



REPORT

# The good, the bad and the ugly

Housing demand 2025

Katie Schmuecker

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Katie Schmuecker is a senior research fellow at ippr north.

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## Contents

Executive summary .....	1
1. Introduction .....	3
2. What influences housing demand? .....	4
What influences tenure choice? .....	4
3. Projecting the overall volume of demand .....	7
Overall demand by region .....	11
4. Housing demand and tenure choices in different economic scenarios .....	13
'The Good' .....	14
'The Bad' .....	16
'The Ugly' .....	17
5. Conclusions .....	18
References .....	20
Appendix 1: Implications of the different economic scenarios, by tenure and by region .....	21
Appendix 2: Methodology .....	24

## Executive summary

As the first step in a programme of work designed to provide a fundamental review of housing policy in England, ippr has developed a model to project future demand for housing. Developing a picture of likely future growth in household numbers will underpin the formulation of housing policy.

This report provides projections of housing demand in 2025. Not only does it project the overall volume of housing demand in England and its regions, it also looks at how demand might be distributed across different tenures under different economic scenarios: a good economic scenario, a bad scenario, and a worst-case 'ugly' scenario.

The overall volume of housing demand is influenced by demographic and behavioural factors, such as migration, increased life expectancy, a greater propensity for people to live alone, and young adults delaying forming their own household. How this demand translates into tenure choices is affected by factors such as employment rates and real household incomes, the affordability of rents and owner occupation, interest rates, the availability of mortgages, and levels of confidence in the economy and housing market.

Projecting the overall volume of housing demand:

- Different demographic scenarios have a significant impact on the overall volume of housing demand by 2025. If household formation rates revert to their 2001 levels, we project there will be 25.1 million households by 2025. Under a high-migration scenario, this figure could reach 26.3 million.
- This equates to between 206,000 and 282,000 additional households per year between 2010 and 2025.
- The average rate of net additions to the dwelling stock in England over the last two decades was 160,000 per year. If additions continue at this rate, demand will outstrip supply by 750,000 by 2025, equivalent to the combined current housing demand of Birmingham, Liverpool and Newcastle.
- Within England, the East is projected to experience the greatest increase in overall housing demand relative to current demand, with an increase of 20–25 per cent by 2025. The lowest increase in overall housing demand relative to current demand is projected for the North West (9–15 per cent), North East (10–15 per cent) and the West Midlands (11–17 per cent).
- This has varying implications for the number of net additions to households across the regions. In the South East, between 37,000 and 48,000 additional households per year are projected, and 31,000–45,000 per year in London. It seems housing pressure in the Greater South East is set to continue. By comparison, between 7,000 and 10,000 new households per year are projected for the North East.
- Looking at the overall volume of demand projected for each region compared to past supply suggests a substantial imbalance in the supply and demand of housing in all regions. The disparity is particularly pronounced in the South East, London, East, South West, and Yorkshire and Humber.

## Housing demand and tenure choices in different economic scenarios: the Good, the Bad and the Ugly

We outline three contrasting economic scenarios – the good, the bad and the ugly – in order to model the impact of different unemployment and housing affordability rates on housing demand and tenure choices (owner occupier, private rented or social rented). Under all three economic scenarios, overall demand continues to rise, but the implications for housing demand by tenure differ.

Under the negative economic scenarios, the owner occupation share of the tenure split is either steady or declining, while demand for social renting increases. However, this projected demand is highly unlikely to be met by supply, unless the supply of social housing increases dramatically. Negative economic scenarios are projected to place considerable additional pressure on the social rented sector.

- Under the good economic scenario, where unemployment falls but the affordability of owner occupation remains constant at 2010 levels:

- The owner occupation share of the tenure split is projected to increase in all English regions.
- The increase is particularly strong in London and the North East, which have traditionally had lower rates of owner occupation.
- Demand for private renting will fall slightly as a share of the tenure split, and demand for social renting will be steady.
- High confidence may result in more people seeking owner occupation, although high demand may result in falling affordability, with more people entering the private rented sector as a result.
- Under the bad economic scenario, unemployment remains at its current level and owner occupation becomes more affordable:
  - The current tenure split is projected to remain steady, but with a slight movement of demand away from private rented towards social rented housing.
  - The fall in the share of demand for private rented housing is projected to be greater in London, as is the increased demand for social rented housing.
  - In practice, supply in the social rented sector is unlikely to keep pace with demand, resulting in more households residing in the private rented sector, more hidden demand and possibly more homelessness.
- Under the ugly economic scenario, unemployment rises and house prices fall sharply over the next few years, and remain at a low level:
  - The demand for market-sector housing (owner occupied and private rented) is projected to fall as a share of the tenure split, with pressure on social housing increasing as a result.
  - Demand for owner occupation is not projected to grow in any of the English regions, and declines slightly in London and the North East. The fall in the share of demand for private renting is similar across all the English regions.
  - The share of demand for social rented housing grows, particularly in London, the North East and the West Midlands. In practice, supply in the social rented sector is unlikely to be sufficient, resulting in a greater proportion of demand for the private rented sector, more hidden demand and more homelessness.
  - Low confidence may further depress demand for owner occupation.

### Conclusions

Household formation is projected to grow in England under all economic scenarios, with between 3.3 million and 4.5 million additional households to be formed by 2025. However, demand will not be evenly spread across the regions of England. Demand is expected to be higher in the Greater South East, reinforcing existing regional inequalities and putting further pressure on the infrastructure of the region.

Considering the past rate of additions to the dwelling stock, it seems highly unlikely that supply will keep pace with demand. If additions continue at their past rate, demand will outstrip supply by 750,000 by 2025.

Undoubtedly the greatest policy challenge presented by our analysis is the implications, regardless of the economic scenario, for demand for social housing. Social housing is already under enormous pressure: in 2010, between 6 and 12 per cent of households in England were on a housing waiting list. Under the bad and ugly economic scenarios in particular, demand for social housing will significantly outstrip supply, which has been low for years.

The government's decision to halve the capital budget for housing will further squeeze supply, and its stated ambition to supply up to 150,000 new affordable homes over the next four years will not bridge the gap identified here, especially as not all of these new dwellings will be in the social rented sector.

These projections pile further pressure on an already overstretched social rented sector: in the absence of adequate supply, high demand in the social rented sector is likely to translate into increased demand in the private rented sector, hidden demand and greater homelessness.

There has always been a need for housing policy to be based on a sound understanding of the volume of future housing demand and which parts of the country will be under most pressure. But to be effective, new housing policy not only needs to understand how demand is likely to respond under different economic circumstances, but also how we adapt our behaviour and choices in response to different housing pressures. These are issues that ippr's wider fundamental review of housing policy will address.

## 1. Introduction

A picture of likely future demand for housing will provide the foundation for new housing policy. Building an understanding of the likely size and characteristics of future English households provides an essential part of the evidence base for policymakers. For this reason, ippr has developed a new model to project future demand for housing. It is a tool for scanning the horizon, and the first step in a programme of work designed to conduct a fundamental review of English housing policy.<sup>1</sup>

This report looks forward to 2025, beyond short-term fluctuations in the housing market, and considers the longer-term future of housing demand. This report projects the overall volume of housing demand, both for England as a whole and for its regions.

We also look at how demand might fall on different tenures under different economic scenarios. By modelling the impact of different economic circumstances on housing demand and on demand by tenure, our work adds value to the excellent demand models that already exist.<sup>2</sup>

The next section of the report considers the factors that influence overall housing demand and demand by tenure. The third section provides projections of the overall volume of housing demand by 2025 in England as a whole and in the English regions. The fourth section develops three economic scenarios – 'the good', 'the bad', and 'the ugly' – in order to present projections of housing demand under different sets of economic circumstances. For each scenario we also model their implications for demand by region and tenure.

### Glossary of key terms

**Dwelling:** a unit of accommodation that has its own front door.

**Hidden demand:** a person or family living within another household that seeks its own accommodation to form a separate household (including, for example, young adults living with their parents or sharing rented accommodation).

**Household:** a person or group of people living at the same address and sharing housekeeping and/or a living room.

**Household headship rates:** each household is allocated one household head, usually the highest earner in the household or, failing that, the oldest person. Headship rates refer to the propensity of a particular group (usually by age group or gender) to form their own household.

**Housing demand:** is an estimate of the number of households in future years. Households could reside in the private sector, through owner occupation or private renting from a landlord, or in the social sector, through subsidised housing. In some reports, 'housing demand' refers only to demand for market-sector housing, while 'housing need' is used to refer to demand for social housing – here, we combine these into one overall measure of demand.

1 See <http://www.ippr.org/research/themes/project.asp?id=4377>

2 See for example Bramley et al 2010, Meen et al 2008

## 2. What influences housing demand?

A number of demographic and behavioural factors influence housing demand. Clearly, population growth has a key part to play in driving demand, but the number of households being formed has outstripped population growth for decades: between 1971 and 2008, the number of households in Great Britain rose by 34 per cent, while over the same period the population increased by only 10 per cent (ONS 2009a).

Four of the key factors influencing the overall level of demand are:

**Longevity:** As life expectancy increases, people remain in their homes longer, reducing the supply of properties available to new households. In 1961, average life expectancy was 68 years for males and 74 years for females – by 2010, this had risen to 79 and 83 respectively (ONS 2010).

**Single-person households:** The number of single-person households increased from 1.7 million in 1961 to 7 million in 2009. This trend is linked to longevity, as the majority of single-person households are older women who have outlived their partner (ONS 2010). However, relationship breakdown also accounts for some of this increase (Stephens et al 2008).

**Hidden demand:** Shortage of available housing and unaffordability – either as a result of a high house price-to-income ratio or the high cost of borrowing – can result in people continuing to live with their parents, moving back in with their parents, or sharing houses with others. Analysis of the Labour Force Survey (LFS) reveals some steep falls in household formation rates for young adults in recent years, compared to those seen in the 2001 census (CLG 2010). This trend is particularly notable in London (Bramley et al 2010).

**Migration:** Higher net rates of inward migration result in greater demand for housing. This has been the case in recent years especially, as a strong economy attracted migrants to the UK. The Office for National Statistics estimates net migration to the UK will be 157,000 per annum to 2033, a downward revision from previous estimates of 171,500 (ONS 2009b). Nonetheless, migration can be expected to boost demand for housing. It should be noted, however, that we do not currently have a sophisticated understanding of patterns of household formation among different national groups – this is needed in order to model more accurately the impact of migration on housing demand (Bramley et al 2010).

### What influences tenure choice?

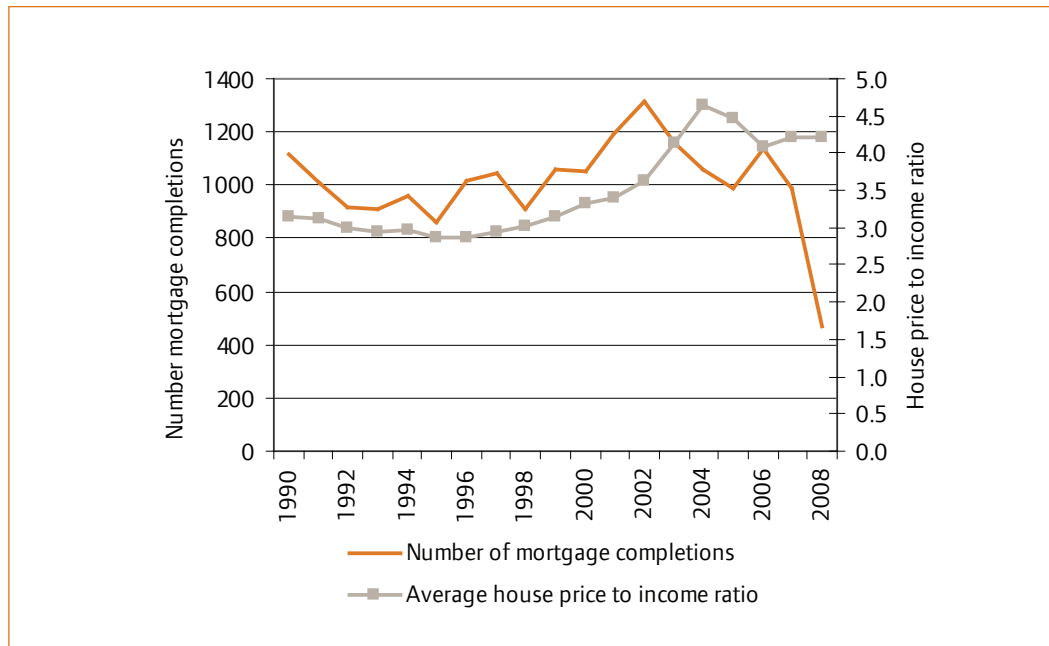
Projecting the overall volume of demand only tells us so much: to consider properly how future demand might be met requires analysis of how overall demand might translate into demand for households of different tenure, that is, how demand is split between owner occupier, private rented and social rented households.

A different range of factors influence tenure choice:

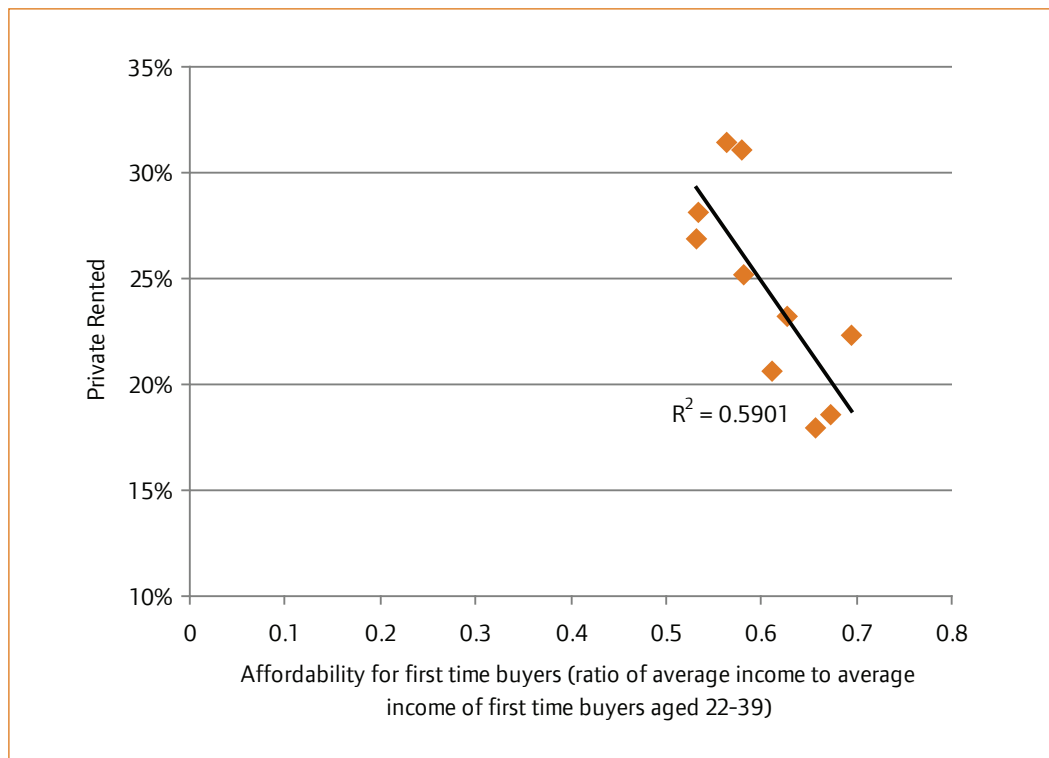
**Affordability:** Most commonly, this refers to how affordable owner occupation is, and it is a factor which has particularly significant implications for first-time buyers. There is strong evidence to suggest that high house price-to-income ratios and significant deposit requirements have created barriers to home ownership in recent years. This has made owner occupation more difficult for those without substantial savings or who are unable to call on family help (Wallace 2010). Nevertheless, as Figure 1 shows, falling affordability can go hand-in-hand with rising demand (although this depends on mortgage lending and confidence – see over).

When unaffordability is high, levels of hidden demand and private renting are higher. Figure 2 (over) shows the strength of the relationship between affordability and demand for private renting. This increased demand for private rented housing can serve to push rents up.

**Figure 1**  
Housing affordability and mortgage completions (thousands), 1990–2008



**Figure 2**  
Relationship between house price affordability and private sector renting



**The mortgage market:** Closely linked to affordability, the cost of borrowing and access to finance for owner occupation through the mortgage market are key factors influencing tenure choice. When house prices are growing strongly, lenders tend to be prepared to lend more, offering a higher loan-to-value ratio and reduced deposit requirements (Whitehead et al 2009). During the 2000s, stable interest rates, strong employment and growth in incomes meant households could service higher debt levels, making owner occupation a possibility for more people. In more recent years, the availability of mortgages has reduced as overseas banks have exited the UK mortgage market, other banks have struggled to access funds, and the real cost of borrowing has increased.

**Interest rates:** Interest rates are fundamental to the cost of borrowing for owner occupiers with mortgages, and the doubling of mortgage interest rates in the late 1980s is regarded as a key factor in the housing recession of that period. Similarly, low interest rates in the 2000s enabled owner occupation despite high house prices, as people were able to service higher

levels of debt (Stephens et al 2008). However, the relationship between demand and interest rates is not straightforward: for example, if supply of housing is low, high interest rates may not result in falling prices. Furthermore, confidence has a key role to play.

**Confidence:** This is a key factor in determining demand by tenure. Where confidence is high and there is an expectation of rising incomes and equity growth, demand can remain high even when housing is unaffordable and the cost of borrowing is high (Belsky 2010). Under these conditions, unaffordability can result in reduced saving rates rather than reduced demand for owner occupation. This relationship also works in reverse, and research has found the number of people aspiring to home ownership fell during the housing market recession of the 1990s, and increased during the early to mid 2000s (Wallace 2010). Similarly, recent polling conducted by the Chartered Institute of Housing found that the preference for home ownership among 25–34 year olds fell from 83 per cent before the economic crash to 69 per cent after it (CIH 2009).

During the early to mid 2000s, the number of mortgage completions continued to grow despite affordability becoming an increasing problem. Similarly, completions dropped steeply after 2006, despite affordability improving. This demonstrates there is not a straightforward causal relationship between affordability and house purchases: confidence is a key factor, although precisely what fuels confidence and what dampens it is difficult to predict, making it difficult to model.

**Cohort change:** More-recent cohorts of young adults are forming households later. In part, this is the result of people entering the labour market later because they have spent longer in education, a tendency to marry later, and a ‘spend now’ consumer culture (Andrew 2006). A number of studies also show that young adults are content to share a house in their 20s, but begin to think more about starting a family and owning a house in their 30s (Wallace 2010). However, it is not clear how far these changes are temporary responses to problems with affordability, or longer-term shifts as a result of lasting social change.

Together, these factors generally affect demand for owner occupation, and how achievable that form of tenure is for people. When households are unable to achieve owner occupation, demand for private renting is generally higher.

Demand for social renting tends to operate in a different way. As a subsidised sector, it is less directly influenced by the market, with policy decisions about eligibility and social housing supply determining the size and accessibility of the sector. Nonetheless, demand for social housing is still influenced by incomes and the affordability of other tenure choices. Where demand for social housing outstrips supply, the result is likely to be either more people turning to the private rented sector, greater homelessness or an increase in hidden households. This makes it difficult to assess true demand. Bramley et al (2010) estimate that up to 4 per cent of households in England are host to a hidden household. Certainly, the waiting list for social housing underlines the fact that demand currently outstrips supply. In 2010, 8 per cent of English households were on a local authority waiting list, a figure which rises to 11 per cent in London and 12 per cent in Yorkshire and Humber.

**Table 1**  
Number and proportion of households on a local authority waiting list (2010)

	Households on the waiting list	Proportion of all households
East	155,900	6.5%
East Midlands	123,780	6.6%
London	362,289	11.2%
North East	76,950	6.9%
North West	253,521	8.6%
South East	215,373	6.2%
South West	148,422	6.6%
West Midlands	157,052	7.0%
Yorkshire & Humber	258,695	11.7%
<b>England</b>	<b>1,751,982</b>	<b>8.1%</b>

Source: CLG Live Table 600 Rents, lettings and tenancies: numbers of households on local authorities’ housing waiting lists, by district: England 1997–2010 <http://www.communities.gov.uk/housing/housingresearch/housingstatistics/housingstatisticsby/rentslettings/livetables/>

Understanding how demand is likely to break down across the different tenure options forms an important element of the evidence base for housing policy. While the approach to modelling overall housing demand in England is increasingly sophisticated (see for example Bramley et al 2010 and Meen et al 2008), how demand is split by tenure is often less prominent in the relevant literature. We return to this issue in Section 4.

### 3. Projecting the overall volume of demand

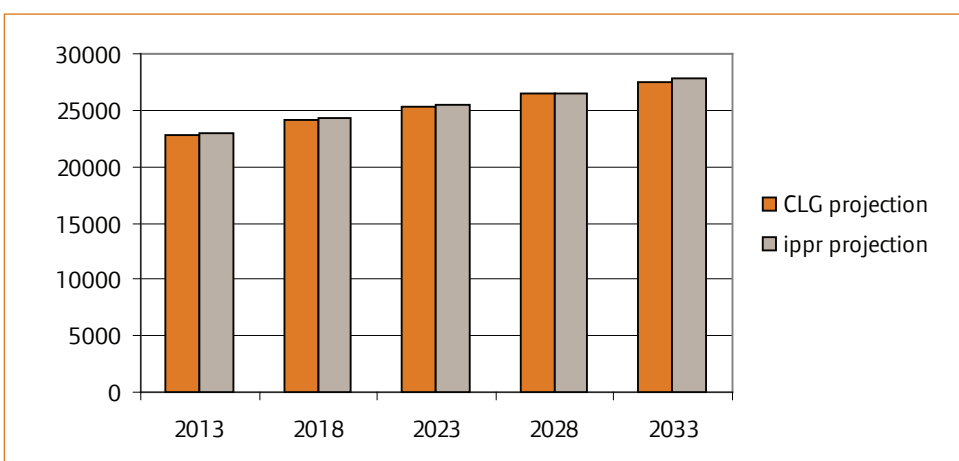
Before modelling demand by tenure, it is necessary to establish the overall volume of demand. The box below outlines in more detail ippr’s approach to modelling housing demand.

#### About the ippr housing demand model

Our model takes a two-stage approach. First, it establishes a method for projecting the overall volume of housing demand, then it identifies the factors that influence tenure choice in order to model how demand might translate into different tenure splits under different economic scenarios.

Our model of the overall volume of demand is based on the method used by the Scottish Parliament and Welsh Assembly. While simpler than the model used by CLG to project housing demand in England, our model produces remarkably similar results, as the graph below shows.

**Figure 3** Comparing the CLG and ippr models: projected housing demand, 2013–2033



The ippr model uses information from the 1991 and 2001 censuses to ascertain the propensity of different age groups to form a household. It also factors in evidence from the Labour Force Survey suggesting patterns of household formation among young adults have changed in recent years, with lower rates of household formation. The model is adjusted to reflect this. The headship rates for different age groups are then applied to different population projections in order to project future housing demand. The population projections used are taken from the range of projections produced by ONS (ONS 2009b).

Some more-complex housing demand models look at both age group and family structure when calculating household formation rates, to recognise, for example, that a married 25-year-old may have a different propensity to form their own household to a single 25-year-old. However, research conducted for CLG found that such models add little predictive accuracy to age-based models (Experian 2008).

The process for projecting regional housing demand is similar to the process described above, although the overall total is constrained to equal the England projection. Furthermore, while the principal ONS population projection is produced for the regions of England, the range of scenarios they develop nationally (for example, for high and low migration) are not. We produce these projections for the English regions on the basis of distributing migrants in each age group by the proportion of migration experienced by each region in 2009.

Having established projections for overall demand, the second stage is to project how demand will be split between tenures under different economic scenarios. We developed a correlation model using recent observed data on housing and the economy to project the future tenure split. Testing demonstrated unemployment and affordability are the most significant variables correlated with demand by tenure. Unemployment in this context can be taken as a proxy for the general strength of the economy. The proportion of 18–34 year olds in the population is also a key factor for owner occupation, as people in this age group are the least likely to be owner occupiers. These findings are confirmed by other research (Meen et al 2008). A more detailed explanation can be found in Appendix 2.

The model produces an intuitive response:

- Owner occupation falls as unemployment rises and when houses become less affordable. The 18–34 age group is the least likely to own homes, so an increase in this age group as a proportion of the population will tend to depress the owner occupation proportion.
- Private renting is strongly related to affordability, with private renting increasing as houses become less affordable.
- Social renting increases with unemployment.

As with any projection model, it is important to note that past experience is not necessarily a good predictor of future behaviour. Furthermore, we have not, at this stage, included variables such as housing supply and complex behavioural economics into the model, so it necessarily gives only a partial view. Nonetheless, it provides us with a useful tool for projecting overall future demand, as well as demand by region and tenure under different economic circumstances.

We used the ippr model to project the overall volume of demand in England up to 2025 under four different population scenarios:

1. **Principal:** This projection is based on existing patterns of household formation remaining constant going forward, with the population increasing as projected by the ONS. However, it should be noted that the level of immigration built into this projection is relatively high (net addition of 157,000 per annum), reflecting the levels of net migration the UK has experienced in recent years.
2. **High migration:** As with the principal projection, this projection assumes existing patterns of household formation but is based on the ONS projection for high migration (net addition of 217,000 per year).
3. **Low migration:** Again, this projection assumes existing patterns of household formation but is based on the ONS projection for low migration (net addition of 97,000 per year).
4. **Revert to 2001 headship rates:** This projection assumes that recent patterns of household formation during the ‘housing bubble’ are unusual, and so uses 2001 household formation rates as the basis for projection. 2001 was chosen because affordability indicators at that time appear to be more-or-less in line with longer-run average rates of affordability, meaning it can be regarded as the status quo ante or ‘normal’ behaviour, if behaviour during the housing bubble is regarded as a temporary response to the housing market. Table 2 (over) sets out the difference between the principal and 2001 headship rates. Some of this difference results from young adults changing their behaviour and living at home or in shared households for longer, possibly in response to problems of affordability. The rest is due to longer-term demographic and behavioural shifts which are unlikely to reverse, such as more people living alone and living longer. For this reason, we regard this scenario as less likely, but include it for illustrative purposes.

**Table 2**  
Comparing the propensity to form a household by age group, 2001 and 2009

Age	2001	2009	Difference
16–19	4.1%	4.3%	0.2%
20–24	20.7%	18.4%	–2.3%
25–29	41.4%	37.4%	–4.0%
30–44	55.7%	57.0%	1.3%
45–59	59.6%	61.2%	1.6%
60–64	59.6%	58.7%	–0.8%
65–74	70.0%	72.9%	2.9%
75–84	62.1%	55.0%	–7.1%
85+	68.5%	73.8%	5.3%

The principal, high and low migration scenarios are adjusted to reflect the recent trend for young adults to delay forming their own households and to live at home for longer or in shared houses instead. This adjustment is not factored into the 2001 headship rates calculation. While it is important to reflect this recent change in behaviour, it does not make a significant difference to the overall volume of demand. Under the principal projection, our model estimates that releasing this hidden demand would increase overall housing demand by around 370,000 by 2025, or by just over 1 per cent.

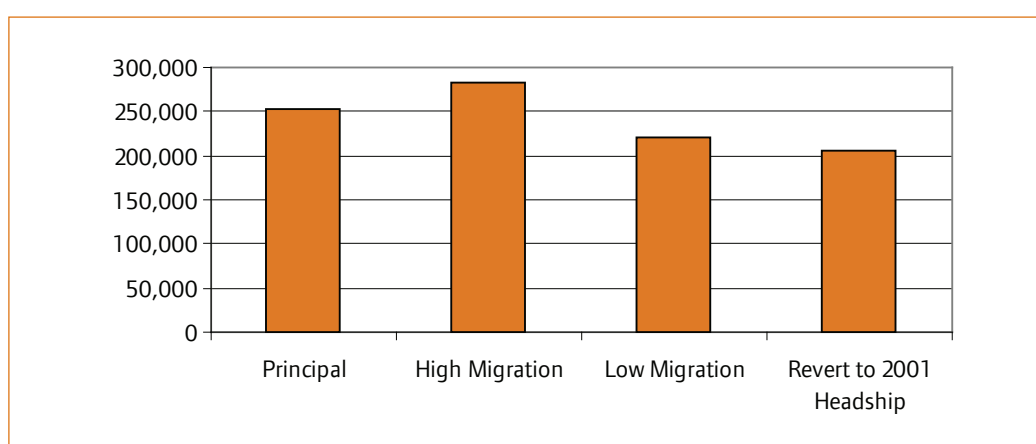
Table 3 below provides projections of the overall volume of demand under the four different population scenarios outlined above. The impact of these different demographic scenarios on the overall volume of demand is significant. By 2025, under the ‘revert to 2001 headship rates’ scenario, there would be 1.26 million fewer households than under the high migration scenario.

**Table 3**  
Overall volume of housing demand in England, 2010–25

	2010	2015	2020	2025	Increase, 2010–25
Principal	22,100,000	23,400,000	24,700,000	25,800,000	17%
High migration	22,100,000	23,600,000	25,000,000	26,300,000	19%
Low migration	22,000,000	23,300,000	24,400,000	25,300,000	15%
Revert to 2001 headship rates	22,000,000	23,100,000	24,100,000	25,100,000	14%

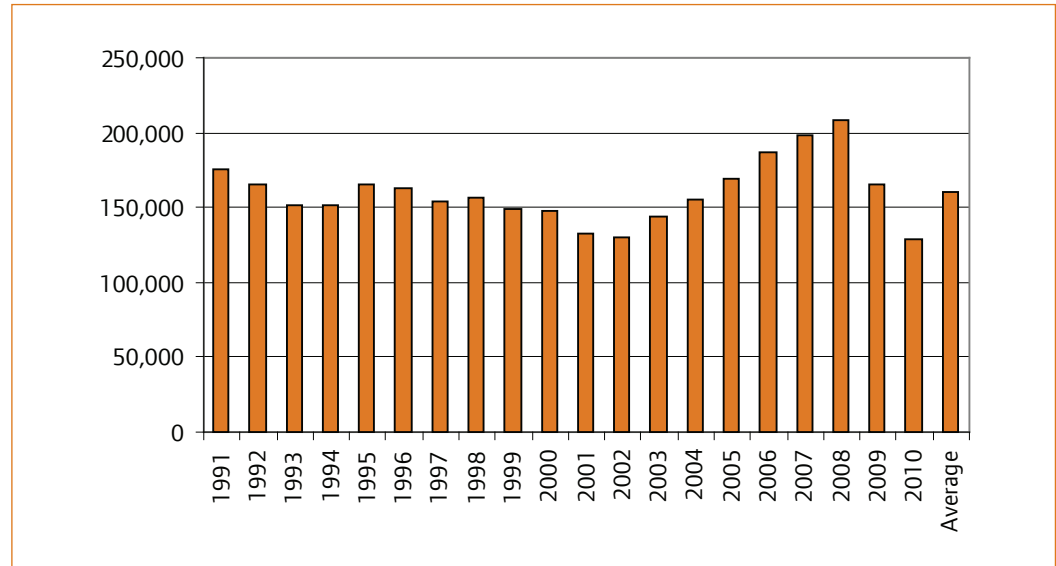
Figure 4 below shows the implications of these projections in terms of the average demand for additional households per year. Under the principal projection, the average demand for additional households will be just over 250,000 per year. This increases by 30,000 under the high migration scenario, and decreases by about the same amount under the low migration scenario, and by around 45,500 under the ‘revert to 2001’ scenario. The overall volume of housing demand is projected to increase by between 206,000 (revert to 2001) and 282,000 (high migration) households per year to 2025.

**Figure 4**  
Projected average number of additional households per annum in England, up to 2025



Looking at this picture of demand in relation to supply reveals a concerning gap. Figure 5 below shows the number of net additions of dwellings between 1992 and 2010. This includes houses built privately as well as those built by registered social landlords and local authorities, offset by conversions and demolitions. The average rate of net additions to the dwelling stock between 1992 and 2010 was 160,000 per year. If the rate of past additions is indicative of the rate of future additions, we are heading for a serious shortfall of supply relative to demand.

**Figure 5**  
Net additions to dwelling stock, 1992–2010

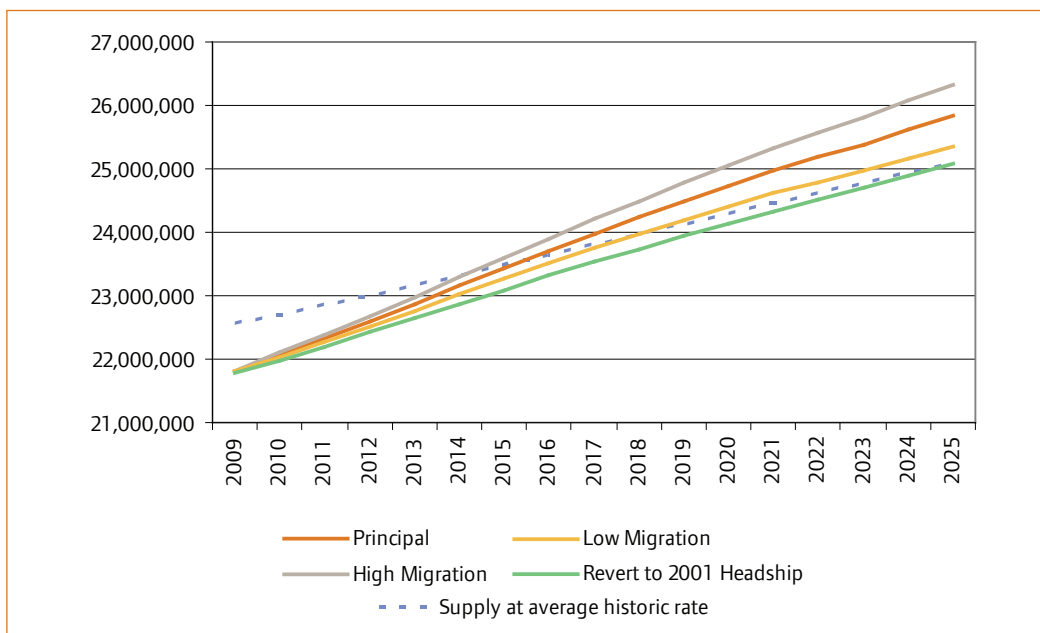


Looking at the number of dwellings compared to the number of households is a useful – if slightly crude – way of assessing whether housing demand is being met. The total number of dwellings is currently slightly greater than the number of households in England (as Figure 6 shows), and has been throughout the 1990s and 2000s.

However, this is not to say that supply and demand are necessarily in balance. For example, this fails to factor in whether available dwellings are of the right type (for example size) and in the right location to meet household demand (Meen et al 2008, Whitehead et al 2009). Furthermore, this data does not account for factors like second home ownership, which constrain the availability of dwellings in some areas (Wong et al 2009). Finally, and perhaps most importantly, the level of hidden demand is not factored into this calculation.

In the future, trends such as longevity, living alone and net immigration will continue to drive growth in the number of households. If additions to the dwelling stock continue at their previous rate, supply will fall short of projected demand under three of our four population-based household projections, as Figure 6 (over) demonstrates. In the case of the principal projection – which is comparable to the government’s own official projection of future household formation – supply will fall short of demand by about 750,000 households by 2025. This is equivalent to the housing demand of the current populations of Birmingham, Liverpool and Newcastle combined not being met by supply.

**Figure 6**  
Projected housing demand compared to supply (based on average recent net additions)



Note: the supply figure uses the current number of dwellings as its base, and each year adds the average net addition per year for the period 1992–2010

### Overall demand by region

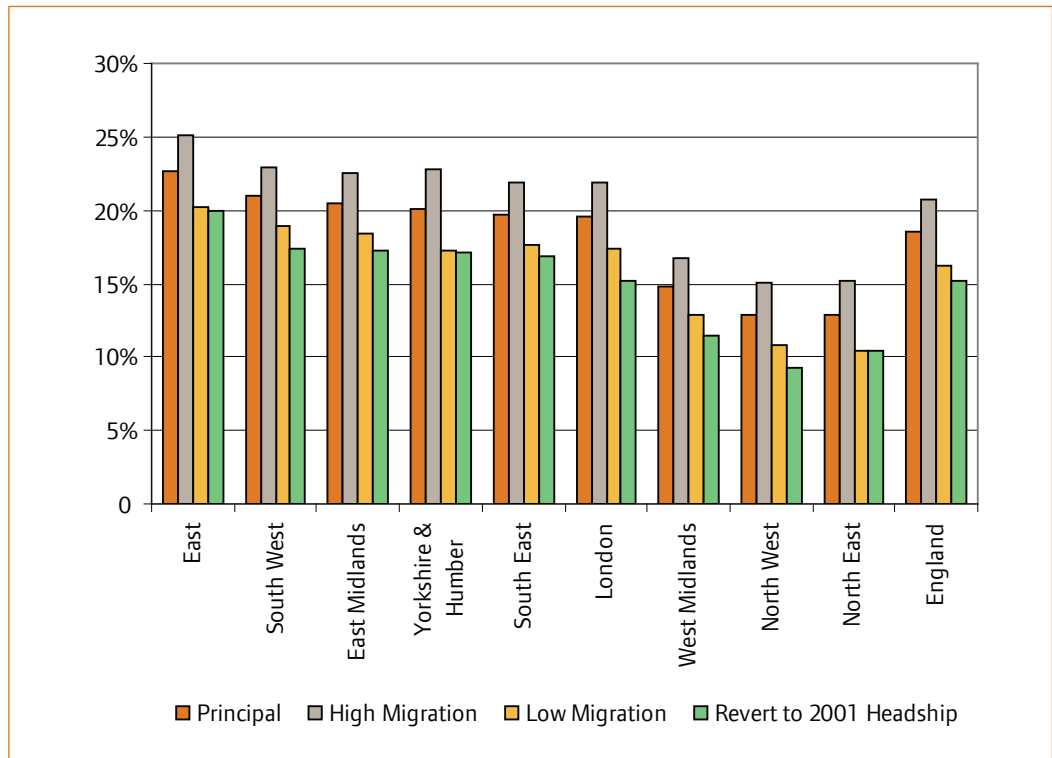
As well as considering the overall volume of demand, it is important to consider where demand is likely to be greatest in order to identify gaps in supply. Longstanding inequalities between the regions of England have resulted in different patterns of housing demand, with the strong economic performance of the Greater South East acting to attract migrants from both within the UK and beyond to a greater degree than in other regions.

We therefore apply our projections of housing demand to regional population projections in the same way for the regions as for England.<sup>3</sup>

Figure 7 (over) presents the projected percentage increase in housing demand by region by 2025. Looking at the data in this way reveals the East of England to be the region with the largest increase in demand, proportional to existing demand. Here, demand is projected to increase by 20–25 per cent. In the East Midlands, South West, and Yorkshire and Humber, demand is projected to increase by 17–23 per cent. The smallest demand growth is projected in the North West (9–15 per cent), North East (10–15 per cent) and the West Midlands (11–17 per cent). Interestingly the South East and London, which are often thought of as magnets for housing demand, appear in the middle of the distribution.

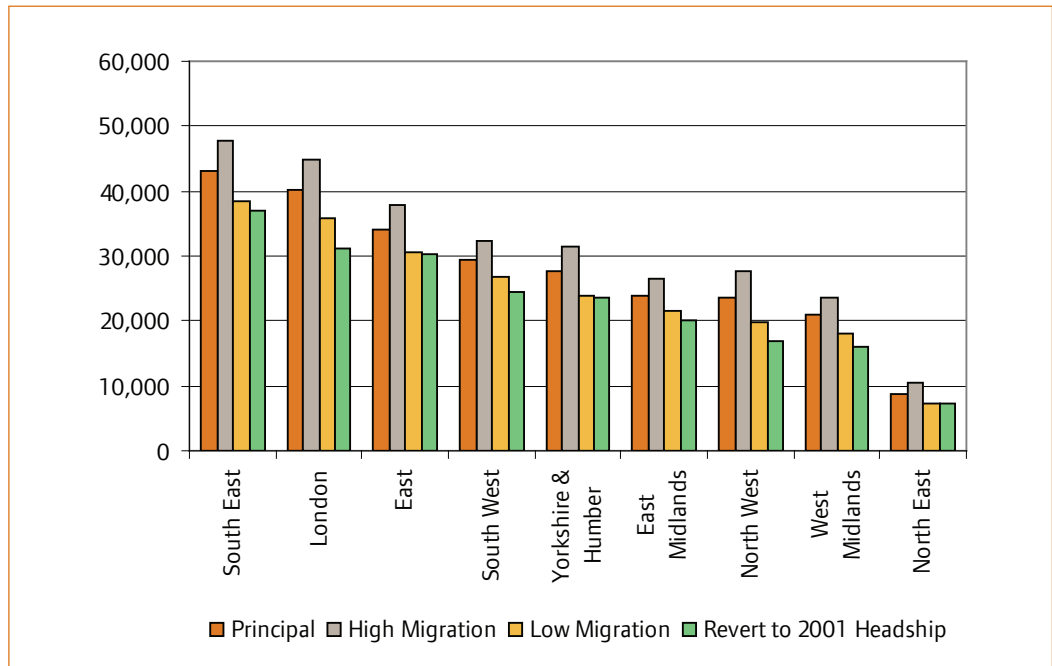
<sup>3</sup> It should be noted that population projections at the regional level are based on survey data and are therefore less robust than those at the national level due to the smaller sample sizes.

**Figure 7**  
Projected increase in housing demand by 2025, by region



However, given the different population sizes of the English regions, this projected growth in demand has different implications in different regions. Figure 8 details the average number of additional households per year implied by the demand projections. The greatest volume of demand is projected to be in the South East, London and the East of England. This is perhaps not surprising, as these are three of the most-populous regions.

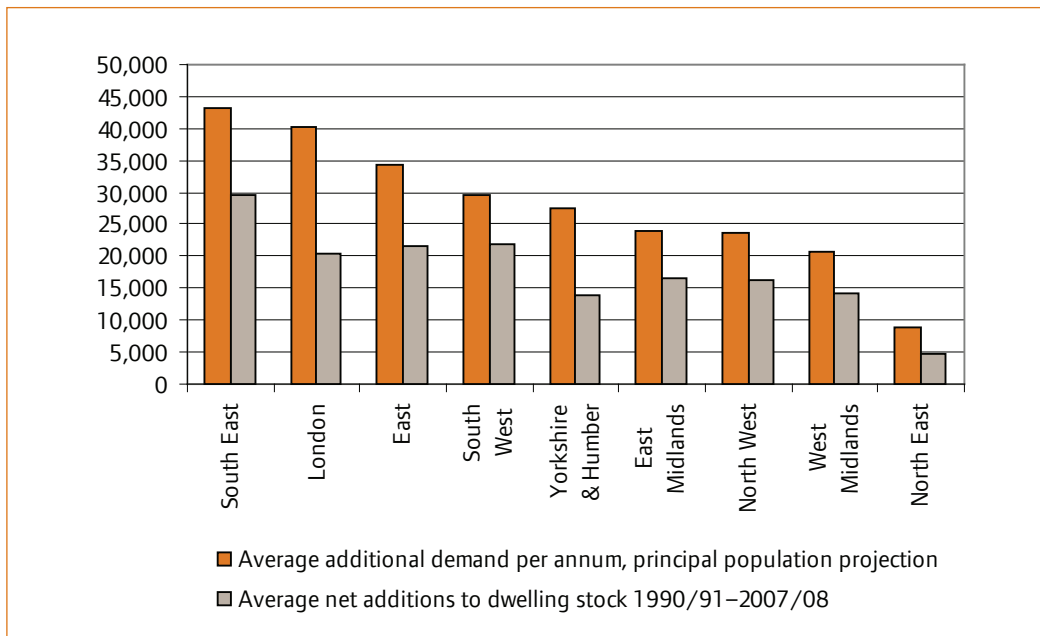
**Figure 8**  
Projected average additional households per annum up to 2025, by region



In terms of demand relative to supply, the scale of the challenge in England is apparent. While it is important to reiterate that balancing supply and demand is more complex than simply matching the number of new dwellings to projected additional demand (Meen et al 2008, Whitehead et al 2009), future demand outstrips past supply in every English region, as Figure 9 (over) shows. The problem is particularly acute in London, the South East, East, South West, and Yorkshire and Humber, where

the greatest growth in demand is projected. These areas have seen some of the highest rates of net additions to the dwelling stock in the past, but considerably more will be needed for supply and demand to balance in the future. Boosting supply above and beyond past building rates is likely to require not only a proactive policy focus but also a quick recovery in the construction industry and greater access to lending for potential house-builders.

**Figure 9**  
Past supply compared to future demand, by regions



Source: Housing supply figures from CLG Live Table 109 Dwelling Stock by Tenure and Region from 1991 <http://www.communities.gov.uk/housing/housingresearch/housingstatistics/housingstatisticsby/housebuilding/livetables/>

#### 4. Housing demand and tenure choices in different economic scenarios: the Good, the Bad, and the Ugly

Projecting the overall demand for housing provides important information for policymakers. However, to get a better understanding of the potential policy implications of changes in housing demand we need to understand how overall demand might translate into demand for different tenure types. For this reason, we explore three different economic scenarios and their implications for demand by tenure. It is here, in particular, that the ippr model can add value to existing work in this field.

However, as with any projection, future demand is modelled on the basis of past behaviour. It is therefore important to note that these are projections, rather than forecasts or predictions.

Our scoping research identifies the overall strength of the economy, as indicated by levels of unemployment, and housing affordability as key factors that not only influence overall demand, but also how demand is converted into tenure choices. We therefore outline three different economic scenarios in order to demonstrate how different economic futures might affect housing demand and demand by tenure.

Our economic scenarios are simple yet contrasting. In each case, unemployment rates, housing affordability and net migration are varied. The scenarios are:

**‘The Good’** – an improving economy: by 2020, unemployment recovers to its 2004 level, the low point for unemployment rates over the last decade, achieving close to full employment. This economic scenario implies both a strong economy and rising incomes, which are linked to rising house prices. As a result, unaffordability remains a problem, and is assumed to be constant at 2010 levels. The strong economy means migration also remains high, and is calculated according to the ONS principal projection.<sup>4</sup>

<sup>4</sup> We use the ONS principal projection rather than the high migration projection for this scenario. This based on ippr’s migration research, which finds it unlikely that net immigration will continue at the unprecedented high levels of recent years in the medium-long term. It is also important to note that there is considerable uncertainty about net migration levels due to the poor quality of data – alternative measures suggest much lower levels of current net migration than the headline International Passenger Survey measure (see <http://www.ukba.homeoffice.gov>)

**‘The Bad’** – a flat-lining economy: unemployment remains at its current rate, implying a weak economic recovery. Under this scenario, affordability improves as house prices fall as a result of constrained incomes, reaching the 2001 level of affordability by 2020. As noted above, 2001 is chosen as a proxy for long-term average rates of affordability. Reflecting the weaker economy, migration levels are based on the ONS low migration projection.

**‘The Ugly’** – a deteriorating economy and housing market crash: this scenario takes its lead from the Japanese experience since the late 1990s. Unemployment initially rises, following a similar trajectory to Japanese unemployment between 1997 and 2008, before levelling out at around 9.5 per cent. This gives an indication of what a worst-case economic scenario might look like. Under this scenario there is also a housing market crash, with a 20 per cent reduction in house prices in 2012. Again, a return to 2001 affordability levels by 2020 is assumed, as the market corrects itself. In light of the weaker economy, migration levels are based on the ONS low migration projection.<sup>5</sup>

There are two key variables that we have not incorporated into our model at this stage, which need to be taken into account in interpreting the results of these different economic scenarios:

1. **Housing supply:** The supply of housing has implications for demand, as outlined above. For example, overall lack of supply, and particularly lack of supply of affordable housing, has implications for household formation, resulting in greater hidden demand. Similarly, the supply of social housing, and the way in which it is rationed, has implications for the size of the sector, with under-supply resulting in increased hidden demand, more people moving into private renting, and potentially increased homelessness. Overall, the supply of housing will be influenced by the general strength of the economy and the ability of house builders to access credit, the supply of land and planning permission, and local and central policy decisions. A further issue related to supply is whether the right type of housing (family homes, for example, or flats) are available in places where there is demand.
2. **Confidence:** Demand for housing – particularly for home ownership – is influenced by people’s perceptions of the economy. For example, a lack of affordability does not necessarily deter house buyers if there is an expectation that house prices will continue to rise. Similarly, if lenders are confident in the housing market, they are more likely to offer higher loan-to-value ratios, making buying with a mortgage more accessible.

When considering the projections below, it should also be remembered that the overall volume demand is projected to increase under each scenario. So where a scenario produces a flat trend for a particular tenure as a proportion of housing demand, there will still be growing demand for this tenure in terms of the additional number of households. Appendix 1 provides details of the projected additional demand in each region by 2025 under each of the scenarios.

In general terms, the diverse impact of the economic scenarios on the tenure split in different regions is due in part the volatility of the local economy relative to the national economy. Furthermore, the projected volume of demand varies between regions, as does the current size of different housing tenures. These factors combine to produce different results in different regions.

### **Modelling the different scenarios: implications for demand by tenure**

#### **‘The Good’**

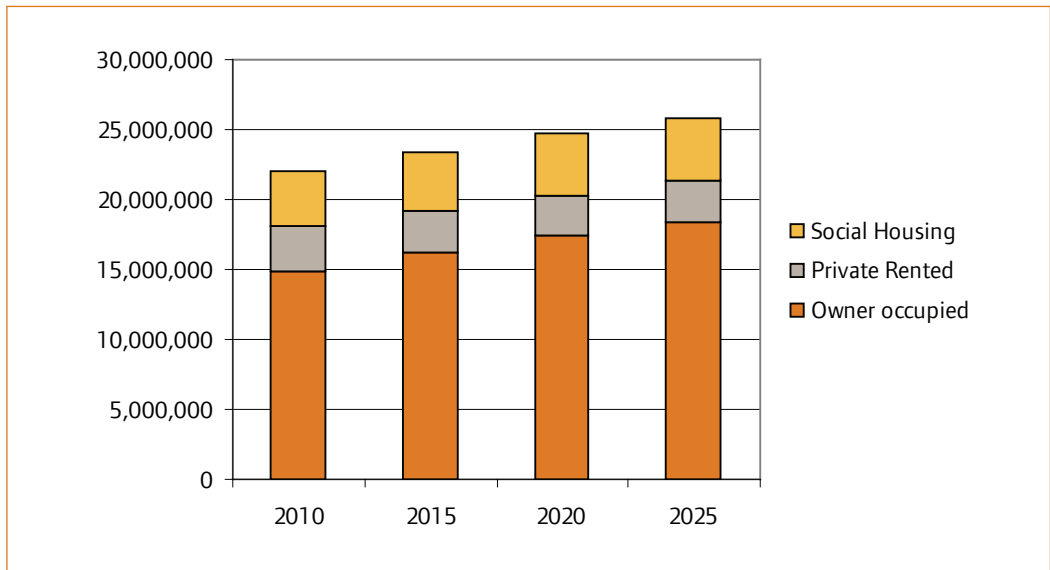
Under this economic scenario, the demand for housing across England as a whole is projected to increase, with demand for owner occupation growing strongly despite the affordability challenges. Initial demand for private renting causes the sector to grow as a proportion of the tenure split, before falling back to slightly below 2009 levels. Demand for social housing is also steady under this scenario, accounting for just under 20 per cent of demand. However, given the overall volume of demand is projected to grow this steady picture will still exert pressure on the social rented sector.

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[uk/sitecontent/documents/aboutus/workingwithus/mac/mac-limits-t1-t2/](http://uk.sitecontent/documents/aboutus/workingwithus/mac/mac-limits-t1-t2/)). We therefore consider the ONS high migration scenario unlikely, even under a good economy.

<sup>5</sup> Although we have used the ONS low migration projection in this scenario, it should be noted that this would still represent relatively high levels of net migration by historical standards – it is quite possible that under an ugly scenario net migration would be lower than this projection suggests.

**Figure 10**  
The Good: Housing demand by tenure in England

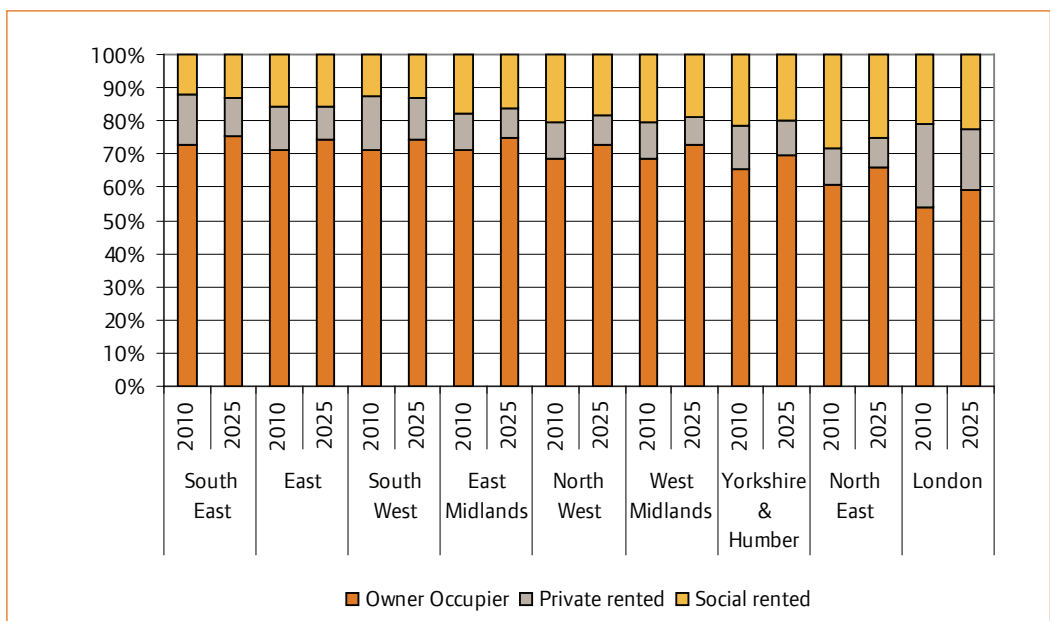


England’s preference for owner occupation continues, with 71 per cent of households projected to be owner occupied by 2025, compared to 67 per cent in 2010. This projected demand for home ownership is replicated in each of the regions. Demand for owner occupation is particularly strong in London and the North East, two regions where owner occupation has traditionally accounted for a smaller proportion of the tenure split. In both regions, the owner occupation share of the tenure split is projected to grow by 5 percentage points by 2025.

The shrinking of the private rented sector is also replicated in each region. The private rented share of the tenure split is projected to reduce most sharply in London (-7 percentage points) and the South East (-4 percentage points). Part of the reason for this is that the young adult population is projected to decrease as a proportion of the population, and they are also the most likely to rent privately. Against this backdrop, the propensity to rent privately can increase while the sector nevertheless decreases as a proportion of the tenure split.

The picture of demand for social housing, however, varies somewhat between regions. Social rented housing’s share of the tenure split is projected to grow in London and the South East (by 2 and 1 percentage points respectively) while it falls by as much as 3 percentage points in the North East, and 2 percentage points in Yorkshire and Humber and the North West.

**Figure 11**  
The Good: Housing demand by tenure and region

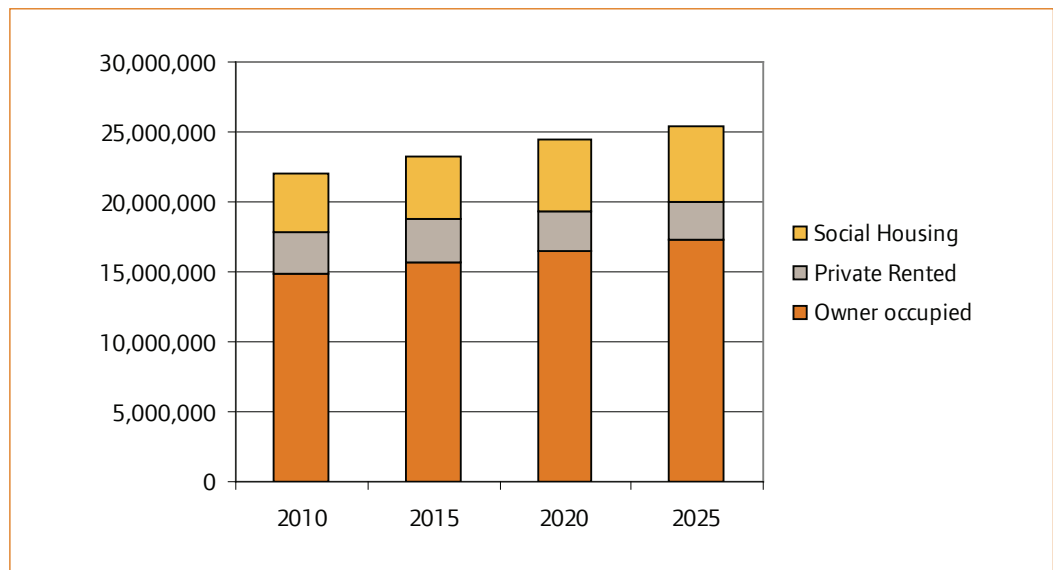


However, the relatively strong economy implied by this scenario may boost confidence among households, resulting in even greater demand for home ownership, further increasing unaffordability. This would be further exacerbated if supply does not keep pace with demand: if this were to happen, we would expect unaffordability to push first-time buyers out of the market, resulting in increased private renting and hidden demand. The same effect is likely should recent credit constraints continue to be exerted on house-buyers, particularly first-time buyers.

**‘The Bad’**

The bad economic scenario projects a lower level of overall demand compared to the good scenario, as it is assumed that a flat-lining economy will result in lower immigration rates. This scenario also projects quite different tenure preferences. By 2025, owner occupation is projected to account for 68 per cent of housing demand (from 67 per cent in 2010), while private renting falls from 13 to 11 percent, albeit with initial growth in this tenure choice that tails off after 2015. Social renting meanwhile is projected to increase from 18 to 21 per cent of housing demand.

**Figure 12**  
The Bad: Housing demand by tenure in England



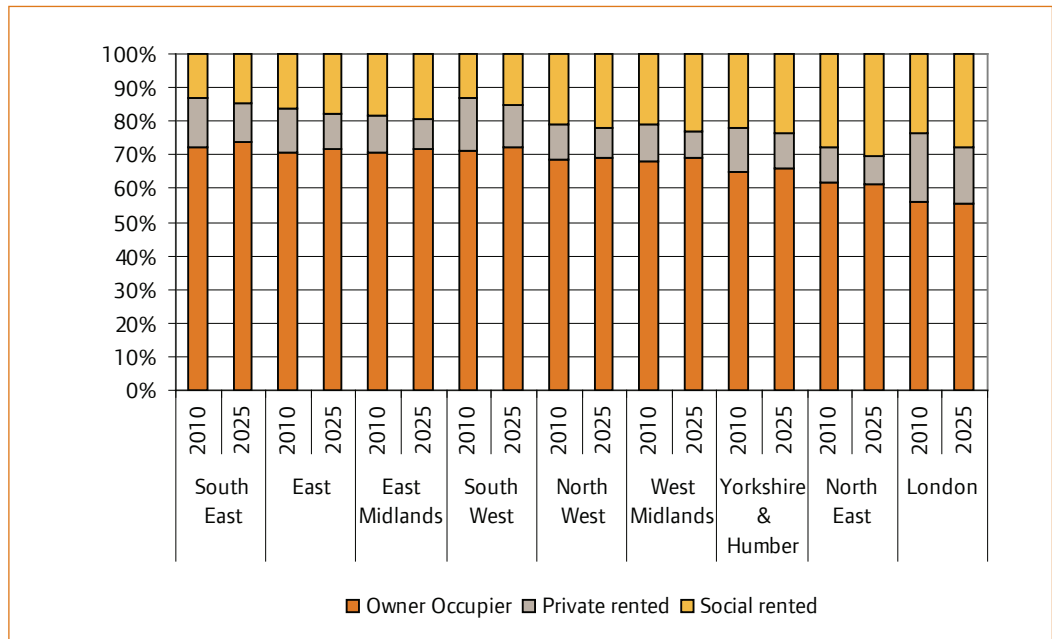
This relatively flat picture of demand for owner occupation is replicated across the regions. However, more variety is evident in the patterns of demand for private and socially rented housing. Demand for private renting drops off most markedly in London, where the private renting share of the tenure split is projected to fall by 4 percentage points. This is closely followed by the East, South East, South West and West Midlands, where a fall of 3 percentage points is projected.

Correspondingly, the greatest increase in the social rented share of the tenure split is projected to occur in London, where it will grow by 4 percentage points. This is followed by the North East, where social renting is projected to increase by 3 percentage points. These figures point to a high level of demand for social rented housing, which could be considered the ‘true’ underlying demand for social sector housing in negative economic conditions. However, demand is also influenced by supply. Given the rationed nature of social housing, the large numbers of households already on housing waiting lists and the rate of supply in recent years, supply is unlikely to meet demand under this scenario.

In practice, it is likely that some of this increased demand for social renting is diverted into more demand for the private rented sector, more hidden demand and possibly more homelessness as well.

The role that confidence might play in this economic scenario is difficult to predict. On the one hand, the increasing affordability of owner occupation may increase rates of owner occupation. On the other hand, prolonged high unemployment will not only push home ownership out of reach for some households, it could also serve to undermine confidence, making borrowing difficult.

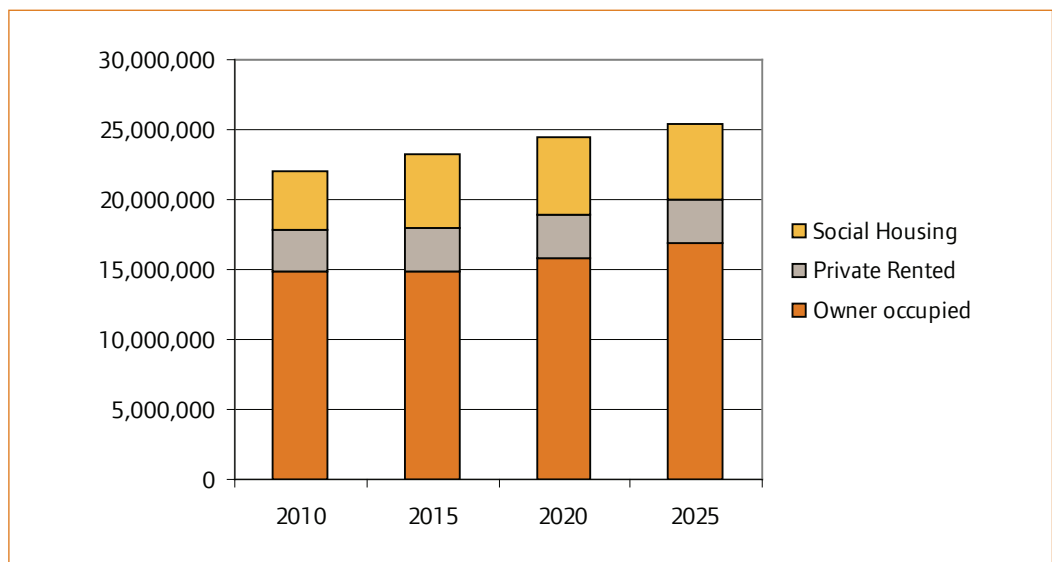
**Figure 13**  
The Bad: Housing demand by tenure and region



**'The Ugly'**

Our final economic scenario – the ugly – is projected to have a negative impact on demand for housing in the market sector (owner occupied and private rented), creating pressure on social housing. Overall demand will also be lower, compared to the good scenario, as it is assumed immigration rates will be lower as a result of the weak economy. Across England, the owner occupation share of the tenure split is projected to contract by 1 percentage point under this scenario, while private renting contracts by 2 percentage points and the social rented sector share of the tenure split grows.

**Figure 14**  
The Ugly: Housing demand by tenure in England

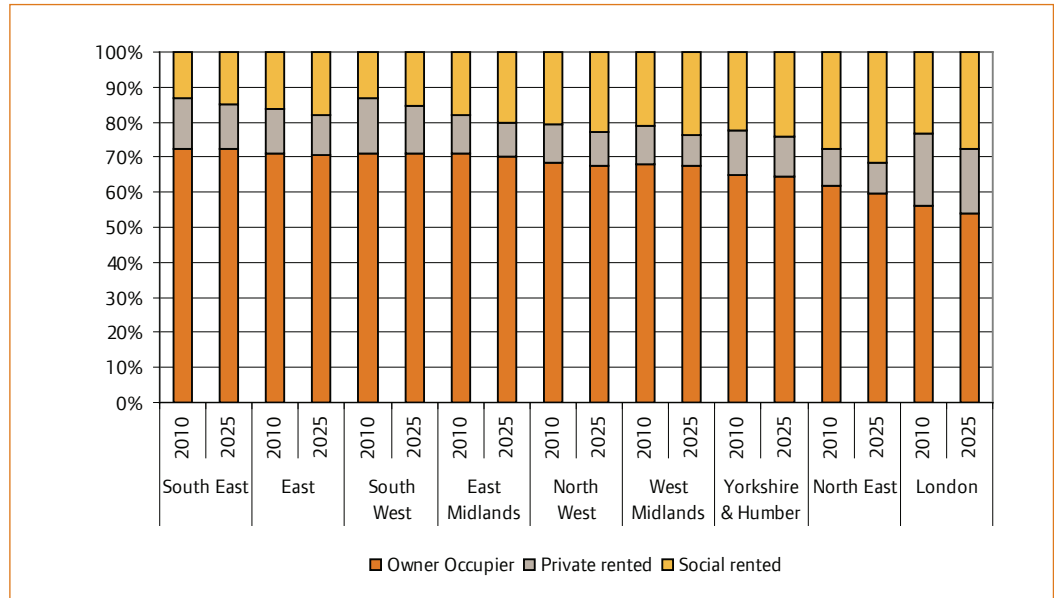


Some regional variations in demand by tenure are projected under this scenario. The owner occupier share of the tenure split is projected to fall in London and the North East (both by 2 percentage points), while no change is projected in the East, South East, South West, and Yorkshire and Humber. It is not projected to grow in any of the regions.

A fairly uniform contraction of the private rented market is projected across all regions, with the sector shrinking by 1 to 2 percentage points. The result is increased demand in the social rented sector, with the share of the tenure split projected to grow by between 2 and 4 percentage points. The largest growth is projected to be in London, the North East (both 4 percentage points) and the West Midlands (3 percentage points).

Again, while this might be considered the ‘true’ demand for social housing under an ugly economic scenario, it is extremely unlikely that this demand will be met in practice. The large number of households already on housing waiting lists, rationing, and the low rate of supply in recent years means supply is extremely unlikely to meet demand. In practice, it is likely that some of this increased demand for social renting is diverted into more demand for the private rented sector, more hidden demand and more homelessness.

**Figure 15**  
The Ugly: Housing demand by tenure and region



In the ugly scenario, confidence in the economy is very likely to be low, which may serve to further depress demand for owner occupation, resulting in falling house prices.

### 5. Conclusions

It is projected that by 2025 there will be between 3.3 million and 4.5 million additional households in England. This equates to between 206,000 and 282,000 additional households on average per year throughout the intervening period.

However, this demand is not evenly spread across the English regions, with demand projected to grow fastest in the East of England and slowest in the North West, North East and West Midlands. In terms of the volume of demand, it is the South East, London and the East of England that are projected to experience the greatest additional demand, while the North East and West Midlands are projected to experience the least. Some of this variation is due to the differing population sizes of the regions but, taking these two findings together, the East of England emerges as the region facing the greatest pressure of demand, while housing demand is projected to rise more slowly in the North East, North West and West Midlands.

If these projections prove accurate, this pattern of demand is likely to reinforce existing regional inequalities in England, and put further pressure on the infrastructure of the Greater South East. In this context, the government’s stated ambition to rebalance the economy so it is less reliant on the Greater South East is the right one.

The projected increases in demand raise serious questions about whether supply can keep up. Of course, matching supply and demand is not a simple task of matching the number of additional households formed to the number of new dwellings built, as account needs to be taken of factors like the size and location of housing required, and the aging and obsolescence of existing stock. Nonetheless, looking back over the rate of net additions to the dwelling stock over the past two decades makes the scale of the housing challenge facing England apparent. If additions continue at their past rate, demand will outstrip supply by 750,000 by 2025, equivalent to the current housing demand of the populations of Birmingham, Liverpool and Newcastle combined.

But thinking about supply and demand at a national level only risks underestimating the problem. The aggregate figure – the 750,000-dwelling shortfall – does not account for where geographically

demand and supply are located. Our analysis demonstrates that balancing supply and demand is likely to be a particularly acute problem in London, the South East, East of England, South West and Yorkshire and Humber. In these regions, demand is projected to be substantially higher than net additions to the housing stock in recent years.

The gap between supply and demand is likely to result in increasing problems with affordability, especially in areas where the gap is particularly pronounced. Even under the good economic scenario, it seems likely that a lack of sufficient supply will mean the housing market continues to contribute to macro-economic instability, as it has done in the past.

A key question for future housing policy is how later population cohorts might change their behaviour in response to this gap between supply and demand.

What is clear from this analysis is that how the economy performs over the next 15 years will have real implications for how housing demand is translated into demand by tenure. Under each economic scenario, housing demand is projected to grow, although the implications for the tenure split vary. Under a good economic scenario, owner occupation is projected to remain the tenure of choice, with rates of owner occupation continuing to grow. Conversely, demand for owner occupation falls as unemployment rises or remains high under other, less positive economic scenarios.

Undoubtedly, the greatest policy challenge presented by this analysis is the implication, regardless of the economic scenario, for demand for social housing. Social housing is already under enormous pressure: in 2010, between 6 and 12 per cent of households in England were on a housing waiting list. Under the bad and ugly economic scenarios in particular, demand for social housing will significantly outstrip supply, which has been too low for years.

The government's decision to halve the capital budget for housing will further squeeze supply, and its stated ambition to supply up to 150,000 new affordable homes over the next four years will not bridge the gap identified here, especially as not all of these new dwellings will be in the social rented sector.

Even under the good economic scenario, demand for social housing in England is projected to increase by around 440,000 households by 2025; under the bad and ugly scenarios these figures are projected to be around 1.4 million and 1.5 million respectively by 2025. These projections pile further pressure on an already overstretched sector. In practice, the result of this high demand for the social rented sector is likely to be increased demand for the private rented sector, hidden demand and greater homelessness.

There has always been a need for housing policy to be based on a sound understanding of the volume of future housing demand, and which parts of the country will be under most pressure. But to be effective, a new housing policy not only needs to understand how demand is likely to respond under different economic circumstances, but also how we are likely to adapt our behaviour and choices in response to different housing pressures. These are issues that ippr's wider fundamental review of housing policy will address.

## References

- Andrew M (2006) 'Housing Tenure Choices by the Young' *Housing Finance* 7: 1–13
- Belsky E (2010) 'Demographics, Markets and the Future of Housing Demand' *Journal of Housing Research* 18(2): 99–109
- Bramley G, Pawson H, White M, Watkins D and Pleace N (2010) *Estimating Housing Need* London: Department for Communities and Local Government
- Chartered Institute for Housing [CIH] (2009) 'Young people move away from home ownership', press release, 14 June 2009, London: CIH
- Communities and Local Government [CLG] (2010) *Updating the Department for Communities and Local Government's Household projections to a 2008 base: Methodology* London: CLG
- Experian (2008) *Options for the Future of the Household Projection Model: Final Report* London: CLG
- Meen G, Andrew M, Ball M, Goody J, Kasparova D, Pryce G, Whitehead C and Wood G (2008) *Recent Developments in the Communities and Local Government Affordability Model* London: CLG
- Office for National Statistics [ONS] (2009a) *Social Trends 39* Basingstoke: Palgrave Macmillan
- Office for National Statistics [ONS] (2009b) '2008-Based National Population Projections'. [http://www.statistics.gov.uk/downloads/theme\\_population/NPP2008/NatPopProj2008.pdf](http://www.statistics.gov.uk/downloads/theme_population/NPP2008/NatPopProj2008.pdf)
- Office for National Statistics [ONS] (2010) *Social Trends 40* Basingstoke: Palgrave Macmillan
- Stephens M, Ford J, Spencer P, Wallace A, Wilcox S and Williams P (2008) *Housing Market Recessions and Sustainable Home-Ownership* York: Joseph Rowntree Foundation
- Wallace A (2010) *Public Attitudes to Housing* York: Joseph Rowntree Foundation
- Whitehead C, Monk S, Clarke A, Holmans A and Makkanen S (2009) *Measuring Housing Affordability: A review of data sources* Cambridge: Centre for Planning and Housing Research
- Wong C, Gibb K, McGreal S, Hincks S, Kingston R, Leishman C, Brown L and Blair N (2009) *Housing and Neighbourhoods Monitor* York: Joseph Rowntree Foundation

## Appendix 1: Implications of the different economic scenarios for additional volume demand by tenure and by region

In the main report, we consider how different economic scenarios affect the ‘tenure split’ – the proportion of households demanding different tenure types. This appendix provides details of the volume of housing demand projected for each tenure type under the different economic scenarios.

In each case we provide:

- the additional number of households projected for that tenure by 2025
- the implications of this demand in terms of additional households per annum up to 2025
- the projected percentage increase in demand between 2009 and 2025.

### Good economic scenario

	Additional demand by 2025	Average additional demand per annum 2009–25	Increase in demand, 2009–25
<b>Owner Occupier</b>			
East	479,439	29,965	28%
East Midlands	351,164	21,948	26%
London	481,609	30,101	26%
North East	134,808	8,425	20%
North West	394,098	24,631	20%
South East	619,324	38,708	24%
South West	412,257	25,766	26%
West Midlands	339,388	21,212	22%
Yorkshire & Humber	399,411	24,963	28%
<b>Private Rented</b>			
East	-3,728	-233	-1%
East Midlands	91	6	0%
London	43,607	2,725	6%
North East	-6,086	-380	-5%
North West	-21,855	-1,366	-7%
South East	-11,459	-716	-2%
South West	1,935	121	1%
West Midlands	-27,459	-1,716	-11%
Yorkshire & Humber	4,343	271	2%
<b>Social Rented</b>			
East	71,571	4,473	18%
East Midlands	33,192	2,074	10%
London	120,065	7,504	16%
North East	12,865	804	4%
North West	5,956	372	1%
South East	81,718	5,107	18%
South West	57,349	3,584	19%
West Midlands	21,796	1,362	5%
Yorkshire & Humber	36,874	2,305	8%

**Bad economic scenario**

	Additional demand by 2025	Average additional demand per annum 2009–25	Increase in demand, 2009–25
<b>Owner Occupier</b>			
East	352,127	22,008	20%
East Midlands	244,650	15,291	18%
London	256,084	16,005	14%
North East	48,916	3,057	7%
North West	190,297	11,894	9%
South East	449,046	28,065	17%
South West	299,973	18,748	18%
West Midlands	183,906	11,494	12%
Yorkshire & Humber	232,772	14,548	16%
<b>Private Rented</b>			
East	-8,661	-541	-3%
East Midlands	-10,633	-665	-5%
London	-13,443	-840	-2%
North East	-11,527	-720	-10%
North West	-25,772	-1,611	-8%
South East	-1,112	-70	0%
South West	11,784	737	4%
West Midlands	-33,202	-2,075	-14%
Yorkshire & Humber	-5,655	-353	-2%
<b>Social Rented</b>			
East	144,520	9,033	39%
East Midlands	111,425	6,964	35%
London	330,095	20,631	45%
North East	78,359	4,897	27%
North West	150,956	9,435	27%
South East	166,804	10,425	38%
South West	114,703	7,169	40%
West Midlands	139,206	8,700	31%
Yorkshire & Humber	152,694	9,543	34%

### Ugly economic scenario

	Additional demand by 2025	Average additional demand per annum 2009–25	Increase in demand, 2009–25
<b>Owner Occupier</b>			
East	338,332	21,146	20%
East Midlands	229,982	14,374	17%
London	204,796	12,800	11%
North East	29,725	1,858	4%
North West	153,387	9,587	7%
South East	430,192	26,887	17%
South West	288,418	18,026	18%
West Midlands	156,076	9,755	10%
Yorkshire & Humber	207,573	12,973	14%
<b>Private Rented</b>			
East	18,894	1,181	6%
East Midlands	4,159	260	2%
London	66,640	4,165	10%
North East	-2,482	-155	-2%
North West	-6,009	-376	-2%
South East	42,424	2,652	9%
South West	39,223	2,451	12%
West Midlands	-11,619	-726	-5%
Yorkshire & Humber	12,718	795	5%
<b>Social Rented</b>			
East	157,107	9,819	42%
East Midlands	130,544	8,159	41%
London	330,563	20,660	45%
North East	93,339	5,834	32%
North West	183,434	11,465	32%
South East	176,792	11,049	40%
South West	123,413	7,713	43%
West Midlands	161,647	10,103	36%
Yorkshire & Humber	178,817	11,176	39%

## Appendix 2: Methodology

This annex provides technical detail on the construction of the ippr model.

### Stage 1: Projecting the headship rates

The headship rate is the proportion of each age group that is a head of household. Using census data of population and heads of households, headship rates for 1991 and 2001 were calculated for each age group. These were then projected forward using a two-point exponential model:<sup>6</sup>

$$y_i = a + b^{x_i}$$

Where:

$i$  = the year, from 2009 to 2033

$y_i$  = headship rate in year  $i$

$k = 1$  if  $y_{2001} \geq y_{1991}$ ,  $0$  if  $y_{2001} < y_{1991}$

$a = y_{1991} - k$

$b = (y_{2001} - k) / (y_{1991} - k)$

$x_i = (i - 1991) / (2001 - 1991)$

The projected headship rates are then adjusted for recent changes in headship rates amongst young adults using estimates from the Labour Force Survey (CLG 2010). These headship rates are then applied to the ONS age group population projections (ONS 2009b) to give the number of head of households for each age group and the implied number of households for England.

Demographic scenarios are generated by applying the projected headship rates to different ONS population projection variants (such as for high migration and low migration – see ONS 2009b).

For regional projections, exactly the same procedure is conducted, but with the overall total constrained to equal the England projection. However, the ONS only produces its principal population projection at the regional level, so the high and low migration scenarios have been produced on the basis of distributing migrants in each age group by the proportion of migration experienced by each region in 2009.

### Stage 2: Forecasting tenure splits

The simplest method for estimating the tenure split is to simply apply the most recent age-based tenure propensities to the projected age profile of the population, for the different demographic scenarios. A more sophisticated approach is to combine this with a statistical model based on recent observed data on the economy and housing. This is what the ippr model seeks to do.

The model estimated for the proportion of each tenure within each region took the following fixed effects form:

$$y_{rt(\text{tenure})} = \alpha + \beta(\text{Region})_r + \gamma(\text{Unemployment})_{rt} + \delta(\text{Affordability})_{rt} + \theta(\text{Unemployment} \times \text{Affordability})_{rt} + \varphi(18-34)_{rt}$$

Where:

$r$  = region

$t$  = year (1997–2008)

*tenure* (owner-occupied; social rented; private rented)

$\alpha, \beta, \gamma, \delta, \theta, \varphi$  are coefficients

*Region* is a dummy variable for each region

*Unemployment* is the regional unemployment rate

*Affordability* is the product of the median house price-to-median income ratio and the lower quartile house price-to-lower quartile income ratio

*18–34* is the percentage of the population within the region who are aged 18–34.

<sup>6</sup> This method is broadly similar to that employed by the Scottish and Welsh governments, as outlined in ‘Technical Report – Household Projections across the United Kingdom – 26/01/2011’, published by the Welsh Assembly Government.

The table below shows the results of the model. The dependent variable is the proportion in each tenure.

	Owner Occupied	Social Rented	Private Rented
Intercept	95.91 **	10.38 **	10.75 **
<i>Regional fixed effects</i> (Reference group: South West)			
North East	-6.41 **	10.20 **	-4.28 **
North West	-0.15	3.96 **	-3.44 **
York. & Hum.	-2.48 **	5.32 **	-1.92 **
East Mid.	1.18 **	2.59 **	-3.14 **
West Mid.	0.15	5.05 **	-4.64 **
East	0.62 **	2.57 **	-2.38 **
London	-5.77 **	11.18 **	1.21 **
South East	2.28 **	0.07	-1.09 **
<i>Economy, housing and demographics</i>			
U	-0.92 **	1.11 **	0.04
AFF	-0.05 **	0.05 **	-0.04 **
U*AFF	-	-0.02 **	0.02 **
18-34	-67.10 **	-	-
	N = 108	N = 108	N = 108

\*\* = significant at 95% level

The model estimates concur with how the housing market intuitively operates:

- Owner occupation falls when unemployment rises and when houses become less affordable. The 18-34 age group is the least likely to own homes so, as expected, an increase in this age group will tend to depress the owner occupation proportion.
- Private rental is strongly related to affordability, with private rentals increasing as houses become more and more unaffordable.
- Social rental increases with unemployment.