

Rapid evidence
review of the
research literature
on the impact
of worsening
affordability

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Contents

	Page
1 A framework for the review	7
2 What effect does worsening market housing affordability have on the demand for housing in the private rental sector?	12
3 What effect does worsening market housing affordability have on the demand for social housing?	17
4 How does worsening housing affordability affect household formation, and what are the effects of these changes on the distribution between tenures?	22
5 Are there any regional variations in the effect of worsening housing market affordability on the demand for social housing?	25
6 What are the effects of construction rates on the supply of affordable housing through S106 agreements?	28
7 What are the costs of providing social housing?	32
8 Synthesis: answering the questions in relation to the framework	37
9 References	40

Chapter 1

A framework for the review

Introduction: the process

The National Housing and Planning Advice Unit (NHPAU) Board commissioned the Cambridge Centre for Housing and Planning Research to undertake a rapid evidence assessment of the effects of worsening market housing affordability on the demand for affordable housing, with particular emphasis on social housing as part of its research programme.

The purpose of the literature review was to assess what is already known on the topic and identify gaps in that knowledge. The outcome was twofold; the review creates a more informed debate concerning the total costs and benefits of house building, while at the same time providing a fuller understanding of the social and economic costs of restricting house building.

One hypothesis is that worsening market housing affordability is pushing people out of the private home ownership sector and into the private rented sector and social housing, thereby worsening the position of those lower down the system. The NHPAU has an open mind on this issue and wants to take an independent view of the evidence.

Following a stakeholder consultation the following research questions were identified for the literature review:

1. What effect does worsening market housing affordability have on the demand for social housing?
2. What are the effects on the demand for housing in the private rental sector?
3. How does worsening market housing affordability affect household formation, and what are the effects of these changes on the distribution between tenures?
4. What are the effects of construction rates on the supply of affordable housing through section 106 agreements?
5. What are the costs of providing social housing?
6. Are there any regional variations in the effects of worsening market housing affordability on the demand for social housing?
7. Are there any gaps in the evidence base in relation to the above questions, and how could these be addressed?

Question 7 has been addressed within questions 1 to 6 as it relates to them all.

Method

The evidence is systematically reviewed by following the method of 'Rapid Evidence Assessment' (REA). The REA approach is defined by Chapter 2 of the Government Social Research Magenta Book as an accelerated application of the systematic review process based on "readily available" evidence identified by keyword searching of electronic databases and websites. It does not seek to include systematic hand searching of journals and textbooks, or searches of the grey literature, although relevant items identified by web searches or from experience can be included. The method therefore differs from that of a full systematic literature review but can produce finding in a much shorter timeframe. It has been used in a wide variety of policy contexts¹.

Framework for addressing questions about the demand for social housing

We start by setting out some over-arching issues associated with the process by which market housing affordability impacts on consumer behaviour.

i) Definition of affordability:

Affordability is a complex concept which needs to be unpacked. Different elements have different impacts on the choices available to consumers and suppliers. If it is defined in terms of a ratio between house prices and household incomes, housing becomes less affordable when prices rise faster than incomes, which is what has been happening in recent years. But there remains an issue of what is affordable to someone wishing to buy: and this is usually defined in terms of the income multipliers used by lenders when households are purchasing a home.

Bramley and Karley (2005), among others, suggest that a second criterion of affordability should be used in addition to an income multiplier, the residual income – the income remaining after taking account of all housing costs. This demonstrates that some households can afford to borrow at higher income multipliers than the standard, because their residual incomes are still sufficient as compared with the Income Support level. In other words, the standard price to income ratio approach implies an over-estimate of the number of households unable to afford to buy.

Affordability is defined in Planning Policy Statement No. 3: Housing (PPS3) as the ratio of lower quartile house prices to lower quartile earnings. The impact of changes in this ratio will depend upon which element of affordability is worsening, prices or earnings – and thus whether the effect is concentrated on the relative price effect; on a constraint, notably the credit constraint; on incomes; or on risks and attitudes to risk. For example, if house price changes are the cause of worsening affordability we would expect to observe two distinct effects: the relative price effect and the impact on expectations of further house price changes (as in the Bramley local model which measures affordability across local authority areas). We would also wish to assess whether other evidence suggests that the areas with poor affordability have tended to be those where entry into owner-occupation has been higher.

¹ For example, REAs have been conducted on road (see: <http://www.transport.uwe.ac.uk/research/briefings/BS021-distributional%20impacts.pdf>) and on interventions that promote employment for offenders (see: <http://www.dfes.gov.uk/research/data/uploadfiles/RR747.pdf>).

If, on the other hand, the interest rate changes, this impacts directly on the capacity to obtain an adequate mortgage and this, if anything, is likely to have a negative effect on expectations. If the impact on affordability comes from a change in unemployment then a small number of people suffer additional affordability problems but many more may change their perception of affordability and therefore whether they will take the risk of entering owner-occupation.

Most importantly, these examples suggest that the impact of changes in affordability will not be reflected simply in the relative price effect on other tenures. Thus it may be necessary to look additionally at other related factors such as household formation.

ii) Definitions of market housing: market housing includes owner-occupation and private renting. Only in long-term static equilibrium with certainty, full adjustment and no credit constraints would we expect the impact of a change in affordability to be neutral between the two market tenures. There are a number of reasons why we would expect differential behaviour in the choice between owner-occupation and private renting: the impact of the expectations of house prices increases; differential effects of interest rates; and disequilibrium in the relationship between prices and rents – e.g. if demand for housing comes partly from investors and therefore the supply of private rented accommodation increases at the same time as demand. This produces a secondary impact on rents, perhaps generating a further relative price effect. This is one explanation for the current massive imbalance – by which affordability in the private rented sector appears to have improved, relatively if not absolutely, at the same time as it has worsened in the owner-occupied sector.

iii) Differential impacts between households. To the extent that there is an ‘hierarchical’ choice, it is necessary to examine who is at the margin of being excluded from owner-occupation, in particular how the different factors affect different types of households. At the limit only a small proportion of households that are unable to enter owner-occupation will be eligible for social housing, but how many are affected is likely to vary depending on the source of the affordability problem.

An important aspect of differential impacts relates to the differential availability of supply (e.g. small units in the social sector) and the impact of other constraints such as the availability of funding for intermediate housing.

iv) Four methods of analysis. There are fundamentally four types of data analysis that can be used to analyse affordability:

1. full econometric modelling
2. partial modelling using data to look at particular relationships
3. descriptive analyses of particular relationships
4. basic data (e.g. trends in homelessness figures)

In principle, only full econometric modelling can separate out the impact of worsening affordability relative to other factors. Partial modelling and descriptive analyses cannot do this, but can indicate the relative scale of different relationships. The basic data provide indications of possible impacts without analysing causes.

v) Policy and structural change. One issue is that the housing system has been subject to large scale policy and structural changes in recent years, both in terms of the macro-economy, housing and finance markets and demographic pressures as well as from policy changes including PPS3 and the Housing Green Paper. As a result it is not possible to identify the impacts from particular factors with any certainty. But we can give indications of the key relationships and identify what level of analysis and what types of data have been used to assess these relationships.

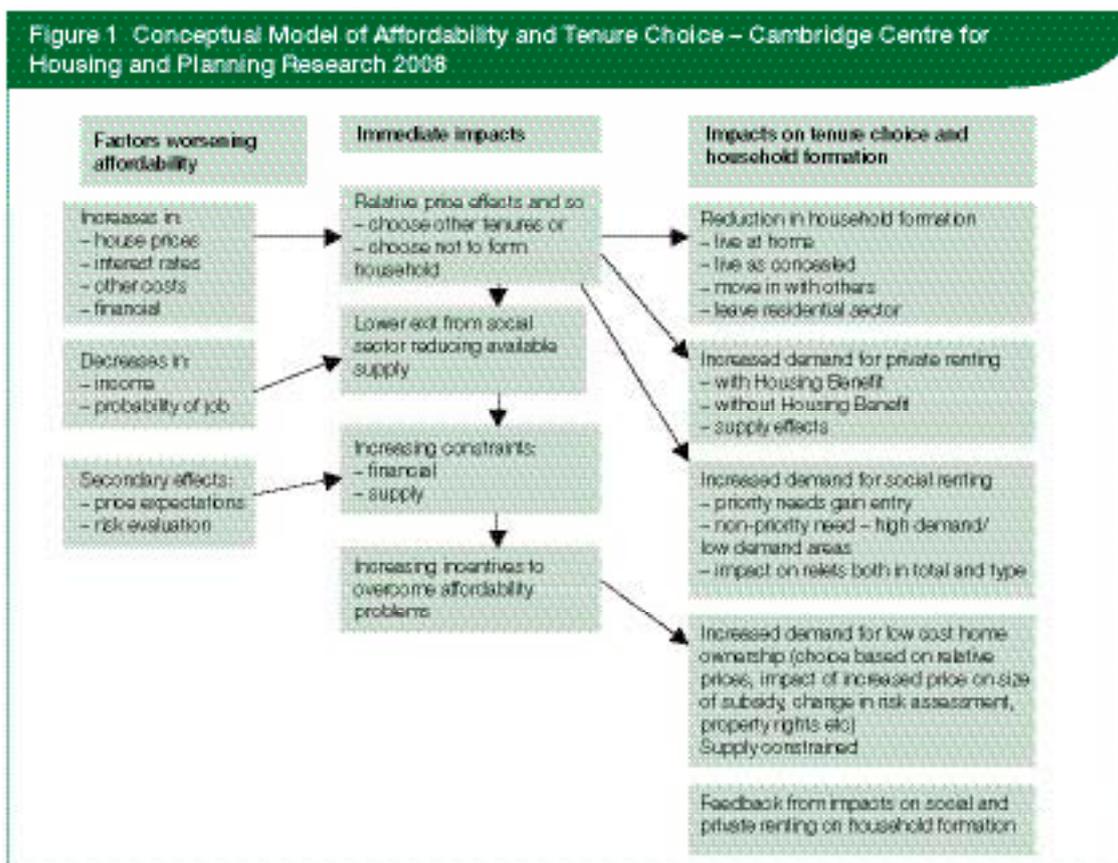
vi) Marginal versus average changes. The relationships under discussion relate to marginal changes resulting in direct and indirect pressures on the variables under analysis. For example, when looking at the impact of worsening affordability on the demand for social housing, there would be some people unable to enter owner-occupation but this would not usually directly affect the demand for social housing except in low demand areas, because in high demand areas social housing is allocated to those in priority need. But it would worsen the capacity for marginal households in the social sector to move out and therefore to enable others to move in. The relationship between the different tenures is complex and is outlined in the introductory sections to each chapter.

vii) Short-run versus long-run relationships. The vast majority of literature looks at data which reflect short-run relationships between changes in affordability and tenure choice and household formation, in particular, over the economic and sometimes the affordability cycle (these are not the same). Only the DAE and Reading models concentrate on long-run equilibrium relationships. The household projection approaches such as that of Holmans, based on past trends – including both demographic and economic – examines longer term (but not long-run equilibrium) relationships. One important issue here relates to the conditions under which people postpone or speed up entry into home ownership or people are excluded from owning by short term constraints.

viii) Distributional aspects. The vast majority of analyses are based on average changes in affordability and average or, at best, group outcomes in terms of their impact on demand in other tenures or to form a household. The more model-based the analysis, the more 'average' the relationships because of data constraints.

ix) The growing importance of intermediate housing. This provides a highly constrained limited subsidy concentrated mainly on particular narrowly defined groups of households and in particular areas determined by government policy. The terms and conditions are almost certain to imply excess demand – and it is particularly difficult to measure changes in queues and other measures of that excess.

Thus a simple model might look as follows:



It is important to note in interpreting this diagram that while in principle there is no hierarchy of tenures on average – e.g. there are some types of household for whom private or social renting is more desirable than owner-occupation – the analysis inherently concentrates on the margin where changes in affordability tend to impose such a hierarchy. In part this is because private renting is currently cheaper than entering owner-occupation with a mortgage – so increasing affordability problems will normally shift demand from owner-occupation to private renting. Equally in the context of both social housing and intermediate tenures immediate costs are lower – however in both these contexts the shift in demand at the margin may simply increase the extent of excess demand or measures of stress in the system as a whole.

In each section of this report we look first at ‘first principles’ based on this framework. We then summarise the findings in relation to key relationships in an attempt to answer the questions as far as possible. Finally we look at gaps in both data and analysis. The final chapter synthesises the key findings in relation to the framework above.

Chapter 2

What effect does worsening market housing affordability have on the demand for housing in the private rental sector?

Summary

The evidence on the impact of worsening affordability on the demand for private renting shows:

- in modelling terms, the basic market elasticities with respect to incomes and house prices are relatively well evidenced; however, issues associated with how affordability relates to these basic variables are less well understood; as are how constraints in the other tenures impact on the capacity for people to transfer between them;
- there is little evidence on cross elasticities of demand between owner-occupation and private renting because of the constrained nature of the private rented sector until very recently;
- private rents rise with owner-occupation costs but not as quickly, so that at the margin some transfer from owning to private renting can be expected;
- first time buyers are excluded from the market by rising prices and worsening affordability – so they must choose between private renting or not forming a household. In this case demand for private renting will rise but we do not know by how much;
- the impact of financial constraints on access – e.g. in terms of down payment – may be as important as relative prices, but there is no general consensus about the precise impact;
- so far this ‘pricing out’ of first time buyers appears to be a matter of timing – i.e. people remaining longer in the private rented sector – and there is no evidence to support long term changes in expectations of home ownership;
- supply of private rented housing appears to be relatively elastic, in part because of structural changes in finance and asset markets;
- it is not possible to measure demand directly – only outcomes in terms of total number of households and dwellings in the sector – and these are affected by many other important factors.

From First Principles

Other things being equal, worsening affordability results in an increase in the number of households who cannot enter owner occupation. While this only affects marginal households, it could have several knock-on effects:

1. Increase in demand for private renting
2. Increase in demand and need for social renting – and for intermediate tenures
3. Reduction in new household formation (people leave home at later age) – or possibly exiting more rapidly (e.g. moving to live within another household)

This first question looks at the relationship between owner occupation and private renting to explore whether a worsening of the affordability of owning will increase the demand for renting.

In a 'perfect' world the price of housing at the margin exactly mirrors the discounted cash flow of rents but is not a straight ratio (Meen, forthcoming). That is, at the margin in a Pareto optimum equilibrium, costs will be the same and people will be indifferent between renting and buying. But we are not in a perfect world, so while there may be an underlying tendency in the long run for rents to rise in line with prices, we never reach that equilibrium position. Thus as worsening market affordability includes rents as well as house prices, this question is in part about the responsiveness of demand for private renting to changes in rents as well as to changes in house prices – and at the limit the two would respond together.

However there are many reasons why the relationship is more complex – credit constraints, attitudes to risk, and types of contracts and available dwellings among them (Meen, 2007). We would therefore expect the relationship to be positive but not one-for-one, leading to relative changes between prices and rents. Worsening affordability of market owner-occupied housing can therefore be expected to lead to an increase in the demand for private renting – offset in part by rising rents. An additional complication is that most of the discussion is in numbers and not value terms – so if a household does not move to private renting it may simply not form (see section 4 below). Given the relationship between rents and prices, another effect of worsening affordability might be increases in the numbers of Houses in Multiple Occupation (HMOs), of sharing and of overcrowding in the private rented sector. Thus, as with the demand for social housing, evidence of stress may provide a relevant indicator.

The question of the impact of worsening affordability in owner-occupation is particularly difficult to answer because the only measures of demand available are the size of the private rented sector and rent levels. The increased size of the private rented sector is an outcome, not a direct measure of demand; while rents reflect both the shift in demand and the movement along the supply curve and therefore the cost of renting.

Linked to this is the issue of the Buy-to-Let market which can be expected to expand with expectations of rental increases, modifying the supply and therefore rents and availability. The result is that when house prices rise, the demand from first time buyers will be choked off, but the demand to own housing stock as an alternative to stocks and shares will rise, thus offsetting the potential downward pressure on house prices and possibly fuelling further price rises.

Over the last few years the supply of new private rented housing has been expanding so rapidly that it is almost impossible to explain what is going on. There have been clear structural changes arising from reduced regulation, easier and cheaper credit and greater uncertainty in other asset and savings markets. Equally, demand has changed because of greater availability of a wider range of dwellings and easier access as well as large increases in the types of households who would generally look to the private rented sector. These changes are at least as important as affordability but cannot be separated out given the quality of data available.

The key relationships

1. Econometric modelling approaches

Tenure choice models have been developed more effectively in market economies such as the USA and Australia where there are effectively only two tenures, owning and (private) renting (see for example Wood et al, 2006) . In England the approach has traditionally been either to treat renting and owner-occupation together as the market sector or to assume a hierarchy in which people choose owner-occupation unless they are unable to access it. As a result much of the literature on England concentrates on the position of first time buyers and new household formation.

The relationship between house prices and rents has been explored in a life-cycle model (Meen, forthcoming) whereby in theory, house prices are the discounted present value of market rents. But in many countries house prices have risen faster than rents in recent years. The constancy of the theoretical relationship depends on the constancy of the discount rate, i.e. the ratio of rents to house prices depends on the user cost of capital. Meen argues that the discount rate is affected by expectations of house prices rather than general prices; credit market constraints, so that nominal as well as real interest rates affect behaviour because of front-end loading; and changes in tax provisions relating to housing as an investment. In addition transactions costs such as stamp duty affect the discount rate. It is difficult to know the overall effect of changes in these variables, but the relaxation of credit market constraints is likely to have been one of the most important long run changes. Liberalisation reduced the discount rate and raised house prices relative to rents.

2. Partial and descriptive analyses

There is very little literature on private renting, partly because it is such a small tenure and partly because of the lack of data. In terms of new build and Buy-to-Let, it is not possible to determine whether a newly built flat will end up in owner occupation or private renting or indeed a mixture of both (e.g. a buyer lets one room to a tenant to help pay the mortgage costs).

There is some analysis on movement into and out of the private rented sector which is often regarded as a largely transitional tenure (Kemp and Keoghan, 2001). It is seen by the authors as the lowest rung of a hierarchical tenure ladder which is climbed by households over time on the way to a final destination of either owner occupation or social housing.

3. Basic data

The data support the relationship between house prices and rents but it is not one to one. Latest data from Hometrack and from the Rent Officer Service shows rents rising but very much more slowly than prices since 2000. This is consistent with both a time lag between rising house prices and rising rents and with an increase in supply. In both cases we would predict that worsening housing affordability would lead to an increase in demand for rented accommodation.

New research reveals that 24% of young working households are priced out of the owner-occupied market – up to 50% priced out, on third party measures, in the worst affected areas. This research also highlights how renting privately is now cheaper than buying (Wilcox 2007).

The size of the private rented sector fell until the late 1980s and early 1990s and has risen since then but remains only around 12% of the total stock (HSSA data, CLG).

Data Gaps

It is difficult to establish true supply and demand in the private rented sector. The census is the major source of information and is thought to have underestimated the size of the sector at least in some areas. Since 2001, there have been large scale changes evidenced, poorly, through surveys such as the Survey of English Housing (SEH). Given that dwellings can move readily between the two market sectors, accurate data are unlikely ever to be available. The absence of accurate information about year to year changes in private renting will continue to be a gap in our knowledge.

We do not have information about the size of the stock, rents, applications or time to letting. It is difficult to see how this gap could be filled accurately without changes to the wider regulatory framework. Whilst the Housing (Tenancy Deposit Schemes) Order 2007 introduced in April 2007 regulates deposits, we still do not have detailed information about this sector. Scotland has introduced a regulatory framework. Since 30 April 2006, all private landlords letting properties in Scotland must have applied for registration in the National Register of Landlords. This may enable better data to be collected on the Scottish private rented sector.

In England there are now requirements to register in lower demand areas where local authorities are using these powers. There is also registration for HMOs. However these data are not yet available. Even when they are, they will inherently concentrate on the lower end of the market and be very partial in coverage.

The evidence on Buy-to-Let is partial both spatially and in terms of the nature of the information. NHPAU has already conducted work on this. Much of the emphasis at the present time has been on Buy-to-Leave-Empty – CLG has a report on this while the LDC has a report on sales of new dwellings to Buy-to-Let and other investors in London. Overall there is a growing range of material – but the consistency and the capacity to update effectively are limited.

Another gap in our knowledge is data on sharing in the private rented sector. Shared housing is in many respects the bottom of the market. Information about it is very limited. SEH identifies households in 'non-self-contained accommodation', but the numbers are too low for any detailed analysis. Sharing is necessarily in the private rented sector because if local authority and housing association (LA and HA) tenants sub-let, the sub-tenant counts as renting from a private landlord. It is thus in the residual housing category which accommodates those unable to get social rented housing and cannot afford to rent or buy self-contained housing. It is also a temporary accommodation for students.

A further issue is in relation to quality. Because the evidence suggests that rents do not closely reflect quality it is necessary to estimate changes in quality directly if the objective is to assess what is happening to real house prices. Quality includes not just physical attributes but also management and maintenance and the operation of the contractual relationship. At the present time there are no suitable data available.

Linked to this is the relative quality of rental and owner-occupied stock. A gap in information is comparing market rents and selling prices for the same types and standards of dwellings. Much rented accommodation is smaller, older, and in poorer condition than owner-occupied. The worsening affordability of owning results in some people being able to afford only poorer quality housing, which they find in the private rented sector.

Analysis Gaps

The simplest statement would be that almost everything is a gap, mainly because of the data limitations discussed above; because the market has been changing so rapidly; and because it is clearly not in equilibrium.

Traditionally tenure choice models in the UK have either assumed long term equilibrium, enabling owner-occupation and private renting to be treated as a single market against which demand for social housing can be assessed, or they have treated tenure as a hierarchy where private renting is an inferior product. Market based tenure choice models have hardly been relevant. This is a major gap in the analysis.

It is important to make clear that in the present circumstances the outgoings for house purchase on mortgage are likely to be higher than the rent of an equivalent dwelling together with the cost of investing in the asset, but this is not necessarily so in the longer term. Equally landlords expect to obtain part of their investment return from capital appreciation and variations in these expectations are likely to impact on both demand and supply. More analysis over time would be needed to monitor this situation.

Analysis has concentrated on first time buyers and the extent to which they have been excluded from the market (see Chapter 4 below). Even here there is little on the impact on private renting. Moreover the impact is in part through the massively changing role of Buy-to-Let, making it more difficult to untangle the different aspects of demand. Further monitoring and analysis is possible and necessary.

In the short run it would be useful to bring together all the survey and other evidence into a framework for analysis which is more detailed than is possible here. This would help to ensure that linkages are better understood and that resources are concentrated where they are likely to be most cost effective.

Another obvious gap is the need to bring together the evidence on stress indicators to assess whether the expansion of private renting is meeting the needs and demands of those excluded from owner-occupation and the knock-on effects on those in private renting when their alternative is social renting.

Chapter 3

What effect does worsening market housing affordability have on the demand for social housing?

Summary

The literature suggests that worsening market affordability does lead to some increase in the 'demand' for social housing, but this is mainly a marginal effect, and a number of factors act to hide this effect to a degree.

- models based on population and household projections (e.g. Holmans) implicitly assume that basic relationships remain constant over time but allow estimates of demand for subsidised housing under these conditions;
- behavioural approaches directly model elasticities and therefore provide a baseline from which estimates of the impact of changes in incomes and prices can be developed. However in practice even these models have tended to treat market housing, whether owner-occupied or rented, as a single sector and simply analyse the relationship between social renting and the market or between subsidised housing (whether in social or private renting) and the market;
- basic descriptive data, while helping to identify trends, are often difficult to interpret because a range of different factors – definitional, policy change and behavioural – are operating at the same time;
- descriptive analyses of e.g. the demand for social rented housing and patterns of lettings over the economic cycle, provide insights into particular relationships.

What is meant by 'demand'?

Much of the literature uses the term 'demand' to refer to demand for market housing, and the term 'need' to refer to the need for subsidised housing for those unable to access the market. This need can be met either via social renting or in the private rented sector with the aid of Housing Benefit. This split is sometimes termed 'market' and 'affordable' housing. However, it is clear that while those in greatest need (living on state benefits) will require full subsidy in order to access housing, others on low incomes may be able to afford more than social sector regulated rents even though they cannot afford market rents or prices. Therefore there is 'an intermediate sector', sometimes termed those requiring light subsidy, which is increasingly defined as part of 'affordable housing' and seen as outside the market (PPS3). Such housing is designed to assist people into home ownership which places it at least partly within the market, especially if people are able to 'staircase up' to full ownership eventually. This intermediate sector is complicated by the fact that not everyone within the relevant income category (defined in terms of incomes, social rents and house prices) will demand intermediate housing (i.e. housing with light subsidy such as shared ownership or shared equity under one of the government's schemes) as they prefer private renting, either for its own sake or because while renting they can save up a down payment on a full market property.

From First Principles

If market housing affordability worsens, demand for social renting will increase, other things being equal, but this increased demand may not be reflected in longer waiting lists for social renting, or in households in temporary accommodation, because these are administratively determined, not just market determined. Similarly, because the supply of social housing is constrained, the sub-set of households who are able to access social renting is determined by policy-driven definitions of priority needs. People who do not meet those definitions are unlikely to put themselves on waiting lists. Thus there is not a simple relationship between worsening affordability and demand for social rented housing.

The supply for new entrants is composed of relets and new build. The quantity of new build social housing completions has fallen considerably from its 1970s peak, and though currently rising still has not achieved the levels of 2001/02 (Monk et al, 2005). This of itself would be expected to increase the pressure on demand for relets. Relets mainly occur either through household dissolution (death or move to an institution such as a care home) or by people moving out of social housing into the market sector – both owner occupation and private renting – or, in sub-national models, to another area. When market affordability worsens, many such households will be unable to afford to move out of the social sector, and thus we would expect the number of relets to decline. With a decline in relets, a relative lack of new build, and worsening affordability in the two market sectors, we would expect an impact on the rate of new household formation. In particular, young people and couples may delay independent living and finding separate homes.

Increased demand for social housing in the face of reduced supply (relets) would be reflected in the characteristics of new tenants in terms of employment status, income and household composition, as the allocation system is increasingly forced to house only those defined as being in greatest need. It would also be reflected in the numbers and characteristics of applicants as indicated in waiting lists, and possibly in homelessness.

Worsening affordability could also be expected to increase the demand for intermediate housing by placing more people into the income bracket that cannot access owner occupation but can afford more than social housing rents. But not all of those households would necessarily demand intermediate housing. As a supply-determined sector (to date) little formal evidence is likely to be found relating to changes in actual demand.

The key relationships

1. Econometric modelling approaches – these long-run general equilibrium models (DAE, Reading) simultaneously determine the price and quantity of housing that is demanded and supplied (the two are by definition equal in a long term equilibrium). The DAE model explicitly models demand for social housing but only at the national level. The Reading model takes a tenure choice approach and models the number of households in each tenure under different price and quantity conditions at both national and regional levels. However, neither of these approaches takes explicit account of the planning system or other policy interventions in determining housing supply.

The key relationships underpinning both approaches are those between the factors that determine the demand and supply of housing:

Demand function: population and household growth (demographic characteristics), economic and income growth, interest rates and mortgage availability, relative prices, preferences and expectations of capital gains.

Supply function: turnover in existing stock, new construction, costs of development, availability of finance, relative prices, expectations of capital gains.

Expectations of capital gains enter into both demand and supply equations in order to overcome the difficulty that housing is demanded both for consumption (of housing services) and for investment (in a durable, expensive asset). Many consumers also see their homes as an investment, making it difficult to separate these two motives.

2. Descriptive and partial approaches include looking separately at what happens to particular variables when affordability worsens. For example, when house prices rise, some marginal would-be purchasers are priced out of the market, so that they continue to live in private renting or with family or friends. Others may have to accept a smaller or less desirable property. In the social rented sector, some marginal would-be purchasers do not leave the sector, so there are fewer relets available to house new households in need. But existing owner occupiers would welcome the increase in prices because that increases the value of their equity. High and rising house prices would make housing more attractive relative to other assets for those such as Buy-to-Let purchasers, who wish to invest.

If interest rates rise, however, not only would there be the marginal impacts described above, but existing owner occupiers would find it more expensive while marginal owners might end up defaulting on their mortgage repayments and risk repossession. This would also be a likely scenario if worsening affordability was related to income levels, as this would also make it difficult for existing owners to meet their repayments. If there was a rise in unemployment that affected homeowners (as in the late 1980s in the South East), then those people who suddenly find themselves unemployed would be severely affected while those who remained in work would not be affected at all.

3. Basic data.

If prices rise, then generally there will be an increase in housing stress, as evidenced by a range of basic indicators such as homelessness, waiting lists, vacancies, and overcrowding. Again, the relationship is complex because many indicators are influenced by policy changes rather than economic changes. Thus for example homelessness might fall while waiting lists rise, and there might be no change in vacancies because they were already low. Basic data therefore do not provide much information to sort out whether demand for social housing has increased as a result of worsening affordability because in a supply-constrained system demand cannot be measured directly.

There is some evidence that at times when house prices have been high, moves out of social renting have declined (Jones, 2006). There is also evidence from the CLG's HSSA data that waiting lists for affordable housing grew by nearly 50% between 2002 and 2005, and vacant properties fell by 22% in the same period. The Family Resources Survey shows that social sector incomes rose by 34% during 2000-2005, compared with only 20% for owner occupiers. This suggests either that better-off households are gaining access to the sector, or, more likely, that existing households are not moving out even though their incomes have risen, because of higher prices in the market sector, reduced subsidies to transfer into owner-occupation and the impact of tax credits.

Data Gaps

A major gap in our knowledge of the demand for social housing occurs where households who might like to access social housing refrain from applying because they do not believe they are eligible. Thus they do not appear on social housing waitlists and are not measurable.

Another gap arises because the level of housing need required in order to be eligible for social housing is not nationally standardised, meaning that waiting list and other data on need are not standardised and 'demand' is difficult to measure.

Whilst there are data on those in intermediate renting and Low Cost Home Ownership (LCHO), like social housing these tenures are supply driven and uptake may not accurately reflect demand. Housing Associations may have information on the number of applicants and their income and household details; however, these are affected by awareness of the schemes and by expectations of eligibility. Although there may be records of applicants who are not eligible or successful, distinguishing constraint from lack of demand is difficult. If these data could be gathered in a standard format and collected centrally to cover all applications, drawing a connection between waiting lists and those who purchase LCHO might provide some indication of demand.

A further gap identified is that we have data through the Continuous Recording System (CORE) on households entering the social sector, but very little information on those leaving it. We therefore have little understanding of the impact of affordability on movement from social renting to the private sector. Nor do we have ongoing data on the income dynamics of social tenants. The current British Household Panel Survey provides only a relatively small sample. This issue may be mitigated when the Integrated Household Survey is implemented with a considerably larger sample size for its longitudinal element (9,820 as compared with 5,500 in the first wave of the BHPS).

To collect evidence on social sector tenancies and intermediate housing that is useable for monitoring the strength of demand, surveys would be necessary to obtain information about the amount of 'deadwood' in the waiting lists, and the circumstances of people on the 'live' list and their reasons for being there. The sample would need to be large enough for regional and even sub-regional analysis, especially in districts with particularly rapid population growth or rises in house prices.

Even though the emphasis here is on demand it would be useful to have better information on aspects of supply, including types of dwellings coming forward and changes in the number of vacancies available for letting.

Analysis Gaps

In the main the analysis has concentrated on estimating need – and sometimes the types of need for social housing– in part because supply constraints dominate in most circumstances.

Sometimes this is done on a ‘third party’ assessment in which case if affordability worsens, demand for social housing must increase. This gives little understanding of real demand.

Given administrative allocation and scarce supply, a better understanding of how the demand for social housing is related to supply is required. In particular, the data suggest that waiting lists are higher where the social housing stock is greatest and where therefore there is a greater chance of demand actually being met.

‘Eligibility’ and ‘demand’ are difficult concepts to apply. Where demand is low, HAs and local authorities will let properties to people not in priority rather than allow properties to stand empty. Detailed analysis of these areas where prices and affordability have been declining would be of particular value.

More general econometric modelling at national and regional level is likely to be of limited value because it cannot effectively measure the impacts of supply constraints separately from demand. Initially, the types of analysis which would probably most assist understanding is more detailed spatial analysis of who obtains social housing and who remains in that housing under different circumstances – notably in terms of overall supply and turnover in relation to local housing market conditions and over time.

Chapter 4

How does worsening housing affordability affect household formation and what are the effects of these changes on the distribution between tenures?

Summary

The evidence shows that:

- there is some consensus that when affordability improves, the rate of new household formation rises (Andrew and Meen, 2003).
- at the national level household formation is most affected by demographic factors (Ermisch, various dates);
- however, household formation is undoubtedly linked to the cost of entry into the housing market – both owner-occupation and renting – this is confirmed by modelling results as well as qualitative evidence (Meen, 2006);
- there are many different ways of forming households and the data does not always distinguish the differences effectively – e.g. ‘living with family and friends’ is sometimes defined as sharing, sometimes as concealed and sometimes simply as living with your family (Ermisch, various dates);
- first time buyers have fallen significantly as a proportion of mortgages both because of Buy-to-Let and because of new mortgage products, but the average age has remained remarkably stable (Shelter; CML).

From First Principles

There is a relationship between owner occupation, private renting, new household formation, and signs of housing market pressure such as sharing.

As noted in the discussion of question 1 in section 2 above, worsening market housing affordability would be expected to reduce the rate of new household formation as people were increasingly unable to access market housing and access to social renting remained limited.

The immediate questions for analysis are:

- (i) who is excluded from owner-occupation;
- (ii) who then enters either private renting or social housing – and the second round effects of this on other potential households; and
- (iii) who is put off from forming separate households.

The previous sections cover (ii) so this section concentrates on (i) and (iii).

The key relationships

1. Econometric modelling

It can be difficult to establish whether changes in household formation are a direct result of worsening affordability because there are many other factors involved. One of the key findings from the literature is that economic variables such as income and unemployment, as well as geographical differences, play an important role in household formation (DAE model: Peterson, 1995 and 2007). Thus, the precise determinants of new household formation and which of them are the most important are not known.

Tight regional housing markets as indicated by higher relative regional prices significantly reduce household formation and slow departure from the parental home (Ermisch, 1999). Other analyses find that household formation is sensitive to demographic variables such as age but economic variables are more important for tenure choice (Andrew and Meen, 2003). However, the decision by young people to share, especially in London, does not seem to be linked to individual income.

The Barker Review of Housing Supply (Final Report, 2004) notes that higher rates of house building could lead to higher household formation rates through their role in reducing affordability. Conversely, household formation is constrained by high house prices.

The model developed by Meen *et al* (2005) to explore the implications of affordability targets for housing supply (the 'Reading' model) found that the 1996-based household projections were significantly higher than the out-turn in 2001, with most of the over-estimate located in the South. The main reasons for this were higher than anticipated house prices, constraining new household formation.

2. Partial and descriptive analyses

While recent evidence has not been analysed, a study of the 1980s found that the reduction in housing supply had not been a major constraint on new household formation (Kleinman and Whitehead, 1988).

Ermisch's (1999) econometric model of young people's decision to live apart from parents supports the predictions of economic theory. In particular, tighter housing markets, as indicated by higher regional relative house prices, significantly retard home leaving, especially the formation of partnerships, and encourage returns to the parental home. Young people with larger current incomes are more likely to leave and less likely to return to the parental home.

3. Basic data

The average age of first time buyers is one indicator of whether worsening affordability is affecting new household formation. Following financial deregulation in the 1980s the average age fell significantly, but since the 1990s the age has remained remarkably constant although FTBs have fallen as a proportion of all mortgages (Whitehead and Guass, 2007). This has been in a context first of rising prices but falling interest rates, making home ownership more affordable, and then of rising prices with rising interest rates, which to date does not appear to have had a significant impact on age.

Increased sharing is not the same thing as reduced household formation rates – but it is evidence of housing stress. Even so, much of the evidence suggests that the decision by young people to share, especially in London, does not seem to be linked to income and hence to affordability.

There is evidence that with lenders offering more than the traditional loan to income ratio, people may be borrowing more to get onto the property ladder. Those eligible have a deposit and above average income. The Council of Mortgage Lenders (CML) suggest that higher income multiples, coupled with higher interest rates, mean that FTBs are continuing to stretch themselves. But changing household structures and worsening affordability has caused people to move between tenures more often.

There has been a decline in 25-45 year olds entering social housing, suggesting that younger households are finding it harder to get access. There is also evidence that many of those who access owner occupation, yet have relatively low incomes, may be doing so through inheritance or other help from family/friends.

Data Gaps

There are definitional problems as well as gaps in information about the different ways of forming a household.

Partly because the data on private renting is so poor, it is often not easy to separate these out. Many data sources do not identify living with friends as a separate element.

One gap in our knowledge is the problem in analysing so-called FTBs. Some have been owner occupiers previously, but are recorded in some data sets as entering home ownership for the first time. The SEH provides information about the numbers of and ages of FTBs who have been owner occupiers before, but not about prices paid, size of mortgage or deposit. This is discussed in Tatch (2006). It is also difficult to measure accurately households that would form or change if affordability conditions were improved.

A further important gap that could be addressed is the size of gifts as loans by family and friends to first time buyers. The information currently collected in surveys is about the number who report this as a source of their deposit, but not the amount. This has been explored by CML (Tatch, 2007).

Analysis gaps

The level of understanding of the relationships between leaving home, living with friends and family and between sharing and living separately in the private rented sector is unclear. This requires detailed survey and behavioural analysis as well as modelling.

There is also an important relationship between the impact on household formation and location/migration – this relationship has only been studied to a very limited extent.

Although there is a fair amount of evidence on first time buyers and how they are excluded from the market, the extent to which affordability is the problem and which elements of affordability – deposit, repayments – are less well understood. Equally there is almost no analysis of what these households do instead – this links back to the issues raised under private renting.

Chapter 5

Are there any regional variations in the effect of worsening housing market affordability on the demand for social housing?

Summary

The overall evidence shows that:

- house prices vary by region and regional house price differentials are fairly stable, with a 'ripple effect' stemming outwards from London both in housing market upswings and in downturns;
- although most analyses are at regional level because of the nature and scale of data collection, affordability varies at a smaller spatial scale;
- this is because it is linked to the nature of the local housing market, including the size of the social rented stock, and via incomes to the labour market, including the local availability of employment;
- greater housing pressure in London and the South may increase demand for social housing there, but as this is supply constrained the evidence is indirect – measured in terms of suppressed formation of new households as well as indicators of housing stress such as overcrowding, homelessness, households in temporary accommodation;
- there are links between affordability and inter-regional migration, but local economic conditions also impact on regional migration;
- however the persistence of regional differentials in house prices and hence affordability suggest a 'labour mobility trap' whereby homeowners from low priced regions cannot afford to move to higher priced regions, while those in high house price regions are reluctant to move out in case they are unable to afford to move back.

From First Principles

We would expect regional variations in worsening housing market affordability because that is linked to rising house prices which vary by region both in terms of levels and rates of change. The potential link to demand for social housing, evidenced indirectly by indicators such as waiting lists, homelessness, temporary accommodation (and, in cases of falling demand, vacancy rates) would also be expected to vary across space.

Most studies of variations in house prices and in affordability are regional because of data constraints (local level information is patchy). Yet affordability is likely to vary at a smaller spatial scale because it is linked to the nature of the housing stock, including the proportion of social rented housing, as well as to incomes which are in turn linked to the structure of the local economy in terms of types and quality of jobs. These variations in prices and affordability mean it is difficult to make generalisations about the impact on demand for social housing which as already noted also depends on administrative allocation of a highly constrained and regionally varied supply.

The key relationships

1. Econometric modelling

Regional house price differentials remain very stable in the long run (DAE model, Peterson, 1995 and 1997). House prices do not appear to have offset the effects of regional differences in population growth and income growth on the geographical pattern of housing demand. Changes in house prices in the South are a leading indicator of house price changes in other regions, whose lag depends on their geographical distance. This phenomenon is outlined in Meen's (1999) paper, which shows that house prices in Britain have a distinct spatial pattern over time, rising first in a cyclical upswing in the south east and then spreading out across the rest of the country. This is known as the 'ripple' effect.

Although previous studies have shown that, statistically, the ripple effect is a valid representation of the data, it is less straightforward to provide convincing economic explanations. Some studies focus on the role of inter regional migration, others argue that the pattern reflects different regional growth rates. Meen's paper suggests that structural differences in regional housing markets are important.

2. Partial and descriptive analyses

It seems that even though costs are higher in the South, so are the potential benefits, keeping demand buoyant (Kleinman and Whitehead, 1988). In the North lower increases in house prices have allowed demand to be sustained even in areas of relatively low incomes and employment. Overall, although rises in house prices and interest rates should have led to some dampening of demand, changes in other factors such as the availability of finance and potential capital gains have more than offset this.

In terms of the demand for social housing, regional variations in affordability create greater choice in the North and produce more social housing need in the South (Monk et al, 2006). This greater stress in the South may increase the marginalisation of social rented housing. Housing market factors, notably real house price increases concentrated in London and the South East, may be limiting the capacity to live separately. This implies that the demand for social housing may be greater in these regions. However, because of supply constraints, many people may not register for social housing, so it is difficult in practice to produce robust evidence to support this.

Economic conditions, which are related to house prices, exert a strong influence on regional migration (Muellbauer, 2006). On the one hand, strong labour market conditions (low unemployment, high earnings) draw migrants into particular regions. On the other hand, strong housing markets can prevent movement as commuting becomes relatively cheaper. This can be thought of as a 'migration equilibrium' whereby high house prices choke off migration caused by strong labour markets.

Expected capital gains in housing can offset high levels of house prices. There is evidence that the expected relative appreciation of house prices helps to explain the peak of net out-migration from the South East in 1987-89 when labour demand there was so buoyant: at this time, high relative house prices coincided with high appreciation expected in other regions, so that both factors encouraged out-migration.

3. The basic data

There are strong links between affordability and migration. If housing supply increases in one area, improving affordability, there are likely to be population inflows to take advantage of lower prices and greater availability. This suggests a need for 'balanced' expansion in new housing supply, to minimise the effects on relative prices and relative availability between regions, as well as the impacts on commuting.

There is also thought to be a 'labour mobility trap' created by regional house price differentials. This is characterised by home owners from lower priced regions who cannot afford to move to higher priced regions, while those in higher priced regions are reluctant to move out in case they are unable to afford to move back again. Once house prices start to fall, people become reluctant to move to areas with falling prices because it seems a bad investment. A downturn in house prices makes it difficult to sell, thus discouraging people from moving.

Data Gaps

As noted above, housing affordability is likely to vary at a sub-regional scale because it is linked to the nature of the housing stock, including the proportion of social rented housing, as well as to incomes which are linked to the structure of the local economy in terms of types and quality of jobs. These variations make it difficult to make generalisations about the impact on demand for social housing. This gap in our knowledge may be addressed by Strategic Housing Market Assessments which may give a better indication of housing need at the local scale. However it is important to note that although government guidance supports an improvement in consistency of approach across local authorities, experience suggests that this might not be completely achieved in practice.

Analysis Gaps

Initially low house prices in the Midlands and North rose relative to the rest of England from 2003 onwards – it would be worth exploring whether this affected factors that may indicate pressure of demand of social sector housing in identifiable ways: vacancies (might fall); departures/re-lets (might fall); waiting lists (might rise more rapidly). It may also be worth updating the ripple effect.

Chapter 6

What are the effects of construction rates on the supply of affordable housing through S106 agreements?

Summary

The evidence suggests that

- as more market housing is built, affordable housing through S106 will rise, though not in proportion;
- there are many potential barriers to achieving greater output through S106 even in high demand, high value areas;
- as a result, there is no obvious pattern between high demand and high output of S106 affordable housing;
- there is a question to answer as to whether S106 is driving market house prices because it does not add to the overall new build, instead it switches the tenure of what is built;
- the solution would not be to scrap S106 – which is now widely accepted and is delivering affordable housing in mixed communities – but to release more land and improve S106 practice across the country.

From First Principles

Since the provision of affordable housing through S106 is tied to the provision of market housing, we would expect that as construction of market dwellings increases, the supply of new affordable housing would also increase. Equally, a fall in the rate of construction of market housing would imply a fall in the supply of affordable housing through S106. Indeed, this has been noted in the literature by way of a warning – if market prices falter or even fall, this will reduce the amount of planning gain available for S106 affordable housing and other planning obligations such as infrastructure (Monk *et al*, 2006, page 39).

However, whether or not a rise in construction rates would produce an increase in affordable housing depends on the success of local planning authorities (LPAs) in securing affordable housing. This is made up of two elements – what is in their policy; and how effective are they in achieving that policy target. If LPAs do not meet their percentage targets then the expansion of affordable housing through S106 will not match the rise in construction. Equally, if construction rates of market housing remained constant, but LPAs became better at meeting their targets or if the proportion of affordable housing sought increased, then the amount of affordable housing relative to market housing would increase disproportionately. LPAs still vary in the amount and proportion of affordable housing they secure through S106 (Burgess *et al* 2007, Crook *et al* 2006). If less market housing were being built, then there would be fewer opportunities for securing affordable housing because of proportionality and perhaps a reduction in potential planning gain.

Over the last twenty years there has been a structural shift away from traditional means of providing new affordable housing (initially by local authorities but today by housing associations using grant from the Housing Corporation plus their own ability to borrow against future rental income) and towards S106 sites. But because the S106 affordable housing is tied to market housing, this system has had to cope with the reductions in the traditional 100 percent affordable housing sites that is, non-S106 sites. This has not widely been recognised in the literature apart from Monk *et al* (2005).

There have been a number of structural changes in the relationship over the last decade, which means that it is not possible to estimate a straightforward relationship between construction levels and the amount of affordable housing provided. At least five structural changes are relevant:

1. Implementation of S106 for affordable housing (including in particular updating policy but also changes in incentives relating to other policies, notably density and the exclusion of low cost market housing)
2. Changes in the grant regime which has moved away from local authority housing grant to wholly centralised grant provision together with pressures to reduce or remove grant from S106 affordable housing provision
3. The shift towards brownfield sites and the impact that has on cost and viability
4. Regional shifts in provision which have also impacted costs and the numbers achievable
5. The impact of general house prices increases on land values, and therefore the potential proportion of affordable housing that is viable

All of these factors impact on the relationship between building new market homes and the numbers and type of affordable homes made available. The behavioural evidence is therefore lacking to assess this relationship because these structural changes dominate what has been happening in terms of the provision of new affordable housing. Equally, the definition of targets in terms of the numbers of units has incentivised the development of smaller homes. As a result, while more units may be built from a given site, the quantity of affordable housing in square metre terms may actually fall.

The key relationships

S106 and planning more generally have not entered econometric modelling directly, but are assumed to be captured either by the use of dummy variables or, more simply, because the behavioural variables modelled reflect decisions made in the context of planning constraints.

As more housing is constructed overall, the supply of affordable housing delivered through S106 should increase, but this is not a straightforward relationship. It depends on the nature of the affordable housing policy in each local authority, which in turn has to be based on robust and up-to-date evidence, the experience and skills of the officers undertaking S106 negotiations, corporate backing and political will, the range of 'competing' planning obligations being required, and the extent to which individual sites are viable particularly in relation to the existing use value of the land.

The Relationship between Construction Rates and the Supply of Affordable Housing through S106

S106 completions as a proportion of all housing completions have roughly followed the pattern of total completions over the period 1999-2005. Within this, market completions have remained fairly constant, while affordable completions have fallen and risen again only recently. This reflects a fall in wholly grant-funded, non-S106 completions. Local authorities have become increasingly successful at achieving S106 affordable housing. This is set to continue, but total delivery of affordable housing is still inadequate to meet identified needs because S106 has not been sufficient to compensate fully for the reduction in government grant.

S106 completions have risen from around 5% to perhaps 12% of private sector completions since 1999. This is still below local authority targets, but is expected to rise towards 15% fairly rapidly.

Role of S106 in Relation to Viability and Overall Housing Supply

It is argued that S106 makes housing development less viable because it does not apply to commercial schemes and so distorts relative land values. This puts residential schemes at a disadvantage potentially causing them to lose out to alternative uses.

It is also argued that S106 does not increase the supply of housing; it merely changes the tenure of what would have been market housing. This means that there is less market housing relative to market demand, so that S106 pushes house prices higher. However, the affordable housing built through S106 provides for households who are completely priced out of the market. So unless more land is released so that the affordable housing becomes an addition to market housing and not a substitute for it, market housing will become less, rather than more, affordable. It is suggested that this is one reason why supply has not responded to a period of unprecedented house price increases. The solution suggested is to release more land through the planning system.

The conclusion to this is not that S106 should be scrapped, but that more land should be released for housing.

House Builders and Spatial Monopoly

A different issue concerns the general assumption that housebuilders like to control the flow of dwellings on to the market in the short term in order to maintain prices and hence profitability. While there is little evidence to support this, work undertaken in the 1980s (Rydin, 1987) found a spatial monopoly whereby in one case study low rates of new building were explained by the fact that all allocated land was owned by a single developer. When more land was allocated, other developers moved into the area and building rates increased. This raises issues about the timing of provision of the affordable housing – in some circumstances developers want to build it first because of the cash flow benefits; in other contexts it is better to build in proportion; in still others at the end. In the context of sites that take a decade or more to develop these issues are of considerable importance and suggest that the relationship between market housing and S106 affordable housing will not be stable over the economic cycle.

Good Practice Guides

Generally, the literature makes an implicit assumption that more market housing will bring forward more affordable housing. However, there is an increasing literature on how to get more affordable housing out of the construction of market housing. This starts with a critique of the planning system in failing to identify sufficient land for housing. More common is the identification of good practice which assumes that output of S106 housing would improve if best practice was followed throughout the country. Good Practice guides include, for example, Three Dragons et al (2004) for the then South West Regional Housing Body, the Audit Commission (2006) and more recent work by Three Dragons with Roger Tym and CCHPR for the Housing Corporation South West (2007). They tend to stress three key aspects; clarity and robustness of policy (and supporting planning guidance), corporate and member backing, and good working relationships between planning and housing. In addition they suggest, among other things, the use of techniques and tools to improve the skill set of local authority negotiators, including economic viability tool kits and standard S106 agreements or clauses.

Data and Analysis Gaps

Whilst the Government is now setting a new housing target for 2016 of 240,000 additional homes a year (*Green Paper Homes for the Future: more affordable, more sustainable Cm191, CLG 2007*), more evidence will be needed to show that construction rates can meet this goal. Research is needed to ascertain whether the house-building industry has the capacity to deliver such numbers, and whether sufficient appropriate land will be available.

The uncertainties surrounding the provision of affordable housing through S106 given recent announcements of changes to the planning system and introduction of a system of LPA wide planning charges mean that future numbers of affordable homes are difficult to predict with certainty.

Chapter 7

What are the costs of providing social housing?

Summary

a) On financial costs of provision

- in principle, the financial costs of building social housing should be the same as market housing; but
- social housing is often built even when the cost of building new units is higher than the cost of purchasing existing units (Tobin's Q theory of investment);
- quality standards are higher for social housing, which results in higher costs – both space standards and environmental standards
- the additional costs of environmental standards suggests that they should be compulsory rather than voluntary (at present they are only compulsory where social housing grant is used)
- increasingly social housing is built on S106 sites which are usually built out by the developer
- costs on non-S106 sites are fairly comparable to those on S106 sites – while the sites may be more complex, increasing costs, they may also be less desirable in market terms and hence cheaper

b) On the public sector implications of providing subsidised housing rather than housing benefit

- in principle, housing benefit should be more cost effective because it is directly linked to household incomes and can reduce when income rises and vice versa
- however, administrative costs may be very high
- bricks and mortar subsidies are more cost effective where the system has been in place for a long period, so that historic build costs have been repaid and current rents are a surplus to cross-subsidise current building
- but repairs and maintenance and obsolescence may mean that current rents are too low
- modelling suggests that direct provision is most cost effective for households on lower incomes who expect to remain in social housing for long periods – this is a targeting issue
- the present value of new affordable housing to a household entitled to housing benefit will be lower than the present value of the housing benefit necessary to cover private rents – because the capital costs can be borrowed at a lower rate than the rate of return required by private landlords
- the flow of public support to housing is lower in real terms today than in 1970s, but rents are only 1% of current capital values, well below an economic rate of return
- finally, more grant has been made available for new social housing but this has not resulted in a significantly increased supply

From First Principles

Answering this question from the available literature depends on whether it relates purely to the financial costs of provision – land and building costs (as well as management and maintenance), or whether it is intended more broadly to cover the economic subsidy and opportunity cost of bricks and mortar as compared to personal subsidies (housing allowances). Below we start with the simple physical costs of provision before turning to what is perhaps more relevant – the public sector implications of providing subsidised housing rather than housing benefit.

From first principles, the costs of providing social housing should not be different from the costs of providing market housing, standardised for size, type and quality. It therefore becomes a question of what is the cost of producing housing of any type. The main issue here is whether construction costs are subject to economies or diseconomies of scale and how variations in building costs (e.g. as a result of zero carbon, brownfield or density requirements) impact on land prices or house prices. We have not reviewed this market-based literature here.

The key relationships

In principle new housing is built if and only if the price of existing houses (taking account of any new house premium) is higher than the cost of production. There are a number of reasons why one might expect the costs of provision in the social rented sector to be higher than this market price. First, affordable housing may be built even when Tobin's Q (Tobin, 1969) applies. This is a theory of investment that relies on the ratio of marginal asset values to replacement costs. In this case the cost of building new is higher than the cost of buying on the market – a situation where market housing will only be provided for niche markets where the relationship does not apply. Secondly, higher quality standards apply in social rented housing, and these are associated with higher direct costs. In the past these have included floor space standards, disabled access, and increasingly high standards for insulation and energy. While technology improvements in insulation and energy have been introduced in the market sector, these tend to apply only to more up-market developments, and housing designed for the first time buyer tends to be smaller.

In terms of the cost to the public purse, social rented housing is defined as being at submarket rents. It therefore requires a subsidy in economic terms. There has been some work on the relative cost-effectiveness of providing affordable housing via bricks-and-mortar subsidy and through housing allowances. In principle, we might expect housing allowances to be more cost-effective because they can be targeted more directly in relation to household costs and incomes and can be reduced when household incomes rise, and increased if they later fall below the relevant threshold. This means that households do not receive subsidy in perpetuity but only when they need it (according to some policy related definition of need). However, there are high administrative costs involved in operating such a system, particularly if evictions for non-payment of rent and potential homelessness are to be avoided.

Bricks-and-mortar subsidies may appear more cost effective, however, when they have been in existence over long time periods, as in the UK, so that their historic building costs have been repaid and current rents represent a surplus that can be used to cross-subsidise new, more expensive housing. On the other hand, repairs and maintenance, and technological obsolescence, may mean that current rents do not cover renovation and up-dating. Certainly the UK has one of the oldest housing stocks in Europe and this may partly reflect an ageing social sector (especially if the better quality properties have disproportionately been sold under the Right-to-Buy).

Financial Costs

The best guide to the financial costs of building new social housing can be found in the Housing Corporation's Total Cost Indicators publications which date back to 2000 on the web and to the 1990s in (historical) paper form (no longer generally available). The Corporation produced annual estimates of the total cost of providing different types (sizes) of housing in different locations, reflecting local differences in (mainly) labour costs (and certain other costs such as transportation in remote rural areas). Thus for example in 2004-5, in the Peak District, costs varied according to the local authority district (the National Park covers seven different local authority areas). An additional multiplier was applied in each district for rural housing schemes and for building homes within the National Park itself.

Standards

The literature describes a tension between the provision of smaller units and demand for larger homes. The Housing Corporation sets standards for affordable housing which are increasingly being met by housing associations. However, the high costs incurred in meeting the standards that are a requirement of obtaining SHG means that some HAs are increasingly hesitant about applying for grant (Burgess *et al*, 2007). Studies have shown that where space standards are not met, under-letting of social housing can result (Watson 2006). A study for the GLA described how developers are concerned about the costs of meeting space standards and argue for the provision of smaller units (HATC 2007). The authors of the study argue in response that better space standards will not exacerbate affordability issues.

The additional cost of providing homes to high environmental standards has been raised in the media and some literature. The HBF has stated that house builders will be able to meet the zero carbon target by 2016, although house builders often complain that achieving eco-homes standards – or the sustainable homes level 3 which is part of the Code for Sustainable Homes launched in April 2007 – is increasing their costs but that prospective purchasers are not prepared to pay the extra required. Whether these standards should be mandatory is out to consultation at the present time and it is widely expected that level 3 will be compulsory in 2008, level 4 by 2010 and level 6 by 2016. Of interest is the difference between the standards for social rented housing and for market housing which builders argue mean that their overall costs on a scheme are significantly above those that would pertain if standards were consistent. Mandatory standards would also support the policy of mixed communities.

A Housing Corporation cost review of the code for sustainable homes (2007) found that there is a cost premium associated with achieving the new Code level 3 as compared to the old Eco-homes Very Good. The major reductions in carbon dioxide emissions and water consumption account for the majority of these additional costs. The actual costs vary by house type and the feasibility of using different carbon-saving technologies. However, solutions are currently emerging that might lead to cost reductions, including further innovations in design and specification, reduction in the cost of existing products arising from their widespread adoption (economies of scale) and bulk purchasing of products. Another source (Sweett and Mactavish, 2007) states that construction costs are estimated to be around 40% higher than for a conventional design.

Cost-effectiveness of Direct Provision

The Cambridge DAE model of the demand and need for social housing addressed the question of the cost-effectiveness of direct provision compared to personal subsidies. One key finding was that providing a secure sub-market tenancy is more likely to be cost effective if household income is low and likely to remain low for a substantial period. In other cases providing assistance which is withdrawn if income rises reduced public expenditure costs. This is fundamentally an issue of targeting.

Another finding is that if the supply of private rented housing is relatively inelastic, then new social construction is likely to be a more cost-effective solution than if the supply is more elastic. The evidence on the expansion of the private rented sector (PRS) at the current time however points to considerable elasticity in supply in the PRS, especially in London, at least in the short run.

The DAE model also finds that the present value of public expenditure costs of new affordable housing to a household that will be entitled to HB indefinitely will be lower than the present value of the HB payments required to cover market-based rents. This is because some of the capital cost of social housing can be borrowed at a 'risk-free' government interest rate which is lower than the rate of return sought by competitive private landlords.

In later simulations, the model shows that as the SHG rate is increased, it is more costly to put a household in social housing than in the private rented sector on HB. However, lower rents could be charged to the household in social housing, resulting in lower HB payments and partially offsetting the higher costs of social housing provision.

The relative capital cost of social new build is also a factor. The greater the capital costs of social housing, the more cost-effective it is to put households in the private rented sector and pay their HB.

Finally, the model shows that as the cost of social capital relative to private capital rises, social housing provision decreases at an increasing rate. This means that as social housing becomes more expensive to build relative to market housing, it is more cost effective to use HB in the private rented sector than to build relatively high cost social housing.

More recently the Hills report (2007) addressed the issue of the cost of public support to housing. He notes that overall the total conventionally measured flow of public support to housing is a little lower in real terms today than in the 1970s, and significantly lower as a share of national income. But within this, spending on managing and maintaining social housing has increased. However, in economic terms, he estimates that the capital value of the total social rented sector stock is about £400 billion, which means that net of management, maintenance and repair, rents yield about 1% of this capital value. This is well below an economic rate of return.

Data Gaps

It is difficult to ascertain the costs to the developer/landowner of providing social housing through S106 as in many cases information on the market value of the scheme, the price paid for land or even the prevailing land prices at the time of purchase (to allow an approximation of the land cost) is not available. The costs of the time that local planning authority officers have to spend negotiating with developers and conducting viability assessments has not been quantified.

Analysis Gaps

More research is needed to assess the impacts of the costs of new HC standards on building social housing, particularly on S106 schemes where we do not yet know what the impact on viability may be and the amount of grant that may be needed to meet any shortfall. Modelling of existing schemes in comparison to scenarios of increased costs due to the new standards may show the impact on viability and how the tenure may be altered to counteract this, for example by increasing the proportion of shared ownership.

Chapter 8

Synthesis: answering the questions in relation to the framework

It is important to emphasise that:

- affordability is not a simple variable, and the factors that affect house prices are not the same as those that affect incomes or mortgage costs and availability;
- increases in house prices will impact directly on demand and indirectly on capital constraints;
- increases in incomes increase capacity to pay and therefore, unless supply is perfectly elastic, also increase house prices;
- in a market sense housing is affordable – the issues are related either to distributional problems or to the fact that land prices are ‘too high’ in relation to opportunity costs;
- actual measures of responses to changes in affordability are complex and are often influenced by non-economic factors including housing policy;
- there is no simple ‘story’ from the literature, not least because most of the literature does not address these issues directly;
- there is both partial econometric evidence and quantitative indicators that support the prediction that increased problems of affordability in the owner occupied market will worsen affordability and housing conditions in other parts of the housing system and reduce household formation;
- finally it is important to recognise that the effects that are being examined are marginal effects and tendencies. While the impacts may be very large on the individuals involved, the total impact once second round effects are taken into account may be quite small.

Using the model structure set out in Chapter 1, the literature and statistical evidence suggest that:

1. Almost all the general econometric models indicate that price elasticities are lower than income elasticities, that is, the responsiveness of prices to changes in demand for housing is less than the responsiveness of incomes to changes in demand – so when incomes rise, house prices will rise in the short term. They also suggest that supply is relatively inelastic so this will also be a long term phenomenon. Therefore in an expanding economy measured affordability will worsen.
2. Most econometric models treat the private sector as a single entity either because a straightforward long-run equilibrium between the two market sectors is assumed or because the rationale for the model has been to identify the need for affordable housing. Supply can in principle move readily between owner occupation and private renting so the size of each sector is a matter of demand. Relative costs and preferences will determine the scale of the two sectors.
3. Until recently in the UK the weekly costs of private renting were generally higher than in owner-occupation. Therefore those choosing private renting were mainly doing so either because of capital constraints or transactions costs – so a hierarchy could be assumed.

4. On this basis, changes in affordability for owner-occupation fed through into private renting via the capital constraint – and as that has been consistently reduced over the last decades it is difficult to disentangle relative price effects.
5. This position has changed over the last few years. The indicators suggest both that the proportion of households for whom moving and other transactions costs (notably stamp duty) will shift their preference towards private renting has increased and that supply has been more elastic than demand so that nominal rents have fallen significantly as compared to owner-occupation costs. As a result the size of the private rented sector has expanded very considerably and now accounts for some 40% of movers each year.
6. Indicative evidence on the constraints on owner-occupation suggest that (i) first time buyers have fallen as a proportion of all purchasers – but in itself this does not mean a great deal as many other factors have affected the totals; (ii) the average age of first time buyers has increased but not by as much as might have been expected; (iii) deposits have risen, first time buyers are getting far more help from family and friends and people are more indebted than in the past and are now paying about as much as a proportion of income as in the late 1980s; and (iv) there is no reduction in the numbers wanting to be owner-occupiers but more who say they cannot afford it now – or maybe ever.
7. All of this suggests that the most important impact of worsening affordability as measured by price/income ratios has been on owner-occupiers and therefore on other expenditures and increased exposure to debt. Equally, there has clearly been some transfer to private renting. However the impact of that transfer has been mitigated by the elastic response of private renting. People are opting to rent to a greater extent than in the past because it is currently cheaper than first time buying with a mortgage.
8. Theory and modelling would suggest that this is not a long run equilibrium position – although theory also suggests that there is not a one to one relationship between prices and rents as in the simplest models. The general prediction would be that rents in the private rented sector would increase but there would be a shift towards private renting because of capital constraints in the owner-occupied sector.
9. In general the literature assumes a hierarchical process with people choosing owner-occupation if they are able to do so, except for specific groups, and only those with priority needs achieving social renting.
10. The majority of approaches looking at the relationship between the private and social sectors in the UK either assume that the size of the social sector is supply constrained or that in low demand areas social sector rents or access rules would be changed to enable the properties to be let. Therefore there is no econometric evidence available on the size of cross elasticities between the market and social sectors.
11. Indicators suggest clearly that increases in house prices have slowed down the movement out of the social sector so that the numbers of re-lets have declined – worsening access to the social sector. This is particularly true in lower demand areas – i.e. ones where market and social sector rents are closest – suggesting a real price elasticity (but no-one has tried to estimate it).

12. We would not expect homelessness statistics directly to reflect increasing affordability problems in the owner-occupied sector unless there is an increase in repossessions. We would expect there to be increases in waiting lists – which have been observed.
13. There is clear evidence on the effect of worsening affordability of owner occupation on household formation – when house prices rise relative to incomes, at the margin some households will not form. This is supported by both time series econometric evidence and by the relative rates of household formation in London as compared to the rest of the country. The scale of the effect cannot be determined with certainty but it is the most direct behavioural response as it is not directly constrained by supply factors or credit constraints.
14. In the regional and sub-regional contexts all the evidence suggests that local markets are quite open so that increasing demand and house prices will ripple out from the particular areas affecting affordability over the whole region. The evidence also suggests a ripple effect out from London and the South East – though there is also evidence of some structural change.
15. Of relevance in this context is the question of whether the makeup of the affordability measure means that there are different effects in different areas – to the extent that residual income measures of affordability concentrate problems more in the Northern regions than in the South, this could be an important issue.
16. Equally there must be concerns about whether affordability is properly measured without taking account of property taxation and utility costs – both of which would normally be part of a US measure of user costs.
17. A big problem that has emerged recently is that ability to meet the down payment may be just as important as prices, but there is no general consensus about the precise impact.

Finally, structural changes in the housing market make it difficult to measure the specific relationships under analysis. The main impact of worsening affordability is undoubtedly on those who manage to access owner occupation but who are paying more for smaller units and facing higher risks, as compared to those accessing other sectors or who have put off forming separate households. The fundamental issue is that when costs rise in one sector they are raised in all, so that the overall impact depends upon the price and income elasticities of demand for housing overall, as well as on the elasticity of supply.

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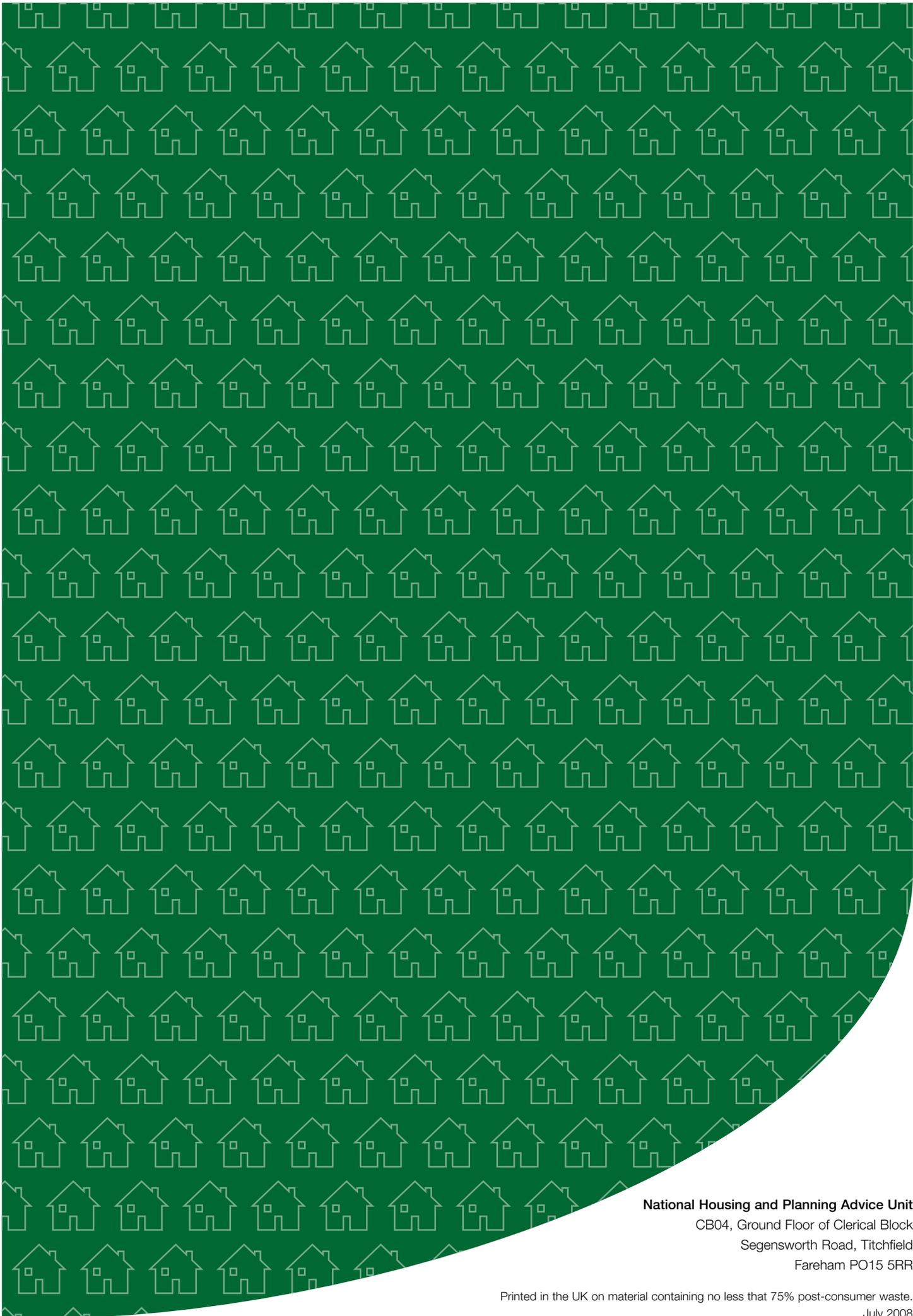
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