



# Housing affordability: a fuller picture

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# Executive Summary

The NHPAU has developed 3 new indicators to provide a fuller picture of the affordability and accessibility of housing:

- **The deposit measure:** deposit required as a proportion of household income after tax and national insurance contributions.
- **Mortgage costs:** mortgage costs as a proportion of household income after tax and national insurance contributions.
- **Rents:** rent as a proportion of household income after tax and national insurance contributions.

These indicators tackle two key issues directly:

- **Can you get on the housing ladder in the first place?**
- **Can you afford the ongoing costs of owning or renting?**

## Household Income

Many households will rely on more than one income to pay the mortgage or the rent. To reflect this, a 'typical household' income has been constructed and used to calculate the affordability measures.

## What measure of house price?

Deteriorating affordability bites hardest on those who are at the margins of homeownership. For the purposes of affordability analysis it will be important to understand the position of marginal first-time buyers.

The 15th percentile house price has been taken as a proxy for the entry level house price.

## Forward projections

The CLG Reading Affordability Model has been used to test the impact that different levels of housing supply would be likely to have on affordability in the future.

## How hard is it to get on the housing ladder?

The deposit required to buy a property has increased over the last decade.

Unlike other affordability measures, deposit requirements have increased recently even though house prices have fallen because lenders have reduced the loan to value ratios at which they are willing to lend.

## How hard is it to maintain a mortgage?

The key issues here are whether you can afford the mortgage repayments or how much money you will have left after paying the mortgage.

Over the past decade an entry level mortgage would have consumed an increasing proportion of a typical household income.

There has been an improvement recently as house prices have fallen, but for many households the increase in deposit requirements will offset this improvement.

### **How affordable is renting?**

The housing options available to young households will not only include homeownership, as many households will be able to rent. Historically, rents have not grown as fast as house prices.

At the 15th percentile house price, in the Southern regions it is cheaper to rent than buy, whereas in the more affordable regions there is little difference between renting and buying.

### **Affordability: a fuller picture**

Going forward our modelling suggests that how hard it is to get on the housing ladder will depend both on lending policies and the number of homes that are built. The position will be much more favourable for first-time buyers if housing supply is increased towards the top of our supply range.

# Introduction

The NHPAU has developed three new affordability indicators to give a fuller picture of the affordability of accessing homeownership, maintaining a mortgage and renting in the private sector than is possible using a single price to earnings ratio.

## Why the NHPAU has developed new affordability indicators

Housing affordability is about whether you can afford a home that meets your needs in a place in which you want to live. There are two key issues:

- **Can you get on the housing ladder in the first place?** The issue here is whether you can find the deposit required. For most this is less of an issue if you are seeking to rent.
- **Can you afford the ongoing costs of owning or renting** – or are the mortgage payments or rent going to eat up too much of your income?

The 'standard' and most widely used housing affordability indicator is the 'lower quartile affordability ratio' – the ratio of lower quartile house prices to lower quartile earnings. This is a simple and straightforward measure of how expensive housing is relative to earnings, but does not give a direct indication of how either how easy or difficult it is for people to access housing or meet their ongoing housing costs. It can also paint a misleading picture when, as has happened since the credit crunch, prices fall. That will cause the indicator to improve, suggesting things have got better. But, as lenders have required much larger deposits, it is actually harder for many first-time buyers to get into home ownership, not easier.

To give a fuller picture of how easy or hard it is both to access a home and meet the ongoing costs of maintaining a tenure, the NHPAU has decided to produce a suite of indicators that answer the key affordability questions directly.

## The NHPAU's affordability indicators

The NHPAU has developed three new indicators:

- **The deposit measure:** deposit required as a proportion of household income after tax and national insurance contributions.
- **Mortgage costs:** mortgage costs as a proportion of household income after tax and national insurance contributions.
- **Rents:** rent as a proportion of household income after tax and national insurance contributions.

In preparing these indicators the NHPAU has sought to:

- use measures that reflect the homes that first-time buyers actually buy and the money they have at their disposal. At present a single earner with a lower quartile income is not in a position to buy a lower quartile priced home.
- Use the best available up to date data.

- Produce indicators that enable a comparison to be made between past and present and projections to be produced using the CLG Reading Affordability Model showing how the position might change in the future depending on the assumptions made about, amongst other things, different levels of housing supply.

### **Approach to constructing an indicator suite**

Information about actual first-time buyers could be used to calculate affordability measures. But this will only include households who have been able to afford to access a mortgage and buy a property. An overall picture of the position of all potential first-time buyer households would not be achieved.

An alternative approach is to construct affordability measures based on what a typical young household would have to pay if they were to buy the type of property typically bought by first-time buyers. This approach would provide a better indication of the position of potential first-time buyers in general.

In line with this approach this report looks at:

- how the income of a typical first-time buyer household might be estimated
- how the price of a typical first time purchase might be estimated
- the options available for estimating rents
- how these estimates can be used to produce indicators of how easy or difficult it is to get on to the housing ladder and meet mortgage payments and rents
- how the CLG Reading Affordability Model can be used to explore how the two home ownership indicators may move in the future given different assumptions about levels of house building. (There are no available models for rents that enable us to make similar projections for the rental indicator.)

# Estimating Household Income

For many households more than one income is used to pay the mortgage or the rent, a typical household income has been estimated to reflect this.

## (a) Data Sources

Timely household income data are not widely available. The data sources that have been used are:

- The Family Resources Survey (FRS); and
- The Annual Survey of Hours and Earnings (ASHE).

Council of Mortgage Lenders (CML) Regulated Mortgage Survey (RMS) data have also been used for comparison and cross checking against the derived representative household income.

### *The Family Resources Survey (FRS)*

The FRS provides information on household incomes, it collects information on the incomes and circumstances of private households in the UK. However there is a significant time lag between data collection and data availability, this is not ideal for the measuring and monitoring of affordability. FRS data have not been used directly to estimate a typical household income, but have been used to examine the composition of households, the contribution of the main earner to household income and to estimate median net household income.

In this analysis two data files have been used: the household file; and the individual file. These have been combined to create one dataset with one record per household. Each record includes information about the household and each individual in the household.

The FRS sample has been cut to include households where the head of household is in employment and aged 25-34. This focuses the analysis on young households likely to be potential first-time buyers.

Only individuals from the head of household's benefit unit<sup>1</sup> were included. This will exclude non-dependent children and any other adults (for example older relatives) living in the household. This will impact on the household income of sharing households. In a sharing household, each individual will be a separate benefit unit. The income from only one individual will be included in the analysis.

<sup>1</sup> A Benefit Unit is defined as an adult plus their spouse (if applicable) plus any dependent children they are living with.

### *Annual Survey of Hours and Earnings (ASHE)*

ASHE data have been used to construct the income of a representative young household that is consistent with the FRS analysis of the household income of a young working household.

Place of residence based data have been used in this analysis. For most regions there is little or no difference between place of residence based statistics and place of work based statistics. For London and the London commuter regions (East, South East and, to a lesser extent, the South West) there is a difference reflecting the extent to which people live and work in different regions. When compared with place of work based statistics, place of residence based statistics increase earnings in the London commuter regions and reduce earnings in London.

Using place of work data assumes that people would prefer to live as near to their work as possible, which may or may not be the case. Using place of residence data assumes that people can choose where to live and may choose to commute. It also has the advantage of comparing the incomes of those who actually live in a region with the cost of housing in their region.

Place of residence based data are only available from 2002; figures for the previous years have been estimated by applying the growth rates in the place of work based data.

To reflect the actual position of potential first-time buyers, the ASHE data for each year are adjusted for the prevailing tax and national insurance rates to calculate the take home earnings.

### **(b) Analysis of household income using the FRS**

Initial analysis of the FRS looked at two aspects of the composition of household income:

- i) the distribution of adult workers in a household by their full-time/part-time status; and
- ii) the contribution of the main earner to the total household income.

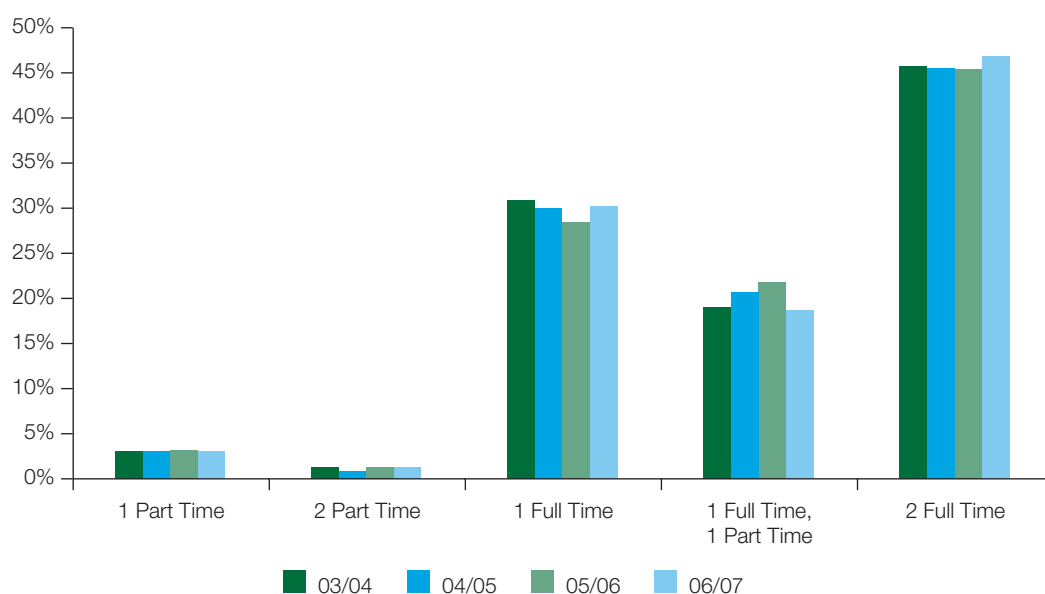


*The distribution of adult workers in a household by their full-time/part-time status.*

Our analysis concentrates on households with more than one adult because this group accounts for the majority (about 70%) of all young (25-34 years old) households and further analysis is needed to estimate the household income of multiple earner households. The household income of single person households could be estimated using ASHE earnings information directly.

For young working households with 2 or more adults, the most common household type is two full time earners (about 45 percent), followed by one full time earner (Figure 1). While there have been some small fluctuations in the proportions of each type of household type over the years, they have remained broadly constant over time.

**Figure 1 Proportion of households by number of full time/part time workers – all households with 2+ adults and with head of household in employment and aged 25-34**



Source: NHPAU analysis of FRS

*The contribution of the main earner to the total household income*

Even though the most common household type consists of two full time workers they do not make equal contributions to the total household income. Analysis of the FRS shows that in England, in a household with two or more adults, the main earner contributes an average of just over 60% to the total household income (table 1).

**Table 1: Contribution of the head of household (where there is more than one adult in the household) to the total household income.**

	02/03-04/05 %	03/04-05/06 %	04/05-06/07 %
North East	64.57	62.99	61.47
North West	61.80	61.75	62.08
Yorkshire and Humber	62.34	63.81	63.07
East Midlands	65.38	64.38	63.19
West Midlands	63.43	63.44	63.76
Eastern	64.37	64.84	64.34
London	61.75	61.15	60.98
South East	62.50	62.32	61.72
South West	64.04	63.25	62.14
England	63.35	63.10	62.53

Source: NHPAU analysis of FRS

**(c) The construction of a typical household income**

The Annual Survey of Hours and Earnings (ASHE) is a timely source of earnings data that is widely available at a regional level. ASHE has been used to construct a typical household income consistent with the FRS household income analysis.

Two options for constructing a representative household income were considered:

1. Assume a typical household consists of two full time workers – one at the median point and one at the lower quartile point on the earnings distribution – this results in a household income that is broadly in line with the FRS analysis (both the level of household income and the composition of household income).
2. Construct a typical household income using median part time and full time earnings (ASHE) as building blocks for each of the five household types and weighting these using the proportions of each household type as observed in the FRS.

There was little difference in the household income resulting from these two methods. It was decided that the first option would be used because this is simpler to calculate and can be applied easily to the affordability model. The second option would be more complicated on both counts for little clear benefit.

To calculate take home earnings, the median earnings and lower quartile earnings from ASHE are adjusted using the prevailing tax and NI rates and the appropriate income thresholds in each year.

Table 2 shows constructed gross household earnings estimated on this basis, and the contribution of the median earnings to total household earnings. This shows the median earner contributing 58-59% to the household income – slightly below but broadly in line with the proportions indicated by the FRS analysis.

**Table 2: Constructed Household Income (England)**

	Median earnings (ASHE POR) (Full Time)	Median earnings (ASHE POR) (Full Time)	Lower Quartile earnings (ASHE POR) (Full Time)	Lower Quartile earnings (ASHE POR) (Full Time)	Constructed take home household earnings (Median + Lower Quartile)	Median as a percent of Constructed Household income	Household Income – households where head of household is in employment and aged 25-34 (FRS) (Net) £
	(Gross) £	(Net) £	(Gross) £	(Net) £	(Net) £		
2000	19,137	14,599	13,785	10,960	25,559	57.1%	–
2001	20,029	15,296	14,345	11,431	26,728	57.2%	–
2002	20,739	15,648	14,860	11,710	27,358	57.2%	26,988
2003	21,518	16,175	15,395	12,073	28,248	57.3%	28,184
2004	22,438	16,842	15,994	12,524	29,366	57.4%	29,328
2005	23,313	17,486	16,510	12,928	30,414	57.5%	30,004
2006	23,757	17,837	16,756	13,146	30,983	57.6%	31,876
2007	24,500	18,407	17,328	13,602	32,008	57.5%	–
2008	25,520	19,480	18,049	14,325	33,804	57.6%	–
2009	26,148	20,049	18,516	14,783	34,833	57.6%	–

Source: NHPAU analysis of ASHE & FRS

# Constructing a measure of the cost of a first time house purchase

Just as it is important to construct affordability indicators based on an appropriate household income estimate, it will also be important to use an appropriate house price. The NHPAU affordability indicators have used the 15th percentile house price, the rationale for this is explained below.

## **(a) Data Sources**

The data sources that have been used are:

- The Regulated Mortgage Survey (RMS) from the Council of Mortgage Lenders;
- Land Registry; and
- Communities and Local Government (CLG) house price measures.

### *Regulated Mortgage Survey (RMS)*

The RMS has been used to look at the typical property type bought by first-time buyers. The RMS analysis covers the period from Q2 2005 (when the RMS started) to 2008.

### *Land Registry*

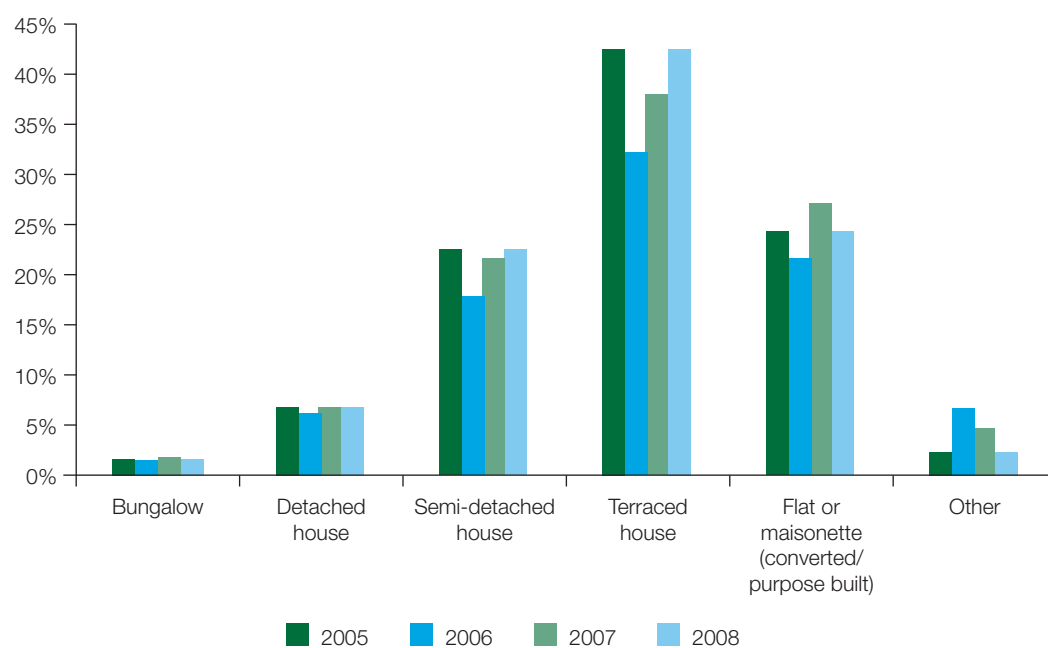
The Land Registry registers title to land in England and Wales, and the Land Registry data set gives a complete record of housing transactions and house prices in a given period.

### *CLG*

CLG publish a number of house price time series. These are calculated using Land Registry and RMS data.

## **(b) What properties do first-time buyers buy?**

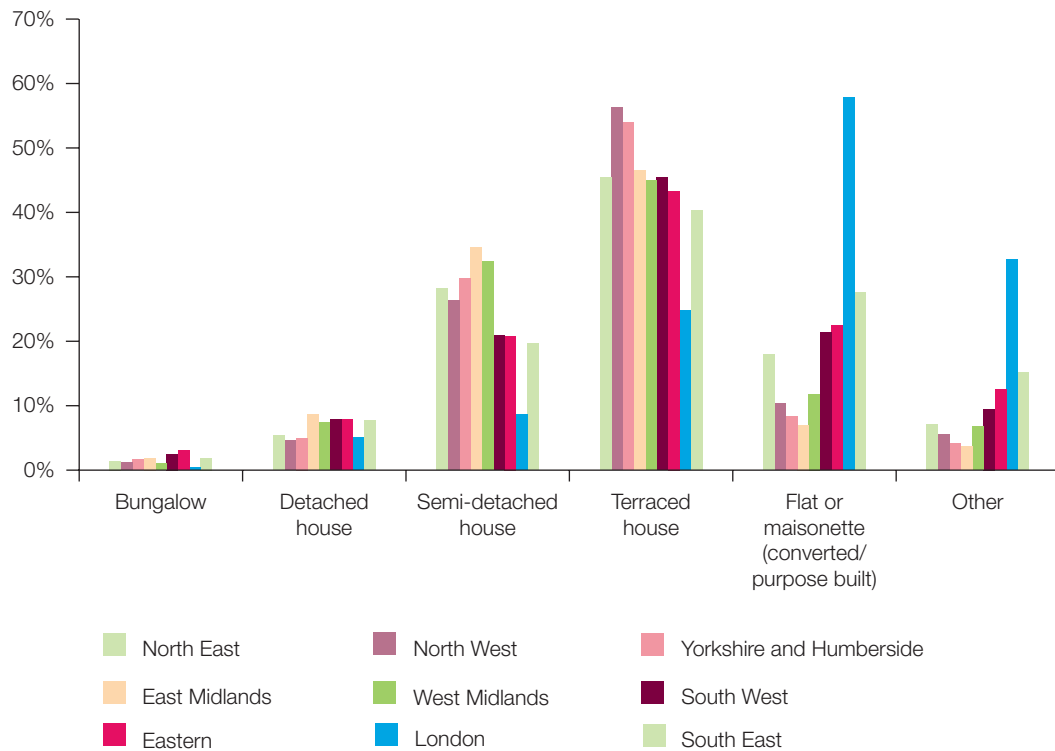
Analysis of the RMS shows that, taking England as a whole, the most common property type bought by a first-time-buyer is a terraced house.

**Figure 2 Property type bought by first-time buyers (England)**

Source: NHPAU analysis of RMS

A similar picture emerges at a regional level – the most common property type bought by first-time buyers in all regions is a terraced house, with the exception of London where the most common property type is a flat.

**Figure 3 Property type bought by first-time buyers in each region (2008)**



Source: NHPAU analysis of RMS

Analysis of the type of properties bought by first-time buyers will be useful when undertaking housing market assessments and planning for the mix of housing required in the future. Deteriorating affordability bites hardest on those at the margins of homeownership. For the purposes of affordability analysis it will be more important to understand the position of marginal first-time buyers who are likely to buy further down the house price distribution.

NHPAU research conducted by Professors Steve Wilcox and Glen Bramley<sup>2</sup> suggests that the lower quartile price paid by a first-time buyer equates approximately to the 15th percentile on the overall house price distribution. The 15th percentile has been taken as a proxy for the entry level house price shown for England and for each region in table 3.

**Table 3: 15th percentile house price (quarter 1 in each year) (CLG using Land Registry)**

	England	North East	North West	Yorks & Humber	East Midlands	West Midlands	East	London	South East	South West
2000	40,000	26,000	28,000	29,995	34,500	36,797	47,500	74,995	59,000	48,950
2001	42,500	24,995	27,950	29,500	36,500	39,500	54,000	85,000	66,575	55,500
2002	47,000	26,000	30,000	31,000	41,500	44,950	64,995	100,000	79,000	67,000
2003	57,383	28,000	32,000	35,000	55,000	55,000	84,000	127,000	98,000	85,000
2004	74,950	38,950	42,500	49,000	71,500	72,500	97,905	141,500	114,000	100,000
2005	85,000	52,000	55,000	62,000	83,000	83,000	110,000	152,000	124,000	113,000
2006	95,000	65,500	70,000	75,000	88,500	90,000	115,000	159,000	128,000	118,500
2007	103,000	73,000	80,000	81,950	94,950	95,000	124,995	171,500	136,000	125,000
2008	104,000	75,000	81,000	83,000	92,000	95,000	125,000	183,500	140,000	128,000
2009	90,000	65,000	70,000	71,000	80,000	83,000	110,000	165,000	124,000	112,500

Source: CLG live table 580

<sup>2</sup> Evaluating requirements for market and affordable housing, S. Wilcox & G. Bramley, forthcoming

# Estimating Private Rents

The housing options available to young households will not only include home ownership. They may be able to rent.

## **(a) Data sources**

Private rent data are limited in their availability and coverage. The sources that are available are outlined below.

### *Hometrack*

Hometrack rental data come from a combination of property portal data and assessed rental values supplied by chartered surveyors. The data are only available to purchase. NHPAU currently have access to data for 2008 and (for the average rent of a 2 or 3 bedroom property) for 2007 (published in “Can’t Supply; Can’t Buy”).

### *Valuation Office Agency/Rent Service/Dataspring*

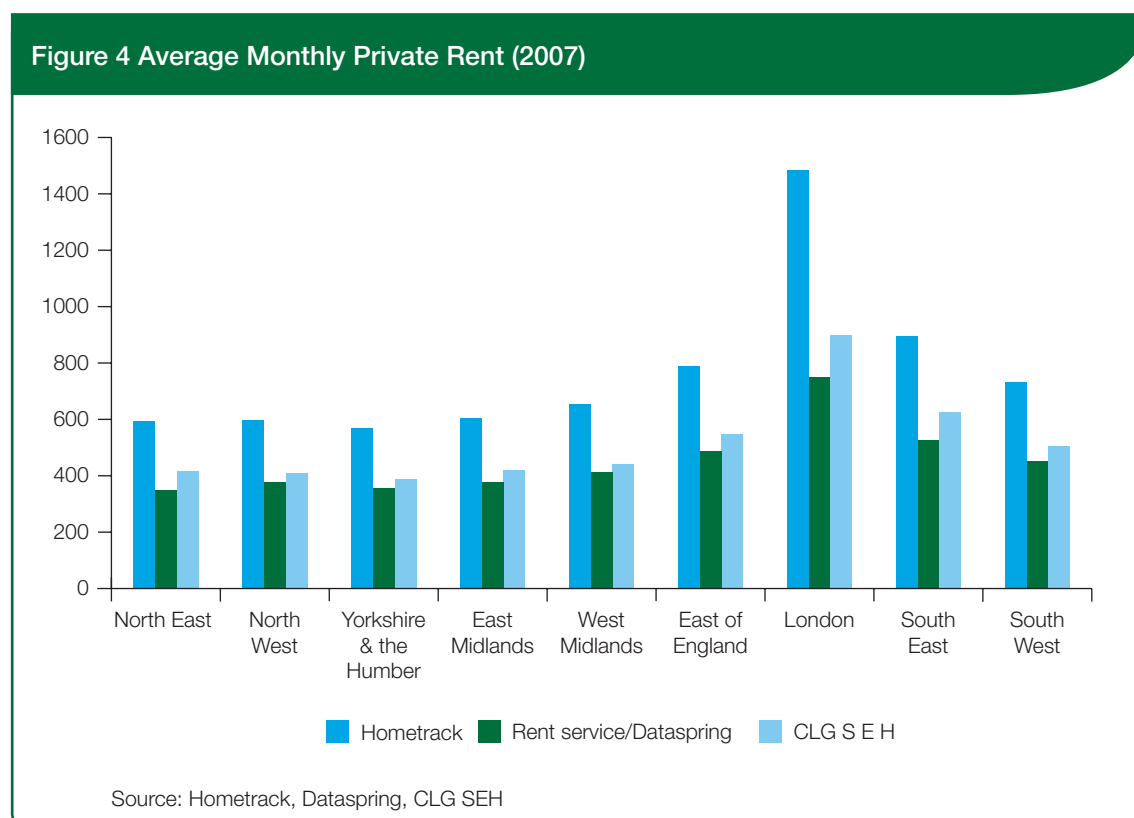
The Valuation Office Agency is now responsible for the functions of the former Rents Service. Each local authority proposes a ‘referred rent’ to the Rent Service for the determination of Housing Benefit. Rents where Housing Benefit is required are likely to be at the lower end of the private rented market, so the referred rents may underestimate the typical price of private rented accommodation. Rent service data are not readily available, but the Dataspring website provides a freely available derived dataset of private rents for each region. These Dataspring private rents data for all property sizes have been used here.

### *Survey of English Housing (SEH)*

The Survey of English Housing (now merged with the Housing Conditions Survey to form the English Housing Survey) was a survey of 20,000 households collecting a wide range of information on households, their housing and their attitudes to housing. This is a relatively small sample given it covers the whole of England and only a segment of the 20,000 households sampled will live in private rented housing. To get regional data years must be combined, which introduces a lag in the time series. Unlike the other two sources of private rent data, the SEH does not disaggregate by property type: only data for all property are available.



Figure 4 shows a comparison of the three sources of private rents.



The Rent Service/Dataspring private rents have been used in the calculation of a private rental affordability indicator. This source was deemed to be the best available because, unlike Hometrack data, a consistent time series is freely available. It is preferred over the SEH private rent data because the SEH uses a relatively small sample so years have to be combined which causes a time lag. Table 4 shows a time series of Rent Service/Dataspring private rents for all property types.

**Table 4: Average rent (all property sizes) in England and each GO region from Rent Service/ Dataspring data (£/week)**

	England	North East	North West	Yorks & Humber	East Midlands	West Midlands	East	London	South East	South West
2001	88.32	68.30	73.44	68.09	67.00	76.07	83.86	139.00	97.80	80.42
2002	103.10	76.07	78.63	82.89	75.07	82.47	93.78	154.26	109.21	95.72
2003	104.90	74.13	80.43	77.26	77.27	85.25	98.43	161.39	111.97	96.43
2004	106.72	76.22	81.32	75.79	79.57	89.78	102.54	168.10	113.87	96.38
2005	111.47	80.67	86.74	81.90	86.89	95.46	111.98	172.47	121.02	104.41
2006	115.55	84.10	89.51	84.67	90.36	97.77	117.05	178.87	125.74	108.87
2007	125.90	90.25	96.08	90.44	97.97	104.54	126.51	194.10	134.70	116.68

Source: Dataspring

# Constructing Affordability Indicators

Three affordability measures have been calculated using the typical household income and the 15th percentile house price:

1. **The deposit measure:** deposit required as a proportion of household take home pay;
2. **Mortgage costs:** mortgage repayments as a proportion of household take home pay;
3. **Rents:** rent as a proportion of household take home pay.

## 1. The deposit measure: how hard is it to get on to the housing ladder?

For many households the deposit required will be determined by the maximum proportion of the value of the property that the lender is prepared to advance – the ‘loan to value ratio’. For others the minimum deposit will be determined by the maximum multiple of household income lenders are willing to lend – the deposit being the balance between what they can be borrowed and the house price. Thus, the minimum deposit required will be the higher of:

- the deposit required as a result of the maximum loan to value (LTV) ratio that lenders are willing to advance; and
- the balance between maximum income multiple that the lender is prepared to advance and the typical first-time buyer house price.

The maximum that a lender is prepared to advance is assumed to be three times household income, in line with current and past lending practices.

For the purpose of the deposit indicator, the deposit required is the higher of these and this is divided by the household income to calculate the deposit as a percent of household income.

As shown in table 5 the minimum deposit required has increased over the last decade. This increase was amplified during 2009 because lenders have reduced the loan to value ratios at which they were prepared to lend.

**Table 5: Deposit as a percent of income – based on the 15th percentile house price**

	England	North East	North West	Yorks & Humber	East Midlands	West Midlands	East	London	South East	South West
2000	16%	11%	12%	13%	14%	15%	19%	25%	20%	20%
2001	16%	10%	11%	12%	14%	16%	19%	27%	22%	22%
2002	17%	11%	12%	12%	16%	18%	23%	31%	26%	26%
2003	22%	12%	13%	14%	22%	22%	31%	76%	34%	34%
2004	33%	19%	20%	23%	33%	34%	41%	107%	58%	58%
2005	29%	20%	20%	23%	30%	30%	49%	121%	92%	92%
2006	31%	24%	24%	26%	30%	31%	59%	132%	101%	101%
2007	32%	26%	26%	27%	32%	32%	79%	147%	109%	109%
2008	35%	28%	29%	30%	33%	34%	58%	153%	98%	98%
2009	64%	51%	53%	54%	60%	63%	75%	97%	84%	84%

Source: NHPAU analysis

## 2. Mortgage costs: How hard is it to maintain a mortgage?

The key issue in this measure is whether mortgage payments are affordable, and how much money a household will have left after paying the mortgage.

This measure is calculated by:

- 1 Calculating the annual mortgage repayment – assuming a 90% loan to value ratio, the historic average mortgage interest rate<sup>3</sup> and assuming a 25 year repayment term.

$$\text{Annual Mortgage Payment} = (90\% * \text{House Price}) * (i/1 - (1 + i)^{-25})$$

Where: i = average mortgage interest rate

- 2 The annual mortgage repayment is divided by household take home income to calculate the proportion of household income that would be consumed by mortgage repayments.

<sup>3</sup> Council of Mortgage Lenders statistical table ML5

**Table 6: Mortgage payments as a percent of take home household income (based on 15th percentile house price)**

	England	North East	North West	Yorks & Humber	East Midlands	West Midlands	East	London	South East	South West
2000	11%	8%	8%	9%	10%	11%	13%	18%	15%	14%
2001	11%	7%	8%	8%	10%	11%	13%	18%	16%	15%
2002	10%	6%	7%	7%	10%	11%	14%	19%	16%	16%
2003	12%	7%	7%	8%	12%	12%	17%	22%	19%	19%
2004	16%	9%	9%	11%	16%	16%	19%	25%	22%	22%
2005	18%	13%	13%	14%	19%	19%	23%	28%	25%	26%
2006	19%	15%	15%	16%	19%	19%	23%	27%	24%	25%
2007	21%	17%	18%	18%	21%	21%	25%	30%	26%	27%
2008	21%	17%	17%	18%	20%	20%	25%	31%	26%	27%
2009	15%	12%	13%	13%	14%	15%	18%	23%	20%	20%

Source: NHPAU analysis

There has been a deterioration in this measure since the turn of the century as house prices have grown faster than earnings. More recently there has been an improvement in this measure in all regions due to falling house prices.

### 3. Rents: How affordable is renting?

This measure is simply the average private rent in each region (from Dataspring/The Rent Service) divided by the estimated take home household income.

**Table 7: The percent of household income consumed by private rents (based on the average private sector rent for all properties from Dataspring and the household take home income)**

	England	North East	North West	Yorks & Humber	East Midlands	West Midlands	East	London	South East	South West
2001	17%	15%	15%	14%	14%	16%	16%	23%	18%	17%
2002	20%	16%	16%	17%	15%	17%	17%	25%	19%	19%
2003	19%	16%	16%	15%	15%	17%	17%	25%	19%	19%
2004	19%	15%	15%	14%	15%	17%	17%	25%	19%	18%
2005	19%	16%	16%	15%	16%	17%	19%	25%	19%	19%
2006	19%	16%	16%	15%	16%	17%	19%	25%	20%	19%
2007	21%	17%	17%	16%	17%	18%	20%	26%	20%	20%

Source: NHPAU analysis

Movements in this indicator have been smaller than those in the measures based on homeownership, the affordability of renting has remained relatively stable over the period. At the 15th percentile house price, in the least affordable southern regions it is cheaper to rent than buy, whereas in the more affordable regions there is little difference between renting and buying.

# Projecting the measures forward

For practical application to the planning process it is important to be able to test the impact that different levels of housing supply would be likely to have on affordability in the future. The CLG Reading Affordability model is currently used to do this for the lower quartile affordability ratio. Adaptations to the model output have been made to derive the mortgage cost and deposit indicators. Currently there is no tool available to project private rents forward.

## **(a) Projecting household income forward using the model**

To estimate the typical household income going forward using the affordability model the following approach has been used:

- In each year and region, adjust the median and lower quartile earnings (these are both exogenous variables in the current version of the model) for tax and NI rates and thresholds (assuming tax and NI rates remain the same in the future and the thresholds increase in line with the model inflation assumption (2.5% per year)).
- The lower quartile and median take home earnings are then combined to estimate a typical household income on the same basis as the historical measure.

## **(b) Projecting house prices forward using the affordability model**

Lower quartile and median house price are current outputs from the model for each region and year to 2031. The median house price is calculated endogenously in the model and is dependent on the assumptions made, in particular the housing supply assumption. The lower quartile house price is assumed to grow at the same rate as the median house price from the current and historical values.

This same principle can be applied to the other house price options. The growth rate of the median house price could be applied to the 15th percentile house price to estimate a future time series. This method assumes that the shape of the house price distribution is fixed over time, in reality this may not be the case.

## **(c) Additional assumptions**

### *Mortgage interest rate*

The mortgage interest rate feeds into the calculation of mortgage payments as a percent of income. The interest rate is assumed to be the same as in the NHPAU central assumption (4.5% until 2010, then rising 0.25% every quarter until reaching 6.25% from quarter 1 2012).

### *LTV ratio*

For the purpose of calculating the size of the mortgage required ratio to feed into the mortgage payments as a percent of income affordability measure, the LTV ratio is assumed to be fixed at 90% throughout the period.

For the deposit as a percent of income measure to be of any use, the LTV ratio needs to vary to reflect lending conditions. Future lending conditions and values of the LTV ratio are unknown. We have assumed that the LTV ratio used in the calculation of deposit as a percent of income varies according to the level of mortgage rationing (as set out in table 9 below). i.e. that the LTV ratio is 75% until 2011, gradually returning to 90% by 2016 and held constant at 90% from 2016 onwards.

**Table 9: LTV assumptions applied to the model runs**

Level of mortgage rationing in central assumption	Years applied to	LTV assumption
No net increase in lending until 2011	2008-2011	75%
Mortgage supply equals 2/3 demand from 2012 to 2015	2012-2015	Gradually returning to 75% from 90%
Mortgage supply equals mortgage demand from 2016	2016 onwards	90%

The difference in the loan to value ratio used for the different affordability indicators reflects the fact that the two indicators are measuring different things. The mortgage payment as a percent of income measure is an indicator of how easy or hard it is for people to maintain their mortgage. For existing mortgage holders, changes in LTVs don't affect the size of existing loans or mortgage repayments. It is therefore appropriate to use a constant maximum LTV for that indicator.

### *Other modelling assumptions*

The NHPAU central assumptions<sup>4</sup> have been applied in the runs to allow for comparison with the NHPAU supply range advice.

<sup>4</sup> More homes for more people: advice to Ministers on housing levels to be considered in regional plans, NHPAU, 2009

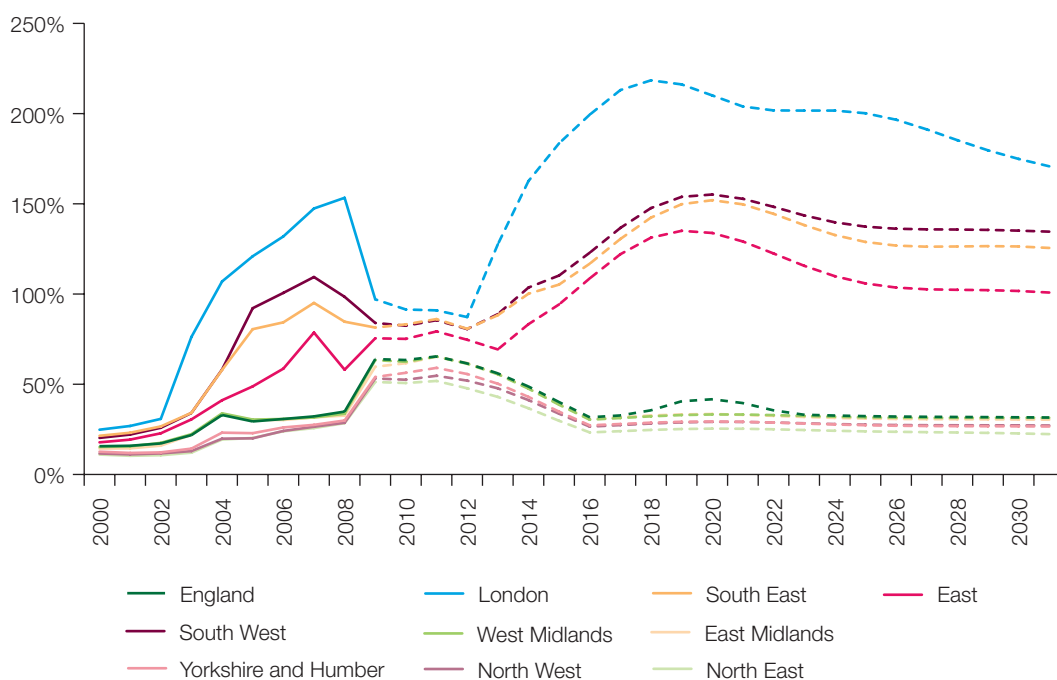
# Housing Affordability: a fuller picture

This section uses the NHPAU's new suite of affordability indicators to paint a fuller picture of the way affordability has deteriorated in recent years and to explore how it may develop in the future.

## (a) How hard is it to get onto the housing ladder?

As shown in figure 5, the minimum deposit required has increased over the last decade. This increase was amplified in 2009 because lenders have reduced the loan to value ratios at which they are prepared to lend. The forward projections shown assume housebuilding at the top of the range that the NHPAU has advised should be tested in preparing regional plans.

Figure 5 Deposit as a percent of household take home income



Source: NHPAU analysis

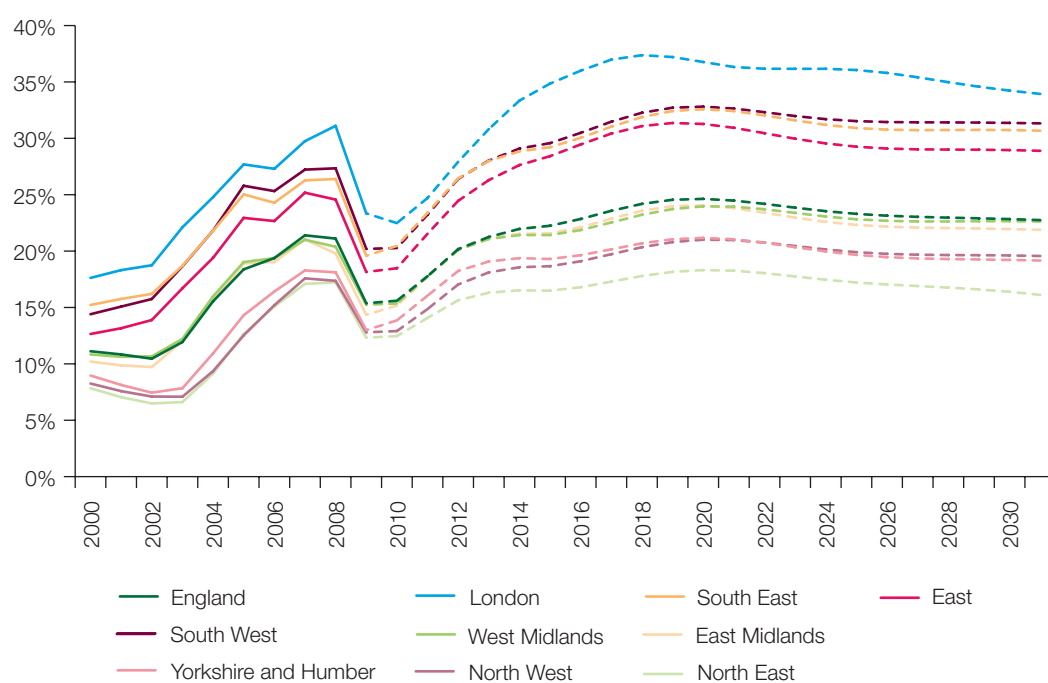
On this basis our modelling suggests that, if LTV ratios increase gradually, increasing from, say, 75% in 2011 to 90% by 2016, this indicator is likely to improve in the near future. Further ahead, the measure deteriorates further in the least affordable regions as prices rise and the minimum deposit required is determined by the maximum multiple of the household's income that the lender is prepared to advance.



### (b) How hard is it to maintain a mortgage?

Figure 6 shows the movements in this indicator over the past decade, and a projection forward, again on the basis of the NHPAU's 'top of range' advice. This measure has deteriorated since the turn of the century. More recently there has been an improvement as house prices have fallen.

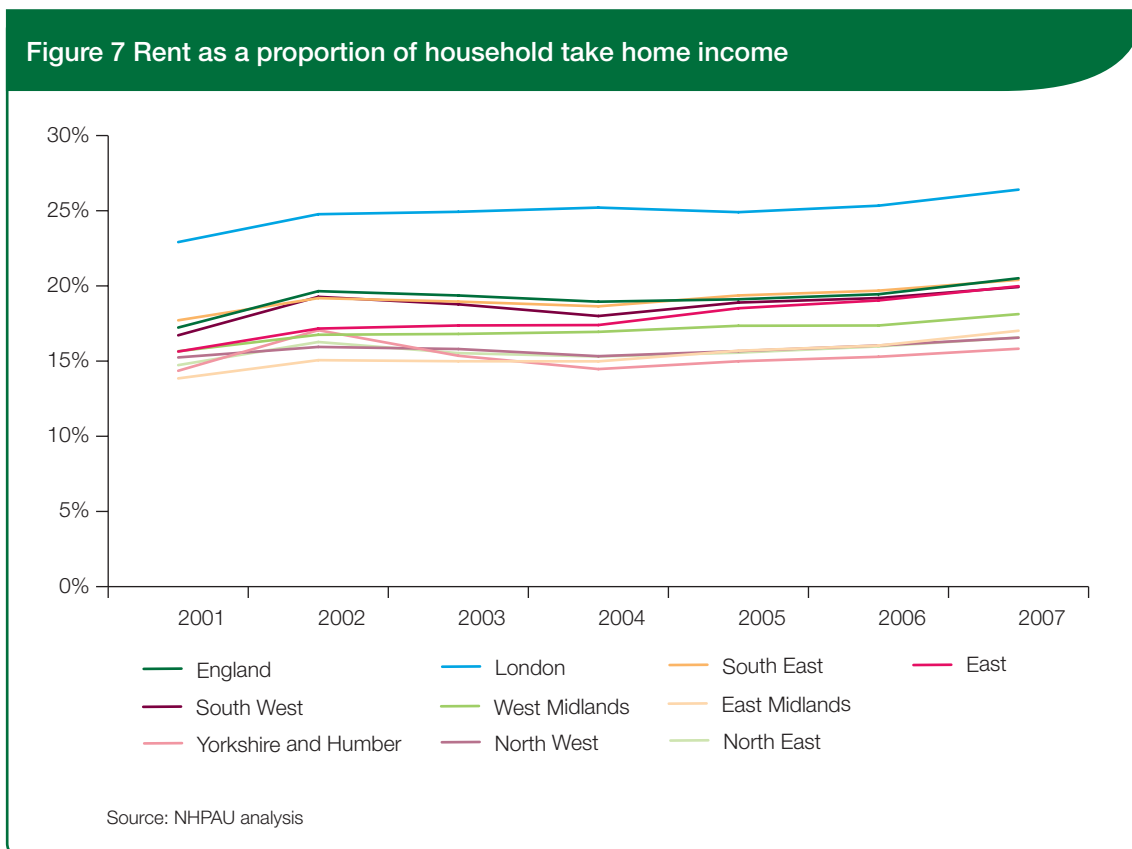
**Figure 6 Mortgage repayment as a percent of household take home income**



Source: NHPAU analysis

### (c) How affordable is renting?

This indicator compares average rents with household take-home income to calculate the proportion of the typical household income consumed by rent. Figure 7 shows the movements in this measure in recent years.



At the 15th percentile house price, in the least affordable southern regions it is cheaper to rent than buy, whereas in the more affordable regions there is little difference between renting and buying.

## Conclusion

During the past decade there has been a deterioration in the affordability of homeownership while the affordability of private renting has remained stable.

Going forward our modelling suggests that how hard it is to get on to the housing ladder will depend both on lending policies and the number of homes that are built. Figure 8 shows, the size of the deposit required relative to income could improve in the short-term if maximum loan to value ratios return gradually to 90%, but what happens in the longer term depends on the number of homes that are built. If build rates are not increased above those envisaged in current RSSs, the deposit to income ratio will again deteriorate. The position will, however, be much more favourable for first-time buyers if homes are built at top of the range suggested in the NHPAU's advice on housing numbers that should be tested in preparing regional plans. However, even at those build rates, as Figure 5 shows, what happens will vary from region to region, with deposit requirements returning to current levels or higher in southern regions as prices rise.

**Figure 8 Deposit as a proportion of household take home income (England)**



Source: NHPAU analysis

# Appendix A – NHPAU Board Members



**Dr. Peter Williams (Chair)**

Peter is an independent consultant on housing and mortgage markets. His clients include the Intermediary Mortgage Lenders Association and Acadametrics. He was previously Deputy Director General of the Council of Mortgage Lenders. Prior to that, he was Professor of Housing Management at Cardiff University, Deputy Director at the Chartered Institute of Housing and as an academic at the Australian National University and the University of Birmingham. He previously served on the Board of the Housing Corporation (1995-2002) and Housing for Wales (1989-1993). He is a Visiting Professor at the Centre for Housing Policy at the University of York.

Peter is the linked Board member for the West Midlands and South East regions.



**Bob Lane**

Bob is currently Chair of the London Thames Gateway Urban Development Corporation and a Board member of the Homes and Communities Agency. Until April 2008 he was Chief Executive for North Northants Development Company responsible for housing growth and regeneration in the area. His previous roles include Chief Executive of Speke Garston Development Company, Liverpool, Assistant Chief Executive of the Merseyside Development Corporation and roles at Oldham and Lambeth Councils managing urban programmes. He is a specialist in the delivery of complex urban regeneration projects, with more than twenty five years experience as a regeneration practitioner/manager.

Bob is the linked Board member for the East of England and the North West regions.



**Max Steinberg**

Max has been Chief Executive of Elevate East Lancashire, a housing market renewal pathfinder, since 2003, following 25 years at the Housing Corporation where his roles included, Director of Investment & Regeneration for the North and Regional Director of the North West and Merseyside. He is a leading UK practitioner in Urban Regeneration and Housing. Max is Chair of the Board of Liverpool John Moores University European Institute for Urban Affairs and the Chair of Governors at King David High School in Liverpool.

Max is the linked Board member for the Yorkshire and Humber region.



**Prof. Glen Bramley**

Glen has been Professor of Housing and Planning/Urban Studies at Heriot-Watt University in Edinburgh since 1994 leading research on planning, housing and urban policy. Prior to this he lectured in Urban Studies at the University of Bristol specialising in local government finance, housing and economic aspects of public policy. He has published papers and extensive research analysing the economics around housing affordability and its relationship with planning and house building.

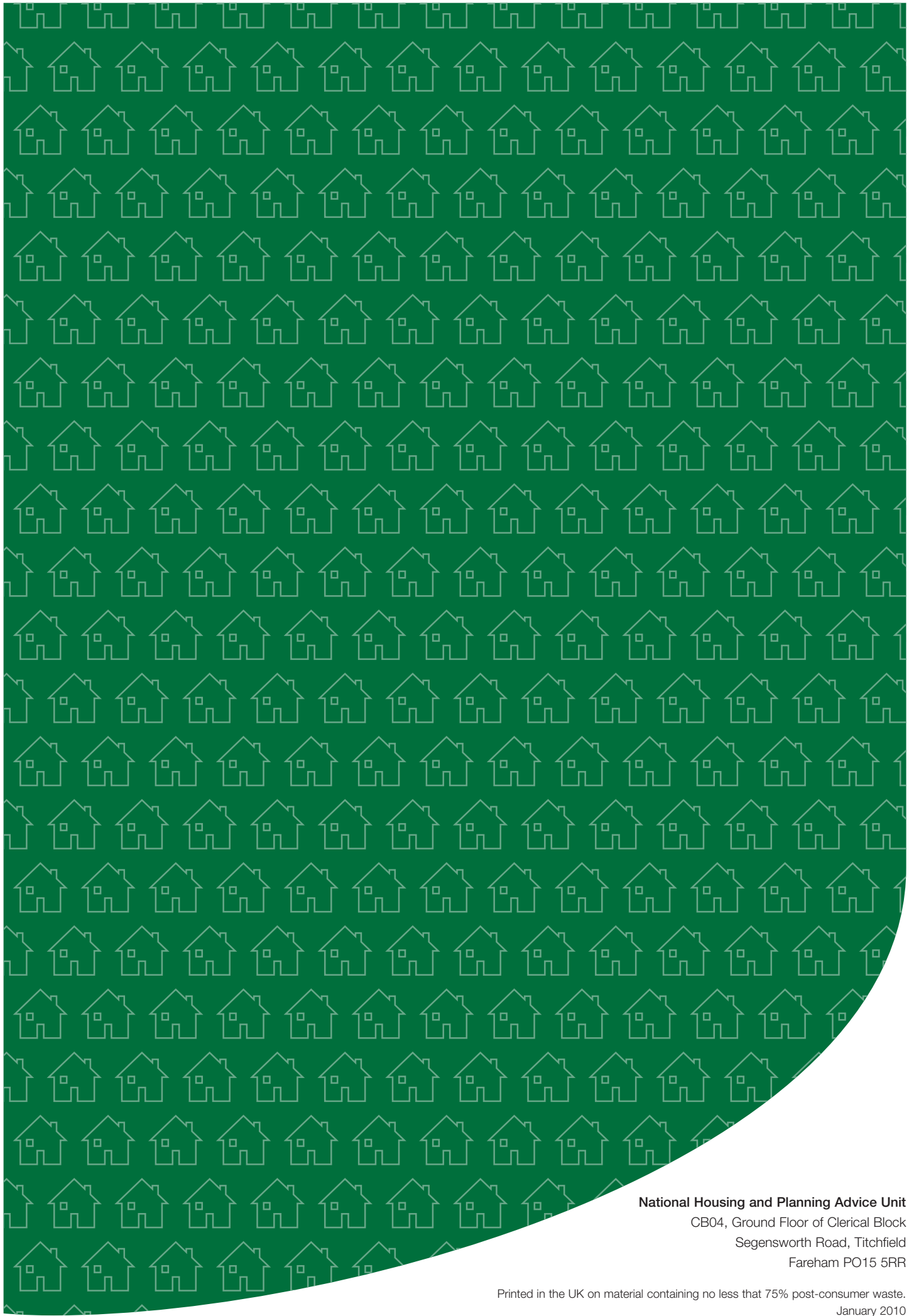
Glen is the linked Board member for the South West and North East regions.



**Prof. Paul Cheshire**

Paul has been Professor of Economic Geography at the London School of Economics and Political Science since 1995. Prior to this he was Professor of Urban and Regional Economics at the University of Reading and has spent time at Washington University in the USA. He has written extensively and conducted research on applied urban and regional economics, particularly the economics of housing, land markets and land use regulation.

Paul is the linked Board member for London and the East Midlands region.



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