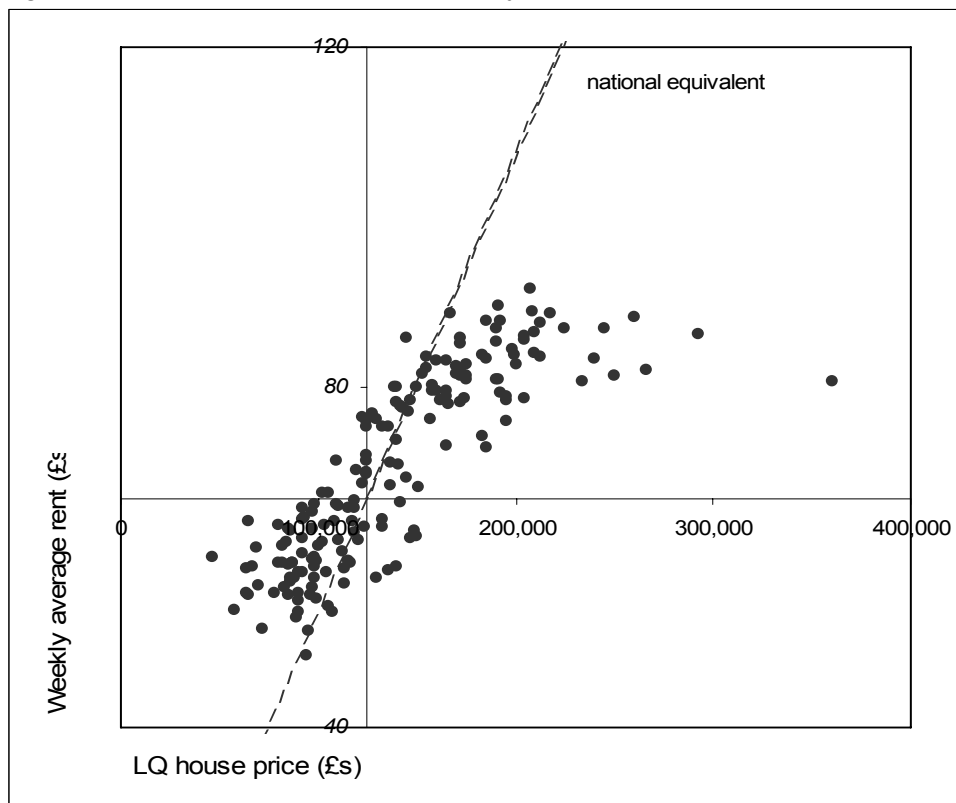
Table 5.8 Estimated rental rate of return by urban-rural classification: % or %-point, 1998/99 – 2006/07

	Urban		Rural		Urban – rural
	Rental rate of return	Change	Rental rate of return	Change	
1998/99	5.86		5.46		0.39
1999/00	5.51	-0.35	5.04	-0.42	0.47
2000/01	4.77	-0.74	4.47	-0.57	0.30
2001/02	4.22	-0.55	4.01	-0.46	0.21
2002/03	3.45	-0.77	3.31	-0.70	0.14
2003/04	2.93	-0.52	2.75	-0.56	0.18
2004/05	2.65	-0.28	2.54	-0.21	0.12
2005/06	2.70	0.05	2.57	0.03	0.14
2006/07	2.63	-0.07	2.48	-0.09	0.14
1998/99 – 2006/07		-3.23		-2.98	

Source: As Tables 2.13 and 3.12.

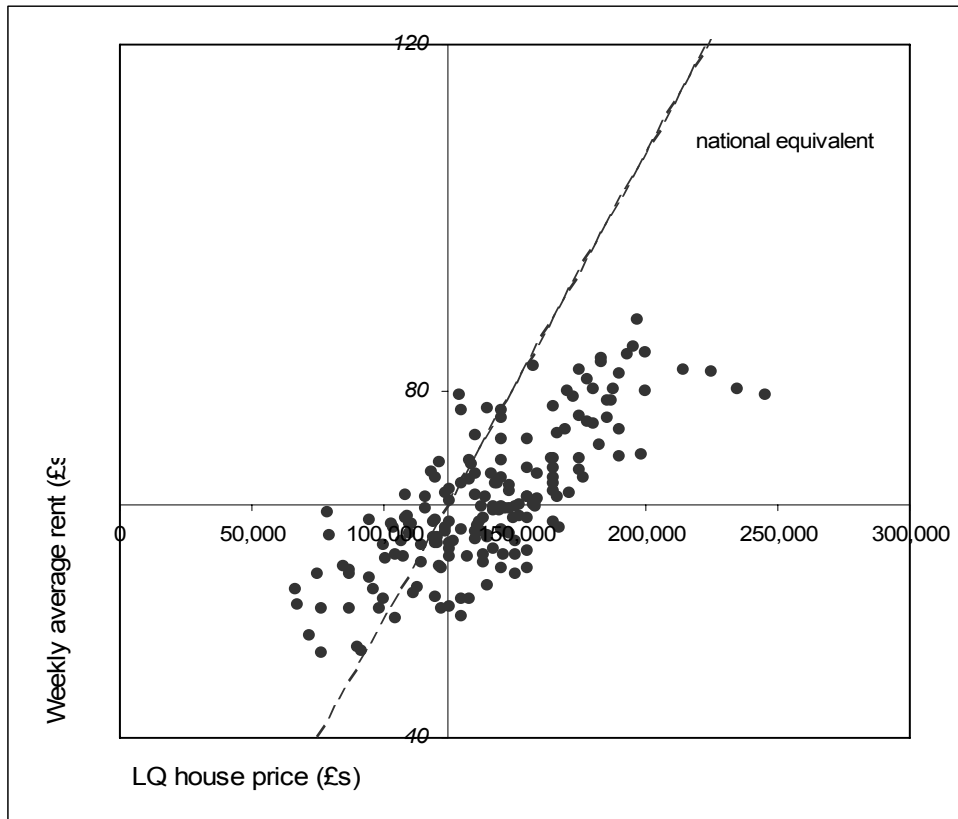
Figures 5.21 and 5.22 plot HA rents and LQ house prices by urban and rural LA areas in 2006/07. The following six figures (Figures 5.23 to 5.28) show the same relationship for the six breakdowns of the urban and rural categorisation. The notation for these figures is the same as that for Figure 5.3. Regardless of the classification, LA areas with LQ house prices higher (lower) than the national standard were more likely to have lower (higher) rental rates of return than the national average. This means that LA areas with high house prices generally have relatively low HA rents, as compared to their house prices. The pattern is particularly noticeable for the most urban group (major urban) in Figure 5.23.

Figure 5.21 The position of LA areas by rents and house prices: Urban LA areas, 2006/07



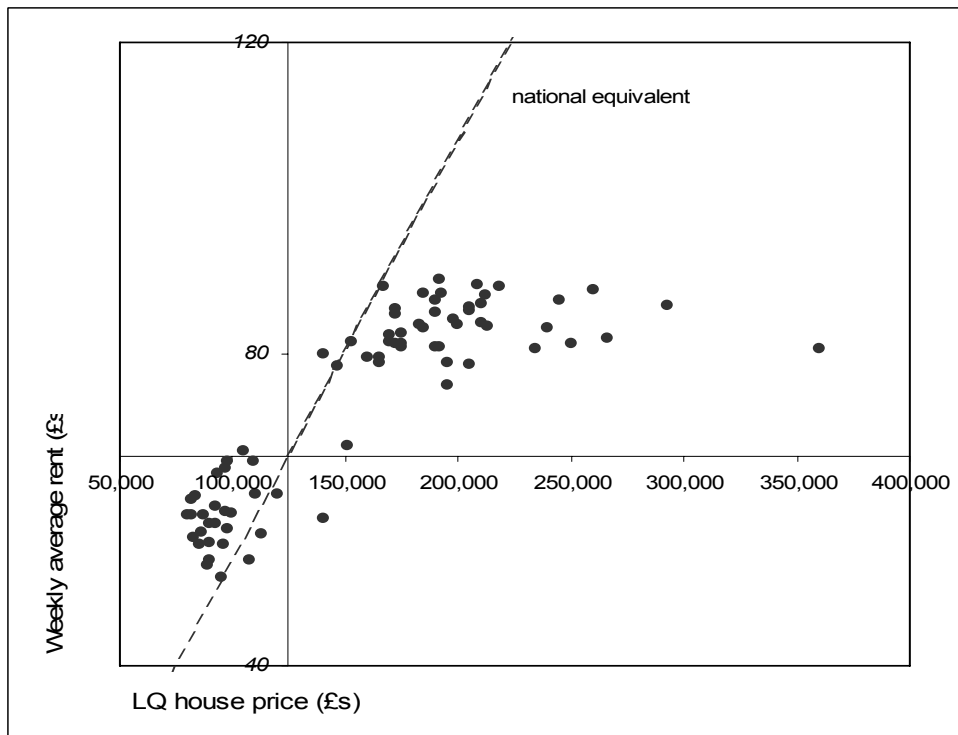
Source: As Tables 2.13 and 3.12.

Figure 5.22 The position of LA areas by rents and house prices: Rural LA areas, 2006/07



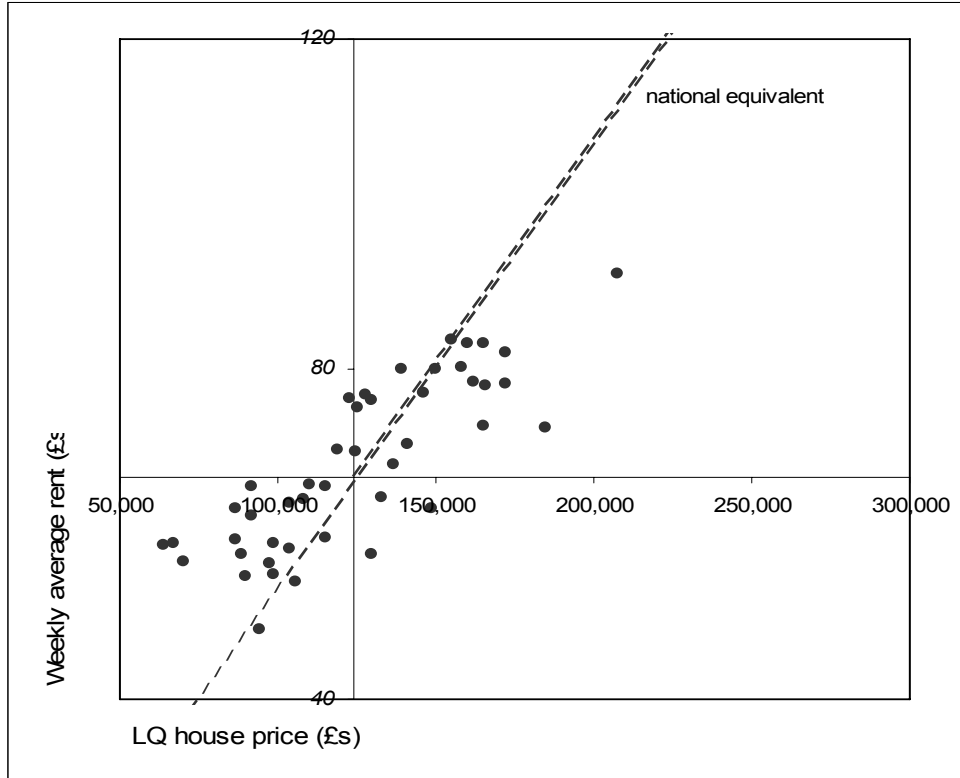
Source: As Tables 2.13 and 3.12.

Figure 5.23 The position of LA areas by rents and house prices: Major urban LA areas, 2006/07



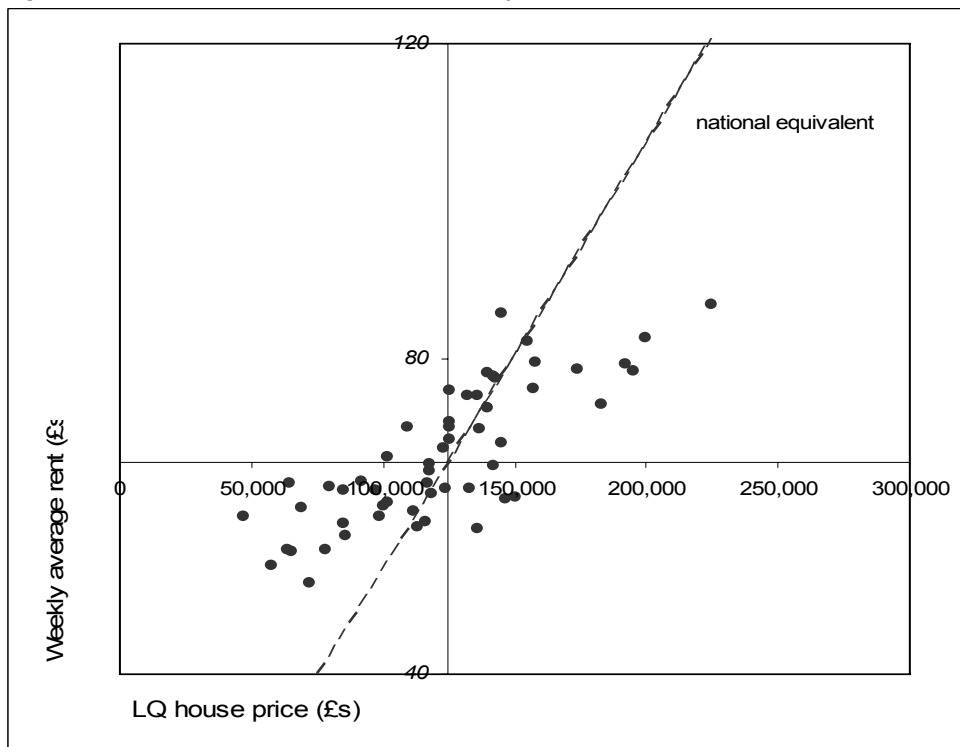
Source: As Tables 2.13 and 3.12.

Figure 5.24 The position of LA areas by rents and house prices: Large urban LA areas, 2006/07



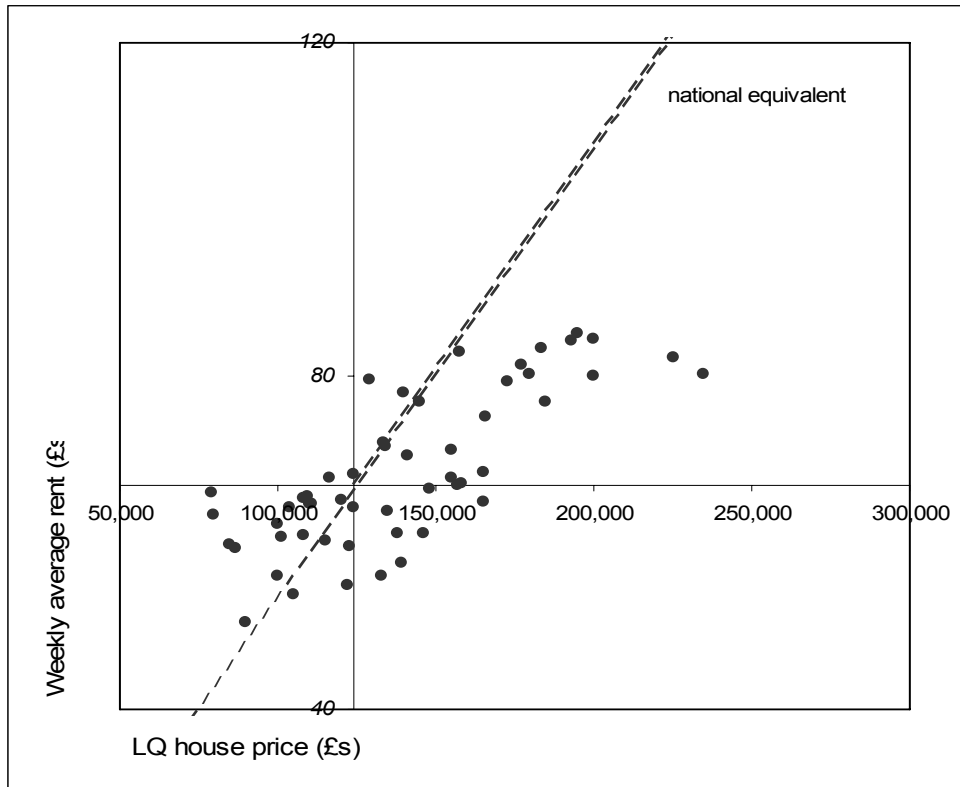
Source: As Tables 2.13 and 3.12.

Figure 5.25 The position of LA areas by rents and house prices: Other urban LA areas, 2006/07



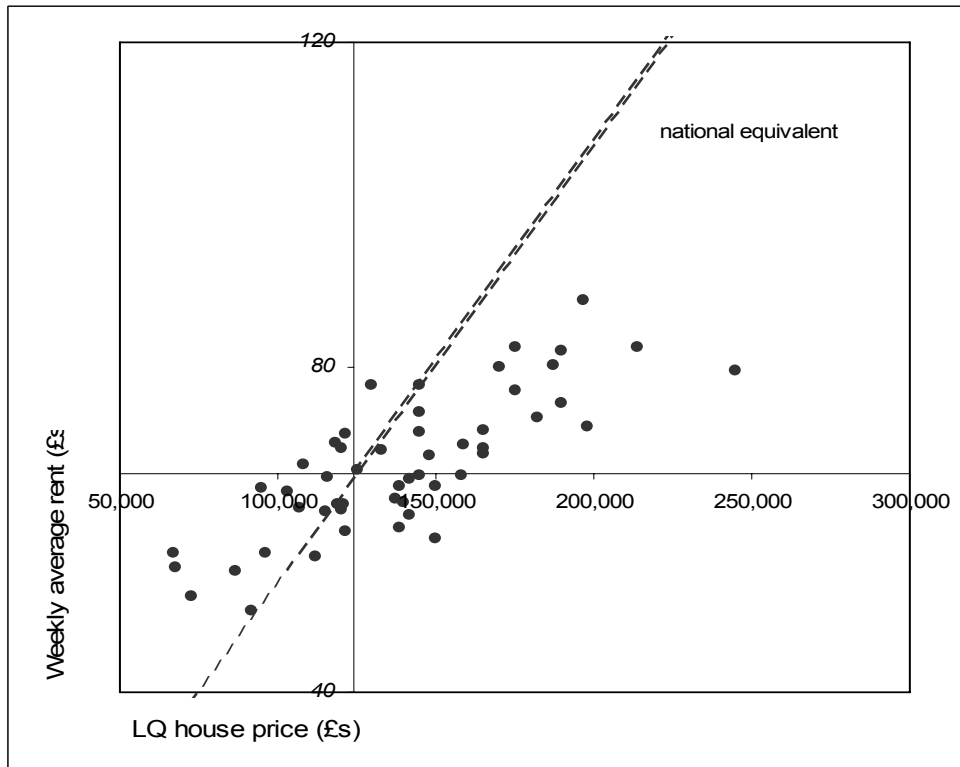
Source: As Tables 2.13 and 3.12.

Figure 5.26 The position of LA areas by rents and house prices: Rural-26 LA areas, 2006/07



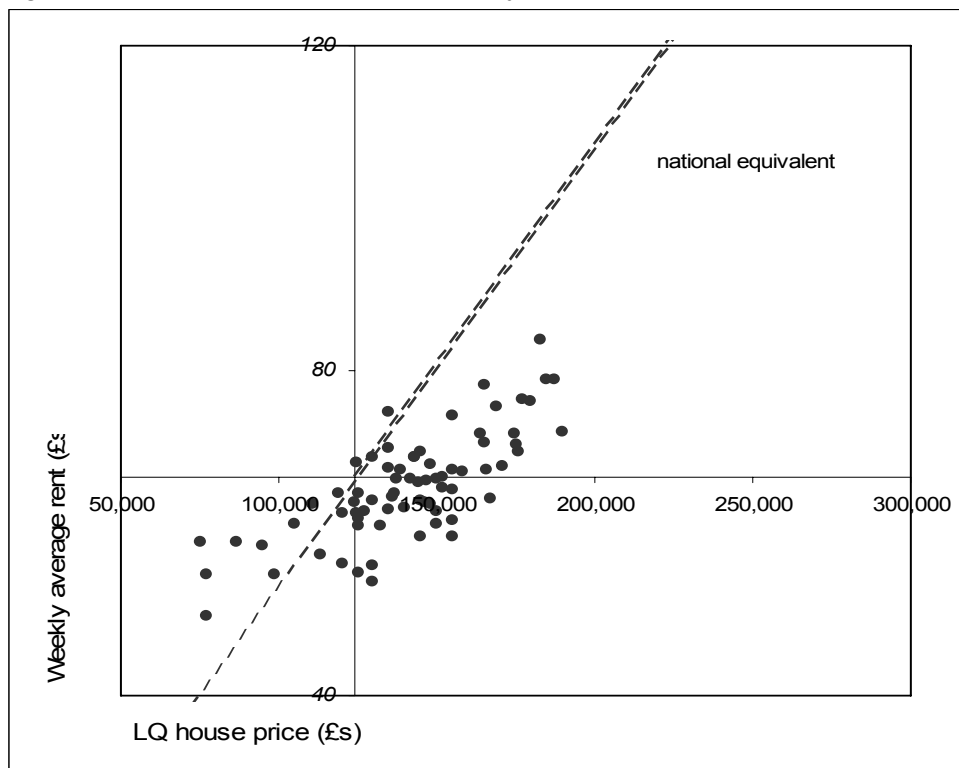
Source: As Tables 2.13 and 3.12.

Figure 5.27 The position of LA areas by rents and house prices: Rural-50 LA areas, 2006/07



Source: As Tables 2.13 and 3.12.

Figure 5.28 The position of LA areas by rents and house prices: Rural-80 LA areas, 2006/07



Source: As Tables 2.13 and 3.12.

5.6 HA rental rates of return for LA areas with high/low increases in rents

Table 5.9 sets out rental rates of return for LA areas with high and low rent increases. The grouping methodology is the same as in Section 4. In 2006/07, the rental rate of return was 2.46% for the high group and 2.73% for the low group. This compares with 4.61% and 6.60% in 1998/99 for each group. The decreases in rental rates for the observation period were, thus, 2.15 points for the high group and 3.87 for the low group. The declining trends for the both groups were losing momentum in recent years, although the latest year saw marginal gains.

Table 5.9 Rental rate of return: LA areas with high/low growth in rent (% , %-point), 1998/99 – 2006/07

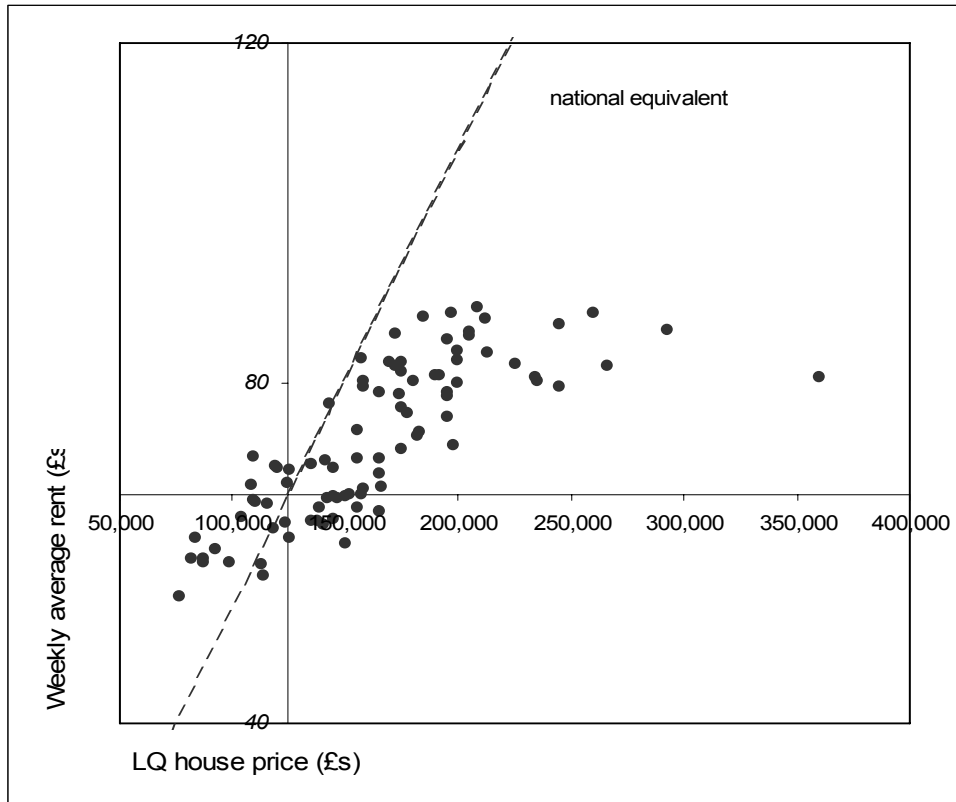
	High		Low		High – low
	Rental rate of return	Change	Rental rate of return	Change	
1998/99	4.61		6.60		-1.99
1999/00	4.34	-0.27	6.11	-0.49	-1.77
2000/01	3.95	-0.39	5.67	-0.44	-1.72
2001/02	3.69	-0.26	5.25	-0.42	-1.56
2002/03	3.19	-0.50	4.48	-0.77	-1.29
2003/04	2.79	-0.40	3.65	-0.83	-0.86
2004/05	2.55	-0.24	3.07	-0.58	-0.52
2005/06	2.53	-0.02	2.93	-0.14	-0.40
2006/07	2.46	-0.07	2.73	-0.20	-0.27
1998/99 – 2006/07		-2.15		-3.87	

Note: Simple average of the constituent LA areas' rental rate of return.

Source: As Tables 2.1 and 3.1.

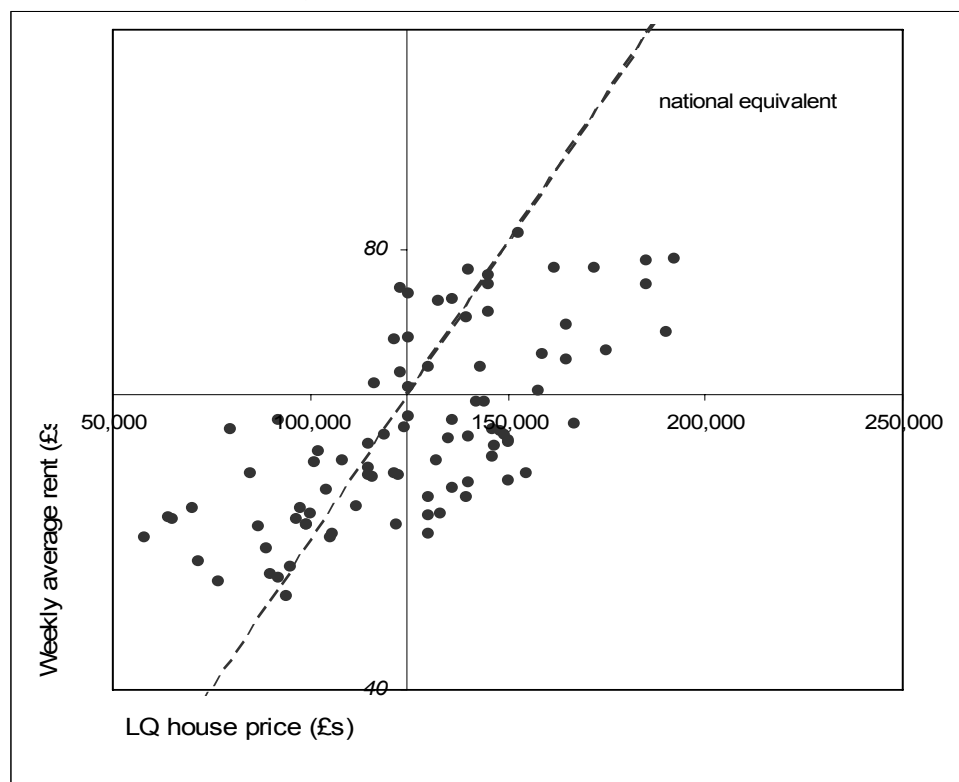
Figures 5.29 and 5.30 plot HA rents and LQ house prices of these LA areas in 2006/07. The notation in these figures is the same as that for Figure 5.1. Although the decline in rental rates of return in the high group appeared to be slowing recently, many LA areas in this group still had rents far below the national rental rate of return. In Figure 5.29, the majority of LA areas were situated below the national equivalent line. The low group displayed a similar picture but there were some LA areas with rents higher than the national average rent level despite their house prices being higher than the national standard.

Figure 5.29 The position of LA areas by rents and house prices: high rent increase group, 2006/07



Source: As Tables 2.1 and 3.1.

Figure 5.30 The position of LA areas by rents and house prices: LA areas with low rent increases, 2006/07



Source: As Tables 2.1 and 3.1.

5.7 HA rental rates of return for LA areas with high/low house price increases

Table 5.10 sets out rental rates of return for LA areas with high and low house price increases. The grouping methodology is the same as in Section 4. In 2006/07, rental rates of return were 2.79% for the high group and 2.52% for the low group. These compare to 6.73% and 4.59% in 1998/99 for the groups respectively. The decrease in rental rates for the observation period was greater for the high group (3.94 points) than the low group (2.07 points).

Table 5.10 Rental rate of return: LA areas with high/low growth in house price (% , %-point), 1998/99 – 2006/07

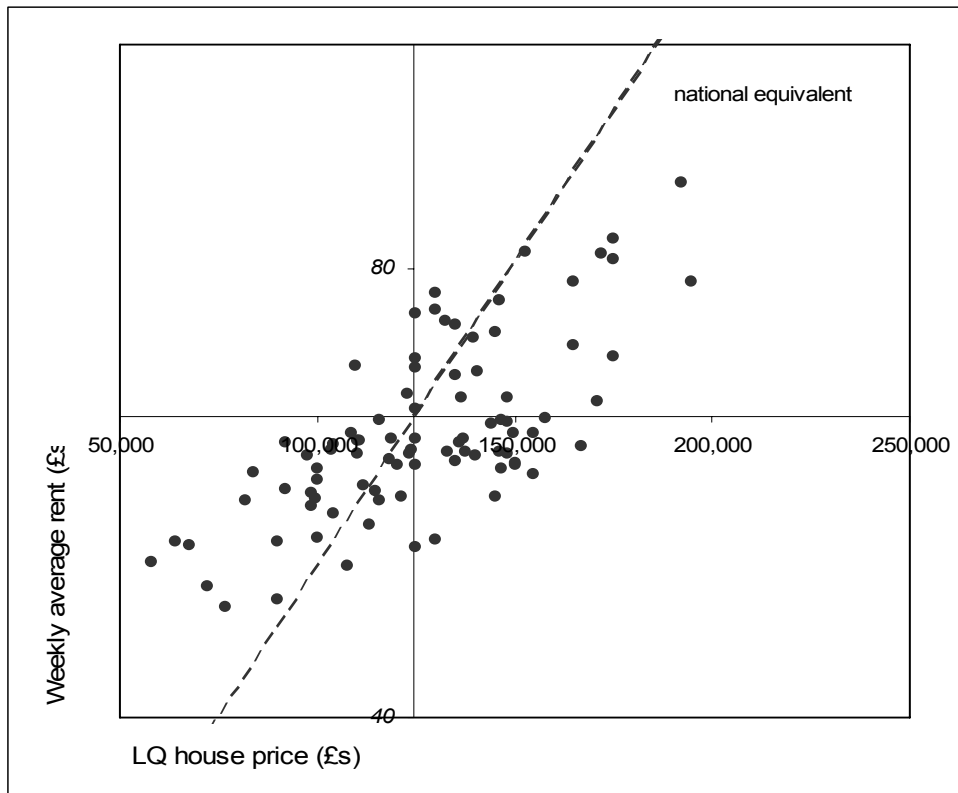
	High		Low		High – low
	Rental rate of return	Change	Rental rate of return	Change	
1998/99	6.73		4.59		2.14
1999/00	6.29	-0.44	4.28	-0.31	2.01
2000/01	5.81	-0.48	3.97	-0.31	1.84
2001/02	5.32	-0.49	3.78	-0.19	1.54
2002/03	4.48	-0.84	3.43	-0.35	1.05
2003/04	3.67	-0.81	2.95	-0.48	0.72
2004/05	3.12	-0.55	2.72	-0.23	0.40
2005/06	2.97	-0.15	2.61	-0.11	0.36
2006/07	2.79	-0.18	2.52	-0.09	0.27
1998/99 – 2006/07		-3.94		-2.07	

Note: Simple average of the constituent LA areas' figures.

Source: As Tables 2.1 and 3.1.

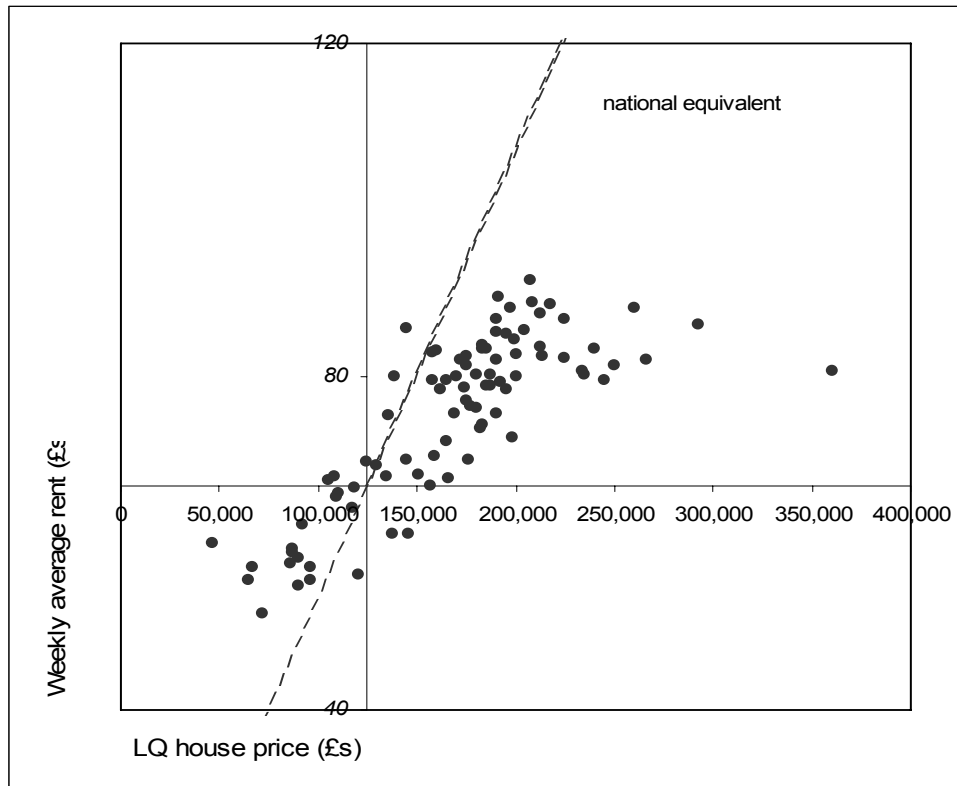
Figures 5.31 and 5.32 plot average HA rents and LQ house prices of these LA areas in 2006/07. The notation in these figures is the same as that for Figure 5.1. The low house price increase group is roughly bisected – including both LA areas where house prices were already high, and LA areas with low house prices because of slow increases. Figure 5.32 shows that overall LA areas in the first type were below the national equivalent line (i.e. their rents are too low to achieve the national rental rate of return). By contrast those of the second group were above the line, showing that they had relatively high rents.

Figure 5.31 The position of LA areas by rents and house prices: LA areas with high house price increases, 2006/07



Source: As Tables 2.1 and 3.1.

Figure 5.32 The position of LA areas by rents and house prices: LA areas with low house price increases, 2006/07



Source: As Tables 2.1 and 3.1.

6. Summary and Conclusions

Since the 1998 Housing Act and especially the introduction of the rent restructuring framework set out in the 2000 Green Paper and introduced in April 2002, HA rents have become more closely related to property values. Over the period between 1998/99 and 2006/07, HA rents increased in line with the RPI + 0.5%. At the same time, rents have been slowly moving towards target rents that relate both to property values and local incomes (Solomou *et al.*, 2005; Solomou, 2006; Udagawa, 2007). The impact of this restructuring can be seen in the increasingly strong relationship between HA rents and house prices. The correlation between the two variables at national level was positive at the beginning of the observation period. However, there was almost no relationship in London and the North East. Both nationally and regionally, the relationship has strengthened since 2002.

Despite the magnifying correlation between rents and house prices particularly since the introduction of the rent restructuring regime, the content of the relationship between rents and house prices did not change drastically at a year-on-year base throughout the observation period. This means that the relationship between HA rents and LQ house prices developed clearly but the developments have been gradual. This gradualism could be interpreted as another achievement of the regulatory framework, because it prevents impulsive rent increases, notably, by means of the guideline limit for annual rent changes and rent caps in high-price areas. This balanced development is particularly required in the context of trade-off between affordability and market disciplines in rent decisions at the social rented market.

Although the relationship has strengthened, rental rates of return being achieved on social housing have fallen significantly. HA rental rates of return, measured by the annual rent as

percentage of the house price, have decreased throughout the observation period although the rate of decline has slowed in the last two years. This is mainly because house prices have risen far more rapidly than general price inflation, while increases in HA rents have been linked to the level of the RPI by the regulatory framework. If the relationship were measured in net terms, the extent of decline would be even greater as the costs of management and maintenance have increased in real terms.

Looking at recent movements in rental rates of return, the declining pattern has slowed. The main contributor to this has been the lower house price inflation. At the same time, the impacts of the rent restructuring regime are not negligible. For example, LA areas experiencing relatively rapid rent increases, which in part reflect the rent restructuring framework, show very little decline in rental rates of return in the last two years, even though prices continue to rise.

Another important issue with respect to HA rental rates of return is the extent of regional variation. The regions with high house prices (notably London) have experienced low rental rates of return – reflecting the formula's capacity to dampen market factors. By contrast, regions with low house prices (notably the North East) have relatively higher rental rates of return.

Overall the target rent framework has clearly generated greater consistency between rents in different parts of the country. At the same time, the regulatory requirement with respect to rent increases has helped to reduce the rental rate of return earned on social housing very significantly over the last few years.

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Appendix 1**Official Bank Rate History**

Year	Date	Rate	Change (%-point)
1996/97		6.25%	
1997/98	06-Jun-97	6.50%	0.25
	10-Jul-97	6.75%	0.25
	07-Aug-97	7.00%	0.25
	06-Nov-97	7.25%	0.25
1998/99	04-Jun-98	7.50%	0.25
	08-Oct-98	7.25%	-0.25
	05-Nov-98	6.75%	-0.50
	10-Dec-98	6.25%	-0.50
	07-Jan-99	6.00%	-0.25
1999/00	04-Feb-99	5.50%	-0.50
	08-Apr-99	5.25%	-0.25
	10-Jun-99	5.00%	-0.25
	08-Sep-99	5.25%	0.25
	04-Nov-99	5.50%	0.25
	13-Jan-00	5.75%	0.25
	10-Feb-00	6.00%	0.25
2000/01	08-Feb-01	5.75%	-0.25
2001/02	05-Apr-01	5.50%	-0.25
	10-May-01	5.25%	-0.25
	02-Aug-01	5.00%	-0.25
	18-Sep-01	4.75%	-0.25
	04-Oct-01	4.50%	-0.25
	07-Nov-01	4.00%	-0.50
2002/03	06-Feb-03	3.75%	-0.25
2003/04	10-Jul-03	3.50%	-0.25
	06-Nov-03	3.75%	0.25
	05-Feb-04	4.00%	0.25
2004/05	06-May-04	4.25%	0.25
	10-Jun-04	4.50%	0.25
	05-Aug-04	4.75%	0.25
2005/06	04-Aug-05	4.50%	-0.25
2006/07	03-Aug-06	4.75%	0.25
	09-Nov-06	5.00%	0.25
	11-Jan-07	5.25%	0.25

Source: Bank of England.

Appendix 2

Building society & bank basic mortgage rate (% , %-point)			
Year	Quarter	Rate	Change from the previous Q
1996	Q1	7.48	
	Q2	7.17	-0.31
	Q3	6.93	-0.24
	Q4	7.03	0.10
1997	Q1	7.22	0.19
	Q2	7.66	0.44
	Q3	8.36	0.70
	Q4	8.51	0.15
1998	Q1	8.61	0.10
	Q2	8.61	0.00
	Q3	8.88	0.27
	Q4	8.01	-0.87
1999	Q1	6.91	-1.10
	Q2	6.82	-0.09
	Q3	6.77	-0.05
	Q4	7.14	0.37
2000	Q1	7.65	0.51
	Q2	7.65	0.00
	Q3	7.62	-0.03
	Q4	7.60	-0.02
2001	Q1	7.27	-0.33
	Q2	6.81	-0.46
	Q3	6.54	-0.27
	Q4	5.66	-0.88
2002	Q1	5.64	-0.02
	Q2	5.65	0.01
	Q3	5.68	0.03
	Q4	5.64	-0.04
2003	Q1	5.49	-0.15
	Q2	5.49	0.00
	Q3	5.30	-0.19
	Q4	5.58	0.28
2004	Q1	5.81	0.23
	Q2	6.08	0.27
	Q3	6.59	0.51
	Q4	6.60	0.01
2005	Q1	6.59	-0.01
	Q2	6.64	0.05
	Q3	6.42	-0.22
	Q4	6.40	-0.02
2006	Q1	6.40	0.00
	Q2	6.40	0.00
	Q3	6.66	0.26
	Q4	6.97	0.31
2007	Q1	7.17	0.20

Note: As at the end of quarter.

Source: National Statistics.