

# Housing and Affordability in the South East

*Christine M.E. Whitehead, London School of Economics*

## *Executive Summary*

### **Introduction**

- Land use planners have legal responsibilities to ensure an adequate flow of land for housing and other activities. Traditionally the tools they have used to assess requirements have been quantity based – particularly in terms of the number of households needing homes.
- The economist's approach on the other hand is price based – price rises relative to other goods and services provide an indication that more resources – in this case land and housing – should be made available.
- The government's fundamental objective is to marry these two approaches to enable planners to carry out their legal responsibilities but directly to take notice of market pressures – generating a partnership between the market and planning to support the provision of adequate housing into the longer term.

### **The problem**

- When they set up the Barker Review the government identified three problems: housing completions had declined to historically low levels in the early 2000s; the market's response appeared to be becoming more sluggish over each economic cycle; and there was increasing understanding of the need to house four generations rather than three as we all live longer and want better homes.

### **The government's response**

- The government's response has been to take on the Barker recommendations. These stressed the need to increase supply responsiveness mainly within the traditional planning framework but with the addition of an affordability criterion to reflect market pressures.
- The dilemma facing planners in this context is that it is their role to organise supply so as to meet demand but at the same time they must assess the overall costs and benefits of development taking account of both measured requirements and affordability.
- The nature of the evidence for each element is rather different: requirements come from assumptions about the numbers of households and the use made of the existing stock; affordability comes from a specific statistical measure but its relationship to output is clarified through econometric modelling; while the range of costs and benefits to be taken into account at regional strategy and more local levels are often less easy to quantify although equally important.

## **The relevant principles**

- Well operating land use planning systems organise development in such a way as to overcome market failures and generate positive spillovers. One outcome of good planning is therefore to increase the value of land by increasing demand.
- However the majority of instruments available take the form of constraints – so there is always the potential for ‘over-regulation’ which is not only inefficient but benefits existing land owners and local inhabitants at the expense of new entrants.
- The difference between the price of land with and without planning permission gives a first indication of the extent of constraint – although it can also be seen as a measure of the value created. These two elements have to be weighed carefully – but very large differences in prices tend to suggest over-regulation and excessive constraint, with consequential costs to the national economy and the region.

## **Measuring requirements**

- There are two main ways of measuring requirements. The traditional approach looks at the numbers of households, the evidence of unmet needs, and the extent to which the existing housing stock can meet this need. As such it provides a measure of net additional requirements based on past trends. The approach includes assumptions about how the market works – eg. in terms of vacancies – as well as estimates of the proportion of households able to afford market housing. The outputs include the number of additional homes required and the split between market and affordable provision. They therefore relate closely to the planners’ approach to estimating requirements.
- The Affordability model is basically a set of behavioural relationships which estimate the impact of demographic change, incomes, prices and costs to determine demand, the use of the existing stock and new supply based on market responsiveness at national and regional levels. It therefore takes account of all types of demand – both from additional households and from those already in the market; their impact on prices and the utilisation of the stock; as well as how the supply responds to changes in demand through variations in vacancies, demolitions, conversions, etc. as well as producing more dwellings.
- The model is specified in a way which allows the user to show the effects of introducing additional supply on the housing system both in modifying prices and accommodating additional households. It is important to stress that it is a long run model; not a model which will estimate the impact of sudden changes in demand, the availability of finance or developers’ profitability. Thus the outcome can best be thought of as a long run average outcome when adjustment has occurred as a result of increasing supply.

## **The outcomes of the Affordability model**

- The Affordability model suggests that the supply of new housing is far too low to ensure price stability – because supply is extremely unresponsive to increases in demand even in the longer term. Simulations however suggest that expanding supply over long periods would bring the markets in much of the country into a better balance. They also suggest that in areas of pressure, notably the South East, the impact of additional housing is particularly effective because a larger proportion of additional supply directly and indirectly helps to accommodate additional households. Further increasing the stock of larger dwellings would have a more favourable effect on prices than concentrating on smaller units. However additional supply has relatively little impact on prices because of the extent of pent up demand.
- The benefits of increasing housing supply are therefore in terms of ensuring more people are housed and that households across the board are better housed rather than in significant reductions in price. Indeed, on existing trends, prices will continue to rise in relation to incomes for many years ahead. Thus affordability will remain a major issue unless other factors change notably (i) if there is a structural decline in demand which continues into the longer term – which could only mean a depressed economy as well as changes in housing taxation and subsidy and/or (ii) if housing supply became far more responsive to pricing pressures resulting in much greater increases in supply (both within the existing stock and in terms of new additions) than estimated within the model.

## **Conclusions**

- The Affordability model is a tool where the user can both better understand the system and simulate the outcomes of policy. The outcomes of the model show that additional housing will help improve both the operation of the market and housing conditions. However this benefit will be spread widely across households so the impact on price will be quite limited. The model provides useful insights into the way in which the market works in response to changes in demand and supply helping decision makers to understand the impacts not only on price but also on the numbers housed and the utilisation of the existing stock. It also points towards other areas of policy that can further improve the market – notably building larger rather than smaller units and increasing investment in the existing stock.
- Because what we observe in the market is the outcome of a series of short-term pressures the outcome of the model will never look exactly like reality. Rather the model explains how the market responds and enables feedback processes to be better understood. Thus it is a useful tool that can help improve planning decisions through a better understanding of behavioural responses. Most importantly it makes it clear that there are very significant costs to constraint that must be put into the equation when making decisions.

## **1. Introduction: The Question**

- 1.1 Current government policy places emphasis on increasing both the total supply of new housing and ensuring a significant proportion of that housing is affordable. Increasing housing output in the South East is central to this policy because of the extent of pressure both on the housing market and on access to social housing.
- 1.2 An important element in the government's approach is to introduce evidence on housing market affordability into the decision making process at national, regional and local levels. To this end they have both required that planning authorities take account of a specific measure of affordability in their decision making process and have supported the development of a model of the housing market which enables researchers to assess the impact of additional housing supply.
- 1.3 This paper clarifies the economic thinking behind this approach by examining:
  - the problem that the government is addressing and their policy response;
  - the economic framework that supports their policy including
    - the relationship between the provision of land with planning permission, housing supply and house prices and thus affordability; and
    - the relationship between the provision of new housing and the operation of the housing market overall
  - the different approaches to measuring requirements;
  - the predictions of the model and their implications for planners; and
  - some implications for the use of the model in decision making in the South East.
- 1.4 Fundamental to the discussion is the difference in approach between planners and economists. Land use planners have legal responsibilities to ensure an adequate flow of land for housing and other activities. Traditionally the tools they have used to assess requirements have been quantity based – projected demand in terms of the numbers of additional households compared to the numbers of dwellings available to determine housing and land requirements.
- 1.5 The economist's approach on the other hand is behavioural and price based. It has the very different intention of understanding the market outcomes of changes in the major determining variables such as demographic change, incomes and relative prices as well as costs of production to provide an understanding of requirements to ensure adequate land and housing is made available.
- 1.6 The government's fundamental objective is to marry these two approaches in a way which enables the planners to carry out their legal responsibilities but takes notice of market pressures – generating a partnership between the market and planning to support the provision of adequate housing into the longer term.

## **2. The Problem**

### **The Barker Review**

- 2.1 Concerns about the negative impact of land use planning system go back to the 1947 Town and Country Planning Act which basically nationalised development rights. These concerns have grown significantly since the 1990 Act, which introduced the plan led system and appears from the statistical evidence to be associated with a structural decline in the responsiveness of supply.
- 2.2 When housing supply fell to historic lows in the face of buoyant economic growth and increasing housing demand the issue became a major priority, not just for housing but for the macro economy. It was in this context that the Treasury asked Kate Barker to look at the issues affecting new housing supply. The review found that the growth in house prices over the longer term had been at least 1% per annum more rapid than in the rest of Europe and the USA. Over a twenty year period this implies a relative increase compared to our competitors of between 25% and 30% – with major impacts on costs of living and wages in the UK.
- 2.3 The fundamental reason that Barker identified was the lack of *responsiveness* in supply to increased demands. In more market orientated countries if demand increases, more land comes forward for development, and construction expands to meet that demand. House prices do rise, mainly because economic growth means land is more valuable, and infrastructure and accessibility improve, but that increase is relatively limited. In the UK as the public sector's role has declined, the private sector has found it impossible, or undesirable, to fill this gap and output levels over each economic cycle have fallen further.
- 2.4 The Barker review made it clear that land and housing supply is a major issue, not just to ensure a decent home at a price they can afford for all households, but to maintain the health of the UK economy (Barker, 2003). The Barker Review identified a range of reasons for this apparent incapacity to respond to demand, including construction techniques and low productivity in the industry; development behaviour and the operation of the land market; and the financing regime in the construction sector. However, the most important factor constraining supply was seen to be the operation of the land use planning system, both directly and through its impact on developer, land use behaviour and expectations (Barker, 2004 and 2006).

### **The Government's response**

- 2.5 The government's initial response to Barker was to set out a 200,000 target for net additions to the housing stock to cover expected household growth and start to reduce the backlog of unmet need. Since that initial response, policy has moved forward with emphasis both on the need to house four generations not three and the fear that affordability will continue to worsen.
- 2.6 The government's approach has included three main strands:

- (i) modifying planning procedures to give greater priority to ensuring land with planning permission is available for residential development through modifications to PPG3 and its replacement PPS3 as well as the Planning Bill now going through Parliament;
- (ii) setting national targets for net new provision based on demographic predictions and the estimated backlog with consequential implications for regional and local decision makers; and
- (iii) introducing an affordability measure to reflect housing pressure as an element in decisions about ensuring additional land supply. This last element is to be implemented in part through the advice of the new National Housing and Planning Advisory Unit (NHPAU).

2.7 Thus the government's response has been to streamline the traditional planning system rather than to make major systematic changes.

2.8 In addition they have provided a large scale increase in public funding for social sector housing which is intended to lever in additional funding from landowners, developers (through S106 and the new Community Infrastructure Levy – CIL), Housing Associations and other social sector suppliers (HM Treasury, 2007). This is aimed at increasing the provision of affordable housing – ie social rented and intermediate tenure housing to help those not able to afford to find their own homes in the market. In other words this funding helps address the problems that arise because affordability in the market is worsening.

2.9 The core of the policy is to increase the numbers of units built both in the private and public sectors. Growth areas have been identified; public land has been targeted; and the National Housing and Planning Advisory Unit has been set up to support the policy. The hope and expectation is that these measures taken together will lead to a step change in annual output to at least 240,000 net additional units by 2016, as compared to around 150,000 at the turn of the century.

2.10 Therefore there are important distinctions between the Barker analysis and the government's response from the point of view of an economist. First, Barker was looking for changes that would make the supply more *elastic* (i.e. more responsive) to demand and price changes. Introducing an affordability measure is therefore aimed at requiring local authorities and regions to *respond* to evidence of pressure measured in price terms by expanding the land available. The government's response has been far more to *shift* supply to a higher level by identifying higher targets and providing finance. This will not necessarily make the system fundamentally more responsive.

2.11 Second, Barker was looking at the longer run in terms of fundamental equilibrium and overall housing investment. In this context she is relatively unconcerned if there are short-term reductions in output if they are in response to price changes as long as the underlying system has been made more responsive to the fundamentals of demand from additional households and particularly more general income growth. The government's response on the other hand is inherently in terms of setting short and medium-term numbers

targets. This has the immediate problem that these may be unobtainable if there is an economic downturn.

## **Planners' concerns**

- 2.12 Land use planning works within a well-defined legal framework and its aim is to modify the way in which the market works so that it better reflects social objectives. The objective is therefore to take account not only of the benefits to owners, occupiers and the local economy of enabling development, but also other effects both positive and negative on the local community.
- 2.13 The legal framework requires planners to organise demand more effectively – in terms of totals, size, type and density - rather than to constrain that demand. However the fundamentals of the process – by which planners respond to proposals for development and re-development – inherently mean that the toolkit at their disposal is mainly that of constraint. It is up to the market to ensure expansion through their proposals.
- 2.14 The basic tension between economists was set out in the 1980s in what became known as the Grigson/ Evans debate (Grigson, 1986; Evans, 1987). Grigson argued that planners simply structure demand more effectively, but more fundamentally that planning can have no effect on house prices because it was inherently such a small proportion of stock. Evans responded – and is still maintaining even more trenchantly - that planning increases prices unnecessarily by constraining overall supply of land (Evans and Hartwich, 2005). The current discussion around the Barker Review is a more sophisticated version of the same argument including: long-term versus short-term; the impact of expectations as compared to immediate requirements; and economic versus political and social pressures (Barker, 2003; Meen et al, 2005)
- 2.15 The immediate concern among planners is therefore that additional housing will do little or nothing to reduce prices and improve affordability in the region but will simply allow more households from other areas to be accommodated. They use as evidence that house prices do not generally decline in pressure areas when output is increased even by quite large amounts.
- 2.16 A rather different issue raised by planners is that they have provided large numbers of planning permission which are not being taken up. Adding to that supply of land with permission will simply allow developers to cherry pick the easiest sites and undermine broader objectives with respect to maintaining urban areas and effectively reusing brownfield sites. These concerns and the evidence that supports them have been well reviewed by Richard Bate in a CPRE report published last year (Green Balance, 2007).
- 2.17 Other tensions between economists and planners relate to the types of housing that should be approved. Economists argue that increasing incomes and aspirations call for the emphasis to be on larger, better quality units while planners, noting the growth in smaller households, the benefits of higher densities, the need to improve affordability and the requirements to provide

social housing, concentrate on enabling smaller units to be built at higher densities (Whitehead, 2008).

- 2.18 All these planning concerns tend to stress the costs of letting out more land for housing and to underestimate the impact of constraints, notably because increases in demand from established households are not taken directly into account. They also are concerned about losing control. The government on the other hand underestimates the complex interaction between different aspects of policy – including ensuring land and finance for affordable housing, the brownfield target, increasing densities, achieving carbon reductions and other sustainability goals, as well as improving affordability and access.
- 2.19 It is hardly surprising therefore that planners often feel that their task is becoming increasingly difficult at the same time as the government is increasingly concerned that their targets are not being achieved. Even so there is a growing opinion in some quarters that the need to enable large-scale sustainable investment is overwhelming.

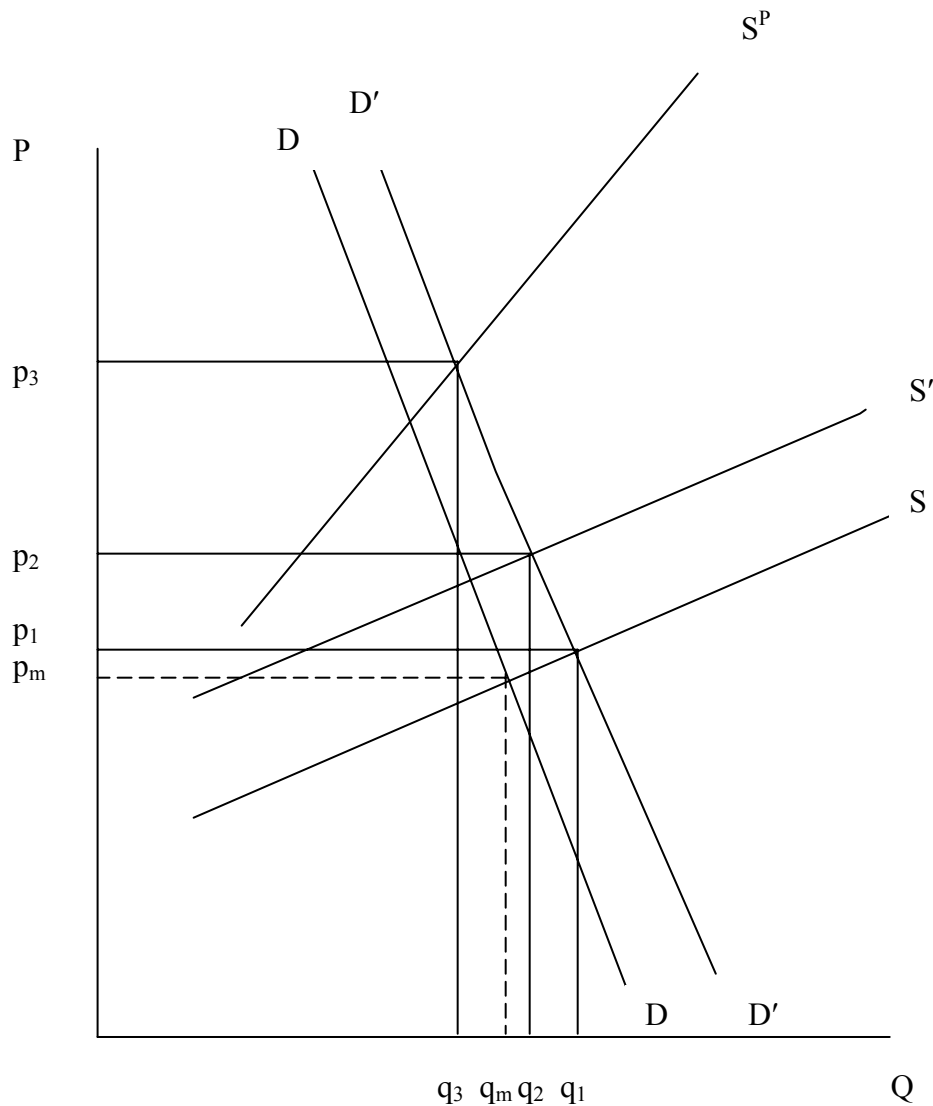
### **3. How Planning Affects Prices and Affordability**

#### **The fundamentals of planning**

- 3.1 Planning to be relevant must change outcomes as compared to what the market would, if left alone, produce. That is its role – as the objective is to offset market failures and to improve the distribution of land use, both spatial and among different income and user groups. Equally as the result is not what the market desires, it is entirely to be expected that market players – notably developers but also other types of users (think Vodaphone and the Wellcome Trust) – will complain bitterly about the constraints they face. What is important therefore is to ensure that the benefits to the economy and community are worth the costs of constraint.
- 3.2 But in helping to improve the organisation of the market planners must take account of the underlying pressures of supply and demand which reflect the values to individuals and the economy of the use to which the land will be put. Demand for land increases with rising incomes and the numbers of households wanting housing – both of these pressures are currently very strong particularly because the income elasticity of demand (the additional quantity demanded when income rises) is measured at around unity. So if incomes rise by 2% per annum over the next twenty years, demand will increase across all households by not far short of 50%. If additional housing is not provided only price increases can reduce this demand.
- 3.3 It may help to think about the impact of planning on the demand, supply and price of housing in stages. Some readers may also find it useful to reflect these impacts in a diagram (Figure 1). First we know that, whatever the planners do, supply cannot simply be expanded at constant cost – so increased demand always has some impact on price – the question is how much; how much that is affected by planning decisions; and how much the constraints placed by planners on supply can be justified because of costs to society arising from development.
- 3.4 In the diagram, we start from a simple market model where demand is equal to supply at  $p_m q_m$ . We also assume, in line with international evidence, that demand is relatively unresponsive to price change while supply in a free market is fairly responsive (Evans, 1999). Using this as a starting point we can examine three possible impacts of planning.
- 3.5 First, it must be remembered that well operating planning systems, by effectively overcoming market failures, increase the demand for, and therefore the price of land (Monk and Whitehead, 2006). As a result of good planning therefore the demand curve shifts upward to the right increasing demand at all prices. Supply then expands in response to that shift in demand – so the new equilibrium results in both higher prices and larger supply – here  $p_1 q_1$ . The greater the responsiveness of supply, the less the price increase and the larger the increase in output generated by effective planning. This is obviously a desirable outcome where planning and the market are working positively together.

- 3.6 However development often generates external (or spillover) costs so that the social costs of development are higher than the market recognises. These must be taken into account when determining permissions. These costs may be obvious to everyone, especially those living nearby, in the form of congestion, pollution and overstrained infrastructure. They may be broader and less tangible costs, such as reduced access to the countryside or, at the limit, loss of amenity never used but where people value its existence. Many of the concerns of those who do not live nearby but look to restrict development come within this second category.
- 3.7 These social costs should be taken into account in determining supply – implying a shift up to the left in the supply curve and thus a reduction in the land made available at any given price. The result will be both a higher price and reduced supply ( $p_2q_2$ ). The distributional impact of these decisions also needs to be taken into account – as it is often the case that the costs are borne more by net entrants and poorer households while the benefits go to established households who value and are able to pay for amenity.
- 3.8 The most difficult issue here is how to value the social costs and benefits of planning. Many of the costs are intangible and are not priced directly on the market. Therefore planners make their own decisions as to the overall value of the development. Where this can go wrong is that the result is not transparent and does not allow comparison between the imputed costs of one decision and another or between one area and another. Equally sometimes it is forgotten that social benefits *include* private benefits – the objective must never be to constrain market decisions unless broader benefits more than offset any costs that can be identified.
- 3.9 Finally, over-regulation occurs when constraints cannot be justified by the difference between social and private costs and benefits and, worse where bad planning decisions reinforce market failure, notably with respect to market power. Such over-regulation will increase land prices above the optimal level and will lead to an undesirable reduction in the supply of land ( $p_3q_3$ ). Moreover, the more unresponsive the demand for land to increases in price, the greater the increase in price arising from over regulation – and thus the worse the effect on affordability.
- 3.10 The concern of the Barker Review, and most economists, is that currently the planning system values external costs, the impact on the established community more highly than the benefits to the economy and to newcomers. In particular that planning procedures make supply far too unresponsive to changes in demand and price. The outcome is that land, and therefore house, prices are far above those that could be rationalised on the basis of either the positive benefits of planning or market failures.

**Figure 1: Planning, Prices and Residential Land Supply**



$p_m q_m$  = price and output: pure market

$p_1 q_1$  = price and output: well-organised planning system – higher price/  
higher output (without external costs)

$p_2 q_2$  = price and output: well organised planning system with adjustment for  
external costs – higher price/lower output

$p_3 q_3$  = price and output: over-regulation – higher price/lower output

## **Evaluating the impact on prices**

- 3.11 The difference between the price of land before and after planning permission gives a first estimate of the impact of constraint. This difference in price can then be compared with the social benefits (or reductions in social cost) arising from the constraint to assess whether it can be justified on economic grounds.
- 3.12 There are other factors that can generate the difference. In particular the gap will be increased if planning permissions provide access to infrastructure where the developer does not have to pay the full cost or where there is rationed supply. Equally if the market expects constraints to continue into the future the value of obtaining permission will be higher.
- 3.13 Even taking these factors into account the larger the gap between existing use value and the value of the land with planning permission, the greater is the likelihood that planning decisions are not only too constraining but also that the market expects these constraints to continue into the future. At the present time the price gap on greenfield land can be £millions per hectare as compared to as little as £10,000 per hectare in agricultural use. It should also be remembered that the impact of limiting the use of land for residential purposes will be to reduce the price of land in existing uses – and sometimes to increase vacancy – except to the extent that there is ‘hope’ value involved.
- 3.14 Although agricultural land prices are now increasing, this very large gap, at the least, needs a lot of explanation. Moreover it must always be remembered that although the optimal gap reflects social value, any additional constraint reflects real social costs, not just in terms of lost productivity from the misuse of land but also from worsening affordability.

## **Impacts on affordability**

- 3.15 Increases in house prices worsen affordability and, if incomes do not keep pace, these increases exclude marginal entrants to the housing market. Inadequate supply therefore increases the need to provide subsidised affordable housing to ensure that excluded households are adequately housed. The main instrument for achieving this expansion in affordable housing supply is through Section 106 contributions – and the potential for such contributions increases with the extent of constraint. If as a result of providing affordable housing, the quantity of market housing is further constrained there is a continuing vicious circle – putting up prices of market housing and requiring further affordable homes to be provided.
- 3.16 Existing owners on the other hand benefit from the increased prices through capital gains as well as the capacity to borrow against these gains to increase consumption of other goods and services. Their only costs come from any negative impact on the economy as a whole and from the increased need to assist their children into owner-occupation.
- 3.17 Finally the whole system, based as it is on expectations as much as on current demand, has the potential to generate greater volatility in house prices as well as increased financial risks – the picture we see unfolding at the present time. It is hardly surprising therefore that the government would like to break out of

this complex cycle by ensuring not only that more housing is provided but also that supply is more responsive to market signals.

## **4. Two Approaches to Measuring Requirement**

### **Projecting requirements**

- 4.1 The projections approach has been developed since the mid 1970s as a means of estimating housing and land requirements, as well as estimating the funding needed to ensure affordable housing (Department of Environment, 1977). It is exactly what it says: a means of projecting, not forecasting, demand and need. In particular because it is based on past trends in behaviour it assumes that the future behaviour will be like the past.
- 4.2 The projections approach involves three main elements:
- demographic projections taking into account not only the government's estimates of changes in numbers of total population and households but breaking these down by types of household and age with their differential probabilities of being in particular tenures;
  - an estimate of the backlog of unmet need – measured in terms of concealed and sharing households who on government agreed standards require a separate home, plus other housing needs which may or may not be potentially satisfied from the existing stock; and
  - assumptions about vacancy rates; stock transfer between tenures; second homes and vacancy rates based on past experience.
- 4.3 The biggest areas of uncertainty in these models relate to the household projections. The majority of estimates over the last thirty years have proved to be below actual rates of household formation. This has been less true since the turn of the century – resulting in a major downward re-estimation of the numbers once the 2001 census based figures were introduced, although these do not greatly change the projected trends in future numbers but simply the baseline (Department of Communities and Local Government, 2007a and 2008; Holmans and Whitehead, 2005).
- 4.4 It is worth repeating that the output of the model is not a forecast but simply a baseline projection against which to evaluate plans and outcomes. Nor will the outcomes directly accommodate the identified households. This will depend on how the market and the social sector operate.
- 4.5 The most obvious benefit of this type of approach is that the outputs closely match the way in which planners determine land allocations and the mix between market and affordable housing. It is thus fairly user friendly. Moreover the output measures and therefore the measure of success are closely aligned with policy in that they are numbers based. In particular it addresses:
- (i) the net new additions required to meet projected demand and need; and
  - (ii) the net numbers of households currently in the backlog of housing need that could additionally be accommodated.

- 4.6 It thus directly relates to the government's current target based approach to additional housing supply.
- 4.7 The negative aspects of this approach are also clear-cut:
- (i) prices and affordability are not directly included in the model (except to the extent that the proportion of affordable housing required is estimated based on past trends in outcomes);
  - (ii) the pressures on the market from increasing demand from established households are not measured, and
  - (iii) more fundamentally the model does not directly estimate any of the market relationships which determine behaviour and cannot therefore directly address issues of the responsiveness of demand and supply to changes in policy.

### **The economic/behavioural model**

- 4.8 The Reading Affordability model has been developed in response to the Barker Review to examine the market relationships and particularly the impact of additional supply on prices and affordability at national and regional levels (Meen et al, 2005). It was funded by the Department of Communities and Local Government and is a major part of the evidence base for their drive towards higher levels of output. It is also being used by NHPAU as the basis for their work on affordability (NHPAU, 2007).
- 4.9 The Reading model includes a highly sophisticated set of structural equations which aim to predict demand and house prices in the long run. The demand side directly measures not only the relationship between demographic change and household formation, based on price and income elasticities, but also takes direct account of how changes in incomes and prices affect that demand particularly with respect to tenure and preparedness to afford market housing. It also links the labour market to the housing market so helps to explain how opportunities differ between regions.
- 4.10 Any such model must include important assumptions about behaviour, notably with respect to the relationship between owner-occupation and the private rented sector; how the social sector impacts on the market; and inter-regional mobility.
- 4.11 The current version is fundamentally a market sector model in which the social rented sector is supply determined and the relationship between the owner-occupied and private rented sector is assumed to be in equilibrium. The latest version includes equations that estimate demolitions, second homes, vacancies and supply response at regional level as well as national level.
- 4.12 The most obvious difference with the projection model is that there is no direct relationship between the numbers of new households and the numbers of additional dwellings that will be required – although demographic factors still dominate changes in demand, especially at the national level. Rather increases in demand from all sources - demographics, incomes changes in attitudes to housing etc. affect price which helps to bring forward supply (based on long run supply elasticities) and thus determine the longer term impact on prices.

Increasing supply by adding x thousand additional units directly impacts on total supply, reducing price, increasing affordability and increasing the numbers of households that can be accommodated.

- 4.13 However the fundamental relationships are not in terms of numbers of dwellings. In principle in the model, demand is measured in terms of standard units of housing. Therefore it includes the additional demand from existing households arising eg. from increased incomes (or reduced user costs) as well as that from net newly forming households. The logic behind the model is therefore basically that of a filtering model where the demand enters anywhere up the income scale; those who move because their demand increases leave property to be taken by others so that property filters down market until eventually it becomes vacant and is ultimately demolished.
- 4.14 In this type of model demand can be satisfied by increased investment in the existing stock as well as by additional units. Equally as relative prices of existing vacant units fall, different households can afford housing and additional new households may form taking up the vacant units. One might also expect the length of time that a unit remains vacant to increase as it becomes relatively less desirable or adjustment is slow.
- 4.15 Successful outcomes in this model are measured by changes in prices and relative prices across the country and only indirectly by affordability because the relationship is not constant. Numbers, in particular net new additions, are only one element in assessing outcomes.

### **The outcomes of the affordability model**

- 4.16 Net additions to the stock of housing (defined as new build completions plus or minus net conversions of existing residential stock minus demolitions) will either:
- accommodate new households either directly or more usually indirectly in that the dwelling is purchased by an existing household and through a chain of sales and purchase an additional household is housed;
  - reduce sharing – because with greater availability/lower prices households are enabled to purchase or rent separate units;
  - increase the numbers of second homes – via the same process;
  - increase vacancy rates – most usually by a marginal increase in the time that each unit remains vacant; or finally,
  - a dwelling somewhere down the line can be left derelict and/or be demolished.
- 4.17 As these are market processes all of the outcomes are the result not just of new completions but of households (and investment) behaviour in response to the expanded supply. The impacts may be spread widely in spatial terms – so for instance an additional dwelling in the South East may enable a household to

stay in the region, thus reducing demand in another region and ultimately perhaps generating increased vacancy in still another region.

- 4.18 At the national level the model suggests that about one third of additional units go to accommodate additional households. This occurs through the filtering process by which existing households move into better accommodation; through purchases by landlords that increase privately rented accommodation and directly through purchases by first time buyers. The other two thirds go to enabling the overall market to work better. As a result there is some positive impact on house prices and affordability as well as some increase in vacancy rates, second homes and ultimately demolitions of the poorest stock. However all of these impacts are very small because the effect is dispersed across the whole stock (Meen et al, 2005; Meen et al, forthcoming).
- 4.19 At regional level, the proportion of additional supply that goes to accommodate additional households is higher the more pressured the area. This is particularly true in London where there is evidence that household formation is being constrained by house prices and availability (Holmans with Whitehead, 2005 and 2006). Additional housing in these regions will also act to slow down outmigration to the other regions as relative price and availability change. Given the relative flows of interregional migration, this is a more likely outcome than that additional immigration will occur. The same, of course, applies to London – the more net additions can be increased in London the less will be the outmigration to the South East and other contiguous regions. [In this context it should also be noted that the impact of immigration into London on outmigration from London to elsewhere in the country has significantly declined as compared to the 1980s and early 1990s – but of course the absolute flows are greater].
- 4.20 In pressure areas such as the South East the effect of expanding supply will not only be to house more households but also to reduce sharing and overcrowding both through greater market availability and through direct social provision. Additional supply will also increase vacancy rates which are particularly low in the South East putting additional pressure on house prices. A more balanced market would also have the longer term effect of dampening expectations about further house prices – helping to reduce demand.
- 4.21 It must be remembered that all these effects will inherently be very small in the short and medium-term because net new additions are a tiny element in the total stock and so cannot be expected to have large scale effects. What is important however is that the direct effects in terms of accommodating additional households and improving housing conditions are highest in pressure areas such as the South East.

## 5. Understanding the outputs of the model

### The impact on house prices

- 5.1 As stated above, the effect of increasing supply even though it may be a very large increase in net new additions can only add very little to total supply in the short and even medium-term. However over time the effects build up in two ways – first, the numbers involved become an increasing proportion of the total and, second, the fact that people can see that supply is responding affects expectations and their views on likely capital gains and therefore on demand. In particular increasing supply in high demand areas will generally have a smaller impact on house prices than in areas where expansion goes more to generate vacancies and turnover simply because there is more pent-up demand in pressure areas. Thus the expansion in supply goes more directly to house additional householders and to modify migration.
- 5.2 The NHPAU response to the Green Paper (NHPAU, 2007) sets out the impact of different levels of net new additions in both house prices and affordability, based on their version of the Reading model. The results are similar - except to the extent that NHPAU has looked at higher levels of output and more variations of the allocation of that output between regions and house types.

**Table 1: Supply Scenarios – Lower Quartile House Price to Earnings Ratio**

	Net Additions	2007	2016	2026
<b>1. Regional Spatial Strategy</b>				
South East	32,000	8.4	10.1	12.4
London	30,500	9.0	9.9	11.0
England	201,068	7.1	8.0	10.0
<b>2. Government Housing Targets based on 2004 Projections</b>				
South East	35,031	8.4	9.9	11.9
London	34,902	9.0	9.7	10.4
England	221,035	7.1	7.9	9.5
<b>3. Unmet need in 3 host regions (SE, SW and E)</b>				
South East	35,909	8.4	9.9	11.8
London	32,959	9.0	9.8	10.6
England	221,083	7.1	7.9	9.4
<b>4. Above RSS in SE, SW and E</b>				
South East	39,928	8.4	9.7	11.1
London	30,740	9.0	9.9	10.8
England	220,814	7.1	7.8	9.1
<b>5. NHPAU Advice</b>				
270,000 – Above RSS in SE, SW and E				
South East	45,152	8.4	9.4	9.6
London	31,159	9.0	9.9	10.5
England	236,113	7.1	7.7	8.2

Source: NHPAU (2007)

- 5.3 Table 1 extracted from their report suggests increasing supply from the current numbers in the Regional Spatial Strategies to the government targets based on 2004 household projections will only slow the increase in the relevant national price to income ratio by one half of one percent by 2026. The reduction is

similar in the South East and slightly greater in London. Concentrating the additions in the pressure regions in the South – which implies increasing net additions in the South East by nearly 7,000 units per annum (ie. more than a 20% increase over the RSS) reduces the ratio by 1.4. Even so at 11.1 it remains the second highest of all regions after the South West and is 2.6 above the estimate for 2007.

- 5.4 Increasing net output in line with NHPAU advice generates a more significant reduction in the price to income ratio to 9.6 but would imply annual output levels of over 45,000 units – 40% above the current RSS. Turning to the proportions of younger couple households able to afford at least a purpose built flat (Table 2) the model suggests that there will be a disastrous decline in access to owner-occupation across the country if levels of output are held at RSS levels but that the worsening impact is less in both London and the South East – in part because couple households benefit more from increasing incomes in their regions. Even so the proportion able to afford drops from almost one half to under 34% in twenty years. Increasing output to government target levels, and allocating that increase to the three least affordable regions, has a much better effect. It improves the proportions able to afford by 5.4% nationally and by 2.7% in the South East.

**Table 2: Proportions of 30-34 year old couples able to afford a Purpose Built Flat**

	2007	2016	2026
<b>Regional Spatial Strategy</b>			
South East	49.7	37.8	33.9
London	51.9	43.4	34.5
England	55.6	44.0	30.9
<b>HMG housing targets – distributed in line with 2004-based household projections</b>			
South East	49.7	37.9	35.1
London	51.9	45.1	40.2
England	55.6	45.0	34.4
<b>Growth above RSS allocated to least affordable housing</b>			
South East	49.7	38.0	36.6
London	51.9	43.8	36.8
England	55.6	45.4	36.3
<b>NHPAU 270,000</b>			
South East	49.7	38.2	38.0
London	51.9	44.1	38.7
England	55.6	46.5	41.8

Source: NHPAU (2007)

- 5.5 Using the NHPAU target, the proportion able to afford increases by a further 5.5% to nearly 42% overall by 2026, although many of the benefits are felt outside London and the South East where the improvements are limited to 1.9% and 1.5% respectively.
- 5.6 These figures suggest that the direct impact on house prices and affordability of quite large increases in output are relatively limited even over a twenty year period. However they also show how, without such increases, the negative effects on affordability will continue to grow quite rapidly. Even reducing the rate of increase in that worsening affordability must be desirable. As

importantly, making up for inadequate levels of output over the last thirty years cannot be done in a day, or even a decade.

- 5.7 How should these figures be interpreted? There is no reason to doubt the general thrust: additional new housing will have desirable effects but will not significantly affect prices and affordability unless output levels can be increased by large amounts for long periods of time. Equally, building more in pressured areas will accommodate more households and impact on the areas where affordability is worsening most rapidly.
- 5.8 There is a lot of reason to doubt over-detailed interpretation of these figures. The model has many simplifications and becomes less robust the lower the spatial level. Most importantly models must assume constant relationships – although not constant values for the determining variables, so if policy succeeds in changing attitudes, demands – or indeed market responsiveness – the outcomes would be very different. In the most optimistic world knowing there will always be adequate land available could reduce expectations of further increases in prices reducing demand and putting more land on the market – producing a positive cycle which could significantly improve prices and affordability without enormous expansion in output.
- 5.9 Another issue of importance is the impact of the type of housing being produced on prices and affordability. Table 3, also based on the NHPAU analysis, makes it clear that if higher proportions of new units are larger dwellings – implying significantly higher investment – the positive impact of expanding supply will be considerably greater. This follows from the filtering nature of the model which ultimately requires more investment from whatever source – in existing units as well as in the new stock – to reduce pressure of demand.

**Table 3: The impact of different sized housing on affordability**

Illustrative effect of property type on affordability prospects – 240k net additions (RSS uplifted)	Lower quartile house price to earnings ratio - point estimates		
	2007	2016	2026
A bias towards 2 bedroom properties	7.1	8.4	10.6
A bias towards 4 bedroom properties	7.1	7.8	9.1

Source: NHPAU (2007)

- 5.10 By contrast our current output mix which places even more emphasis on smaller units – both in terms of numbers of rooms and space per dwelling – is adding far less to total supply than the equivalent numbers of units in the past. Table 4 shows how rapidly the mix has changed away from houses to flats and from larger to smaller dwellings. As a result although output levels have increased by 26% in England as a whole and 29% in the South East in the 5 years since 2000/01 the estimated numbers of bedrooms has increased by only 10% overall and 11% in the south East. Given that room sizes have also

declined the net impact of the increase in numbers on the total investment in space terms has hardly increased at all. This means that there has been almost no downward pressure on house prices over that period arising from increased supply – although, as might have been predicted, there has been a change in the relative prices of flats and house and of smaller and larger dwellings.

**Table 4: The Changing Make Up of Completions in England and the South East**

	<b>2000/2001</b> (%)	<b>2005/2006</b> (%)	<b>Change</b> (%)
<b>England</b>			
1 bed	7	10	
2 bed	27	42	
3 bed	34	27	
4 + bed	32	21	
Flats	20 (25,970)	46 (75,160)	+189%
Houses	80 (103,890)	54 (88,230)	-15%
<b>Total</b>	<b>129,860</b>	<b>163,400</b>	<b>+26%</b>
Number of bedrooms (est on basis of 4.5 rooms)	400,000	440,360	+10%
<b>South East</b>			
1 bed	8%	13%	
2 bed	27%	49%	
3 bed	33%	22%	
4 + bed	33%	16%	
Flats	23% (5,020)	54% (15,230)	203%
Houses	78% (17,030)	46% (12,980)	-24%
<b>Total</b>	<b>21,840</b>	<b>28,200</b>	<b>+29%</b>
Number of bedroom (est)	67,590	74,900	+11%

Source: DCLG Housing Statistics

- 5.11 Thus the NHPAU model, like the Reading model, makes it possible to estimate the effectiveness of additional building, given the built in assumptions of these models. These outcomes cannot be assessed within the quantity based requirements modelling. What is important though is to recognise that models are tools which require careful interpretation in relation to the evolving picture of the housing system.

## **Improving housing conditions**

- 5.12 The fundamental reason for increasing supply is to improve housing conditions and the operation of the housing market – giving people more choice, more space and greater capacity to move to suitable locations.
- 5.13 Expanding supply in the pressure areas has a greater impact on conditions than increasing output more generally. Even though prices do not fall much over the period significant numbers of new households are enabled to form; overcrowding and sharing are reduced; and filtering takes place which enables existing households better to meet their demands. This is partly as a result of slightly increased vacancy rates which make the market more responsive and less subject to price volatility (Meen et al, forthcoming).
- 5.14 Inherently there is no easy measure of success – one additional dwelling does not help one specific household. Rather the market responds to allow a bit more housing across a wide range of households. But the obverse is also true – if the investment is not made everything tightens and housing conditions worsen and everyone obtains worse value for money. Of course the impact of expanding investment will be greater the more the surrounding regions expand investment commensurately. If London is able to achieve their targets, pressures on the South East will be marginally reduced. Similarly expanding output in the rest of the South will reduce pressure across the broader region and provide greater choice.
- 5.15 Equally investment in the existing stock would have similar positive benefits. Enabling extensions and other means of meeting increasing demand from those already well housed will reduce pressure on households newly entering the market. Further, building larger, higher quality units implies greater investment from a given number of units and therefore has greater filtering benefits and reduces pressure especially in the context of a growing economy.
- 5.16 Perhaps the most important benefit of consistent expansion of supply of both housing and land with planning permission is that drip by drip evidence will change people's expectations that by investing in more housing they are on a one way bet. If expectations of capital gains are reduced people's demand for housing above those that meet their own consumption requirements will decline. This in turn will improve affordability for lower income households. It will also have a disproportionate impact on modifying land prices and ultimately land owners' expectations and generating better pipeline of developable land – and a more consistently profitable and output oriented housing construction industry.
- 5.17 This is the long-term goal – but it depends upon ensuring expansion of supply across the full range of housing over significant periods of time. Short-term

variations in output, arising from the cyclical nature of the economy and demand, do not detract from the requirement to expand supply over the long-term.

- 5.18 It should be stressed again that, given the pressures in the South East, the benefits to households of expanding investment are significantly more immediate and greater than in other regions. Equally, policies to decrease demand among better off households, through for example increasing inheritance or capital gains tax, would have a one-off benefit but would not help to make supply more responsive in the longer term. Indeed they might have a perverse effect by reducing new supply because of short-term adjustment problems. There are almost certainly good measures which could be introduced to modify the tax system better to reflect real resource costs. But this is a separate national issue. Increasing property taxes would also have an impact on reducing direct pressure on the demand for housing as do rises in utility costs. But their impact is far greater on those at the lower end of the system worsening the distribution of income and overall affordability.
- 5.19 Ultimately there is no doubt that housing supply has been over constrained as compared to our international competitors for most of the post war period, and that this is worsening not just affordability but equally importantly, housing conditions for particular groups of households. For the first twenty years of that period the costs of these constraints were offset by direct government investment in public sector housing. Since then the structure of the planning system has changed with the consequence that constraints on the market have increased; the costs of constraint have also increased as incomes and aspirations have risen; and the whole housing investment process both in the market and the social sector have become more market oriented. The result has been not only higher house prices but greater volatility and distorted supply decisions.

## **6. Conclusions**

- 6.1 The Affordability model is a tool where the user can both better understand the system and simulate the outcomes of policy. The outcomes of the model show that additional housing will help the operation of the market and improve housing conditions. However this benefit will be spread widely across households so the impact on price will be quite limited. The model provides useful insights into the way in which the market operates in response to changes in demand and supply, helping decision makers to understand the impacts not only on price but also on the numbers housed and the utilisation of the existing stock. The model is particularly important in clarifying the ways that dwellings and households filter through the system to generate the need for additional housing. It also points towards areas of policy that can further improve the market – notably building larger rather than smaller units and increasing investment in the existing stock.
- 6.2 Models are however inherently limited by their assumptions and by the quality of data that are available. They are most useful when they are included in a broader based analysis and monitoring process which can also take account of other more qualitative evidence. But they do have the immense benefit of providing a transparent benchmark against which both to make decisions where costs and benefits are transparently weighed and to evaluate the outcome of these decisions.
- 6.3 Most importantly modelling should not be rejected because it cannot answer every question or because the outcomes are actually different. What we observe in the market is the outcome of a series of short-term pressures not a long-run equilibrium. The predictions of the model will never look exactly like the actual outcomes. Rather the model helps explain how the market responds and enables feedback processes to be better understood. Most importantly the modelling evidence makes it clear that there are very significant social costs to constraint that must be taken into account if planning and the market are to work in partnership to produce reasonable quality affordable housing for all.

## ***Bibliography***

Barker, K., (2003) *Review of Housing Supply, Securing our Future Housing Needs: Interim Report – Analysis*, London, HMSO

Barker, K., (2004) *Review of Housing Supply: Securing Future Housing Needs, Final Report*, London, HM Treasury

Barker, K., (2006) *Review of Land Use Planning*, London, HM Treasury

Department of Communities and Local Government, (2007) *Homes for the Future: More Affordable, More Sustainable*, Cm 7191, London, TSO

Department of Communities and Local Government, (2007a) *Projections of households in the English regions to 2029*, London, DCLG

Department of Communities and Local Government, (2008) *Revised projections of households in the English regions to 2026*, London, DCLG

Department of Environment, (1977) *Housing Policy Review, A Consultative Document Cmnd 6851*, Technical volume 2, London, HMSO

Evans, A., (1987) *House Prices and Land Prices in the South East: A Review*, London, House Builders Federation

Evans, A.W., (1999) 'The land market and government intervention' in Cheshire, P. and Mills, E. (eds) *Handbook of Regional and Urban Economics, Applied Urban Economics*, vol 3, Amsterdam, Elsevier, North Holland

Evans, A.W. & Hartwich, O.M., (2005) *Unaffordable Housing; Fables and Myths*, London, Planning Exchange

Green Balance, (2007) *Planning for Housing Affordability*, CPRE, London

Grigson, W., (1986) *House Prices in Perspective: A Review of South-East Evidence*, London, SERPLAN

H.M. Treasury, (2007) *Meeting the Aspirations of the British People*, Cm 7227, London TSO

Holmans, A. & Whitehead, C. M. E. (2005) 'Household Growth, Housing Demand and Housing Requirements', *Town and Country Planning*, vol 72, no 10

Holmans, A. & Whitehead, C. M. E. (2006) *More Households to be Housed: Where is the Increase Coming From?*, London, the Town and Country Planning Association

Meen G et al (2005) *Affordability Targets: Implications for Housing Supply*, London, ODPM

Meen, G. et al (forthcoming) *Recent Developments in the Communities and Local Government Affordability Model – to be made available on DCLG website*

Monk, S. & Whitehead, C.M.E. (2006) *Does Spatial Planning Increase Value and Welfare?* London, RTPI

National Housing and Planning Advice Unit (NHPAU), (2007), *Developing a Target Range for the Supply of New Homes across England*, Titchfield, NHPAU

Whitehead, C.M. E., (2008) *The Density Debate: A Personal View*, London, East Thames Group