

Review of Housing Supply

Securing our Future Housing Needs

Interim Report - Analysis



Kate Barker
December 2003

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Foreword

The long-term upward trend in house prices and recent problems of affordability are the clearest manifestations of a housing shortage in the UK. In some regions and localities there is a mismatch between the nature of the houses available and what is required to meet the needs and aspirations of that area. The consequence of these shortages is not simply a matter of unmet housing need. Housing has profound and often unappreciated impacts upon our lives. It directly affects our quality of life, our health and well-being; it determines our transport needs and often our choice of work; it affects our family structures and our friendship networks. Housing also affects our national economic well-being; the rate of economic growth and our prosperity. It also influences the distribution of resources between regions, individuals and generations.

As well as the significance of housing supply for national economic well-being and individual welfare, housing supply is highly relevant to the issue of membership of Economic and Monetary Union (EMU). In 2003, HM Treasury published its assessment of the five economic tests and 18 supporting studies.¹ The assessment of the five tests concluded that:

“...the incompatibility of housing structures means that the housing market is a high risk factor to the achievement of settled and sustainable convergence”

The study shows that low housing supply responsiveness could have contributed to the greater trend increase in real house prices in the UK. The study also noted that UK households had greater ease of access to additional equity resulting from house price rises. Together, these characteristics meant that increases in house prices tended to have a stronger influence on consumer spending than in many other countries. The assessment concluded that reforms that reduced the sensitivity of consumer spending to fluctuations in house prices could enhance stability and flexibility if the UK were to join EMU. Such reforms would also enhance macroeconomic stability outside of EMU, and hence measures to improve the responsiveness of housing supply should yield benefits whether or not the UK were to decide to join the euro area.

In February of this year the Deputy Prime Minister announced an additional 200,000 homes to be built by 2016 and identified four growth areas. The Sustainable Communities Plan recognised that it is essential to tackle the challenges of a rapidly changing population, the needs of the economy, serious housing shortages in London and the South East and the impact of housing abandonment in some areas.²

Against that background the Chancellor of the Exchequer and Deputy Prime Minister set up this Review on 9 April 2003 with the following Terms of Reference:

- Conduct a review of issues underlying the lack of supply and responsiveness of housing in the UK;
- In particular to consider:
 - the role of competition, capacity, technology and finance of the housebuilding industry; and

¹ The EMU assessment and supporting studies are available on the HM Treasury website at http://www.hm-treasury.gov.uk/documents/the_euro/euro_index_index.cfm

² ODPM, *Sustainable Communities: Building for the Future*, (2003).

- the interaction of these factors with the planning system and the Government's sustainable development objectives;
- Consult with key stakeholders to establish views and inform analysis; and
- If appropriate, identify options for Government action, including the use of fiscal instruments.

My aim in this interim report is to set out the costs and benefits of a better housing supply and to identify ways in which housing supply, as it currently operates, affects our economic and social well-being. This Review also recognises the importance of taking into consideration the environmental and social impact of housebuilding. The report estimates the scale of the housing shortage in the UK and assesses the poor response of housing supply. I have also identified what, in my view at this interim stage of the Review, are the main causes of shortage and unresponsiveness.

This report sets out the evidence so far and explains our analytical approach:

- following this foreword is an Executive Summary which provides an overview of the Review's interim findings and highlights some areas of particular interest to the Review which will be considered further for the final report;
- Chapters 1 to 3:
 - explore the consequences of an undersupply of houses;
 - examine the degree of unresponsiveness of the housing market; and
 - discuss the scale of undersupply.
- Chapters 4 to 6 consider constraints affecting the housebuilding industry, in particular:
 - the characteristics of the industry, the importance of risk and land acquisition;
 - the nature of competition in the industry; and
 - the role of capacity and technology.
- Chapters 7-10 examine the policy environment in which development takes place and the policy levers available to Government to influence housing output:
 - describing how taxation affects housing supply;
 - analysing the role of the planning system in constraining housing supply; and
 - discussing possible barriers to delivering affordable housing.

The analysis presented in this report draws upon the contributions that interested parties have made to the Review. I would like to thank warmly the very many people and organisations who have contributed advice, shared their expertise, offered papers to the Review and given generously of their time. The Review has also undertaken a series of regional visits and examined case study areas in order to gain a more detailed understanding of the issues that affect the delivery of housing developments. Details of all those who contributed to the Review and case study areas are detailed in Annex B. I am particularly grateful to Professors Geoff Meen and

John Muellbauer who, working in a personal capacity, undertook to review aspects of this study. All content, conclusions, errors and omissions in this report are, however, the Review's alone.

I wish to continue to consult openly before preparing a final report in Spring 2004. The report is being sent to many organisations and individuals with an interest in housing. Over the next few months the Review team will be inviting stakeholders to attend either regional or national roundtable discussions to hear their views on the interim report and possible policy solutions.

A handwritten signature in black ink, appearing to read 'John Muellbauer', with a horizontal line underneath it.

Further copies of this report can be obtained from the Review website at www.barkerreview.org.uk

Executive summary

INTRODUCTION

1 Housing has a huge impact on individuals' quality of life. Being adequately housed, and living in a pleasant environment is fundamental to well-being. The housing market also has a major effect on the economy. An inadequate housing supply, or a poorly-functioning housing market, constrains economic growth. Demand for housing in the UK continues to grow. Population growth, changing patterns of household formation and rising incomes are all fuelling demand for homes, yet in 2001 the construction of new houses fell to its lowest level since the second world war. Over the ten years to 2002, output of new homes was 12½ per cent lower than for the previous ten years.

2 There is considerable evidence that a shortage of housing exists in the UK, but the nature of this shortage is complex. Simply comparing the number of households and the number of dwellings fails to capture mismatches between the location of supply and demand or between the type of housing desired and that which is available. In addition some existing stock fails to meet the needs and aspirations of today's households. Current housing output is insufficient to meet new demand. There is also a need to replace housing stock that has outlived its useful life.

3 The consequences of the way in which the housing market operates should be a concern for everyone. Over the last thirty years UK house prices have risen in real terms by around 2½ per cent a year. This stands in contrast to some other countries, such as France, Sweden and Germany, where real house prices have remained broadly constant or even declined. One reason for this trend is the weak response of housing supply to changes in demand. Higher demand therefore tends to be translated into higher house prices rather than increased output of houses. This poor supply responsiveness is also one of the factors which have resulted in marked volatility in UK house prices. In recent years house prices have risen sharply in almost all parts of the UK, fuelling concerns about affordability with consequent unwelcome effects on individuals and the economy.

4 Clearly, just providing additional houses is not enough. The Government's strong focus on building sustainable communities is also vital, and this Review recognises how important it is to promote that goal. Important reforms to deliver a faster, more transparent and more effective planning system are also underway. Other reviews, such as that being undertaken by Sir John Egan, are considering the requirements of sustainability. This Review is concerned with looking at how far the UK has fallen short of providing an adequate supply of housing, and the adverse effects an unresponsive housing supply can bring about. In reality there are many housing markets, operating primarily at local levels, but this Review is mainly focussed on the overall framework within which regional and local decisions about housing should be set. An analysis of possible sources of constraint on supply is presented, in the context of the existing policy framework.

WHY UK HOUSE PRICES MATTER

5 The UK housing market is unusual when set in an international context. Evidence in Table 1 shows that trend UK real house price inflation has been higher than the European average (1.1 per cent per annum) between 1971 and 2001. With the exception of Spain the UK had the highest real price inflation in Europe over the period at around 2½ per cent per annum. House prices have risen particularly sharply in recent years, up by an estimated 9 per cent per annum from 1996 to 2002¹. Although much of this rise is attributable to other factors, such as the effect of lower interest rates and expectations of greater economic stability, the weak supply response to these higher prices has also played a role. But the more fundamental issue is that a weak supply response has contributed to the UK's atypical long-term house price behaviour.

Table 1: Real house price inflation, 1971-2001

	Average ¹	Trend ²	Volatility of house prices around trend ³	Correlation of private consumption and house price inflation
UK	3.3	2.4	15.1	0.85
Germany	0.1	0.0	11.1	0.33 ⁵
France	1.2	0.8	7.6	0.50
Italy	1.5	1.2	15.5	0.14
Spain ⁴	3.3	3.0	17.3	0.55
Netherlands	2.8	1.3	25.1	0.73
Belgium	2.1	1.7	14.3	0.38
Ireland	3.1	2.2	17.4	0.66
Sweden	0.0	-1.0	19.0	0.73
Finland	0.7	0.7	13.5	0.64
Denmark	1.3	0.2	13.4	0.64
Average	1.8	1.1	15.4	0.56

¹ Geometric mean.

² Based on a regression of (log) real house prices on a constant and a time trend.

³ Coefficient of variation.

⁴ Spain between 1972 and 2001 only.

⁵ Excludes former East Germany except private consumption growth 1992-2001.

Source: Bank for International Settlements HM Treasury's 'Housing, Consumption and EMU', EMU Study, 2003.

6 Volatility has also been a feature of the UK housing market over the longer term, with successive periods of strong house price growth in the early 1970s and the late 1980s being followed by periods of real house price decline. Table 1 also shows the close link between changes in house prices and spending. The sensitivity of household spending to housing wealth and house prices is higher in the UK than elsewhere in Europe, so house price volatility may have a greater impact on the UK economy. Expectations of house price growth also affect the user cost of housing (the cost of housing less the benefit of price appreciation). This will amplify the volatility of demand for housing because households' expectations of substantial future house price changes can alter their behaviour compared to a period of more stable prices. The expectations of housebuilders are also a key factor in determining their supply decisions. Time lags between the decision to build and completion can further exacerbate volatility. A lack of responsiveness of supply means that increases in demand will feed directly into higher house prices.

¹ ODPM mix-adjusted house price data.

7 Home owners often view rising house prices as a positive attribute of our housing market. Capital appreciation has increased individuals' wealth, and the scope for equity withdrawal has enabled them to realise additional spending power. But rising house prices also have unwelcome and unhelpful consequences for our economic well-being:

- Lower rates of housebuilding constrain economic growth, reducing standards of living for everyone in the UK. Reduced housing supply damages the flexibility and performance of the UK economy, having a negative impact on business location decisions and competitiveness. Regional price differentials reduce labour mobility and lead to increased national unemployment.
- Restricting supply leads to a loss of economic welfare. Constraining supply means that resources which would have been used for housing are instead used for other potentially less beneficial purpose or not used at all. This leads to an inefficient allocation of resources creating a deadweight loss. One counterfactual simulation suggests that if real house prices had risen in line with the European average since 1975, the UK would be £8 billion better off.
- The housing market also contributes to macroeconomic volatility. House price volatility feeds through into the wider economy, as changes in house prices and housing wealth are closely linked to private consumption. Household spending influences economic activity. In the past the combination of low levels of investment, high levels of owner occupation, high house price volatility and regional divergences together have created a more challenging environment for the conduct of economic policy.
- Higher house prices create affordability problems. An increasing number of people cannot afford to buy houses. In 2002, only 37 per cent of new households could afford to buy a property, compared to 46 per cent in the late 1980s. Declining affordability also has wider consequences, restricting labour market flexibility, hampering the delivery of public services and leading to longer commuting times affecting individuals' quality of life and environment.
- An undersupply of houses has distributional consequences that may be regarded as unwelcome. Higher house prices will result in a transfer of resources from those outside the housing market and those entering the housing market to existing home owners, landowners and, to some extent, housebuilders. The low rate of housebuilding in the UK over the last few years and the trend rate of house price increases suggests that the rate of home ownership (approximately 70 per cent at present) may only increase to around 72 per cent in 2016. For non-home owners the distribution of wealth will become increasingly unequal.

8 In the long term, the shortage of housing and related rising prices have a negative effect on all of us. In any time period, however, the most significant adverse effect of too few homes is on those who end up inadequately housed or homeless. The weakness of the present situation is all too real:

- for individual households: first time buyers in 2001 paid £27 billion more than if house prices had remained at 1975 levels in real terms. This is equivalent to each first time buyer paying an extra £48,000. First time buyers paid £18 billion more than if house prices had risen in line with those seen in other European countries with each first time buyer paying an extra £32,000; and
- for the homeless: the number of households in England in temporary accommodation has almost doubled between 1995 and 2003, from 46,000 to over 93,000 (the majority of which are in London and the South East). Housing supply is an important aspect, though not the only factor, behind this rise.

WHAT DRIVES UK HOUSE PRICES

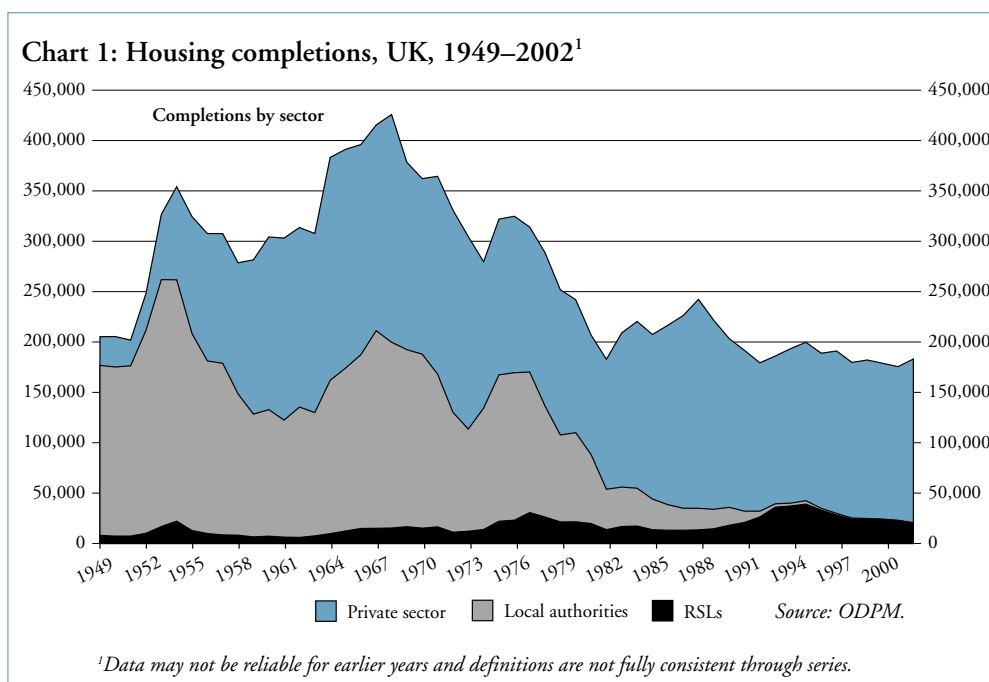
9 Strong house price growth in the UK stems in part from a high propensity to consume housing services, influenced by a number of factors such as:

- cultural preferences for home ownership, combined with policies that have encouraged home ownership such as the Right to Buy and Right to Acquire and, in the past, the relatively generous tax treatment of owner occupation;
- a more responsive and competitive lending market resulting from financial liberalisation; and
- the knowledge that housing is a good investment, given the price trends described above.

10 However, demand side factors alone cannot explain the high rate of house price growth seen in the UK, nor are they independent of supply. Chart 1 shows the decline in housebuilding over the past 50 years. The UK has had a relatively weak housing supply, having invested a low proportion of GDP in housing compared to other EU countries since 1960. Internationally, UK housing completions are also relatively low compared to the existing housing stock. At current rates of replacement a new house built today would need to last around 1,200 years.

11 Formal estimates of supply responsiveness suggest that housing output in the UK responds relatively weakly to changes in house prices. Against a background of rising demand, this will contribute to higher house prices than might otherwise be the case:

- international comparisons show that the supply of housing in the UK is less price responsive than in most other major economies. Our housing supply is only half as responsive as the French housing market, a third as responsive as the US market, and only a quarter as responsive as the German housing market;
- studies also show that supply has become less responsive over time. Before the war, it was up to four times as responsive as it was through most of the post-war period; and
- the responsiveness of housing supply has declined further in the 1990s, falling almost to zero, implying no change in housing output in response to the increases in price. Increasing demand has therefore fed directly into higher house prices.



HOW MANY HOUSES SHOULD WE BUILD?

12 The above discussion suggests that the UK housing market has not been delivering a socially optimum outcome. This optimum would need to strike the right balance between the environmental and other costs of housing and the macro and microeconomic benefits of satisfying demand more fully.

13 The socially optimum outcome is not just about overall numbers of houses, but also the type of housing and its location. Housing targets in England are determined by Regional Planning Bodies through Regional Planning Guidance (RPG). Regional Planning Bodies implicitly seek to establish a social optimum, though they might not use this term, in making decisions about the desired number of houses. Rates of housebuilding in the past have been below the rate required to meet these targets. RPG for England indicates that nearly 155,000 houses per annum should be built, but average annual completions between 1996 and 2001 were just over 140,000, suggesting a shortfall of nearly 15,000 units.

14 Looked at purely from the perspective of the UK economy, more housing would be beneficial. Different approaches to measuring the shortfall, produce a range of estimates:

- projections of population growth and changing patterns of household formation (a proxy for future demand), compared to current build rates implies there is a current shortfall of 39,000 homes in England per annum, of which 8,000 are private sector and 31,000 are affordable homes. In addition there is a backlog of around 450,000 households without self contained dwellings;
- keeping affordability for new households in line with that in the 1980s would imply a current shortfall of between 93,000 and 146,000 homes per annum in England, of which, 20,000 to 45,000 are owner occupied private sector homes and 73,000 to 101,000 are affordable; and

- reducing the long-term trend in house prices to zero real growth would imply an additional 240,000² homes per annum across the UK. To lower real trend price to 1.1³ per cent, 145,000⁴ more houses per annum might be needed, about double the current private sector housing output of 150,000 units⁵.

15 The Government has already acknowledged that more houses are needed. *Sustainable Communities: Building for the Future*⁶ sets out the Government's ambition to deliver an additional 200,000 homes by 2016, over and above those currently planned for through RPG. However, if the Government wishes to deliver a better functioning housing market, more houses may be required.

16 There are no obvious right answers as to how many more houses should be built. The number varies depending on the weight given to different policy objectives. Government has to consider a variety of possible objectives: improving economic performance and reducing housing market volatility; protecting the environment and open spaces; and ensuring that communities are sustainable. Determining housing numbers also requires consideration of regional and local housing markets and economies. Often supply and demand are spatially at odds, suggesting further problems which cannot be solved simply by building more houses regardless of location.

17 The UK is a relatively densely populated country, leading to concern that additional housebuilding will result in open spaces being concreted over. Actual land requirements will depend upon the density at which new homes are built and the extent to which previously developed land is utilised. In the South East⁷, over 60 per cent of land is protected (either greenbelt or designated conservation or protected area), 11.4 per cent is urbanised. Of the remaining land 1.5 per cent is required for future planned housebuilding between now and 2016. This requirement could be reduced further through even higher densities or better use of previously developed land.

CONSTRAINTS ON SUPPLY

18 Why are fewer houses built than might be desirable and why does output not respond to price signals? The Review has considered a range of factors that might constrain supply, arising from market failures and the underlying policy environment, including:

- industry constraints such as the competitiveness of housebuilders, capacity constraints relating to skills and innovation and the availability of finance; and
- the role of policy levers such as tax, regulation through the planning system and housing subsidies.

19 The underlying constraint on housing is the supply of land. This is constrained by a range of factors:

- the housebuilding industry, its response to risk and the speculative nature of land leading to a reluctance to build out large sites quickly;
- the increasingly complex nature of sites (especially brownfield), where significant

² This is the central estimate of a range of housebuilding figures in Table 3.4.

³ This is the average trend rate of house price growth for the European countries in Table 1.

⁴ Ibid.

⁵ These figures are subject to a number of assumptions, set out in Chapter 3.

⁶ ODPM, *Sustainable Communities: Building for the Future*, (2003).⁶ ODPM, *Sustainable Communities: Building for the Future*, (2003).

⁷ South East is the ROSE area (Rest of South East) – equivalent to the Government Office South East region plus Essex, Hertfordshire and Bedfordshire..

remediation may be required;

- land ownership and the incentives to bring land forward for development along with the difficulties of site assembly, where ownership is fragmented;
- the planning system and its influence over the amount of land which is made available and whether development is viable through the delivery of necessary infrastructure; and
- land use is also politically contentious.

Policy levers

20 Government has a range of policy levers available to influence the supply of houses. Many of these are intended to reduce the negative externalities that can be associated with housing and promote positive externalities. Policy levers are potentially substitutable, so the same objective can often be achieved (and may be better achieved) by employing different instruments.

Tax

21 The tax regime interacts with land and housing in a number of ways at both the national and local level.

- The scarcity of land, combined with the operation of the planning system, results in significant windfall profits (known as economic rents) accruing to landowners. Previous attempts to capture this windfall gain through taxation have been largely unsuccessful.
- Previously, Government policies designed to encourage institutional investment in property through the tax regime have also had little success. However, there is merit in the Government considering a tax-transparent vehicle (based on the US Real Estate Investment Trust model) to encourage increased institutional investment.
- Aspects of the tax system favour home ownership above private renting. Tenants may be paying around 18 per cent more for a similar property after tax than an owner occupier. However, it is unlikely that this in itself has a significant impact on supply.
- The stamp duty regime is unlikely to be a significant constraint on housing supply. However, there may be particular distortions in behaviour near stamp duty thresholds.

The planning system

22 Housing development is often contentious and highly politicised. Local people often worry about:

- the possible loss of open space and the changing nature of their town or village;
- the potential impact on property values for those in close proximity to development, particularly if housing developments are poor quality, aimed purely at increasing numbers rather than creating communities in which people want to live; and
- the increased pressure on infrastructure and local services, which can lead to resources and services becoming more thinly stretched.

23 The present planning framework is not always able to balance appropriately the true social costs and benefits of development. In part this is because these costs and benefits are not accurately reflected in the incentives offered to and pressures faced by decision makers:

- local authorities face few sanctions if they fail to provide the housing numbers allocated by RPG;
- the local costs of development are considerable – as financial benefits to local authorities from increased population growth are slow to materialise; and
- those in need of housing are much less likely to have a strong voice in the political process compared to those who are already housed.

Many believe that housing numbers determined by Regional Planning Bodies are lower than they should be, reflecting what is politically feasible rather than what is socially optimal. At a local level the result is that less land is being made available for development than is required, given the price signals in regional or local housing markets. The release of land tends to be focussed on annual or five yearly targets, rather than on meeting demand and responding to market signals. The targets are often so contentious that there may be a reluctance to exceed them even if there is clear evidence of unmet demand.

24 Once housing numbers are agreed and land is allocated in local plans, delivery of housing can be constrained by a number of factors.

- Land availability may be constrained. 69 per cent of brownfield land may not be developable for the foreseeable future, owing to planning constraints or lack of demand in that locality. While there are often clear benefits to development on brownfield land, such as aiding regeneration, it is more complex and often more costly. Targets for brownfield development may also push up demand, and hence prices, for brownfield land.
- The planning system is complex, timescales are often unacceptably long and the requirements of planning can be used to prevent development. Refusals for planning permissions for major housing developments have gone up from 15 per cent in 1996-99 to 25 per cent in 2002.
- Specific infrastructure barriers, such as the delivery and funding of transport and water services also prevent or delay development. In the South East alone, over 40,000 dwellings have planning permission but are being held up by infrastructure shortcomings. Agencies responsible for transport and social infrastructure, such as schools and hospitals, are focussed on maintaining existing services rather than planning for growth.

Planning reforms being introduced by the Office of the Deputy Prime Minister, additional resources for local authority planning functions and a more proactive intervention strategy to deal with poorly performing local authorities, will all help to improve the effectiveness of the planning system.

Affordable housing

25 The level of affordable housing is largely determined by the extent to which government chooses to provide subsidy. If the amount of public subsidy allocated to social housing was increased and there were no constraints on land there would be more social housing delivered. Key constraints on the supply of affordable housing are the cost and availability of land. It is also important to ensure that Registered Social Landlords (RSLs) use their resources efficiently.

26 In the market for land, RSLs are likely to be frequently outbid by private housebuilders, particularly when land values are increasing. To help overcome land availability problems, private housebuilders are increasingly required to produce affordable housing through Section 106 agreements. However, the cost of such housing can be high, as private housebuilders tend to develop in higher value locations. In a less buoyant housing market there is likely to be much less scope to deliver affordable housing through Section 106.

The housebuilding industry

27 The housebuilding industry and its behaviour are, in part, a product of the policy environment. The industry faces two particular types of risk. Market risk arises from the volatility of house prices (a 1 per cent change in house prices can increase or reduce profits by up to 8 per cent). Site-specific risk covers those risks associated with land acquisition, gaining planning permission and the construction process.

28 These risks partly explain why the housebuilding industry is reluctant to make long term fixed commitments. The industry attempts to manage risk in a number of ways:

- by outsourcing many functions;
- by raising finance through retained profits rather than debt or equity; and
- by using option contracts to acquire land.

29 However, industry aversion to risk also manifests itself in:

- low levels of investment in brownfield development arising from housebuilders' reluctance to tackle complex brownfield or high rise developments (exacerbating the market failures typically associated with such developments);
- low levels of innovation, such as a reluctance to invest in off site manufacture and other innovative production techniques; and
- a lack of responsiveness, often arising from industry anxiety about being caught out by a period of housing market decline.

30 The Review has found little evidence, at least across the country as a whole, to substantiate concerns that option contracts and the practice of landbanking allow housebuilders to erect barriers to entry into the market. However, once land is acquired competitive pressure in the industry is reduced. In some localities a single housebuilder may have significant market power while the site is built out. Many housebuilders "trickle-out" houses, controlling production rates to protect themselves against price volatility and any adverse influence on prices in the local housing market, particularly when the development is large. This reduces responsiveness and while it may be rational behaviour for housebuilders, given that land is a scarce resource which society values, it is unlikely to be optimal for society as a whole. Faster rates of production may be more socially beneficial.

31 There may also be a more fundamental interaction between the existence of a housing shortage and the performance of the housebuilding industry:

- Limited land supply means that competition tends to be focussed on land acquisition rather than on consumers. Housebuilders' profitability depends on obtaining valuable land rather than building a higher quality product in ever more efficient ways.

- This might indicate a degree of regulatory complacency which has allowed the industry to settle into a low output equilibrium. Low output in the short run appears to suit many players – local authorities, home owners and arguably the industry. The only people it does not suit is the homeless, first time buyers and those inadequately housed. In the long-run, as argued above, there are negative impacts on the economy.

32 The industry does face some constraints:

- over 80 per cent of firms report skill shortages. These reports are supported by the fact that wages for skilled craftsmen are increasing faster than in the rest of the economy; and
- without changes in labour productivity, even modest growth in output could lead to a requirement for around 70,000 further employees in the housebuilding industry. A more substantial expansion of output would increase this still further, possibly up to 280,000 people.

33 Greater use of technology can lead to improved quality, and may also assist in dealing with skills constraints. English housebuilders are around 50 per cent more labour intensive than those in Denmark, and 25 per cent more than those in Scotland; labour intensity in England has been remarkably constant over the last 25 years. The industry has been relatively slow to adopt alternative manufacturing techniques – such as off site manufacture, and steel and timber frame construction. Reasons for the historic lack of innovation may include risk aversion, uncertainty caused by planning delays and the attitudes of consumers, lenders and warranty providers.

CONCLUSIONS & NEXT STEPS

33 UK economic well-being could be improved by increasing the supply of housing. Set against this, consideration needs to be given to the associated environmental costs. This gives rise to difficult choices, and the Government needs to weigh carefully its different policy objectives to determine its overall approach to housing. Making a real difference to housing supply may require a robust set of policies. In the final report the analysis set out above will be taken further and a policy agenda set out.

1

Housing and economic welfare

Overview

Since 1970, UK house prices have risen in real terms by around 2½ per cent a year. This is one of the highest trends in Europe and compares to an average rise in European house prices of 1.1 per cent in real terms. Volatility has also been a feature of the UK housing market over the longer term with successive periods of strong house price growth being followed by periods of real house price decline.

For many home owners, rising house prices have been a source of considerable gains in income and wealth. But the way our housing market works carries costs for society:

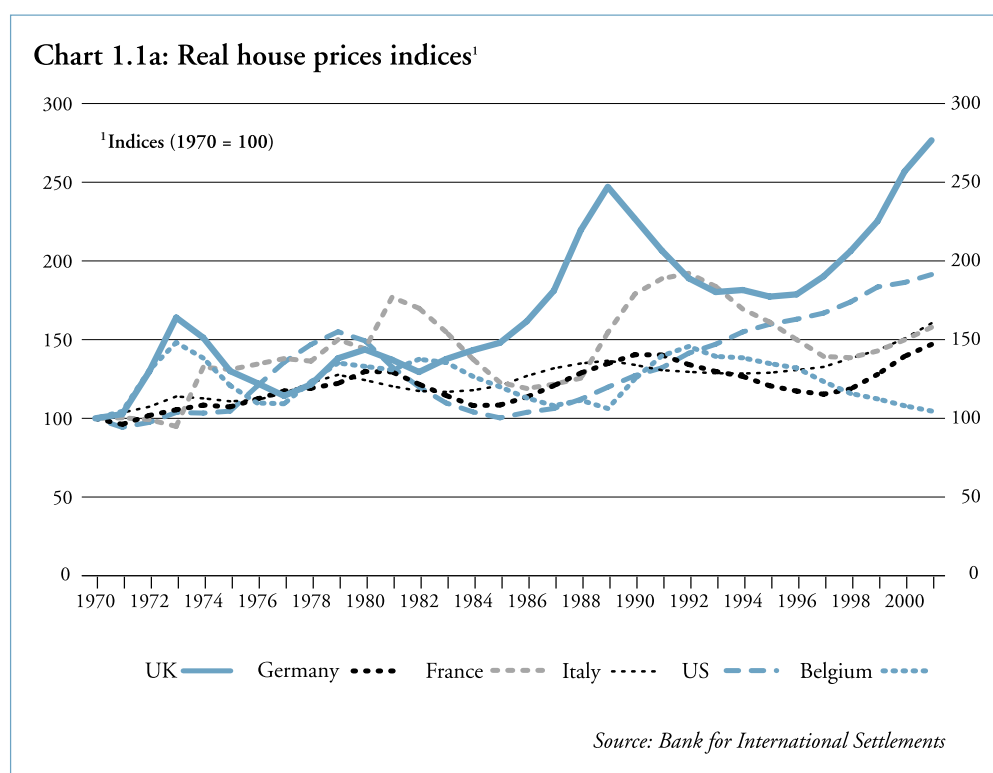
- Lower housebuilding constrains economic growth, reducing standards of living for everyone and damaging the flexibility of the UK economy. Significant differentials in the price of housing between areas mean that people who live in lower priced regions find it difficult to move to higher priced regions. This reduces labour mobility - and leads to increased national unemployment.
- First time buyers in 2001 paid an extra £32,000 each on average than if housing supply had been higher since 1975. Landowners and property speculators would have been worse off.
- Productive resources may not be put to their best use, reducing efficiency. This waste of resources has a real cost and reduces economic welfare. One estimate suggests that if real house prices had risen in line with the European average since 1975, the UK would be £8 billion better off.
- The housing market also contributes to wider macroeconomic volatility through its influence on household consumption decisions. This creates a more challenging environment for the conduct of macroeconomic policy.
- Expectations of substantial future house price changes can alter household behaviour and increase demand, amplifying volatility. Expectations are also a factor in determining housebuilders' supply decisions, potentially further exacerbating volatility.
- An increasing proportion of people cannot afford to buy housing. In the late 1980s, 46 per cent of new households could afford to buy a property. Last year, this number had reduced to 37 per cent.
- Homelessness is the most visible aspect of poor housing affordability as well as social problems. More now need to be accommodated in temporary dwellings, especially in London.

Society also benefits from the environmental gain associated with preserving land. People place a value on land which is undeveloped. Surveys show that city parks are particularly valued – at around £50,000 per year per hectare. Intensive agricultural land is valued much less – at around £200 per year per hectare.

FEATURES OF THE UK HOUSING MARKET

1.1 The UK housing market is unusual, in that over the past 30 years there has been a long-term upward trend in real house prices of around 2½ per cent per annum, broadly in line with incomes. This means that unlike many other goods and services, houses have not become cheaper over time when compared to incomes. By contrast, as Charts 1.1a and 1.1b, and Table 1.1 show, though the UK is not unique in experiencing long-term real house price increases, the increases in many other European countries, such as France and Germany, have been much lower.

1.2 The UK's small landmass relative to its population might drive prices up faster than countries where land is a less scarce commodity. But long-term real house price increases are not an inevitable feature of housing markets. In fact, the UK's experience has been the result of a series of choices that have created today's housing market. These are explored later in this report.



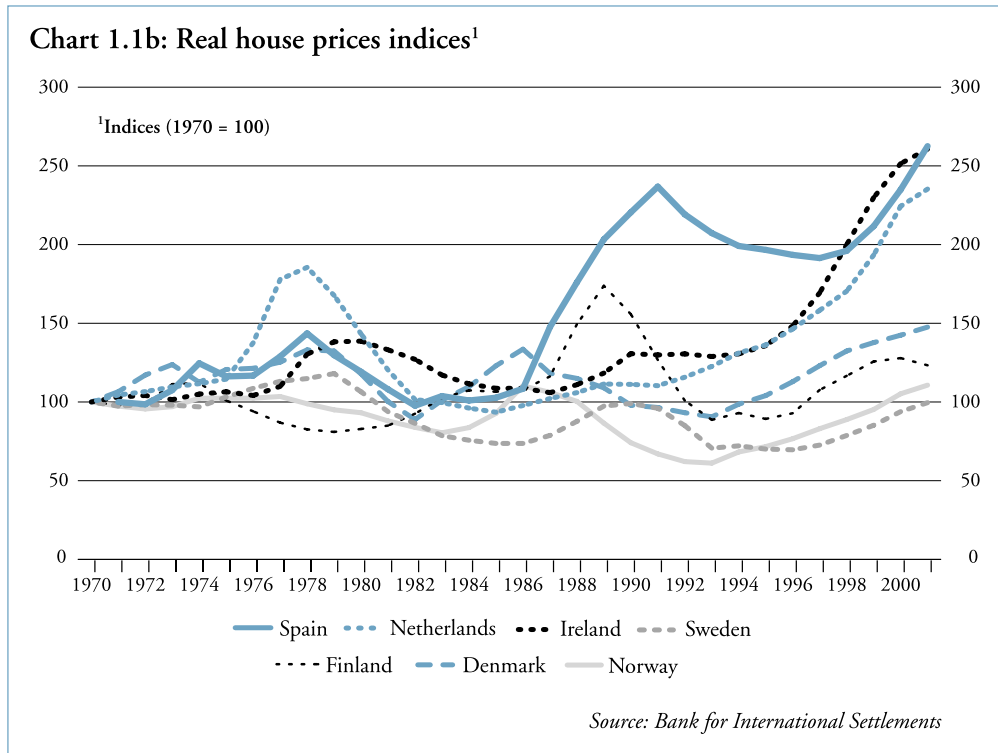


Table 1.1: Real house price inflation, 1971-2001

	Average ¹	Trend ²	Volatility of house prices around trend ³	Correlation of private consumption and house price inflation
UK	3.3	2.4	15.1	0.85
Germany	0.1	0.0	11.1	0.33
France	1.2	0.8	7.6	0.50
Italy	1.5	1.2	15.5	0.14
Spain ⁴	3.3	3.0	17.3	0.55
Netherlands	2.8	1.3	25.1	0.73
Belgium	2.1	1.7	14.3	0.38
Ireland	3.1	2.2	17.4	0.66
Sweden	0.0	-1.0	19.0	0.73
Finland	0.7	0.7	13.5	0.64
Denmark	1.3	0.2	13.4	0.64
Average	1.8	1.1	15.4	0.56

¹ Geometric mean.

² Based on a regression of (log) real house prices on a constant and a time trend.

³ Coefficient of variation.

⁴ Spain between 1972 and 2001 only.

Source: Bank for International Settlements HM Treasury 'Housing Consumption and EMU: EMU Study, (2003).

1.3 It is clear that strong cycles in the housing market have also been a feature of UK economic life over the past 30 years. While Table 1.1 shows that the UK has not been unusual in this regard, volatility is notably lower in both France and Germany, private consumption, in the UK, tends to be more sensitive to changes in house prices than in other European countries. So, house price volatility may have a greater impact on the UK economy. The housing market, together with its influence on household spending, has been an important consideration in the UK Monetary Policy Committee's decisions about interest rates. The Government's June 2003 Economic and Monetary Union (EMU) assessment sets out the relationship between interest rates, housing and consumption and the importance of our housing market for macroeconomic stability.

1.4 Changes in interest rates affect household spending directly and indirectly. If interest rates fall, the cost of mortgage financing falls for many borrowers and current consumption will normally rise (offset in part by the adverse effect on savers). The indirect effect of a fall in interest rates is an increase in demand for housing (as it has become cheaper in terms of 'user cost', see below), increasing the price of houses. As a consequence, housing wealth rises, which in turn may lead to higher consumption by easing credit constraints. In a prolonged period of falling or lower interest rates, the extent of the price rise and associated wealth effect on consumption will depend in part upon the responsiveness of the supply of housing. If responsiveness is poor, prices will rise by more. The UK's recent experience also suggests there may have been a structural shift towards higher house prices, brought about by the low inflationary environment and the lower inflation and interest rate volatility that come with it.

CONCEPTUAL FRAMEWORK

1.5 Evidence explored in more detail in Chapter 2 indicates that UK housebuilding is unresponsive to changes in price. This weak supply responsiveness leads to a number of outcomes. These are likely to be:

- households making more intensive use of housing - either by sharing housing, or living in smaller dwellings;
- households being encouraged to seek substitutes in the form of a less desired tenure (such as the rental sector), or in a different location; and
- upward pressure on prices when supply fails to keep pace with demand.

1.6 Unlike most other goods and services, housing market outcomes can have significant implications for the economic and social well-being of the UK economy. This chapter considers:

- the welfare impacts associated with a lack of supply and the distributional consequences of higher house prices. It points out that compared to a lower trend growth of house prices, first time buyers are up to £32,000 worse off, and those in the housing market £8 billion worse off as a result of supply constraints pushing up house prices faster than in other European countries (paragraphs 1.8 to 1.16);
- the effects of housing on macroeconomic stability and the demand side of the economy. If the housing market had worked better since 1994, then GDP could be up to £16 billion higher with an additional 650,000 jobs. It also considers the role of housing in exacerbating volatility (paragraphs 1.17 to 1.36);

- the effects of housing supply on the supply side of the economy and economic performance, including labour mobility and unemployment. It argues that housing and its quality can create rigidities in the economy. Migration as a result of improved housing supply can have permanent effects in boosting economic potential (paragraphs 1.37 to 1.42);
- the affordability of housing is briefly presented, but covered in more depth in Chapter 3. It also looks at the impact of housing on homelessness (paragraphs 1.43 to 1.46);
- the need to set additional housebuilding against the benefits of housing supply restraint. It points out that society values city parkland very highly compared to intensively farmed agricultural land. These valuations are important in weighing the relative costs and benefits of housebuilding (paragraphs 1.47 to 1.51); and
- the regional and local housing sub-markets, where high and low demand areas can coexist. It shows how factors such as housing quality and market segregation leave the UK with areas of high and low demand (paragraphs 1.52 to 1.57).

Housing also affects social well-being with well-documented adverse effects of poor housing on health¹ and education². While these consequences are important concerns, they are not explored in detail in this Review.

1.7 For the purposes of analysis and illustration, this chapter initially assumes there is a single housing market. However, talking about the UK housing market, or even a number of regional markets, is a simplification. Housing markets seldom operate simply at a regional level, but interact with other areas with similar housing type, sometimes in the same region, and sometimes over large distances³. This point is picked up later in this chapter.

WELFARE IMPACTS

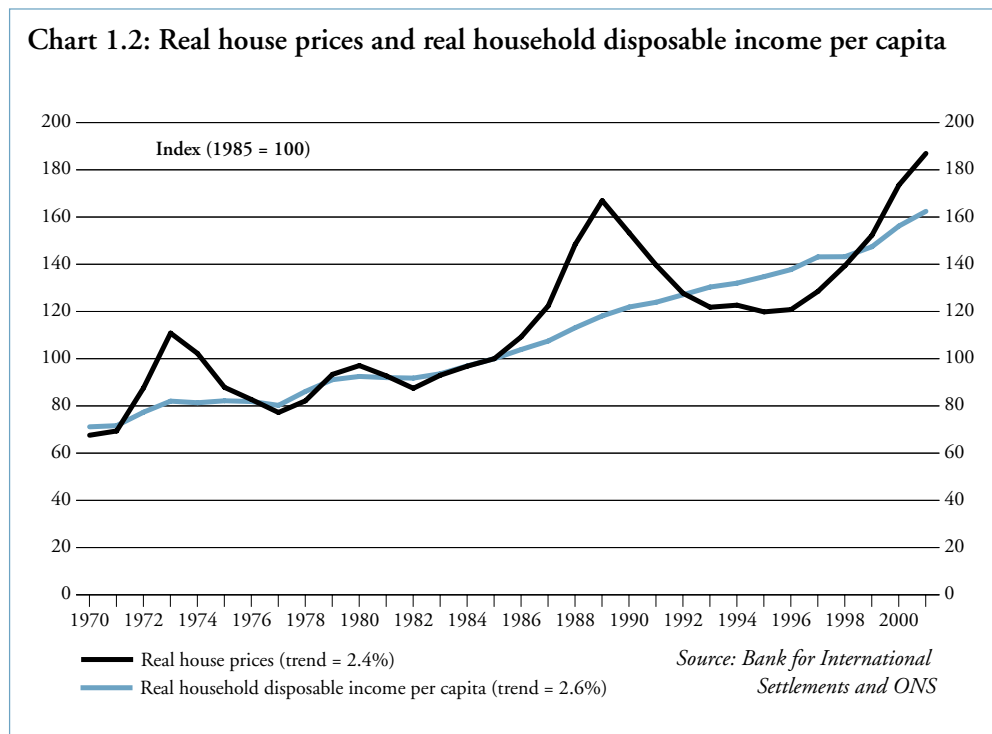
1.8 The term welfare refers both to efficiency and the distributional consequences arising from the way in which markets operate. In many European countries, house price to income ratios are lower than they were 30 years ago and households have seen correspondingly higher growth of disposable incomes after the cost of house purchase is taken into account. House price to income ratios in Germany, for example, appear to have fallen by 30 per cent over the past 30 years⁴. Chart 1.2 illustrates the contrast in the UK, where house prices have risen almost in line with household disposable incomes since 1970.

¹ Vostanis, P. and Cumella, S., *Homeless Children: problems and needs*, (1999) and British Medical Association *Housing and Health: Building for the future*, (2003).

² Quilgars, D. (2001) 'The Incidence and Impact of Homelessness' in Bradshaw, J. (ed) *Poverty, the outcomes for children: Family Policy Studies Centre Occasional Paper 26*; and HM Inspectors of Schools *A survey of the education of children living in Temporary Accommodation*, Department for Education and Skills, (1990).

³ It has been argued by some that part of Edinburgh's housing market is in the same housing sub-market as parts of London, as there are many people who have moved between the cities due to their employment in the financial services sector.

⁴ Although this may partly reflect the effects of reunification. German house price data are of poor quality, so that composition changes may account for some of these trends.



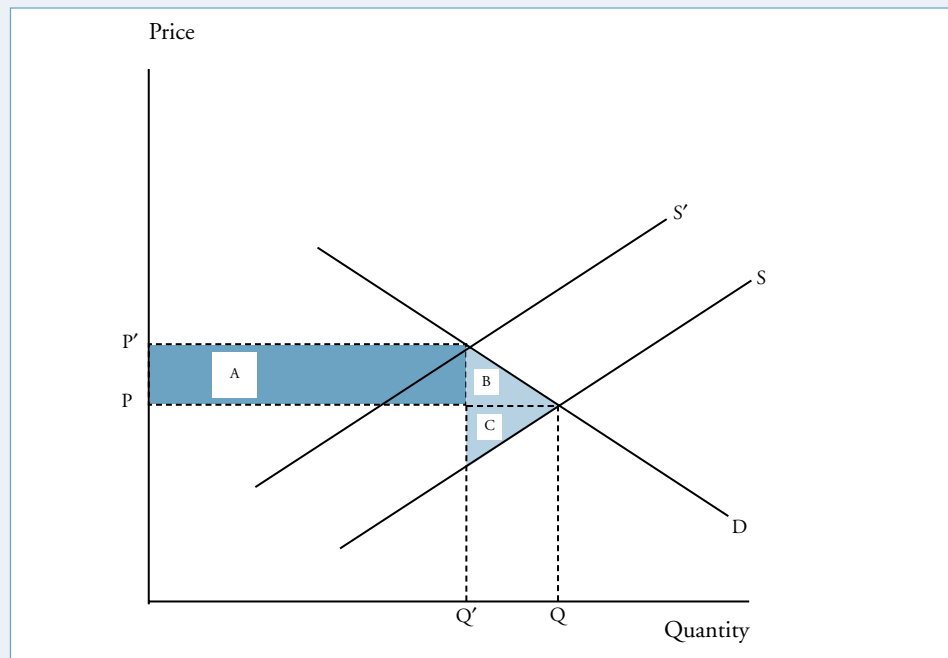
1.9 As for any good, a lack of housing supply causes a loss of welfare to society from a sub-optimal level of provision. This needs to be set against the environmental and amenity benefits, and infrastructure costs foregone, of restricting supply. This welfare loss arises as both consumers and producers lose potential income and welfare on account of fewer houses being built, bought and sold. A broad estimate of this welfare loss can be calculated by comparing housing output and house prices today with a simple counterfactual. What if real house prices had not risen or risen by significantly less over the past few decades because of greater growth in supply? A cost-benefit analysis approach is illustrated by the chart in Box 1.1.

Box 1.1 Welfare loss due to housing undersupply⁵

The chart below illustrates how the welfare impact of a restricted supply of housing arises. The supply curve, S , represents the stock of housing at various prices. Higher prices lead to a higher stock level, as it becomes more profitable for housebuilders to supply housing at these higher prices. The demand curve, D , represents households' demand for housing at different prices. Lower prices make housing more affordable, which increases the amount of housing demanded. Supply curve, S' , represents the housing stock on the basis that supply is restricted to below the level the market would want to build.

The impact of artificially reducing supply from S to S' is shown by the shaded boxes. Box A represents the benefit that those inside the market (home owners and landowners) gain at the expense of those outside the market (home buyers). Boxes A and B represent the loss of consumer surplus, from fewer households acquiring housing (Q' instead of Q), and those who do acquire housing have to pay a higher price (P' instead of P).

The restricted supply also has an overall net cost to the housing market and the economy, shown by the deadweight areas, B and C, the overall welfare loss caused by fewer housing transactions. Fewer households will benefit from housing, and housebuilders and homeowners have less revenue from fewer sales, all of which reduces overall income and welfare.



⁵ There will also be some welfare gain from restricting supply if there are environmental costs of a higher level of housebuilding.

1.10 Experian Business Strategies has carried out a study⁶ using simplified assumptions⁷ to quantify the impact of greater housing supply, resulting in lower real prices, under two alternative scenarios:

- scenario 1: suppose housing supply had been higher over the period 1975 to 2002 so that real house prices in the UK were the same in the two years; and
- scenario 2: suppose housing supply had been higher by the amount necessary to give an average growth rate of real prices of 1.1 per cent (the average trend price growth of the European countries from Table 1.1).

The study estimates:

- the loss of consumer surplus (areas A plus B in Box 1.1) as £91bn and £59bn in scenarios 1 and 2 respectively. This consumer surplus loss will apply to all households buying housing, including those trading up within the housing market;
- the impact on first time buyers in 2001 as £27 billion under scenario 1, equivalent to each first time buyer being £48,000 worse off. The impact is £18 billion under scenario 2, equivalent to first time buyers being £32,000 worse off; and
- the loss to the economy (represented by areas B plus C) is £15 billion and £8 billion in scenarios 1 and 2 respectively.

Distributional impacts

1.11 The distributional consequences of the loss in consumer surplus are complex. Table 1.2 below offers a broad classification of winners and losers.

Table 1.2: Distributional consequences of higher house prices

Losers	Winners
First time buyers	Retirees/home owners trading down
Home owners trading up	Property speculators
Inward migrants	Outward migrants
Other non-home owners	Landowners

⁶ Experian Business Strategies, *The Economic Impact of Restriction on Housing Supply: An Investigation for the Barker Review*, (2003).

⁷ By necessity, this analysis uses highly simplified assumptions in order to produce the counterfactual scenarios. As such it needs some qualifications and the results should be interpreted with caution. First it is not clear what institutional and regulatory changes would have been necessary to produce the supply and so price outcomes in the counterfactual. It is more than likely that different mixes of these changes would themselves have had important allocative efficiency consequences. Secondly, the feedbacks in the economy generated by these changes are ignored in the study, which effectively assumes real GDP would have been unchanged and ignores the wider feedbacks via interest rates, consumer debt and portfolio decisions and investment decisions by firms. Thirdly, the analysis is essentially static, and so ignores the issues of changes in the distribution of resources between generations. Fourthly, it ignores efficiency losses due to excess volatility. And finally, the analysis is at the level of the UK economy as if there were a single housing market. The potentially large locational misallocation of resources under current institutional arrangements, compared with alternatives is therefore not addressed.

Redistribution 1.12 The redistributive effects from long-term undersupply are potentially significant. Wealth inequality has risen since 1976, and the impact of rising house prices has meant that non-home owners have slipped behind home owners⁸.

1.13 Over recent years the intergenerational wealth effects of home ownership have become increasingly important. Bramley⁹ points out that many more first time buyers put down larger deposits on their new houses in 2002 than during the 1990s (see Table 1.3). He suggests that a sizeable amount of this will come from higher savings, property inheritance and parental assistance through re-mortgaging¹⁰. The substantial increase in the average age of first time buyers since 1996 is another symptom of the squeeze on cash-poor first time buyers.

1.14 This point is reinforced by the lower proportion of first time buyers who self-finance housing deposits through savings and 100 per cent mortgages in high priced regions (such as London) compared to lower priced regions (such as the Midlands/the North), and rely more on gifts and family inheritance than others (see Table 1.4). This drives a wedge between first time buyers who have access to wealth through third parties and those who do not.

Table 1.3: Loan to value ratios for first time buyers (percentage borrowing at each threshold)

Loan as percentage of value	1991	1996	2002
<80 per cent	21.2	12.7	41.4
80%–94.9 per cent	34.4	42.6	33.8
95%–99.9 per cent	26.9	42.5	23.7
100 per cent+	17.6	2.2	1.1

Source: ODPM/CML Survey of Mortgage Lenders

Table 1.4: Sources of deposit for recent first time buyers by broad region, 1995–2001 (percentage of total for each region)

	London	South	Midlands/ North	England
Savings or other	61.0	63.9	67.9	65.3
No deposit (100 per cent mortgage)	3.3	6.9	9.3	7.4
Deposit primarily from gifts, family loans, inheritance, windfall	17.1	16.4	14.5	15.6
Deposit includes gifts, family loans, inheritance, windfall	18.6	12.8	8.2	11.6

Source: Survey of English Housing pooled data for 1998–2001, Bramley.

1.15 Most households aim to own their own homes, around 90 per cent of households say they aspire to being homeowners at some point in their lives¹¹. Meen¹² looks at the likelihood of home ownership rates rising from their current rate of around 70 per cent of households. He concludes that in the absence of structural changes to the industry's delivery (its elasticity of supply), national home ownership rates will reach only 71.7 per cent by 2016. Unless there is a structural change in supply, most higher demand will be squeezed out by higher house prices.

⁸ Inland Revenue, *Statistics on the distribution of wealth*, (2003).

⁹ Bramley, G. *Barker Inquiry on Housing Supply - Affordability and the Intermediate Market*, Barker Review commissioned work, (2003).

¹⁰ Fernandez-Corugedo and Muellbauer (2003) have evidence that the reduction in the proportion of first-time buyers with loan to value ratios over 90 per cent since 1996 is also affected by an important change in pricing by lenders which occurred in 1998. From then on borrowers under this threshold were made exempt from the mortgage indemnity premium, which insures the lender against default. This gave borrowers an incentive to bring loan to values under the 90 per cent threshold.

¹¹ Jowell, R. et al, *British Social Attitudes: The 17th Report: Focusing on Diversity*, (2000).

¹² Meen, G., 'Modelling Sustainable Home-Ownership: Demographics or Economics?' *Urban Studies*, 35, 11, pp 1919–1934, (1998).

1.16 This analysis only provides a partial view of the impact of high house prices on the economy. In the next section we explore the wider macroeconomic consequences of a lack of housing supply.

MACROECONOMIC CONSEQUENCES

1.17 A different approach to looking at the impact of high prices is to use a general equilibrium model that attempts to look at the wider economic impacts of house building. What might the UK economy have looked like had housing supply been more responsive to increasing demand (and therefore house prices)?

1.18 The key macroeconomic effects would be:

- a direct benefit from higher employment and output from an increase in construction, though to some degree resources devoted to increasing housing supply will be diverted from other industries, potentially ‘crowding out’ those other activities; and
- an indirect benefit by reducing constraints on the ability of the labour force, and hence industry to locate to where they are most productive.

New research: counterfactual simulations 1.19 Any model attempting to estimate an alternative version of the past has to make very broad assumptions about other related and behavioural effects, which might well have been different if the rate of housebuilding had been higher. Householders’ optimism about long-term house prices, for instance, may affect their decisions about spending and their willingness to borrow. These and other potential behavioural effects are impossible to model with any degree of certainty. Also, the modelling approach taken here does not assume there will be full crowding out over the estimation or forecast periods¹³ as a result of the additional demand, which some argue is a very real possibility with the economy operating close to capacity. In addition, the time period over which the counterfactual runs excludes any downswing in the housing market. As a result, the model will not pick up some of the more cyclical elements of the housing cycle. Bearing these caveats in mind, the effects are summarised in Table 1.5¹⁴.

1.20 Had housing supply been more responsive to demand since 1994, with elasticity of supply¹⁵ between 1 and 3¹⁶, then, according to Experian Business Strategies’ model:

- between 82,000 and 380,000 additional homes would have been built in 2002;
- this would have increased GDP by between £3 billion to £16 billion, equivalent to around £140 to £620 per household; and
- there would have been between 150,000 and 650,000 extra jobs.

¹³ If the model was run for long enough there would be a larger crowding out effect as a result of the higher interest rates.

¹⁴ Experian also run a second simulation considering the impact of gradually increasing the elasticity of supply from its current level into the future. They also look at how adjusting the regional pattern of housebuilding might change its overall impact.

¹⁵ Housing’s price elasticity of supply/demand relates the change in quantity supplied/demanded as a result of a change in the price of housing. For instance, if elasticity of supply is 1, then a 1 per cent rise in house prices would bring about a 1 per cent rise in the quantity of housing supplied. Similarly, an elasticity of 0.5 would bring about a quantity response of 0.5 per cent to the 1 per cent rise in prices.

¹⁶ The choice of supply elasticity was based upon a possible range that the UK could possibly achieve based on other countries’ experience and the UK’s own past performance.

1.21 There are two key influences on inflation in the simulation, but they act in opposite directions. Firstly, the higher rate of housebuilding increases the economy's overall demand, with higher employment adding to consumer spending through higher incomes. This will add to any inflationary pressures already in the economy by reducing the amount of spare capacity. Additions to the housing stock, however, partly offset this inflationary pressure through its dampening effect on house prices feeding through to consumers' wealth effect. The simulation finds that, on balance, the net effect over this period of a higher elasticity of supply would have been slightly inflationary, so interest rates would have been slightly higher.

Table 1.5: Impact on the UK economy of varying the elasticity of investment of new housing between 1994 and 2002¹

Elasticity	Actual (2002)	2002 simulation of an immediate increase in elasticity of supply in 1994 from 0 to:–		
	0	1	2	3
Private new housebuilding ²	162,000	+82,000	+203,000	+380,000
GDP	£863bn	+0.4	+0.9	+1.8
Household spending	£588bn	+0.1	+0.4	+0.8
Employment	29.5m	+0.5	+1.2	+2.2
Housing stock	£1,158bn	+0.7	+1.6	+2.8
Base rate	4.0 per cent	4.1	4.3	4.6
Inflation	2.2 per cent	2.3	2.3	2.5

¹ All figures in the simulations are percentage differences from the baseline forecast except for new housebuilding (which is actual difference from actual), base rate and inflation (which are actual figures).

² This is approximate because the series estimated is private residential construction. It assumes the additional housing would be priced at the average of the actual housing built in 2002.

1.22 As Box 1.1 highlights, the benefits from the additional housebuilding would not be shared equally throughout the economy. The unemployed are among those who would benefit from the additional housebuilding (through more jobs in construction), while those looking to get on the first step of the housing ladder will benefit most from the lower house prices. Landowners and home owners would probably be the biggest losers, as lower house prices dent their wealth, and higher interest rates increase the cost of funding mortgages.

1.23 This simulation arguably understates the cost of undersupply, however, because it omits the cost of volatility in the whole economy as it only covers part of an economic cycle. It also omits some of the microeconomic benefits from additional labour supply (explained below).

1.24 As explained above, however, the main reason for caution about these results is that the model does not include explicit risk or uncertainty proxies on either the housing supply or housing demand side. These will affect housebuilders' and households' behaviour patterns through their view of future price changes, particularly through the user cost concept explained below. But it provides a starting point for understanding the impact on the economy of different supply responses.

Crowding out 1.25 Because housebuilding is a call on resources, a rise in housing supply will displace, or 'crowd out' other activity in the economy that would have occurred in its absence. Experian's work and analysis by Meen¹⁷ suggest that the direct demand effects from extra housebuilding could be temporary, as higher demand increases inflation and interest rates, which then chokes off demand in other areas of the economy. Research suggests the bulk of the permanent, growth-enhancing effects of higher housebuilding will come from their supply side effects on the labour force¹⁸. These

¹⁷ Meen, G., Is Housing Good for the Economy?, *Housing Studies*, (1995).

¹⁸ The Housing Research Foundation, *The Economic Role of New Housing*, (2001).

are primarily improvements to labour mobility, which enable people to be employed more readily or more productively throughout the country. This effect can increase the country's potential growth rate and impact on the long-term unemployment rate. This point is discussed further below.

1.26 Others, including Weale¹⁹, have argued that the higher house prices arising from constraining land supply can crowd out some activity, as households have to devote a higher proportion of their incomes to housing, and consequently less to investment in other types of economic activity, potentially raising the cost of capital.

1.27 This has to be balanced against the argument that the additional wealth effects from high house prices might have enabled individuals to accumulate capital to fund business start-ups more easily²⁰.

1.28 On balance, given the tax efficiencies from investing in housing compared to other assets, at the margin, housing investment might have crowded out some more productive areas of the economy because of the different post-tax rates of return.

Volatility

1.29 Table 1.1 shows the volatility of UK house prices compared to other countries. While the volatility in UK house prices is not exceptional, the wealth effects and subsequent impact on the ability to borrow have fuelled consumption volatility. The UK has a high correlation between house price growth and private consumption compared to other countries. This is partly due to a high proportion of short-term fixed and variable rate mortgages, compared to other countries who have a higher share of long-term fixed rate borrowing²¹. As a result, falls in short-term interest rates boost consumer demand, as 'user cost' falls more than for other countries with longer-term fixed rate borrowing. At the same time, house prices rise as the front-loading effect²² enables first time buyers to take out larger mortgages. This can then feed back through wealth and collateral effects. There are other reasons for the correlation between house prices and consumption, for example both being driven by increased access to credit²³ or by improved expectations of income growth.

Causes of volatility

1.30 Other causes of house price volatility are:

- Supply unresponsive to price signals: new housebuilding supply typically takes many months – and under the present system often several years – to go from land identification to housing occupancy. In addition, new housebuilding is less than 1 per cent of the total stock, so supply takes many years to adjust to big price changes from changes in demand. As a result, short-term price changes are largely driven by changes in demand on the existing stock, and less by new supply and a certain amount of house price volatility is therefore inevitable. This unresponsive, or inelastic, supply of housing means that prices will rise (or fall) further than if housing supply was more responsive.

¹⁹ Weale, M., 2003 Presentation at HM Treasury Conference on EMU, (2003).

²⁰ This argument relies on entrepreneurs already having substantial housing wealth. For young entrepreneurs, the opposite is likely to be true, as the cash demands of a housing deposit compete with the demands of a business start-up.

²¹ The Miles Review *The UK Mortgage Market - Taking a Longer Term View, Interim Report*, (2003) looks at the reasons for the low level of long-term fixed interest rate borrowing in the UK compared to other countries.

²² Lower interest rates enable households to finance a given level of borrowing more easily, so they can afford a higher up-front sum.

²³ Fernandez-Corugedo, E. and Muellbauer, J., 'Consumer, Credit Conditions in the UK', (Presentation) *Money, Macro and Finance Conference, Cambridge*, (forthcoming Bank of England working paper, 2003).

- Demand unresponsive to price signals: household demand for housing is less responsive to changes in price than to changes in incomes, demand from housebuyers will only fall off if house prices rise by a significant extent. This, as well as the financing issues referred to above, means that house prices must rise further to choke off additional demand from housebuyers.
- Speculation and expectations: views about future price movements are key in the housing market, because of the role they play in affecting demand and supply. Looking at demand, future price changes have a strong bearing on the true cost of owner occupancy, so households can justify paying very high prices if future capital gains are expected to mitigate the extra initial outlay (one way to see this is through the rate of return and gearing (see Box 1.2)). Supply is also heavily affected by expectations because of the long time lags in the production process.

Box 1.2: Housing as an investment with a high rate of return

The annual rate of return on funds invested in an asset is the sum of capital appreciation and income from the asset, after tax as appropriate, divided by the initial sum invested, all expressed as a percentage.

The examples below illustrate the way in which mortgages can gear up a household's returns (or losses)²⁴ compared to non-g geared assets:

If an asset that costs £100 rises to £120 generating an income of £4, it has a return of 24 per cent.

Suppose that buying a £300,000 house incurs transaction costs of around 6 per cent (a total cost of £318,000). With 20 per cent house price inflation, an implicit income of 4 per cent (because a home owner pays no rent), maintenance costs of 2 per cent and 1 per cent property tax, this results in an annual return of £63,000 (£60,000 appreciation plus £12,000 saving in rent, minus £9,000 in maintenance and tax) on the £300,000 investment, which is a 19.8 per cent return.

With a lower rate of house price inflation of 5 per cent, this return falls to 5.7 per cent in the first year and 6 per cent in subsequent years over a 20 year period (as transaction costs do not reoccur).

To illustrate the way that borrowing with a mortgage gears up these returns, suppose the buyer takes out a £270,000 interest-only mortgage (90 per cent of the purchase price) at an interest rate of 5 per cent. Using the example above, the borrower will invest £48,000 (£318,000 minus £270,000) and receive a return on that sum. Assuming nominal house price inflation of 20 per cent, the household's return is £49,000 (£63,000 minus £13,500 interest) after the first year, a rate of return of 103.1 per cent. This return falls to 9.4 per cent with 5 per cent price growth. Over 20 years, this implies a rate of return of around 8 per cent.

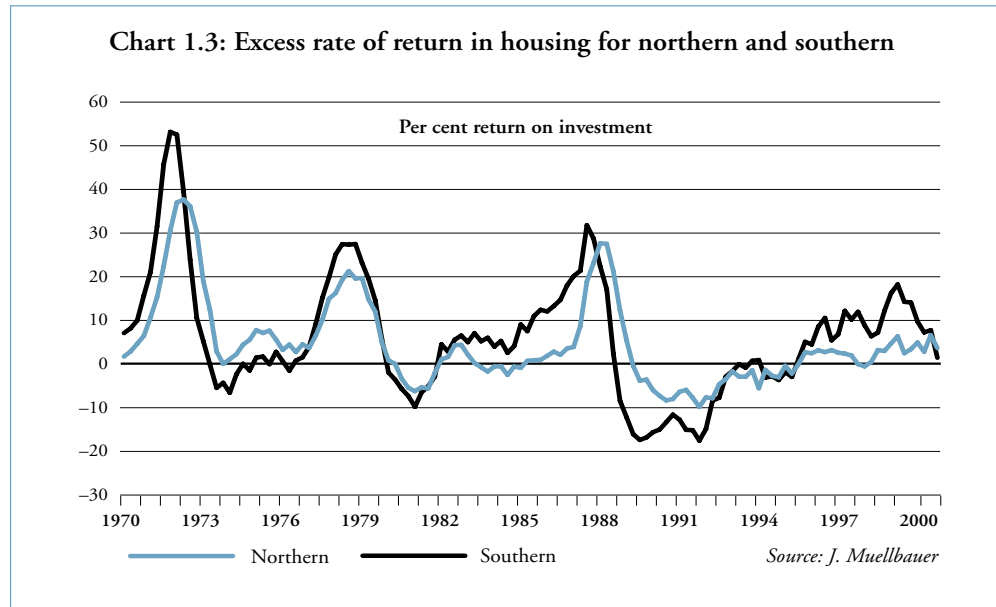
If the buyer could have received a return on an alternative investment, then the excess return would be the difference between the return on housing and that asset.

The role of expectations 1.31 Chart 1.3 illustrates the excess return, compared to lending at the mortgage interest rate, with no gearing for the UK's northern and southern regions²⁵ between 1970 to 2002²⁶. It implies that the excess rate of return is positive in just over two thirds of the quarters between 1970 and 2002.

²⁴ When house prices fall, a highly geared buyer will experience a greater negative rate of return.

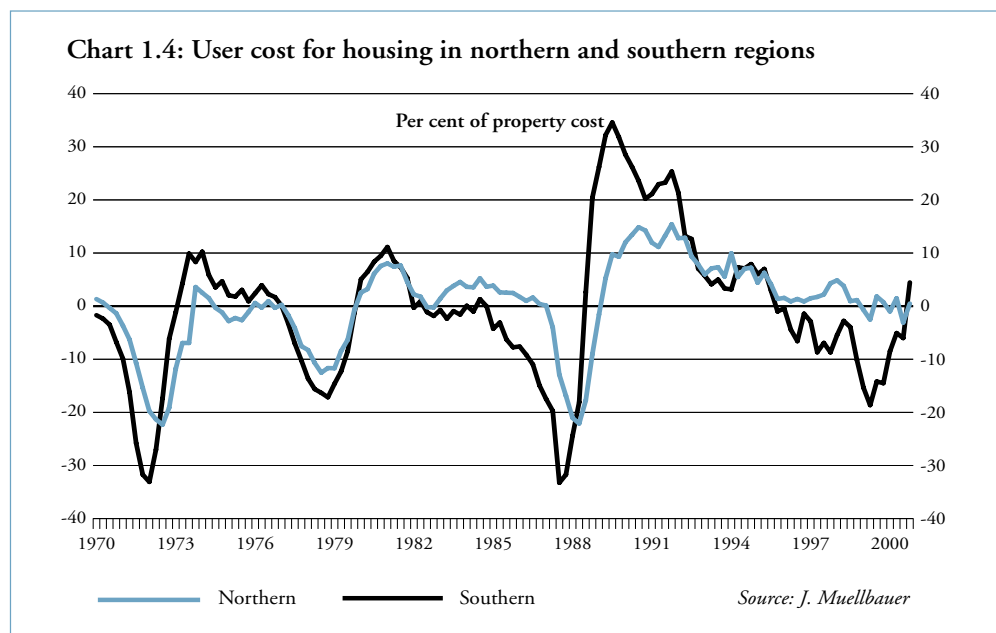
²⁵ Southern regions include London, the South East, Eastern and the South West. The northern regions are all other parts of the country.

²⁶ Uses the ODPM's mix-adjusted second hand UK house price index. It applies the average tax relief factor derived from Inland Revenue data to the mortgage interest rate; it assumes 2 per cent maintenance cost; it assumes transactions costs of 1 per cent, annualising these costs over several years; it assumes an effective property tax rate of 0.5 per cent for the period up to 1997 when domestic rates existed, 0 per cent for the poll tax period and 0.3 per cent for council tax since 1993. Instead of expected house price appreciation, actual prices are used to give an ex-post measure of user cost.



1.32 A concept closely related to the rate of return is the user cost of capital, considered the best measure of affordability, which varies according to both the level and change in prices (see Box 1.3). The corresponding user costs are shown in Chart 1.4²⁸. They were negative in 41 per cent of the quarters in northern regions and negative in 57 per cent of quarters in the southern regions. This means that housing was providing a return to home owners rather than incurring a cost.²⁹

1.33 In times of negative user cost, house prices can spiral upwards, generating overshooting of house prices beyond prices implied by changes in the fundamental drivers of house prices such as incomes or interest rates. House buyers expect prices to continue rising. Eventually, these are halted by affordability constraints or changes in sentiment.



²⁸ This is produced by taking the excess return and subtracting 4 per cent imputed rent, then multiplying by -1, then multiplying again by the ratio of house price indices to consumer prices in each region.

²⁹ Real house price indices based to 1995=1.

Box 1.3: Housing user cost of capital

The most common approach to measuring housing affordability is the housing user cost of capital. This measures the direct costs of property ownership, but acknowledges that house prices offset these costs. When house price appreciation more than offsets the direct costs of home ownership, this can lead to speculative behaviour by house buyers. It is closely related to the rate of return in Box 1.2.

A simplified version of the real user cost of housing can be defined as:

$$UCC = [R + M + TR + T - \Delta PH^e/PH] PH/P$$

where:

R = nominal interest rate, adjusted for any mortgage interest tax relief

M = maintenance cost as a percentage of value

TR = transactions cost as a percentage of value

T = property tax as a percentage of value

PH = index of second hand house prices

P = index of general consumer prices

$\Delta PH^e/PH$ = expected rate of change of house prices

Using the example in Box 1.2, the user cost is the cost of the house (£300,000) multiplied by the following factor:

- the interest rate of 5 per cent, the maintenance cost of 2 per cent, the transaction cost of 6 per cent (if fully loaded onto the first year user cost), the property tax of 1 per cent of value, minus the expected rate of appreciation of 20 per cent.

In the example, this factor is -6 per cent, so that the user cost is -£18,000 (with 5 per cent price inflation this rises to +£27,000). The user cost is even lower if the transactions cost is averaged over several years. Thus, the real cost of home ownership varies according to both the level and the change in house prices. The real cost of home ownership falls when the rate of house price inflation rises, as the return on the house price offsets the cost of the interest payments and the other costs on the property.

1.34 Expectations can have important effects on supply too. Within the existing housing stock, an important contribution of supply for young households arises from older households downsizing to flats, bungalows or sheltered accommodation, and from houses released for sale at death. Older households and the inheritors of estates can choose whether to sell or keep the property for rental use. If the perception is that high recently experienced rates of return will continue, it is rational to delay a sale in order to achieve a higher price later. For example, inheritors may decide to hold on to the house inherited from their parents as a second home for their own use, in the light of the expected capital gain. When prices have been rising strongly, this temporary withdrawing of supply can contribute to the overshooting of prices.

1.35 New housebuilding is also strongly affected by expectations, as future price movements have a large bearing on the profitability of today's housebuilding decisions. This is explored in more depth in Chapters 2 and 4.

Consequences of volatility 1.36 So while house price volatility is driven mainly by demand, expectations affect the supply side too, and the interaction of the two exacerbates volatility. This volatility can exaggerate economy-wide fluctuations, given the feedbacks onto higher consumer spending already discussed. This housing market instability creates the following problems:

- it makes the inflation targeting role of the Bank of England more difficult, because of the unpredictable nature of demand for housing, and therefore of house prices, debt and consumption;
- it undermines housing investment in new supply due to uncertainty – both delaying and reducing overall supply (this point is picked up later in this report); and
- it has adverse welfare impacts on homeowners caught in negative equity during any downswing in prices.

Box 1.4: The impact of price volatility on home ownership

Banks et al³⁰ look at the differences in households' decisions about whether or not to buy housing at various stages of individuals' lives, comparing the UK and US housing markets.

They conclude that the greater volatility of the UK's housing market is a feature that explains why people buy houses sooner in their lives when compared to the US. This is because there is no other means of hedging against further increases in house prices, except to buy housing itself.

CONSTRAINTS ON ECONOMIC GROWTH: LABOUR MOBILITY AND UNEMPLOYMENT

Regional differences 1.37 Housing supply affects house price differentials between areas and can limit the availability and mobility of labour. There is evidence that large price differentials between regions can lead to segmentation in regional labour markets. Home owners in the high priced region are reluctant to move to a low priced region for fear of being priced out if they want to return, or simply because they expect a lower rate of return or higher user cost for housing in the low priced location. The evidence from the regional migration study of Cameron and Muellbauer³¹ is that these expectations effects are very significant. Households in the low priced region have a larger credit hurdle to clear if they wish to move to the high priced region, even when the expected rate of return in housing is higher there. This leads to greater unemployment mismatch and higher unemployment at a national level³² and will have a permanent downward impact on the level of GDP.

³⁰ Banks, J., Blundell, R., Smith, J.P., and Smith, Z. *Housing Wealth over the Life-Cycle in the Presence of Housing Price Volatility*, (Institute for Fiscal Studies and University College London, 2003).

³¹ Cameron, G. and Muellbauer, J., 'The Housing Market and Regional Migration and Community Choices', *Scottish Journal of Political Economy*, (1998).

³² The Housing Research Foundation *The Economic Rate of New Housing*, (2001).

1.38 In terms of inequality, the user cost effect can help explain regional or locational differences. Comparing user costs between regions since 1970 shows that in most years the more expensive locations (in terms of house prices or land prices) had more negative user costs or higher rates of return. This is an important part of the mechanism widening inequality between rich and poor locations. This means that the house price and land price signals have been badly distorted³³ for much of the period since 1970: they have signalled that expensive (in terms of the level of house and land prices) successful locations are relatively cheap in terms of user cost, attracting affluent migrants and investment to them, on top of their intrinsic merits. It has also meant that most pressure has been on those areas where the environmental costs are high.

1.39 However, the costs of restricting migration are highlighted by the House of Commons Environment Committee (1996) “... attempts to discourage migration by holding down housebuilding in over-subscribed or environmentally sensitive areas are also unlikely to work. Again, all that happens is that they create a reservoir of unhappiness and unmet need”.

1.40 Landlords in high demand areas may get a large part of their return from capital appreciation, which might lead to rents rising more slowly than house prices. If this were to happen, less skilled workers from lower demand areas might be able to migrate to high demand areas if the expansion in supply were in rental housing. This is a point picked up by Hughes and McCormick³⁴ who see an important role for the private rental sector in improving labour mobility, to help reduce regional differentials in unemployment and employment rates.

Quality of housing stock

1.41 Another possible constraint on mobility is the supply of different types of housing. It might be expected that people priced out of the south would relocate to the cheaper north, attracted by lower housing costs and (for some) quality of life factors, but future price expectations might offset some of these benefits.

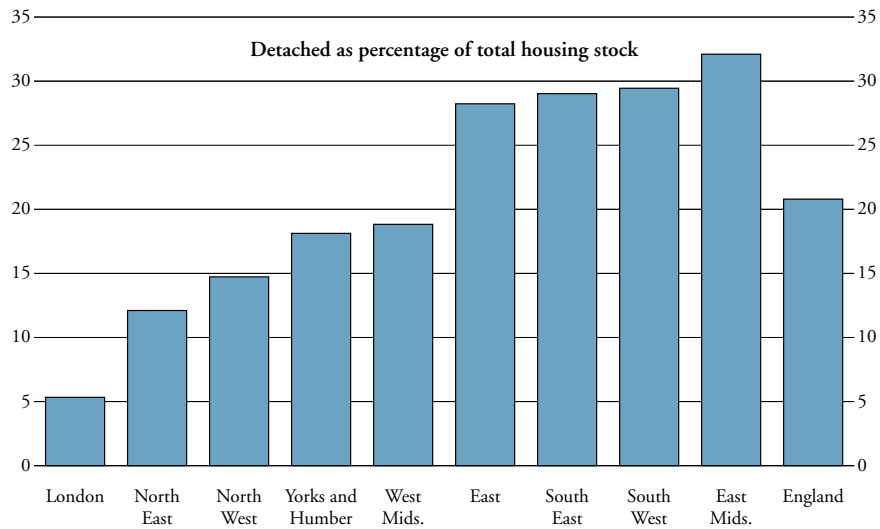
1.42 In addition, the quality of housing may matter. It is argued that lower growth areas of the country, such as the North East and North West, have higher proportions of poor housing and lower (and falling) proportions of detached houses than the South East (see Chart 1.5). This, it is claimed, makes the price of detached houses high when compared to average house prices in those regions, exceeding the detached house premiums in regions such as the South East and South West³⁵. It is argued that this implies that the quality of life elements that might attract affluent economic migrants to these regions could potentially be eroded if this divergence continues.

³³This is not to deny the influence of changes in technology, tastes, the patterns of world demand, comparative advantage, relative factor or goods prices and benefits of agglomeration in explaining the evolution of regional inequalities. The point is that relative land and house prices have not played their full potential role in attenuating these inequalities, rather they have exacerbated them.

³⁴ Hughes, G. and McCormick, B., *Housing Policy and Labour Market Performance*, DETR Housing Research Report, (2000).

³⁵ Source: ODPM.

Chart 1.5: Regional variation in detached housing, England, 2001



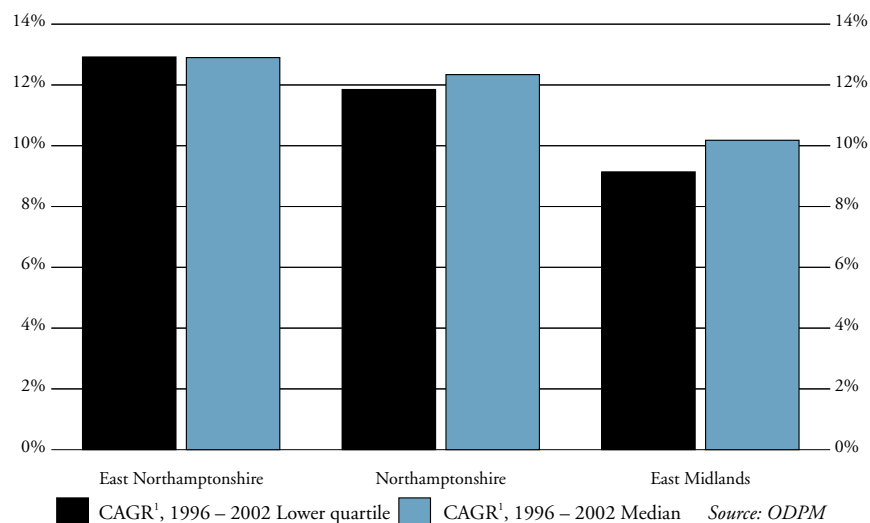
Source: English House Conditions Survey, 2001

Box 1.5: Case study - East Northamptonshire

East Northamptonshire is an area of particularly high demand, but its planned housing completions are relatively modest. This is part of a wider regional strategy intended to concentrate housing growth in urban areas (East Northamptonshire is considered semi-rural) and, in particular, in areas which are suffering urban flight, such as neighbouring Corby.

There is no guarantee that constraining housing growth in East Northamptonshire alone will assist in the regeneration of Corby, as households priced out of the East Northamptonshire housing market may move away from the area altogether. Indeed, growth in the wider regional economy could be held back as a result of restrictions on development in areas where there is most potential for growth.

House price growth, East Northamptonshire



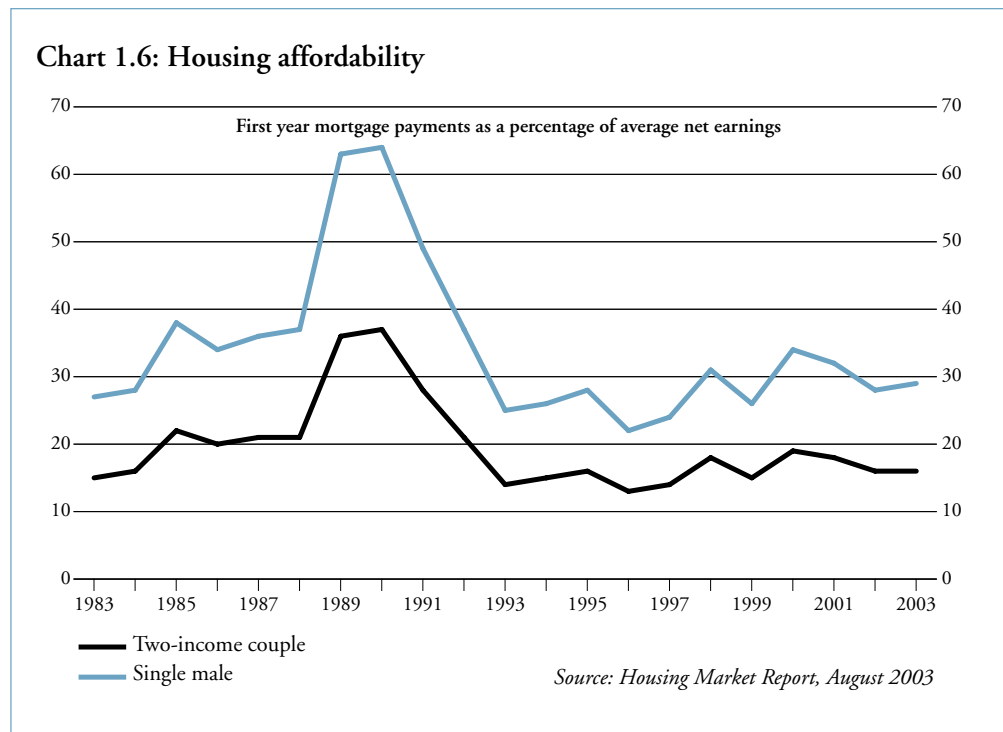
¹ Compound Annual Growth Rate

Source: ODPM

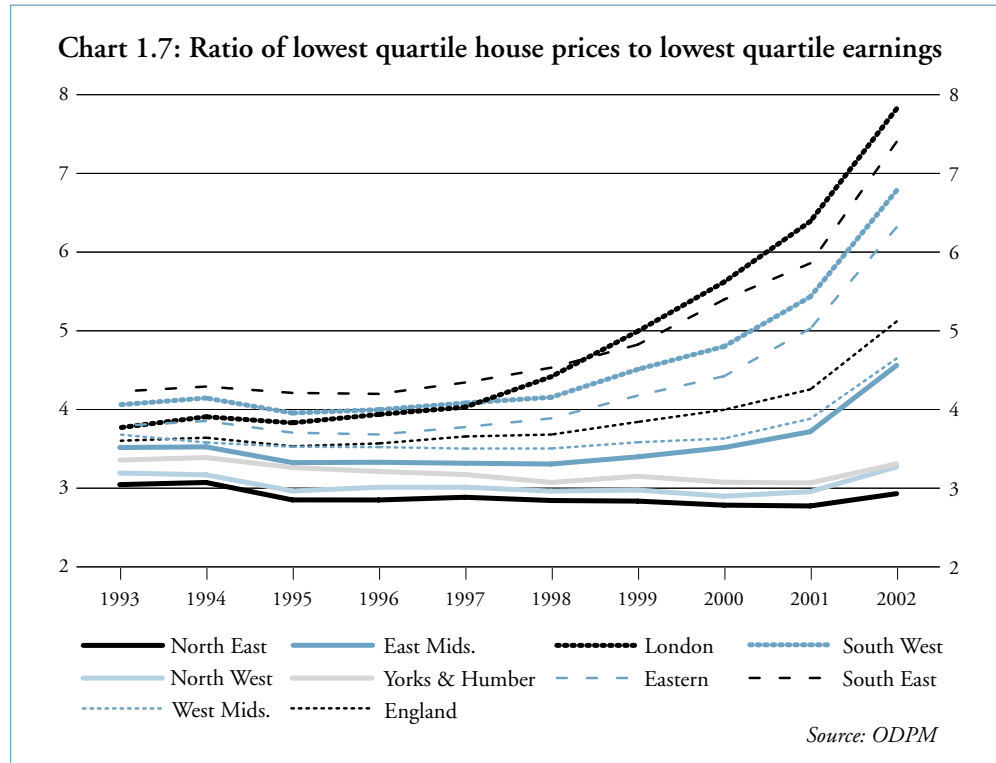
AFFORDABILITY

1.43 For those who own houses the housing market appears to work well. Almost all home owners will have seen appreciation in the real value of their homes over time, making user cost negative for extended periods. For many, this capital appreciation is an important component of their investment plans; housing wealth increasingly forms part of their pension planning. But for those who do not own a house the market has failed to deliver.

1.44 At present interest rates, housing is still relatively affordable in terms of short term cash flows (see Chart 1.6). But the ability to enter the market has worsened over recent years, as first time buyers need increasingly large deposits because lenders usually tie mortgages to fixed income multiples or limit the loan to value ratio. Bramley³⁶ estimates that 46 per cent of new households could afford to buy in the late 1980s, but this had fallen to 37 per cent in 2002. Chapter 3 explores this further. Chart 1.7 illustrates this situation for those on lowest quartile earnings, where sharp rises in house prices in recent years – to nearly eight times their incomes in London – have prevented many households buying a property.



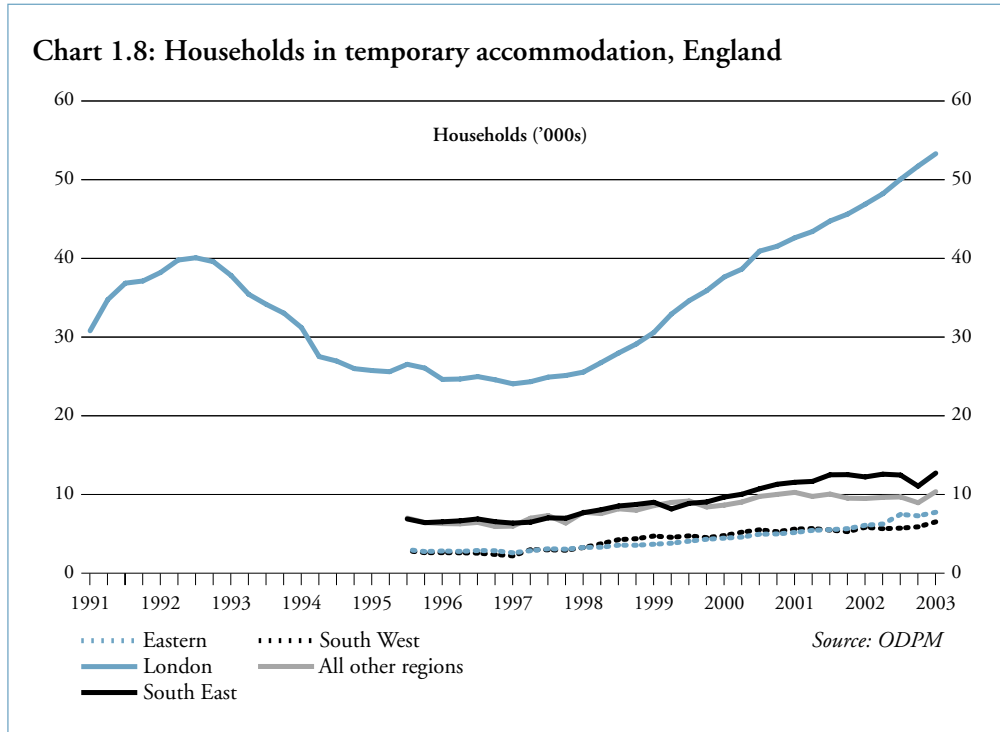
³⁶ Bramley, G., *Barker Inquiry on Housing Supply – Affordability and the Intermediate Market*, Barker Review commissioned work, (2003).



HOMELESSNESS

1.45 The most visible aspect of an undersupply of housing is homelessness although this results from a number of social as well as economic causes. People splitting up with their partners or losing their jobs can fall into homelessness, alongside those with drug abuse problems and mental illness. If they are not able to afford housing, and cannot immediately be given a permanent dwelling in the social housing sector or subsidised through Housing Benefit, then the council is left with few options other than to house them in temporary dwellings, such as bed and breakfast accommodation.

1.46 Chart 1.8 shows the number of homeless households that have been accommodated in temporary dwellings. By and large, these are probably the households in most need of a permanent dwelling. The pattern follows closely the worsening affordability of private housing during the late 1990s/early 2000s, suggesting that these households may include some of those priced out of the private rented and owner occupied market, as well as migrants and those with social problems.



UTILITY FROM DIFFERENT LAND USES

1.47 So far, this chapter has looked at the role housing plays in benefiting society, and the adverse impacts of housing undersupply. But it is not only welfare from owning or occupying a home that society benefits from, it also values land. There is an opportunity cost from developing land with housing, which is the use to which it could have been put if it had not been developed. For undeveloped land, this opportunity cost includes the land’s amenity (including access rights, visual beauty etc.). It is therefore well established that some land needs to be protected from development in order to preserve some of these features society values so highly. For this reason, SSSI³⁷, AONB³⁸ and National Park designations protect some of the land society values most highly in its undeveloped state, while other land is made available for development. The planning system aims to achieve sustainable development, balancing economic, environmental and social objectives, which in some cases will mean a trade off between protecting land on the one hand, and housebuilding on the other.

³⁷ Sites of Special Scientific Interest

³⁸ Areas of Outstanding Natural Beauty

1.48 The environmental benefits from having built fewer houses mean that:

- less land has been developed as a consequence. Land is a scarce resource and its development comes with a cost. These costs include the loss of amenity, such as accessing country paths; the visual amenity of a more natural landscape, and the diversity of wildlife that greenfield land supports; and
- pollution, congestion and infrastructure requirements may have been reduced if fewer people live in an area (although if people simply live in more cramped accommodation or share, the gain here is likely to be small). The clearest example is road congestion, where development is often restricted to curb excessive congestion. There is currently no method of reflecting this in the price of land, which if left to the market, would over supply housing in less dense and more rural locations and create excessive road use. However, it could be argued that a better route to tackle road congestion is through road pricing, where it has a direct effect on the road user.

1.49 However, the benefit derived from protecting land does not fall equally throughout the population, and not all land is valued as much as others. As Inwood puts it³⁹ “Children playing in London’s increasingly busy streets, and without most of the new local parks that [the Abercrombie Plan for Greater London] had promised, could console themselves with the thought that 10 or 15 miles away there was a belt of agricultural land that they would never be able to spoil”.

1.50 Table 1.6 shows the benefits that society gains from different land uses. It suggests that development on accessible open land (such as urban parks and fields with rights of way) would result in a high cost to society. Building on inaccessible open space, and especially intensively farmed land, would result in a very much smaller reduction in the external benefits.

Table 1.6: Benefits from different land use¹

Land Type	Present benefit (per hectare per year, 2001)	Net present value of future benefits ²
Urban core public space (city park)	£54,000	£10,800,000
Urban fringe greenbelt	£889	£177,800
Urban fringe forested land	£2,700	£540,000
Rural forested land	£6,626	£1,325,200
Agricultural extensive	£3,150	£630,000
Agricultural intensive	£103	£20,600
Natural and semi-natural wetlands	£6,616	£1,323,200

Source: ODPM Appraisal Guidance, *Valuing the External Benefits of Undeveloped Land – A Review of the Economic Literature*.

¹ These values were assessed using contingent valuation methods. This asks a cross section of people how much they would be willing to pay to maintain a piece of land in its existing use.

² This is the value today of the future benefits from land in different uses. It assumes a rate of return of 3.5 per cent (this is the rate at which future benefits are discounted over time). It also assumes an increase in willingness to pay of 3 per cent (this is the additional amount that people may value land’s amenities over time).

³⁹ Inwood, S., *History of London*, (1998).

1.51 These alternate land values are part of the framework within which the costs and benefits of additional housebuilding can be assessed. This enables a more complete assessment of the true value that additional housing will add to the country's welfare.

CORRECT BALANCE OF HOUSING MARKETS

Housing markets

1.52 Much of the analysis presented so far has been macro in nature, essentially treating the UK or its regions as single housing markets. In reality of course this is not the case, as housing markets are often very localised. The economic and welfare implications of building more houses will differ across regions and localities depending on their specific conditions. Increased housebuilding is not always desirable in all locations. It is important that demand and supply are balanced in the right place within regional and sub-regional markets.

1.53 Households living in market housing choose between locations and housing types, and typically choose between areas and markets with similar characteristics. They also tend to prefer living among others with similar socio-economic profiles to themselves. Both these factors reduce the likelihood that high demand areas will increase house prices in the low demand areas, as they are often poor substitutes for the sought after areas.

1.54 This can prevent recovery from downward price spirals. In some parts of the country there is a plentiful supply of housing, but much of it is poor quality and shunned by aspiring home owners, as there is little prospect of appreciation in the value of the housing. These low demand areas become less desirable when their house prices fall. From the point of view of the user cost of housing, this increases the total cost of housing, which reinforces their undesirability. Households buying in to higher priced neighbouring areas with rising prices, by contrast, will benefit from lower housing costs as a result of the price growth.

1.55 The Housing Research Foundation⁴⁰ looks at the role housebuilding plays, and suggests that it will impact differently in regions with high unemployment and low demand to areas where the low demand is focussed at a much smaller spatial scale (say a city suburb). At the regional level, unemployment and low demand can be improved by attracting inward migration of workers and jobs from neighbouring regions. This points to a role for housebuilding in terms of altering relative house prices.

1.56 At the smaller spatial scale, there is less of a role for these labour market changes, and more of a role for environmental improvement issues. Indeed, Bramley⁴¹ shows that prices in low demand areas are much more affected by the quality of the urban fabric than high demand areas, and less by the quality of the housing stock. So policies aimed at improving the stock of housing may be less effective than those aimed at improving the overall environment and its infrastructure.

1.57 The interaction between different housing markets, coupled with the environmental impacts noted above, makes assessing the net benefit of house building in any particular location very difficult to assess. Chapter 3 returns to this theme.

⁴⁰ The Housing Research Foundation, *The Economic Role of New Housing*, (2001).

⁴¹ Bramley, G. and Leishmann, C., "Economic Modelling of Housing Market adjustment for the System of Local Market Areas in England in the 1980s and 1990s" (Paper presented at ESRC seminar, 2003).

Box 1.6: Case study - York and Harrogate: costs and benefits of housing restraint

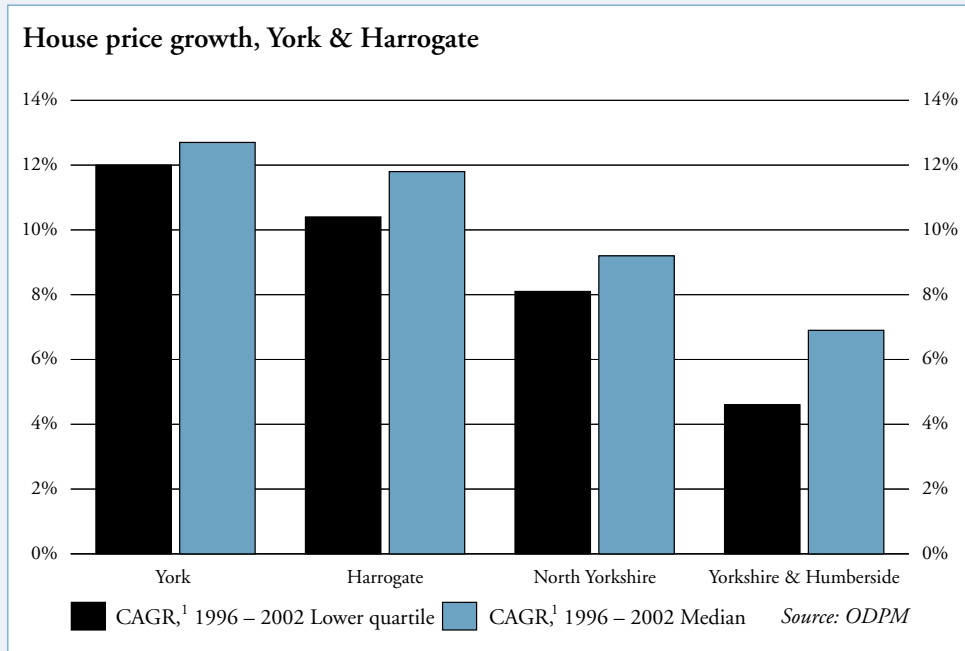
York and Harrogate are key examples of housing restraint, as development in these areas has been deliberately restricted for two reasons:

- to encourage the regeneration of deprived areas such as parts of inner-city Leeds; and
- to protect the character and environment of York and Harrogate themselves.

York and Harrogate are both high demand, attractive places to live, with good schools and communication links, and a number of heritage sites. Both areas suffer from a lack of suitable development sites, and the local authorities and residents are keen to maintain the areas' characters and qualities of life. Many of the new dwellings in these areas are bought by newcomers to the area, some no doubt moving from London or the south east, having cashed in their capital gains. So raising the levels of housebuilding is perceived to fuel demand, increasing levels of congestion, and damaging the local environment.

Housing restraint is not a cost-free strategy, however, as York and Harrogate's contributions to the regional planning guidance target are insufficient to meet their own affordable housing requirements. This worsens the affordability problem for local people, which damages the local economies in two ways:

- public sector workers and employees in the service industries (particularly the tourist and hotel trades) are being priced out of York and Harrogate, creating labour shortages and longer commuting distances; and
- due to the shortage of sites, local businesses such as pubs, shops, hotels and garages are being targeted as potential sites for residential developments, which risks creating dormitory areas.



¹ Compound annual growth rate.

2

Responsiveness of housing supply

Overview

As incomes rise, British people choose to spend on housing to a greater extent than consumers in many other countries. However, demand side factors on their own cannot explain why the long-run growth of house prices in the UK has been higher than most other European countries.

The UK housing market is very unresponsive to changes in price. In most markets, as prices rise, the supply of a product increases in response - but housing output is very slow to respond:

- International comparisons suggest that UK housebuilding is only half as responsive as the French, a third as responsive as the US, and only a quarter as responsive as German housebuilding.
- Studies also show that supply has become less responsive over time. Before the war, it was up to four times as responsive as it was through most of the post-war period.
- Over the last 10-15 years, there is evidence to suggest that our supply has become almost totally unresponsive - so as prices rose, the supply of houses did not increase at all.
- Even with an elasticity of supply to match the highest in Europe, house prices may still rise in real terms in response to stronger demand. In order to keep house price inflation down, there would also need to be a one-off shift to a higher level of housing supply.

EXPLAINING HOUSE PRICES IN THE UK

2.1 The previous chapter looked at the costs associated with high price rises in the UK housing market and subsequent housing shortages. But why have prices risen to such an extent? Much of the explanation lies with the way households and housebuilders react to changing circumstances, such as rising incomes and price changes. UK households have a high propensity to consume more housing services as incomes rise over time (a high income elasticity of housing demand¹), but their demand has a low responsiveness to price changes (a low price elasticity of housing demand²). These factors, combined with low elasticity of supply in response to price changes, push the UK's housing market towards long term rising prices.

¹A high income elasticity of housing demand means that a one per cent rise in incomes results in significantly more than a one per cent rise in spending on housing. Most time series models of housing demand show the elasticity of housing demand with respect to income above one, while cross sectional models (looking at snapshots in time across households) estimate this to be less than one. HM Treasury's EMU Study estimates the following income elasticities: UK=1.0; Germany=0.0; France=0.6; Italy=0.4; Spain=1.9; Netherlands=1.2; Belgium=1.0; Ireland=1.1; Sweden=-0.7; and, Finland=0.5.

²A low price elasticity of demand means that a one per cent rise in house prices results in less than a one per cent fall in spending on housing. HM Treasury's EMU Study estimates the UK's price elasticity of demand as -0.5.

Housing demand

2.2 The UK has high rates of home ownership, above the EU average and well above the levels in Germany and France (although owner occupation rates are higher in Spain and a number of smaller EU countries). In economic terms housing is a complex good made up of a number of potentially substitutable attributes, so demand is for a basket of features. These features might include internal or external space, location and other physical attributes. But housing, as previously discussed, is also an asset, so demand will reflect expectations as to future house price movements. The purchase of a home has typically been considered good protection for the high levels of UK inflation seen in the past.

2.3 Along with increasing incomes, changes in demand will also reflect a wide range of other factors:

- Demographics: household numbers in Britain are expected to grow by an average of 180,000 a year³ up to 2011. This reflects expected population increases (including net migration) and changing social trends (the increase in one and two person households).
- Financial liberalisation: the increasing availability of credit over the past 20 years has been an important factor, although difficult to quantify. While the effects could be regarded as one off⁴, there is a continuing trend towards innovation in mortgage products. Improved credit terms for the buy to let market are also a likely factor in recent years.
- Stable macro-economic environment and lower interest rates: a perception of greater economic stability and less risk of unemployment has accompanied falling average mortgage rates over recent years. This has increased confidence to borrow and improved affordability through lower front-end loading⁵. This effect is also likely to be one off and much of this may now be reflected in house prices.
- Government policy: a number of policies such as the Right to Buy and Right to Acquire and in the past, generous tax treatment of housing compared to other assets through MIRAS⁶, have encouraged home ownership.

³This is the average annual rise in household numbers between 2006 and 2011 according to 1996 population projections. Revised household data incorporating the 2001 census are not yet available.

⁴There could also be some permanent behavioural changes as a result of the liberalisation, such as a permanently higher interest rate elasticity of demand.

⁵Front-end loading is the initial cost of a mortgage, which is smaller with lower interest rates

⁶Mortgage Interest Relief At Source has now been phased out.

Housing supply

2.4 While demand side factors are clearly important, they do not wholly explain the trends in UK house prices. Evidence (discussed below) suggests that UK house price trends also reflect a lack of supply of housing and a weak responsiveness of supply to prices. The UK has invested a low proportion of GDP in housing compared to other EU countries⁷ and housing completions relative to the size of the existing housing stock shows relatively low provision⁸. At current renewal rates houses built today would need to last around 1,200 years. Most other countries also have more dwellings per person⁹, and while this might reflect social trends in household formation, it probably also reflects a problem with supply in the UK.

PRICE ELASTICITY OF SUPPLY

2.5 As Chapter 1 discussed, the housebuilding industry's elasticity of supply is important in determining the level and volatility of house prices, and so has important macroeconomic and microeconomic consequences.

2.6 The responsiveness of supply is limited in the short-term by:

- Whether land supply can respond to price signals, or whether it is determined by non-market mechanisms.
- The time frame for supply decisions. The nature of house building means that there will always be a time lag between price signals and changes to the industry's output. The duration of that delay is determined by a number of factors including: site identification; planning permission; site acquisition, and construction. These are examined in more depth later in this report, but the industry is not always able to reduce the time of these stages. Typically, supply elasticity will be higher in the longer term, as companies have time to change their factors of production, or change the type of housing built. In the very short-run there is some scope to respond to changes in demand, as housebuilders currently building a phased development could increase temporarily the build rate on that site (though this might be at the expense of less output in the next time period if the supply of land does not accelerate).
- Scope for substitution. In principle, it should be possible to switch land from one use to another. However, as land in any region or area becomes more scarce, opportunities for substitution become limited. This is particularly important given the localised nature of housing demand. Areas of high demand are likely to be less responsive.

⁷ Investment in UK housing as a percentage of GDP has been the lowest and second lowest compared to other major EU countries since 1990, and has been low since the 1960s (source: HM Treasury, 'Housing, Consumption and EMU', *EMU Study*, (2003)). UK gross investment in dwellings was 18 per cent of gross capital formation in 2000 – the third lowest proportion in the EU (Source: CIRIEC, *Housing Statistics in the European Union 2002*)

⁸ UK housing completions as a proportion of housing stock has been one of the lowest compared to other major EU countries between 1998 and 2001 (source: HM Treasury, 'Housing, Consumption and EMU', *EMU Study*, (2003)).

⁹ HM Treasury, 'Housing, Consumption and EMU', *EMU Study*, (2003). Also, there were three newly completed dwellings per 1,000 inhabitants in the UK in 2000 – the fourth lowest number within the EU.

2.7 These factors imply that housing supply is likely to exhibit far less responsiveness than other consumer durable products, such as cars or washing machines. In particular the lead time to increase output for these products is likely to be much shorter. For housing, land supply is essential, and this is made available by a regulatory, rather than market-driven process. Below, the responsiveness of supply of housing in the UK is compared with that in other countries. The regional nature of responsiveness is also assessed. Regulatory and structural issues that might influence responsiveness are considered later in the report.

2.8 There are other issues. New build may not be of the type presently experiencing the price increases, or at a more local level it may not be in the same area. So analysing housing supply in aggregate may give a misleading impression.

Estimates of elasticity of supply

2.9 Table 2.1 summarises estimates of the price elasticity of supply of housing in the UK. These show a considerable degree of consensus, and suggest that UK housing supply is relatively unresponsive, with output increasing by proportionately less than price (the elasticity of supply is less than 1).

Table 2.1: Estimates of price elasticity of supply of new housing in the UK¹⁰

Study	Area	Time period of estimation	Elasticity of supply
Whitehead (1974)	UK	1955–1972	0.5–1.0
Mayes (1979)	GB	1955–1976	0.3 (short run)
	GB	1955–1976	0.6 (long run)
Bramley (1996)	160 Districts in England	1988	0.8
Pryce (1999)	England	1988	0.6 (boom)
	England	1992	1.0 (slump)
Swank et al (2002)	UK	1976–1999	0.5
Meen (2003)	England	1973–2002	0.3

2.10 The estimates of elasticity presented here indicate that housing supply is not particularly responsive to changes in house prices. Nevertheless, in the past the data suggests there has usually been some response. However, this response may not hold during periods of volatility in the housing market. The time lags between price signals and realising the profit on developing additional land, gives rise to additional risk. So housebuilders' behaviour in a highly volatile market may be different to that in more stable conditions. At the extreme the supply curve bends backwards, where higher growth in house prices results in lower output. This is particularly undesirable behaviour because it hinders the market adjustment necessary in a well functioning market. Pryce finds evidence of this in the UK during the late 1980s housing boom¹¹.

¹⁰The price elasticity of supply estimates will differ mainly because of the structure of the model used and the time periods they are estimated over.

¹¹ Pryce, G., 'Construction Elasticities and Land Availability: A Two-Stage Least-Squares Model of Housing Supply Using the Variable Elasticity Approach', *Urban Studies* (1999)

2.11 Two key factors could account for this behaviour:

- when prices have been rising above trend rates for some time, the industry cuts its output in response to the risk that further above-trend price rises will increase the likelihood that prices will fall further in the future. Essentially, housebuilders may perceive the level of house prices to be unsustainable. If this is the case, then housebuilders will rationally cut back on the number of housing starts if they expect prices to fall before the time it takes to complete them; and
- if, during a boom, planning decisions become less certain, housebuilders might cut back production. By creating a climate of uncertainty, which affects housebuilders' ability to develop land in the future, the value of holding land vacant is increased because it gives them the assurance of continued supply in the future. This rise in the value of vacant land with planning permission may cut the supply of housing in the current period¹².

2.12 Pryce estimates that the elasticity of supply of housing during booms (0.58) is smaller than during slumps (1.03). He also estimates the supply of land to be more stable over the cycle, and marginally greater (0.75) during booms than during slumps (0.71). This means that housebuilders can be more responsive when prices are falling (and cut housebuilding levels), than when prices are rising (and increasing activity). This is partly because of the long time lags that are needed to increase the amount of land – the main factor of production.

2.13 The behaviour explained by Pryce can have an impact on house price volatility. If supply falls off more rapidly in the downswing, then this will limit to some extent the depth of the trough. During an upswing, however, prices rise by more as supply is less responsive to the price signals.

International comparisons

2.14 International comparisons of supply elasticities need to be treated carefully because of structural differences in the way the housebuilding industry operates and varying estimation techniques. However, even allowing for these differences, evidence presented in Table 2.2, suggests that supply elasticity in the UK is relatively low.

Table 2.2: International comparison of price elasticity of the supply of new housing¹³

Country	Price elasticity of supply of new housing
UK	0.5
Germany	2.1
France	1.1
Netherlands	0.3
Denmark	0.7
US	1.4

Source: Swank et al, 2002¹⁴

¹² Mayo, S. and Sheppard, S., *Housing Supply and the Effects of Stochastic Development Control*, (1991), and Bramley, G., *The Influence of Planning on Housing Supply and Economic Performance*, (1999).

¹³ Time periods over which the estimates are made are: UK: 1976-1999; Germany: 1976-1999; France: 1981-1998; Netherlands: 1976-1998; Denmark: 1980-1999; US: 1970-1999.

¹⁴ Swank, J., Kanes, J. and Tieman, A. 'The housing ladder, taxation, and borrowing constraints', *DNB Staff*

2.15 Other evidence supports this conclusion and suggests that the main explanation for the different trends in house prices between the UK and US is the different elasticities of supply. Meen, (2002) compares the UK to the US using the same model structure, which shows that the elasticity of supply explains most key differences between the US's and UK's housing markets.

UK elasticity over time 2.16 The UK has not always had such a low price elasticity of supply for new housing. In the past, the responsiveness of housing supply has been higher in the UK. Before the First World War, the elasticity of supply was between 1 and 4, compared to the period after the Second World War when it fell to between 0 and 1¹⁵. There were many structural changes to the UK's economy after the Second World War that could have contributed to this falling elasticity. In the US, by contrast, the elasticity of supply has risen slightly between the two time periods¹⁶ and in both periods is very much higher.

Variations in responsiveness by region and over time

2.17 Estimates of regional supply elasticities, set out in Table 2.3, show a marked difference in price responsiveness across the regions of England. Perhaps unsurprisingly the supply of housing in the South East appears to be among the least responsive since 1973¹⁷. This, combined with big increases in the region's household demand, helps explain why house prices have in general increased by more in this region than elsewhere. Other areas of England with higher elasticity of supply have also experienced very high rates of house price growth, but this might indicate a more restrictive supply at a local, rather than at a regional level. These estimates suggest the South East's house building has been constrained by factors that have been less restrictive in other regions, such as the North.

Falling elasticity during the 1990s 2.18 Meen also estimates price elasticities of supply up to 1990, and compares them to those taken up to 2002. His estimates suggest that since 1990 the responsiveness of supply throughout England has fallen close to zero in all regions. As housing completions have remained broadly flat across England throughout the 1990s this result is not surprising.

Table 2.3: Supply elasticities: by region, England, 1973–2002

Region	Elasticity
North	0.6
North West	0.4
Yorks & Humber	0.0
East Midlands	0.5
West Midlands	0.3
East Anglia	0.5
South West	0.2
Greater London ¹⁸	0.8
South East	0.5
England	0.3

Source: G. Meen¹⁹

¹⁵ Malpezzi, S. and Maclennan, D., 'The Long-Run Price Elasticity of Supply of New Residential construction in the United States and the United Kingdom', *Journal of Housing Economics*, 10, pp 278-306, (2001).

¹⁶ Swank estimates a lower elasticity for the US than Malpezzi. Swank also measures the price elasticity of supply over a shorter time period than Malpezzi. However, structural differences in the modelling techniques will also explain some of these differences.

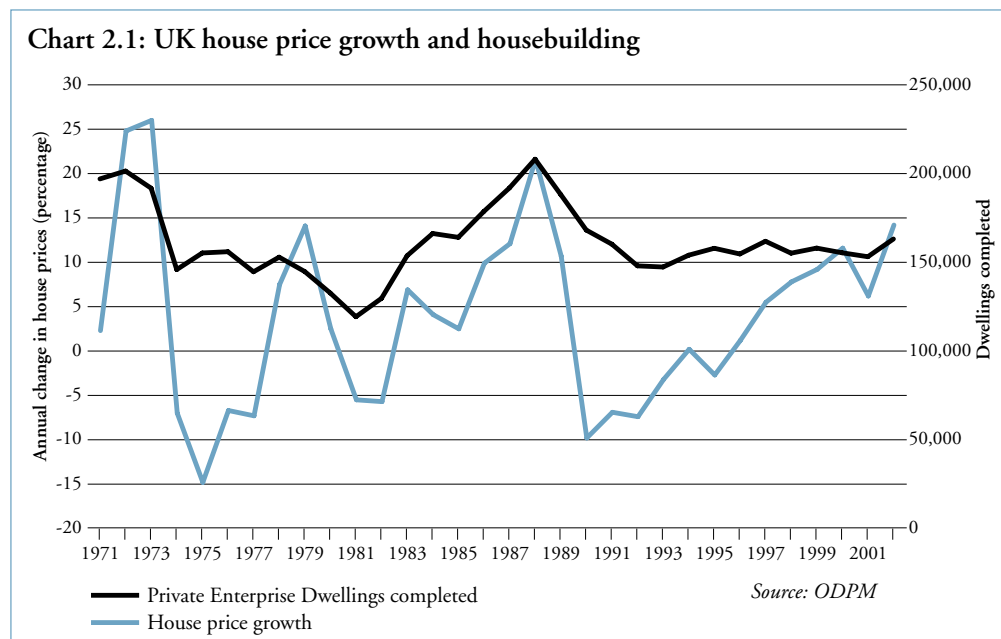
¹⁷ The reasons behind Yorkshire and Humberside's price responsiveness of zero are unclear.

¹⁸ Elasticities in London are out of line with other regions and the equation fit is much poorer. Therefore greater caution must be used in interpreting this figure.

¹⁹ Meen, G. 'Regional Housing Supply Elasticities in England', work commissioned by the Barker Review, (2003).

2.19 Experian Business Strategies²⁰ also estimates a large fall in the UK's supply elasticity around the same time. They estimate an elasticity of supply of 0.73²¹ before 1988 Q2, and zero since then. A possible explanation of the fall in elasticity of supply to the mid 1990s is that the house building industry underwent a significant boom/bust cycle in the late 1980s/early 1990s. Pryce has already shown that supply curves can bend backwards, and did so in the late 1980s. The successive price crash in the early 1990s led to many housebuilders going out of business so quickly, that output bottomed out before real house prices hit their lowest point (in 1996). Those left in the industry saw buying opportunities in lower land prices, and started expanding in the early 1990s (see Chart 2.1).

2.20 It is more puzzling that elasticity of supply has stayed low since the mid 1990s. Since 1996, the economic environment has been very benign, while the housing market has recovered well, resulting in a house price boom in the late 1990s/early 2000s. This should have been a period when, on past performance, output increased in order to capitalise on the higher prices. Some commentators point to changes in the planning system as an explanation. This is explored more fully in chapter 8.



Impact of low elasticity

2.21 The previous chapter looked at some of the implications of low elasticity of supply pushing prices higher in response to higher demand. But what elasticity would be needed to translate all the higher demand into higher housebuilding rather than higher prices?

2.22 Meen (1998)²² concludes that, other things being equal, Britain would need an elasticity of supply of ten for higher housing supply fully to match an increase in demand, with no permanent impact on prices. But if the supply elasticity remained close to zero, Britain would never see house price stability (in real terms) and prices would rise to choke off excess demand.

²⁰ Experian Business Strategies 'The Economic Impact of Restriction on Housing Supply: An Investigation for the Barker Review' work commissioned by the Barker Review, (2003).

²¹ This is the price elasticity of supply for residential investment. As well as new house building, it includes private households' expenditure on new conservatories and extensions etc. This should not alter the underlying conclusions from the analysis.

²² Meen, G., 'Modelling Sustainable Home-Ownership: Demographics or Economics?', *Urban Studies*, 35, (11), pp 191-1934, (1998).

2.23 Table 2.4 shows Meen’s simulation of the effect on housebuilding and house prices from a higher growth rate for the economy, under different supply elasticity assumptions. These are compared to a baseline projection over ten years. It shows that ten years after higher growth rates begin, with a low elasticity of supply, house prices are over 20 per cent higher than the baseline. House prices are less than 10 per cent higher with an elasticity of ten, and prices have started to fall back towards the baseline. The rate of housebuilding peaks at an additional 25,000 starts under the low elasticity scenario, but peaks at an extra 290,000 starts in the high elasticity case.

Table 2.4: Response to a higher economic growth rate in Great Britain with different supply elasticities²³

Year	Baseline projections		Low elasticity (0.3)		High elasticity (10)	
	Starts ('000s)	Annual House price growth (per cent)	Starts ('000s)	House prices (per cent difference over) baseline	Starts ('000s)	House prices (per cent difference over) baseline
1	162	5.3	1	0.1	1	0.1
2	162	5.3	5	1.3	10	1.3
4	162	5.3	15	7.1	125	6.6
6	160	7.4	20	13.9	290	10.4
8	160	7.4	25	20.1	160	11.2
10	158	6.0	20	20.4	-10	9.4

Source: G. Meen.²⁴

2.24 Clearly, as new house building is less than 1 per cent of the existing housing stock, a high elasticity of supply can only alter the quantity of housing at the margin (through new house building and conversions). That is why the simulation in Table 2.4 still has house prices significantly above the baseline in year ten.

2.25 Meen’s research shows that house prices will respond to the same demand shock differently according to their elasticities of supply:

- With an elasticity of 10, a one-off demand shock will, over time (probably decades), return prices to their original level. Only a permanently higher growth rate will bring real house prices to a new, higher level.
- With an elasticity of 0.3, however, real prices will be permanently higher even with a one-off demand shock, and significantly higher with the faster growth rate.

2.25 This does not necessarily mean that an elasticity of supply of less than 10 will lead to permanently higher prices if there is a strong underlying trend in the supply of house building or a one-off shift to a higher level of housebuilding. The elasticity simply measures the supply response to price signals, not the balance between growth in the demand and supply of housing.

2.26 It is also important to note that changes in the supply elasticity are not under direct policy control. The ultimate price response is likely to depend on the policy and institutional changes that lead to a higher new supply elasticity. For example, reforms that have a greater impact on land supply elasticities in the highest priced locations could have a greater impact on the average price of housing, than reforms that increase the elasticity by the same amount everywhere.

²³ House prices: per cent change from baseline forecast; starts: absolute difference from baseline forecast. Figures are rounded compared to the original source.

²⁴ Meen, G., ‘Modelling Sustainable Home-ownership: Demographics or Economics?’ *Urban Studies*, vol. 35, No. 11, pp 1919-1934, (1998).

3

Housing undersupply

Overview

This Review has suggested that the UK economy would be better off with a higher rate of housebuilding.

- In 2002, we built around 183,000 houses in the UK – of which 137,000 were in England. Around 90 per cent of these were built by private housebuilders for sale. The rest were built as social housing.

There is no obvious right answer for the number of houses we should build. Different policy aims suggest different numbers. This Review seeks to indicate a range of new housing numbers required depending upon a variety of objectives that government might seek to pursue:

- There are already targets for how many houses should be built in each English region. The rate of housebuilding over the last few years suggests that nearly 15,000 extra houses should be built in England annually to meet these targets.
- The Census of Population shows how many households there are in the UK - the data suggests that the number of houses already exceeds the number of households. However, this cannot pick up concealed households – such as where married couples live with one set of parents and there will always be some level of vacancies.
- A more sophisticated analysis looking at household formation suggests the need to build a further 39,000 houses annually in England – of which 31,000 are affordable homes, and 8,000 are in the private sector. There is also a backlog of 450,000 households who have not been able to access housing in the past.
- Keeping affordability for new households in line with that in the second half of the 1980s would imply a current shortfall in England of between 93,000 and 146,000 homes per annum, of which, 20,000 to 45,000 are owner occupied private sector homes and 73,000 to 101,000 are affordable;
- If the objective was zero real house price inflation, Great Britain's housing numbers would need to rise by a further 240,000 private sector houses annually. Keeping house price inflation in line with the average of other European countries might require an additional 145,000 houses per annum, about double the current private sector housing output of 150,000 units. However, these may be over estimates as they do not allow for the impact on expectations of greater supply.

All of these estimates assume that housing lasts forever - but of course it does not. As it grows old, or where it becomes clear that it was poorly constructed or designed in the first place, the housing stock must be replaced with new dwellings. But on current replacement rates, houses built now would have to last for 1,200 years.

Although aggregate housing numbers help illustrate the level of possible undersupply, they paint a simplistic picture. For example, households are getting smaller. In 1991, the average household had around 2½ people in it - by 2021, this is estimated to have dropped to less than 2.2 persons.

Determining housing numbers also requires consideration of regional and local housing markets. Often supply and demand are spatially at odds, suggesting problems which cannot be solved simply by building more houses.

3.1 Chapter 1 looked at the costs of price rises and an undersupply of housing, and drew on evidence to quantify the cost to the UK. The previous chapter examined evidence of whether the UK has a poor supply responsiveness that can push prices up and create such an undersupply. This chapter looks at the evidence for such an undersupply of housing. Undersupply can be measured in various ways, and a number of alternatives are presented below. These range from a comparison of households and dwellings numbers, to the quantity of housing required to change the long-term trend in prices.

3.2 Table 3.1a shows the components of the change in the housing stock in England and Great Britain. New housebuilding is the main source of additional dwelling stock, as additions to the stock through conversions are outweighed by an almost equal number of losses, primarily through demolitions. It suggests that on current trends, despite making better use of the existing housing stock (housing lying vacant fell by around 25 per cent between 1991/2 and 2001/2), most of the additional housing in the future will come from new build, rather than refurbishing run-down dwellings or further conversions. Perceptions that second homes are restricting the stock available to new households are, at an aggregate level, exaggerated as the Census recorded only 7,000 additional second and holiday homes in England between 1991 and 2001 (see Table 3.1b). There is uncertainty over some of the classification of secondary residences, however, as there is less data on those living away from their homes during the week.

Table 3.1a: Changes in the number of dwellings, England and GB², 1991-2001¹ (000s)

	England ²	Average annual equivalent	GB ³	Average annual equivalent
Dwelling stock 1991/2 (opening stock)	19,671		23,000	
Changes 1991/2 to 1995/6:				
New housebuilding	758	152	914	183
Conversions (& change of use) ⁴	47	9	n/a	n/a
Losses ⁵	41	8	56	11
1996/7 opening stock	20,435		23,898	
Changes 1996/7 to 2000/1:				
New housebuilding	710	142	866	173
Conversions (& change of use)	74	15	n/a	n/a
Losses	77	15	105	21
2000/1 Closing stock	21,207		24,806	

¹ The table uses data from ODPM live table 111 and from the Scottish Executive/Welsh Assembly. The England opening stock figures for 1996/7 and closing stock figures for 2000/1 do not equal the additions and losses over the time periods, due to an adjustment factor in ODPM table 111, which was made so that the 2000/1 estimates match the 2001 census.

² As at April 1991.

³ GB figures do not include conversions and change of use for Scotland and Wales. Scottish figures are for calendar years, and not financial years.

⁴ Conversions include conversions and changes to residential use, and non-permanent dwellings additions.

⁵ Losses include slum clearance and demolitions, changes from residential use and non-permanent dwellings losses.

Source: ODPM, Scottish Executive and Welsh Assembly

Table 3.1b: Changes in household composition, England and GB, 1991 and 2000 (000s)

Household Spaces:	England		Great Britain	
	1991	2001	1991	2002
Households with Residents	18,766	20,451	21,897	23,852
Vacant	930	676	1,094	815
Not Main Residences	243	n/a	308	n/a
of which second homes and holiday homes	128	135	168	n/a

Source: 1991 and 2001 Census.

BALANCING THE COSTS AND BENEFITS OF HOUSING

3.3 If there is an insufficient supply of houses, this would have unwelcome and negative implications for the UK economy, which would be better off with a higher rate of housebuilding than in the recent past. It has already been argued that the supply of housing in the UK is relatively unresponsive to price signals, which leads to a higher trend rate of house price growth than might otherwise be the case. But whilst a higher rate of housebuilding would produce benefits (for instance to younger households) by lowering the cost of housing, it would also impose costs in infrastructure requirements and from loss of environmental and amenity value. So, estimating the number of houses that should be built requires balancing these costs and benefits. The analysis is difficult, requiring a consideration of the regional and local nature of housing markets, the type of housing provided and the need to avoid aggravating problems such as low demand and abandonment. The Government has set out some of these issues in its Sustainable Communities plan¹.

3.4 Given the costs and benefits of increased housebuilding, there is a choice to be made about where this balance should be struck. This Review seeks to indicate a range of new housing numbers that might be required dependent upon the variety of objectives that Government might seek to pursue.

3.5 A range of estimates have been put forward of the undersupply of housing in the UK, based upon different methodologies, which inevitably produce different estimates of the shortfall, and are not directly comparable. These different approaches are detailed below and discussed in more depth later in the chapter:

- each region's Regional Planning Guidance (RPG) sets out the amount of extra housing which is deemed to be required per annum. On this basis, the difference between the five-year average supply of new housing to 2001 and the latest estimates of housing requirement for England is 13,800 per year;
- using the Census of Population between 1991 and 2001 there has been a rise in the UK's excess of dwellings to households (from 648,000 to 977,000). On this basis, there is no prima facie evidence of undersupply, but this may be because the census shows a lower number of households than expected;
- Alan Holmans' estimates consider projections of demographic change, using a fixed proportion of households who are likely to acquire private sector and affordable housing. His estimates imply there is a current shortfall of 39,000 new homes in England per annum, of which 8,000 are private sector and 31,000 are affordable homes. He also estimates a backlog of around 450,000 households who are considered to need self-contained dwellings;

¹ ODPM *Sustainable Communities: Building for the Future*, (2003).

- Glen Bramley measures those who are able to buy housing in the open market over time and those who need affordable housing, using a combination of earnings and house prices data in England. His estimates imply a current shortfall of between 93,000 and 146,000 new homes per annum, of which 20,000 to 45,000 are owner occupied private sector homes and 73,000 to 101,000 are affordable; and
- the Review asked Geoff Meen to use an econometric model of Great Britain to estimate how much extra private sector owner occupied housing would be needed, first to reduce the long-term trend in house prices to zero real growth, and second to a trend that is more in line with the average² of other European countries. His first illustrative scenario implies an additional 240,000³ homes per annum to lower real trend price growth to zero, while the second scenario suggests 145,000⁴ more per annum to lower the trend in real price growth to 1.1 per cent.

3.6 But these different approaches do not necessarily represent the socially optimum level of house building. There would of course be environmental, amenity and infrastructure costs associated with expanding housebuilding activity to the higher levels indicated above, which might need to be accommodated by an expansion of greenfield building or through much higher densities.

OPTIMAL HOUSING SUPPLY

Understanding the problem 3.7 The optimal supply of housing would balance the costs and benefits of housing in order to maximise overall social welfare for the UK. Achieving this is in essence the economic rationale for the planning system. However, the optimal level of certain types of housing (e.g. affordable housing) might be greater than the level at which the private sector is prepared to supply. In this case Government must decide to what extent it is prepared to subsidise housing to ensure its provision for those who cannot meet the market price or market rent of a home. The Government's housing policy says that there should be "the opportunity of a decent home for everyone"⁵.

3.8 Building social housing will have less impact on market house prices, because they are not complete substitutes. For this reason, quantifying undersupply becomes more complicated, because we have to consider the undersupply of market housing and social housing separately. In addition, at times of rapidly rising prices and weak supply, the intermediate sector grows. These are households priced out of market accommodation and too affluent to qualify for subsidised accommodation in social housing or rent support. For intermediate households to acquire housing they often have to make major compromises in their living conditions, such as sharing with others or forming concealed households⁶.

Undersupply: the affordable element 3.9 Undersupply of social housing cannot be measured in the same way as market housing, as households are accommodated on the basis of need and inability to pay. In this case, undersupply of housing has to be assessed by need rather than price signals.

² This is the average trend rate of house price growth for the European countries in Table 1.1.

³ This is the central estimate of a range of housebuilding figures in Table 3.4.

⁴ Ibid.

⁵ Housing Green Paper, (2000).

⁶ Concealed households are those such as married couples who share their accommodation with one of the spouse's parents.

3.10 This Review does not address the issue of what is the appropriate definition of need, as social policy has to consider the appropriate supply and coverage of social housing supply. For instance, should married couples living with one of their sets of parents be classified as needy? Are households living in accommodation that is too small for them needy? And are homeowners who want social housing needy? Below, we report some of the research undertaken to date. For example, Holmans considers all these groups as needy, although it might be more appropriate to think of a hierarchy of need.

Regional Planning Guidance

What is adequate provision? **3.11** Assessing adequate provision in order to strike the right balance between housing supply and demand (both market and subsidised) is the responsibility of Regional Planning Bodies who are tasked with determining the housing strategy along with the implied housing numbers for their region. These housing numbers are set out in Regional Planning Guidance (RPG). The Regional Spatial Strategies (RSS) will, among other things, determine the broad location of this housing. Although they might not recognise the term, the RSS essentially attempt to establish the socially optimum level of housing output, striking an appropriate balance between housing demand and supply. The extent to which Regional Planning Bodies are able to do this effectively is considered later in the report.

3.12 Taking the RSS figures as one measure of socially optimum housing, Table 3.2 implies that some English regions will need to raise their housebuilding significantly above their recent performance to meet these levels. It implies a shortfall of new build housing in a number of regions, the most significant being in London, followed by the South West and the South East where annual average completions between 1996 and 2001 represent 58, 81 and 85 per cent respectively, of those now planned in the latest RPGs.

Table 3.2: Annualised housing targets, England¹

	Current RPG target (per annum)	1996-2001 Household projections (average annual increase)	Average past completions 1996-2001 (per annum) ³	Difference between RPG target and current completion rate
London	23,000 ²	25,200	13,396	-9,604
South East	28,000	35,600	23,680	-4,320
Eastern	20,850	23,600	18,987	-1,863
North East	5,321	3,800	6,995	1,674
Yorkshire and Humber	14,675	12,000	14,041	-634
North West	12,790	12,600	18,652	5,862
West Midlands	16,100	12,200	14,137	-1,963
East Midlands	13,700	15,200	14,680	980
South West	20,200	21,200	16,390 ⁴	-3,810
England	154,726	161,400	140,958	-13,768

Source: Office of the Deputy Prime Minister

¹ The RPG figures apply to the following periods: London: 2001-06; South East: 2001-06; Eastern: 1996-2016; North East: 2002-2016; Yorkshire and Humber: 1998-2016; North West: 1996-2016; West Midlands: 2001-11; East Midlands: 2001-11; South West: 1996-2016. It should be noted that some RPG targets such as RPG9 pre-date the current Government Office Region boundaries, and that there are approximations to the new geographies.

² Annual allocations in London are made up of 19,000 per year annual net additions plus 4,000 reduction in vacants, and more 'shared' dwellings.

³ Regions', allocations are based on net annual additions which include new build and gains and losses from change of use, conversions and demolitions.

⁴ Average new build completions need to be adjusted to be directly comparable with RPG targets in order to account for conversions and changes of use.

3.13 Table 3.2 also shows that household projections exceed both planned and actual completions in a number of regions. However, household projections as a proxy for housing required should be treated with some caution, because the number of independent households may adjust to the changes in the level of housing supply. Policies aimed at accommodating households can themselves create more households, as household formation is influenced by the price of housing.

3.14 The Government has recognised that recent housebuilding levels have not been at the optimal level. An extra 200,000 homes by 2016 have therefore been proposed over and above those planned in the RPG figures. This total will be supplied in the four identified growth areas⁷. The Review welcomes this plan.

HOUSEHOLDS AND DWELLINGS GROWTH

3.15 Despite its shortcomings, household formation compared to housing stock and completions is a commonly used measure of housing shortage, although it makes no distinction between undersupply of market and non-market housing. Nor does it distinguish between sub-regional differences.

3.16 Different methods of looking at the recent past give differing signals about recent trends in undersupply. Prior to the 2001 Census, aggregate figures for the growth of households and housing completions since the early 1980s showed there were around 350,000 more new households than completions over the period 1984 to 2000⁸. This implies more effective use being made by households of the existing stock, as well as a growing stock of households who are unable to live in their own dwelling.

3.17 Table 3.3 shows the UK's balance between households and the number of dwellings for 1991 and 2001 using Census 2001. On the face of it, there now appears to be little problem: for example, the balance between households and dwellings in the UK has improved since 1991 from 2.8 per cent to 4.0 per cent more dwellings than households. The surplus rose in all regions, except London where it remained static. Some vacancies are inevitable. In addition, the quality of the housing stock has improved since 1991. The percentage of all dwellings declared unfit fell from 7.5 per cent to 4.2 per cent in 2001. These data both indicate a more positive view of supply than the estimates above, mainly because the census data show a lower number of households than expected⁹ (property conversions also add to the stock without being classified as completions).

⁷ The growth areas are Thames Gateway; Milton Keynes/South Midlands; Ashford; and London-Stansted-Cambridge (LSC). This is an additional allocation over and above the figures set out in Regional Planning Guidance 9 (London and the South East).

⁸ ODPM.

⁹ Migration makes estimating population and households very difficult. Census data are more likely to differ with estimates in non-census years, as smaller samples and proxy measures are normally used to drive the estimates. This is a particular issue during periods of high migration, as experienced during the 1990s. A number of commentators have expressed their concern about the 2001 Census results for some metropolitan areas, such as Westminster. As a result, the ONS has been working with the local authority to improve inter-censal year estimates.

Table 3.3: Household and dwelling balance

	(thousands)					
	1991			2001		
	H'holds	Dwellings	Balance (per cent of households)	H'holds	Dwellings	Balance (per cent of households)
North East	1,048	1,072	24 (2.3)	1,066	1,115	49 (4.6)
North West	2,720	2,792	72 (2.6)	2,813	2,945	132 (4.7)
Yorkshire and Humber	1,993	2,021	28 (1.4)	2,065	2,155	90 (4.4)
East Midlands	1,596	1,634	38 (2.4)	1,732	1,797	65 (3.8)
West Midlands	2,042	2,079	37 (1.8)	2,154	2,225	71 (3.3)
Eastern	2,035	2,093	58 (2.9)	2,232	2,308	76 (3.4)
London	2,841	2,912	71 (2.5)	3,016	3,090	74 (2.5)
South East	3,034	3,099	64 (2.1)	3,287	3,392	105 (3.2)
South West	1,903	1,968	65 (3.4)	2,086	2,181	95 (4.6)
England	19,213	19,670	457 (2.4)	20,451	21,208	757 (3.7)
Wales	1,128	1,184	56 (5.0)	1,209	1,274	65 (5.4)
Scotland	2,052	2,145	93 (4.5)	2,192	2,325	133 (6.1)
Northern Ireland ¹	530	571	41 (7.7)	627	649	22 (3.5)
United Kingdom	22,923	23,571	648 (2.8)	24,479	25,456	977 (4.0)

¹ Dwelling figures for Northern Ireland are as at 31st December 1990 in the years preceding the Census.
Source: 1991 & 2001 Census, and ODPM.

Life span for housing

3.18 The replacement rate of the existing stock is very low. The average number of demolitions and slum clearance in England over the five years to 2001/2 was just over 18,000 dwellings, compared to the stock of 21.2 million dwellings, much of which was built within the last 40 or so years. This implies that houses built now will have to last approximately 1,200 years. This is of course an infeasible length of time for the average house to last, and implies significant growth in the already high levels spent on repairing and maintaining the existing stock or an increase in the number of demolitions.

HOUSING NEED

Demand and need 3.19 Alan Holmans¹⁰ estimated newly arising housing demand and need each year for England from 2001 to 2011. In previous work he has also estimated the backlog of unmet demand and need in 1996¹¹. Holmans suggests there is a requirement for 177,000 additional households to be accommodated each year to 2011. Demand for market housing makes up 132,000 per year, while an additional 45,000 require affordable housing¹².

¹⁰ Holmans, A. *Estimates of Newly Arising Housing Demand and Need* (Unpublished 2003).

¹¹ Holmans, A. *Demand and Need in England - 1996-2016*, (National Housing Federation, 2001).

¹² Holmans splits housing into the market sector (those able to acquire housing without a subsidy) and affordable housing (those requiring a subsidy to acquire housing, either through LAs, RSLs, shared ownership sponsored by an RSL, or renting privately but with a Housing Benefit rent subsidy). He then uses data from the Survey of English Housing, and applies these proportions to household projections. These projections are constructed from the Government Actuaries Department's 2001-based population projections.

3.20 Holmans' estimate of 177,000 additional households to be accommodated each year is significantly higher than the 138,000 dwellings completed in 2002/03. It suggests a current shortfall of around 39,000 dwellings per annum in England (split into 8,000 for private sector, and 31,000 for affordable), even before any allowance is made for replacement of the existing stock, and growth in second homes. The shortfall is particularly large considering recent building levels for affordable homes. Only around 24,000 affordable homes were built in 2002/03, 14,000 of which were by local authorities and Registered Social Landlords (RSLs), and approximately 10,000 through planning obligations¹³ on private sector housebuilding projects.

3.21 In addition to estimating demand and need from newly forming households, Holmans' previous estimates measure three household categories where there is existing unmet demand¹⁴. A backlog of approximately 950,000 households in 1996 is made up of:

- Households and would-be households without self-contained permanent accommodation (approx. 450,000).
- Owner occupiers and private rented tenants in need of LA or RSL housing (approx. 140,000).
- LA and RSL tenants whose accommodation is unsuitable, e.g. too small (approx. 360,000).

3.22 Only the 450,000 households without self-contained accommodation implies a need for additional housebuilding. The 400,000 households whose accommodation is unsuitable largely represent a need for a better allocation within the present housing stock, and not for additional housebuilding.

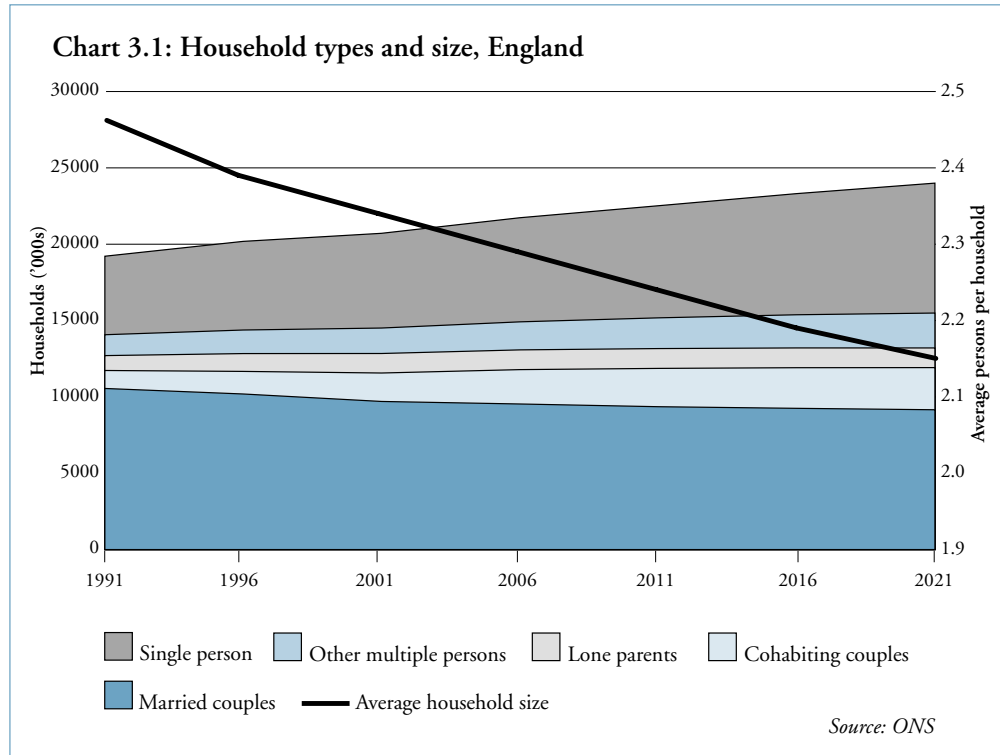
3.23 Holmans' figures are broader than a measure of undersupply of physical dwellings. This is partly because Holmans' definition of needy households is broad. In addition there is the problem of circularity: more households form and migration is higher when there is more house building. Taking Holmans' figures literally implies that all potential additional households ought to be accommodated wherever they occur.

Predicting need

3.24 As household formation changes, so do the size of households and type of housing they will demand (see Chart 3.1). Indeed, between 1991 and 2016, 28 per cent of the growth in English households is projected to be from higher household formation rates, where people are less likely to be part of a couple. So the type, as well as the quantity of housing, needs to be measured to give an accurate undersupply measure. But with rising incomes there is no certainty that all smaller households will necessarily want smaller housing.

¹³ Crook, T., Monk, S., Rowley, S. and Whitehead, C. submission to the Barker Review Consultation (2003).

¹⁴ These estimates may be revised in light of new post Census information.



3.25 Using household formation as an indicator of undersupply does not provide the whole picture: first, it does not consider why people want to acquire housing, what type they demand, and what is likely to drive these choices in the future; and secondly, it does not consider prices or social costs and benefits.

PRICE SIGNALS

3.26 The previous chapters explained the relationship between house prices and the demand for and supply of housing. They showed that undersupply of housing could raise its real price¹⁵ to a higher level, which would only be reduced if supply rose or demand fell back. However, trends in house prices are not just driven by supply constraints. Other factors include demand driven by householders' expectations, greater financial liberalisation and more recently, the impact of macroeconomic stability.

Affordability

3.27 Over the house price cycle, households around the margin of being able to afford market housing (either buying or renting) will, depending on the stage of the cycle, be priced in or out of the market. In the absence of supply problems it would be surprising to see sharply rising numbers of households who wish to buy, but cannot¹⁶. If, however, more households are priced out of the market in the same point of subsequent cycles, this suggests that there may be an undersupply problem¹⁷: the price could reflect a lower level of supply than would be expected because it is constrained for some reason. However, this situation is complicated at the margin by the existence of subsidies, which while helping some into home ownership, may also contribute to bolstering the level of house prices.

¹⁵ After adjusting for inflation.

¹⁶ Buy to let purchases may have increased problems in the supply of owner-occupied housing in some areas.

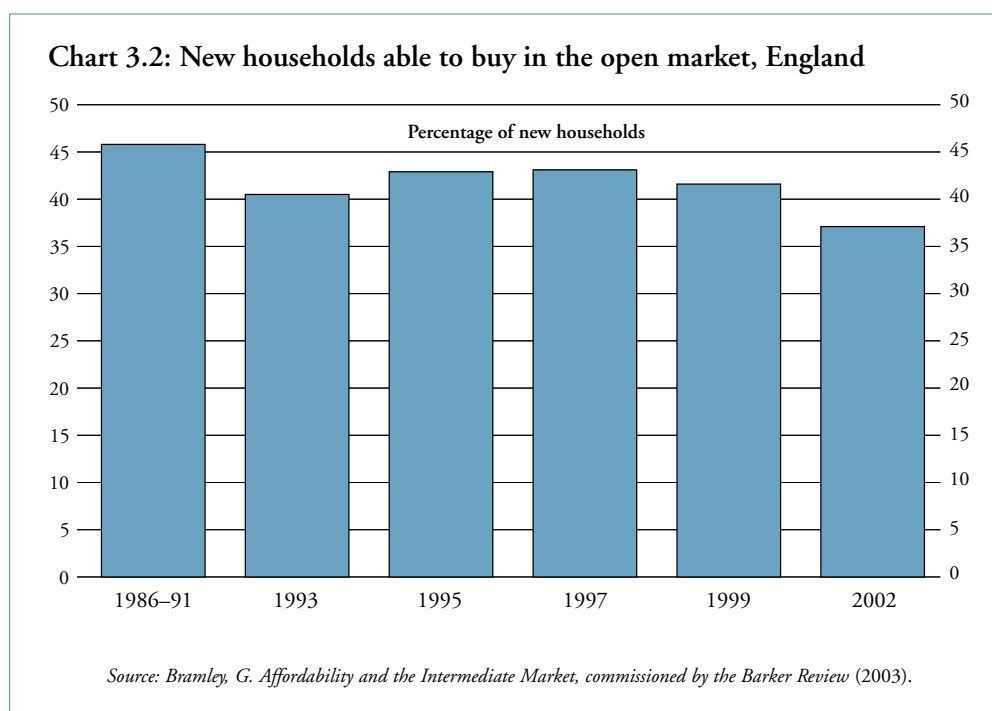
¹⁷ An alternative suggestion could be a shift in wealth distribution towards the rich, so households on average earnings are increasingly priced out of the market.

3.28 This affordability difference allows some tentative conclusions to be made about the level of undersupply¹⁸. Chart 1.7 shows the lowest quartile price to incomes ratios in the English regions since 1993, much of this rise in prices will be due to cyclical factors that can exaggerate some regions' house prices more than others¹⁹, as well as the one-off factors highlighted earlier such as financial liberalisation and a more stable macroeconomic environment. These include a move to a period of lower interest rates that makes higher house prices more sustainable, particularly in recent years. The fact remains, however, that a proportion of the rises may be due to undersupply problems.

Market, intermediate and social tenures

3.29 As households' tenures are not completely substitutable, disequilibrium can persist in one tenure without having knock-on effects to others. Glen Bramley looks at the proportion of new households who, over time, have been able to buy housing at unsubsidised market prices²⁰.

3.30 Compared to England's 1986-91 average of 46 per cent, 4 per cent fewer new households were able to buy in 1999, and 9 per cent fewer in 2002, which represents around 20,000 and 45,000 fewer households respectively (see Chart 3.2). But whether they are permanently or temporarily priced out is important in determining whether there is undersupply of housing and in measuring its size.



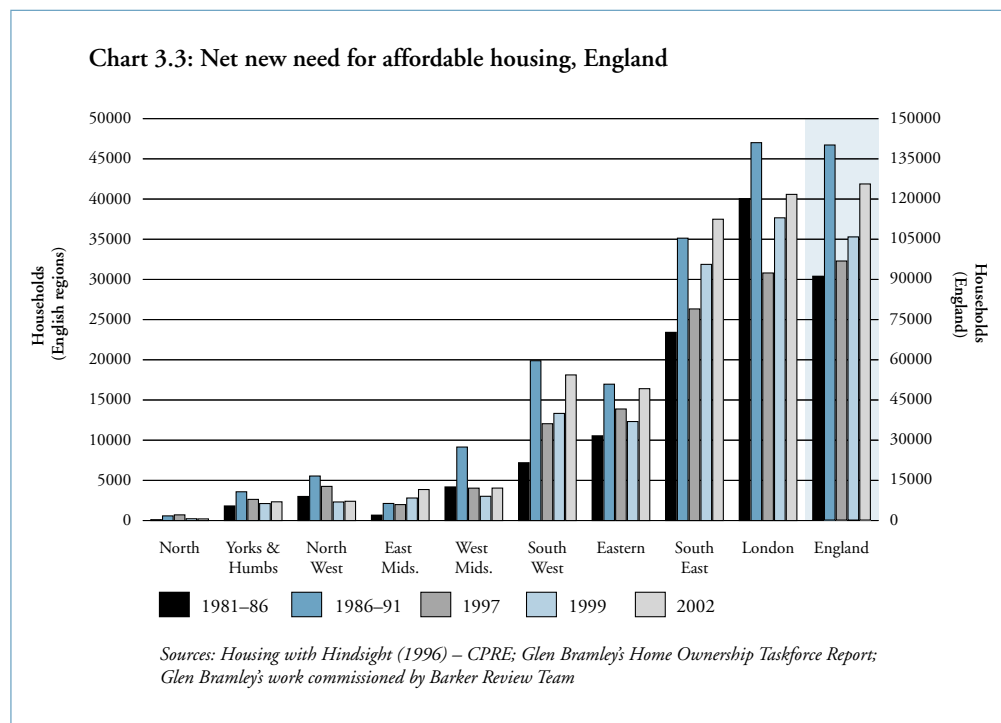
¹⁸ In reality, housing is a complex good, whose shortfall cannot be summarised as easily as this, because housing markets are highly segmented and spatially fixed. This is also a problem with the previous approach that looks at aggregate balances, but the advantage with a price-based approach is that it gives us some insight into whether over time the market has become more or less restricted. This will only give us the private market's shortfall, however, and will not record the number of households who are not being housed in affordable housing.

¹⁹ Expectations of price rises will affect house buyers' behaviour in a rising market, because it lowers the user cost of housing.

²⁰ This is based on incomes data from the English Housing Survey combined with house prices and typical lending multiples.

3.31 To determine whether the changes in the numbers of those able to buy and those in need of affordable housing are permanent or temporary, comparisons need to be made at similar stages in the house price cycle. This means the 1986-91 results can be compared with both the 1999 and 2002 figures, likewise for the 1981-86 and 1997 data. Inferences can be drawn from Bramley’s analysis using these time periods. These suggest that many of the extra 20,000 to 45,000 households have been permanently priced out of the market. This also points to a growing wedge between those able and those unable to buy.

3.32 Bramley²¹ also estimates that approximately 125,000 new households in England were in need of affordable housing²² in 2002, up from 97,000 in 1997, but down from 140,000 at its peak between 1986-91 (regional breakdown in Chart 3.3). This is because there were fewer social housing relets²³ and a higher rate of housing formation in the late 1980s. As only 14,000 RSL and local authority properties were built in 2002, and approximately 10,000 through planning obligations²⁴ on private sector housebuilding projects, this gives a potential undersupply of between 73,000 and 101,000 dwellings.



²¹ Bramley, G. *Barker Inquiry on Housing Supply – Affordability and the Intermediate Market*, Barker Review Commissioned Work, (2003).

²² Affordable housing calculated by $(H + 0.33 * M) * A + S * O + Q * W - R$

where: H = gross new household formation per year

M = net inward migration

A = proportion of new/young households unable to buy in the market

S = national average proportion of owner occupiers moving to social housing each year

O = number of owner occupiers

Q = an annual quota, set at 0.1 in the baseline model

W = waiting list stock of households seeking to move into social housing

R = the number of relets of social housing, excluding new build and all transfers within the social sector.

²³ Relets are the numbers of social houses each year that are let after the previous occupant vacates the dwelling.

²⁴ Crook, T., Monk, S., S. and Whitehead, C. Submission to the Barker Review Consultation (2003).

3.33 Adopting this approach to quantifying the scale of undersupply gives a better feel for the dynamics within the housing cycle, but does not give as detailed a picture of the kind of housing required as compared to the balance approach taken by Holmans. There are a number of reasons for this:

- the cyclical movements in price are so significant that direct comparisons over time are not completely accurate;
- the numbers who are permanently priced out of the market may not necessarily be priced in to the market by an equivalent number of extra houses being built. For instance, if another 45,000 houses had been built in England in 2002, we could not say whether this would reduce prices sufficiently to cut the number in need of affordable housing by 45,000. The reason is because of the uncertain impact on prices and affordability profiles; and
- locational factors and the type of houses built will also have a bearing on whether the extra houses price in the intermediate households.

Trends in House Prices

3.34 Looking at long-term trends in house prices rather than cycles gives us another way of measuring the degree of undersupply.

New Research: amount needed for price stability

3.35 Given that trends in house prices are a concern, one way of assessing current undersupply is to estimate how much extra private sector owner occupier housebuilding Great Britain would require to achieve a different trend rate of house price growth. Table 3.4 shows estimates produced for the Review by Geoff Meen for the additional housebuilding required to:

- deliver a trend rate of house prices in line with the average of most European countries of 1.1 per cent in real terms per annum (see Table 1.1); and
- to achieve stable house prices in real terms, i.e. a zero real rate of house price growth.

These figures are sensitive to the assumed price elasticity with respect to the housing stock, i.e. the responsiveness of price when the quantity of stock changes. Meen estimates a figure of -1.7²⁵, but presents other possible scenarios to inform choice, while Muellbauer and Murphy²⁶ estimate -2.2. Taking a mid range between the two of -2, means that to match most of Europe's average trend in house prices would require around an extra 145,000 private sector homes per annum to be built. An extra 240,000 homes per annum would be needed in the future to maintain house prices in real terms. This would mean increasing private house building by nearly double its level in 2002 to achieve the European trend rate, and more than double to get real price stability.

²⁵ This is the percentage change in price as a result of a percentage change in the stock of housing.

²⁶ Muellbauer, J and Murphy, A. 'Booms and Busts in the UK Housing Market', *Economic Journal*, 107, pp 1701-1727 (1997).

Table 3.4: Additional private sector housebuilding required to achieve target house price trend growth rates from 2002

Price growth target	Additional housebuilding required (000s per annum)			
	<i>Price elasticity with respect to the stock</i>			
	-1.7	-2.0 ¹	-2.5	-3.0
European average real trend price growth (1.1%) ²	185	145	60	10
Zero real price growth	300	240	140	75

¹ Average estimate between Meen and Muellbauer

² This is the average trend growth in Table 1.1

Source: G. Meen

3.36 These figures should be treated with considerable caution because:

- past behaviour is not necessarily an indication of what will happen in the future, where a big expansion of supply might alter households' expectations of future price increases. This in itself could reduce the price people are willing to pay for housing, which would increase the price elasticity with respect to stock and reduce its price trend rate of growth;
- there are significant ranges around Meen's estimates which, depending on the modelling techniques used, will give different values for the amount of new housing required;
- these estimates are presented to inform choice. This Interim Review is not recommending one or other of these price trends as an objective; and
- the impact of additional housebuilding on house prices will depend on where, and what type, of houses are built.

Environmental costs 3.37 To assess whether the additional housebuilding required to address these undersupply numbers represents the socially optimum level of housebuilding, the environmental and other social costs associated with expanding housebuilding activity to these kinds of levels would need to be considered. For example, would a greater land supply be needed? In order to supply an additional 240,000 housing units without additional land, the current minimum density of 30 units per hectare would have to rise significantly. Assuming Great Britain currently achieves this minimum density²⁷ at a build rate of 185,000 units per annum, the average density would have to rise to 69 units per hectare²⁸ (see Box 8.2). This may not be viable outside urban and suburban areas, but within these areas where the density of flats can rise to over 400 units per hectare, it is feasible. And for a variety of reasons – skills shortages; fear of market disruption – the rate of housebuilding could only be increased gradually to much higher levels.

²⁷ The density was estimated at 25 units per hectare for 1999. Source: Urban Task Force.

²⁸ If the density remained at 30 units per hectare, this extra building would require an additional 8,000 hectares per annum.

3.38 This Interim Review does not attempt to assess the socially optimum level of housebuilding, but Box 3.1 highlights how environmental costs can be assessed by non-market based techniques. Using these methods will give an indication of the value that society attaches to a particular piece of land (see also Table 1.6). Then, a more rational decision can be made between the costs and benefits of developing land or leaving it untouched.

3.39 Set against this and other costs there could be benefits to the economy, and to society's welfare from higher housebuilding: more households would be housed appropriately; labour mobility could improve; and housing might become less of an investment good.

Box 3.1: Case study – Valuing the greenbelt: the case of Newcastle Upon Tyne

Newcastle has an aggregate housing surplus, where the housing stock exceeds the number of households. The quality of the surplus stock tends to be poor, and is concentrated in pockets of high levels of deprivation. The amount of high quality housing that more affluent households, and particularly families, want is low compared to the national average. This low supply of desirable family housing has contributed to Newcastle seeing the highest rate of house price inflation in the North East in the late 1990s/early 2000s. As a result, households priced out of the market have moved to its neighbouring districts, such as Castle Morpeth, mostly on greenfield sites with longer commuting journeys.

In order to stem the tide of outward migration, in 1995 Newcastle city council released some of its green belt land at the edge of its conurbation as part of its development plan. This would, they argued, give households more choice of high quality housing, and relieve the high pressure on the city's housing stock. It would also provide space for expansion in the commercial sector as the city had very little space that was suitable to attract inward investors.

Willis and Whitby¹ have assessed the value of designating land adjacent to Newcastle as greenbelt, against alternative uses such as housing or industrial usage.

They use a combination of contingent valuation methods and hedonic pricing to determine the amenity value of preserving land as greenbelt compared to its alternative use. The former technique asks individuals two key questions: how much would they be willing to pay to preserve an amenity in its current use (such as maintaining greenbelt land); and secondly, how much would they have to be compensated if the development went ahead. On the basis of the answers, the researchers can determine what amenity value the greenbelt land has in its current and developed states. Hedonic pricing uses a sample of residential properties with different attributes, and allocates a price to those attributes by the observed price of housing with different bundles of these attributes. They calculate the difference between greenbelt land in its two states (developed and undeveloped) and calculate its net social benefit (NSB).

They conclude that uncertainty and the possibility of future use of greenbelt land mean that the benefit of its alternative use should exceed by a significant margin the current amenity value of greenbelt land before development takes place. Nevertheless, the scale of the excess value of the greenbelt as housing land compared to its existing value, in their opinion, justified some of this land being built on.

Since the study took place in 1985, Newcastle city council has allowed the development of the Great North Park to go ahead. This was previously designated as greenbelt land. It has had its critics, due to its greenbelt status, but on the basis of the above study, it seems their decision was justified. This is assuming, of course, the additional housebuilding does not make it more difficult to regenerate the low demand areas of the city.

¹ Willis, K., and Whitby, M. 'The Value of Green Belt', *Journal of Rural Studies*, Vol. 1, No. 2, pp 147-162' (1985).